Performance appraisal process as a determinant of employee commitment: a serial mediation analysis

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ABSTRACT

Purpose: This study draws on Organisation Justice Theory and Social Exchange Theory to

examine the effects of performance appraisal process on employee commitment via a serial

mediation of performance appraisal outcome and employee reward.

Design/methodology/approach: Survey data was collected from a sample of 363 academics

across UK Higher Education Institutions (HEIs), including post-1992 and pre-1992

universities. We tested our hypotheses using PLS-SEM with a bias-corrected bootstrapping

method.

Findings: The findings show that performance appraisal process positively influences

employee commitment and employee reward. Performance appraisal outcome and employee

reward mediate the relationship between performance appraisal process and employee

commitment. However, no significant relationship was found between performance appraisal

outcome and employee commitment.

Practical implications: This study has significant implications for HEIs as it underscores the

need for managers to ensure the clarity and accuracy of the performance appraisal process and

to structure rewards to reflect employees' efforts, considering they affect employee

commitment.

Originality: This study contributes to the current debate on performance appraisal by

highlighting the extent to which employees' commitment to an organisation depends on the

performance appraisal process, performance appraisal outcome and reward.

Keywords: Employee commitment, employee reward, Higher Education Sector, Performance

appraisal process and performance appraisal outcome.

Key words: Performance Management, Employee commitment, Performance appraisal,

Higher education sector

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Introduction

Performance appraisal process is the systematic and continuous evaluation of employees' behaviours and work performance in organisations (Jafari *et al.*, 2009; Wiese and Buckey, 1998). This is a vital human resource practice, to aid personnel decisions by the management of organisations including promotions, training, and deployment of human resources (Armstrong and Taylor, 2020). Research has examined performance appraisal process and their effects on employees' workplace outcomes (e.g., Van Waeyenberg *et al.*, 2022), and non-work outcomes (e.g., Ismail and Gali, 2017). For example, research shows that an effective performance appraisal process leads to improved employee job performance (Van Waeyenberg *et al.*, 2022) and reduces employee turnover (Memon *et al.*, 2020). However, little is known about the boundary conditions underpinning performance appraisal process and employee commitment relationships (Kadiresan *et al.*, 2015).

Appraisal outcomes underscore academics' belief/confidence that their efforts will count towards the reward received through the performance appraisal process (see Mayer and Davis, 1999). Our conceptualisation of reward includes the pay, recognition (e.g., celebrations, acknowledgement, certificates), employment security and promotions, that employees receive (see Allen and Kirkman, 2001). Employee commitment is the identification of an individual to an organisation, believing in the goals and objectives of the organisation and the willingness to exert effort towards the goals of an organisation and maintaining long-term membership with an organisation (Brockner *et al.* 1992; Pepple and Ambilichu, 2023).

An understanding of performance appraisal process and employee commitment relationship has significant practical implications particularly in the context of the higher education sector because of the increasing job demand for academics in universities and the need for universities to maintain committed academics in the workforce (Pepple and Ambilichu, 2023). For instance, although teaching in the higher education sector is generally

seen as a long-term career, research suggests that this is changing such that the longer academics stay in post, the lower their level of commitment (Qudah *et al.*, 2018). Also, academics indicated that they have witnessed an increased workload which includes publishing in high-ranking journals to support their schools' league table ratings, providing quality education that reflects the employability needs of business, expanding access to education, securing grants, and leadership roles (Kinman 2021), without a corresponding reward to match their performance. Thus, performance appraisal processes in universities have been criticised for not adequately rewarding academics for actual performance (Aboubichr and Conway, 2023), and as such perceived by academics to ineffectively address the low level of employee commitment in the sector.

Furthermore, understanding how to foster employee commitment in universities is important as the workforce in universities is increasingly diversified, with academics from different socio-cultural backgrounds having different value systems, expectations, motivations, and career aspirations. Fischer and Smith (2006) argue that such a diversified workforce underlines the importance and challenges of procedural justice to managers. Therefore, our study draws on Organisational Justice Theory (OJT) and Social Exchange Theory (SET) to establish the direct and indirect relationships between performance appraisal process and employee commitment in United Kingdom (UK) universities. We frame performance appraisal process relationship with employee commitment through the lens of OJT by explaining how performance appraisal process (procedural justice) through performance appraisal outcome (distributive justice) and reward influence employee commitment. Thus, our study aims to explore the influence of performance appraisal process on employee commitment to their universities in the UK, and the role of performance appraisal outcomes and employee reward in this relationship.

To investigate our aim, we pose the following research questions: 1. What is the impact of performance appraisal process on employee commitment? 2. How do performance outcome and employee reward mediate the relationship between performance appraisal process on employee commitment? We answer the research questions by testing our hypotheses using structured survey data from academics across multiple universities (both Russel Group and non-Russel Group¹) in the UK. By so doing, we make two theoretical contributions. First, we contribute to the OJT by highlighting the critical role of performance appraisal process as a vital HR practice in stimulating employees' commitments to organisations and enriching existing literature on the antecedents of employee commitment in organisations (e.g., Cafferkey et al., 2017 Pepple and Ambilichu, 2023; Van Waeyenberg et al., 2022). Second, we contribute to the HR literature by highlighting the pathways in which performance appraisal process influences employee commitment in organisations, drawing on OJT to explore this indirect serial mediation relationships, thus, deepening understanding of the complex process in which performance appraisal influences employees' willingness to maintain long term membership with their organisations.

Theory and Hypotheses Development

OJT and Social Exchange Theory

OJT explains that employees often judge the policies and actions of an organisation as fair or unfair, which influences their subsequent attitudes and behaviours (Greenberg, 1987). OJT has three dimensions including procedural, distributive and interactional (Skarlicki and Folger, 1997). Procedural justice underscores employee's perception of how organisational policies are applied (Colquitt *et al.*, 2001), while distributive justice relates to employee's perception of how resources are fairly distributed, and interactional justice explains employees'

¹ Russel group consist of 24 universities in the UK considered as world class and research intensivehttps://russellgroup.ac.uk/about/our-universities/

perception of the treatment they receive from colleagues especially authority figures when important decisions about their work are made (Cropanzano et al., 2008).

In our theorisation of OJT, we rely on Folger's (1987) conceptualisation which explains the relationship that exists between procedural and distributive justice in the area of performance appraisal process and performance appraisal outcome. Procedural justice underscores employees' perception of the accuracy of the process while distributive justice explains the outcome (Mayer and Davis, 1999). Procedural justice is about how the decision is reached as opposed to the decision itself. It underscores employees' evaluation of the process of arriving at a judgement or decision about performance. Mayer and Davis (1999) argue that it is perceived accuracy and transparency of the process that influences employees' attitudes and behaviours about the outcome of performance appraisal and how they feel about their organisation. Thus, employees adjust their efforts, consistent with their perceptions of procedural and distributive justice (Gelens *et al.*, 2014).

We adopt Cropanzano and Rupp's (2008) theorisation of OJT and Social Exchange Theory (SET) to investigate performance appraisal process and employee commitment relationship. Masterson et al., (2000) argued that procedural and distributive justice emerged from organisations as a whole. Reflecting on SET, Blau (1964) suggested that employees' exchange relationship was based on the source of justice. Based on our theorisation of procedural and distributive justice, the organisation is its source. Thus, we predict a relationship between performance appraisal process and employee commitment to their organisation and investigate the boundary conditions accounting for the relationship. Using OJT and SET as our overarching framework, we develop the hypotheses of the study.

Performance appraisal process and employee commitment

Scholars have explored the relationship between performance appraisal process and employee commitment (e.g., Rana and Sign, 2021; Van Waeyenberg *et al.*, 2022) and suggest that employees place significant emphasis on the quality of the performance appraisal process. Employees undergo periodic evaluations of their performance at the workplace. Procedural Justice has been applied in the context of performance appraisal process which leads to judgments on rewards, promotion, training, and other human resource outcomes (e.g., Korsgaard and Roberson, 1995; Tuytens and Devos, 2012). This is because the perceived justice of the performance appraisal process, usually conducted by the line manager, is vital in the employees' subsequent behaviour and work performance (Gelens *et al.*, 2014; David, 2013).

A positive evaluation of performance appraisal process establishes an exchange relationship involving employees and their organisation (Heslin and Vandewalle, 2011) in line with SET. Employees reciprocate with improved commitment and determination to maintain long-term relationships with their organisation. This occurs when organisations' performance appraisal process supports performance by providing employees with an understanding and clarity of what is expected of them, how performance is measured (Van Waeyenberg et al., 2022), and is reflective of employees' work (Holley *et al.*, 2023). We submit that it is difficult for employees who are not satisfied with the performance appraisal process to be committed to their organisation. Thus, we hypothesise as follows:

H1: Performance appraisal process is positively related to employees' commitment.

Performance appraisal process and performance appraisal outcomes

Performance appraisal outcomes involve the after-effect or result of a systematic evaluation of an employee's work and behaviours (Latham *et al.*, 2008). The process of performance appraisal should not be conducted as a ritual or for the fun of it, but to arrive at

some conclusions upon which decisions regarding an employee's work and career are made (Williams and Beck, 2018). Folger and Konovsky (1989) contend that while procedural justice strongly influences employee attitudes toward specific authority or institutions, including organisational commitment, specific outcomes such as job satisfaction and pay are strongly influenced by distributive justice.

Thus, procedural justice argues that the fairness of a procedure can be assessed in terms of how it accurately predicts an outcome (Crawshaw, 2006; Folger, 1987; Lepistö & Lepistö, 2023). This implies that the accuracy of the process of arriving at a decision as perceived by the employees is vital in building confidence and legitimacy in the outcome of the performance appraisal process (Mayer and Davis, 1999; Cardy and Dobbins, 1994). In other words, without an accurate performance appraisal process, decisions on appraisal outcomes will be based on inaccurate assumptions. We expect that employees will have a positive view of the outcome of performance appraisal when they perceive that the process allows for accurate prediction of expected value based on their efforts. Based on the foregoing, we hypothesise that:

H2: Performance appraisal process is positively related to performance appraisal outcomes. Performance appraisal outcome and employee commitment

The assessment of employee output results in the performance appraisal outcome (Latham *et al.*, 2008) whose effects depend on whether the appraisal outcome is favourable or unfavourable (e.g., Kuvaas, 2006; Mone and London, 2018). Performance appraisal outcomes have consequences on employee commitment (Rana and Sign, 2021). This is because, it is argued, organisational commitment has a strong and significant relationship with employee perception of distributive justice (Colquitt *et al.*, 2001). Therefore, employees' willingness to maintain a long-term relationship with their organisation, that is, commitment, is premised on an emotional connection they have with their organisation (Allen and Meyer, 1996). We argue that such emotional connectedness derives from the perceived fairness in decisions. This is

why researchers contend that the quality of social exchange relationships between the organisation and its employees directly relates to the extent of organisational justice in management decisions (e.g., Tekleab *et al.*, 2005).

The rationale for linking performance appraisal outcome to employee commitment could also be seen through SET which emphasises interpersonal exchange between employees and their employers (Cropanzano et al., 2008; Cropanzano and Rupp, 2008). For instance, when employees feel that they have been favourably evaluated and believe that their efforts will be accurately reflected in pay rise, promotion and development opportunities, they engage better in their work roles (Kuvaas, 2006; Mone and London, 2018). Conversely, when they perceive that they have not been fairly and transparently evaluated, and the performance appraisal outcomes are unfavourable, it dampens their morale and motivation to work (Gelens et al., 2014). This suggests that employees' perceptions of the fairness of organisational justice (distributive justice) impact their satisfaction and motivation which, we argue, are the foundation on which employee commitment is premised. Therefore, we expect that the performance appraisal outcome that is perceived as fair will positively influence employee commitment as it will motivate them to continue to identify with the organisation and exert more effort to achieve organisational goals. This, we contend, is because of the sense of fulfilment and appreciation of their work. In sum, we expect that:

H3: Performance appraisal outcome is positively related to employee commitment.

Performance appraisal outcome and employee reward

It is argued in distributive justice that outcomes employees receive influence their perception of justice, with specific outcomes such as job satisfaction and pay strongly influenced by distributive justice (Folger and Konovsky, 1989). Employee reward represents all formal provisions given to employees for their contributions to an organisation, including pay, pensions and medical cover (Armstrong and Stephens, 2005). This is because rewards are

given to employees for the tasks carried out for an organisation, as well as to incentivise employees to perform (Daley, 2017). To ensure allocation of individual and organisational outcomes is just and equitable, reward is measured through the performance appraisal outcome. This helps to justify who deserves what as regards rewards (Daley, 2017). Thus, reward is different, and is expected to result, from performance appraisal outcome. Therefore, performance appraisal outcomes that are deemed to be fair and accurate underscores employees' belief that their efforts will result in desirable rewards (Meyer and Davis, 1999). This suggests that employees who believe that their efforts are reflected accurately in the appraisal outcome will have a favourable view of the reward. Therefore, we hypothesise that:

H4: Performance appraisal outcome is positively related to employee reward.

Employee reward and employee commitment

Employees are motivated in different ways concerning rewards. While some employees prefer intrinsic rewards such as receiving praise and recognition, others are better stimulated by extrinsic rewards such as pay raises and bonuses (Murayama, 2022; Wiersma, 1992), leading to better performance and productivity for their organisations (Kumari *et al.*, 2021). Furthermore, research shows that an effective organisational reward system encourages employee citizenship behaviours, job satisfaction, employee engagement and retention (e.g., Allen, 2006; Hassan & Govindhasamy, 2020). Moreover, rewards, including pay and job enrichment, that employees attribute to the organisation's voluntary actions increase their perceived organisational support which, in turn, impacts outcomes including commitment, retention and performance (Rhoades and Eisenberger, 2002).

Therefore, we expect employee rewards to be positively related to employee commitment. This is because when employees feel that they are valued and recognised through the formal reward system in the form of pay increases, promotions, allowances and other benefits, they are more likely to identify with the organisation, tell others about the organisation

and exert more effort towards organisational objectives. Our expectation is further supported by the views that employee citizenship behaviours (Allen, 2006) and job satisfaction (Hofmans *et al.*, 2013) are encouraged by the effectiveness of the reward system. From the foregoing argumentation, we hypothesise that:

H5: Employee reward is positively related to employee commitment.

The mediating role of performance appraisal outcome and employee reward

A performance appraisal that is ritualistic and yields no benefits to employees is hated by employees (Grubb, 2007), and it demotivates them. This is because organisational justice is about fairness in the workplace which an employee assesses in the performance appraisal process (Crawshaw, 2006). Therefore, it is argued that employees' work attitudes, including job satisfaction and turnover intention, are influenced by their perception of the degree of organisational justice (Colquitt et al., 2001) and their perceived relationships with their organisations and leadership (e.g., Cho and Perry, 2012). In this regard, Crawshaw (2006) contends that employees' perceptions of fairness could be centred on one or more of their perceived fairness. That is, such fairness concerns the outcomes of any social exchange (i.e., distributive justice), the organisational procedure in making the decision (i.e., procedural justice), and the organisational actors interacted with in the decision-making process (interpersonal and informational justice).

Furthermore, Purang (2011) contends that the different types of justice are not exclusive to each other but are significantly correlated, with distributive justice signifying working conditions and rewards that are favourable to employees. Such a favourable working environment would signal organisational support. It is argued that perceived organisational support gives employees the feeling of being valued and recognised by their organisation, as it recognises their contributions and fulfils their socio-economic requirements (Purang, 2011).

The result is that employees will reciprocate with their commitment to the organisation (Cropanzano et al., 2008) according to SET (Cropanzano and Rupp, 2008).

SET suggests that upon receiving rewards, employees respond by demonstrating a sense of commitment to their organisation (Newman and Sheikh, 2012). According to the theory, the voluntary behaviour of employees is motivated by their expectations of specific returns. When the expectations are met, employees often demonstrate a higher level of commitment to the employer. Employees who receive expected rewards for their effort will in return become more committed to the employer. This social exchange stems from the concept of reciprocity between the employee and employer (Newman & Sheikh, 2012), implying that performance appraisal process will indirectly influence employee commitment through appraisal outcome, which in turn will influence employee commitment via employee rewards.

Consistent with Cropanzano and Rupp (2008), we suggest that reward will influence employee commitment if employees perceive it to be just (fair) and reflective of their efforts. The perception of fairness signals a feeling that employees are valued through a formal reward system such as pay, promotion and benefits, which triggers a close attachment and psychological identification with the organisation. Based on the preceding arguments, we hypothesise that:

H6: Performance appraisal outcome mediates the relationship between performance appraisal process and employee commitment.

H7: Employee reward mediates the relationship between performance appraisal outcome and employee commitment.

See our theoretical model in Figure 1.

Figure 1 [About here]

Method

Procedure and sample

We collected data for the study through a structured online survey using Qualtrics. Two thousand academics were randomly selected from twenty universities in the UK and invited to participate in the survey. We adopted a two-step approach in selecting our sample. First, we grouped the universities into post-1992 and pre-1992 universities. Because of the often-distinct differences between the two groups of universities (the former is usually more teachingfocused while the latter is researched-focused (Abreu et al., 2016)), grouping them before sample selection ensured that academics from both groups were included in the sample. Then we randomly selected ten universities from each group, considering the likely extent of homogeneity of universities within each group. It is argued that the degree of homogeneity should be considered in determining sample size (e.g., Nardi, 2003). Second, for each sample university, we collected the list of academics from its website. We then randomly selected the sample academics from each list and sent them emails, to solicit their participation in the survey. Participants were recruited only if they were academics. We assumed that each academic is subject to periodic performance appraisal, the extent to which we captured the length of service in academia (i.e., as a control variable in this study). Participants were informed of the objective of the survey, that participation was anonymous, and that they had to give informed consent to participate in the survey. We used filtering questions to allow only academics in UK universities to complete the survey. Participants were instructed to respond to the questionnaire on a 7-point Likert scale with the following anchors 7 = totally agree to 1 = completely disagree. This design helped to mitigate the risk of common method bias. 460

participants completed the survey, of which there were 363 usable observations. This gives a response rate of 18.15%. Ethical approval was sought and received for this study.

Descriptive statistics

Academics who participated in the survey were as follows: 99 were from Russell Group universities, 243 were from non-Russell Group Universities, and 21 did not disclose their university classification. Also, 144 were from Post 1992 universities, 140 from Pre 1992 universities, and 79 from other universities. In terms of years in academia, 67 had less than 5 years, 85 had between 5 and 10 years, 57 had between 10 and 15 years, 47 had between 15 and 20 years, and 105 had over 20 years. There were 176 males, 181 females, and 6 other genders. Age range: 2 are less than 25 years old, 96 are from 25 to 40 years, 109 are from 41-50 years, 112 are from 51–60 years, 40 are over 60 years of age, and 4 did not disclose their age range. Salary range: 94 earn less than £40,000; 128 earn from £41,000-£50,000; 72 earn from £51,000-£60,000; 33 earn from £61,000-£70,000; 32 earn more than £70,000, and 4 did not disclose their salary range.

Measures

Performance Appraisal Process (PAP): We measured performance appraisal process using 4item validated scales from Mayer and Davis (1999). An example item is "How much work I get done is important to my performance review". The Cronbach alpha was 0.83.

Performance Appraisal Outcome (PAO): We measured performance appraisal outcome by adapting 3-items measurement indicators from Mayer and Davis (1999). An example item is "If I perform well, my chances of moving up the scale are improved". The Cronbach alpha was 0.87.

Employee Reward (ERE): We measured employee rewards with a 4-item scale adapted from Lawler et al. (1995), and Allen and Kilmann (2001). An example item is "promotions are based

primarily on the achievement of quality-based goals as opposed to quantity-based goals". The Cronbach alpha was 0.70.

Employee Commitment (ECO): For employee commitment, we adapted 4-item validated scales from Brockner *et al.* (1992), and Shapiro and Kirkman (1999). An example item is "I intend to stay in this organisation". The Cronbach alpha was 0.88. The items captured each of the three components of commitment (belief in the values of the organisation (affective), willingness to work hard (normative) and intention to maintain a long-term relationship with the organisation (continuance)) (Brockner *et al.* 1992).

Control variables: University Type (UGT1): Russell Group = 1; non-Russel group = 0. University Type (UGT2): Post-1992 University = 1; non-post-1992 University = 0. These follow the classification of UK universities (Abreu et al., 2016). Age is an important control variable in relation to employee commitment, with incentives for older workers different from those that motivate younger workers (Maurer et al., 2008). Therefore, we use age ranges as a control. For employee gender, we used male = 1, and female = 0. We also controlled for length of service and salary range as these could influence performance appraisal process and performance appraisal outcomes (Ishaque et al., 2017).

Common Method Variance (CMV)

We minimised CMV by including some survey design measures, for example, employing different variations of Likert scales We also employed Harman's single factor approach (Harman, 1976) as a post hoc test, to statistically test for the existence of CMV. Using IBM SPSS 28, the factor analysis shows a value of 29.69%, demonstrating that inter-item correlations are not solely influenced by CMV. See Table 1.

Table 1 [About here]

Data Analysis

We employed PLS-SEM to analyse the data using SmartPLS software (Ringle *et al.*, 2015). The PLS-SEM approach is appropriate for our study considering variance-based PLS-SEM yields consistent estimation outcomes although it demands fewer requirements than CB-SEM, making it a valuable technique for theory testing (Peng and Lai 2012; Hummel *et al.* 2021).

Measurement models

The measurement models were validated by evaluating indicator reliability and internal consistency reliability (construct reliability). The absolute standardised loadings of the indicators of the measurement models ranged from 0.600 to 0.906. Hair *et al.* (2011) argue that indicators with loading between 0.4 and 0.7 should only be considered for removal from the scale if construct reliability would be improved by their removal. The indicator loadings are indicated in Table 2. We used composite reliability values to evaluate the degree to which manifest variables measure the latent construct to which they are assigned (Gotz *et al.*, 2010). Composite reliability (CR) values: 0.884 [PAP], 0.916 [PAO], 0.812 [ERE], and 0.915 [ECO] are considered satisfactory (Bernstein and Nunnally, 1994). The statistics are shown in Table 2.

Structural (mediation) model validation

We ascertain the validity of the structural model by evaluating construct validity, comprised of convergent validity (AVE) and discriminant validity (Bagozzi *et al.*, 1991). The AVE values are larger than the acceptable threshold of 0.5 [PAP = 0.655; PAO = 0.785; ERE = 0.522; ECO = 0.729], validating the convergent validity for all three latent constructs (see Table 2). We assess discriminant validity as follows: (i) the square root of each construct's AVE is larger than its correlation with the other latent constructs (PAP-PAP = 0.810; $PAP \rightarrow PAO = 0.503$; $PAP \rightarrow ERE = 0.500$; $PAP \rightarrow ECO = 0.516$; PAO - PAO = 0.886;

PAO→ERE = 0.597; PAO→ECO = 0.397; ERE-ERE = 0.722; ERE→ECO = 0.505; ECO-ECO = 0.854), thus confirming the Fornell-Larcker (1981) criterion (Gotz *et al.*, 2010). (ii) HTMT ratios for PAP→PAO = 0.582; PAP→ERE = 0.631; PAP→ECO = 0.574; PAO→ERE = 0.714; PAO→ECO = 0.433; ERE→ECO = 0.620. As the HTMT ratio for each pair of latent constructs is less than 0.85, discriminant validity is established (Kline, 2015). Since all three criteria are validated, the discriminant validity of the structural model is established. Thus, the measurement and structural models are validated.

Table 2 [About here]

Determination of the effect of mediation

To evaluate the mediating effects of the latent constructs - performance appraisal outcome and employee reward, we adopted Preacher and Hayes's (2008) procedure. The procedure involves bootstrapping in a two-step process, as follows: 1) we determined the significance of the direct effects without the mediator; 2) we determined the significance of indirect effects and associated t-values using the path coefficient when the mediator variable is present. The bootstrap settings used 5000 subsamples, parallel processing, no sign changes, complete bootstrapping, Bias-Corrected and Accelerated (BCa) bootstrap, two-tailed, and α = 0.05. From the results of the bootstrap procedure, the specific indirect effects (mean, STDEV, t-values, and p-values) were calculated. Also, 95% confidence intervals and bias-corrected confidence intervals were constructed from the bootstrap results to determine the mediating effects. The use of a bias-corrected bootstrap confidence interval is ideal for detecting mediating effects when such effects are present (that is, Type-II error or power), while the use of percentile bootstrap confidence interval (not bias-corrected)) is good to allay concerns about Type-II errors (Hayes and Scharkow 2013). In this regard, the indirect effect is significant if

zero (0) is not included between the lower range and upper range of the 95% confidence interval estimates (Nitzl *et al.*, 2016).

Data availability statement

Supporting data, analysis code and research materials for our study are available at https://doi.org/10.25392/leicester.data.19416335).

Results

The results of the hypothetical relationships show that H_1 predicts a positive relationship between performance appraisal process and employee commitment. The estimates of the model for the direct PAP→ECO relationship without the mediators show a path coefficient with a strong effect ($\beta = 0.517$; p < 0.001) which supports H_1 . H_2 predicts a positive relationship between performance appraisal process and performance appraisal outcome. The path coefficient supports this suggestion ($\beta = 0.503$; p < 0.001), thus supporting H_2 . In H_3 , we predicted a positive relationship between performance appraisal outcome and employee commitment. The path coefficient does not support this suggestion ($\beta = 0.040$; p > 0.10), thus not supporting H_3 . H_4 predicts that there is a positive relationship between performance appraisal outcome and employee reward. The path coefficient shows a positive relationship between the two constructs ($\beta = 0.597$; p < 0.01) and supports H_4 . H_5 predicts that there is a positive relationship between employee reward and employee commitment. At p < 0.05, the path coefficient shows a positive and statistically significant relationship between the two constructs ($\beta = 0.311$; p < 0.01). Therefore, H_5 is supported. Furthermore, we predicted in H_6 a mediating effect of employee reward on the relationship between performance appraisal process and employee commitment, and in H₇ a mediating effect of employee reward on the relationship between performance appraisal outcome and employee commitment.

To establish the mediating effects of these variables on the PAP→ECO relationship, a model that contains both direct and indirect effects between PAP and ECO was estimated. The

parameters obtained for the mediation effects of PAO: (i) original sample: 0.020; sample mean = 0.020; standard error = 0.030. (ii) Confidence Intervals (studentised): 0.019 (at 2.5%), 0.021 (at 97.5%). (iii) Confidence Intervals Bias Corrected (studentised): -0.001 (Bias); 0.019 (at 2.5%); 0.021 (at 97.5%). The direct path coefficient (β = 0.341, p < 0.01), the indirect path coefficient (β = 0.020, p = 0.505), and VAF = 5.62% suggest that PAO does not mediate the effect of PAP on ECO. The parameters obtained for the mediation effects of ERE: (i) original sample: 0.186; sample mean = 0.187; standard error = 0.036. (ii) Confidence Intervals (studentised): 0.185 (at 2.5%), 0.187 (at 97.5%). (iii) Confidence Intervals Bias Corrected (studentised): 0.001 (Bias); 0.186 (at 2.5%); 0.188 (at 97.5%). The direct path coefficient (β = 0.040, p > 0.10), the indirect path coefficient (β = 0.186, p < 0.001), and VAF = 82.18% suggest that ERE has a full mediation effect on the PAO \rightarrow ECO relationship. Figure 2 summarises the results of the hypotheses tests.

Figure 2 [About here]

Discussion

Our study developed a serial mediation model that investigated the relationship between performance appraisal process, performance appraisal outcome, employee reward and employee commitment. Using OJT (Folger, 1987; Greenberg, 1987) and SET (Blau, 1964; (Cropanzano and Rupp, 2008), this study found evidence that performance appraisal process is positively related to employee commitment and performance appraisal outcome. Similarly, performance appraisal outcome is positively related to employee reward and employee reward is also positively related to employee commitment. However, we found no support for the relationship between performance appraisal outcome and employee commitment. Our findings also revealed that performance appraisal outcome and employee reward mediated the

relationship between performance appraisal process and employee commitment, but no significant relationship was found between performance appraisal outcome and employee commitment. Taken together, our study uncovered the explanatory process through which performance appraisal process influenced employee commitment. Our findings suggest that employee reward is critical for performance appraisal outcomes to effectively affect employee commitment. This is significant as it responds to calls for research investigating the role of reward in the performance appraisal process and employee commitment relationship (e.g., Pepple and Ambilichu, 2023).

Theoretical implications

Our study contributes to the performance appraisal process and wider HR literature by theorising a procedural and distributive model through the lens of OJT and SET. First, it provides an important contribution to the OJT by deepening our understanding of the role of performance appraisal process in stimulating employees' commitment to organisations, thus, contributing to existing research on the antecedents of employee commitment in organisations (e.g., Cafferkey et al., 2017; Pepple and Ambilichu, 2023; Pepple *et al.*, 2021). This is important because Solztani and Wilkinson (2020) noted that performance appraisal process continues to be one of the challenging areas in HR practice.

This study found that performance appraisal process positively influences employee commitment and performance appraisal outcome. This aligns with previous studies that established the beneficial relationship between performance appraisal process and employee outcomes (e.g., Rana and Sign, 2021; Van Waeyenberg et al., 2022). Grounded in OJT (Folger, 1987; Greenberg, 1987) and SET (Blau, 1964; Cropanzano and Rupp, 2008), we demonstrate that although the perception of distributive justice is important to appraisal outcomes, distributive justice only affects employee commitment if its perceived fairness is reflected in employee reward. With this, we show that the significant relationship between employee

perception of distributive justice and organisational commitment is achieved through the perceived fairness of employee reward that results from the appraisal outcome. This strengthens our understanding of the complexity of the performance appraisal process and contributes to the OJT.

Second, our study contributes to the literature by highlighting the explanatory pathways in the performance appraisal process-employee commitment link. Pepple and Ambilichu (2023) emphasised that the boundary conditions underpinning performance appraisal and employee commitment relationships are complex. We attempt to reduce this complexity by uncovering the reciprocity between performance appraisal process and employee outcome underpinning by SET. Performance appraisal outcome and employee reward explained the relationship between performance appraisal process and employee commitment. This is important as it shows that appraisal outcome only indirectly impacts employee commitment through employee reward. This is consistent with existing argument that specific employee outcomes such as job satisfaction and pay are strongly influenced by distributive justice (Folger and Konovsky, 1989). Our findings show that while employee reward fully mediates the relationship between performance appraisal outcome and employee commitment, the relationship between performance appraisal process and employee commitment is serially mediated by performance appraisal outcome and employee reward. Thus, we contribute to the literature by highlighting employee reward as a key antecedent of employee commitment and as one of the complex and interrelated sets of criteria by which employees evaluate organisational justice.

Practical implications

Practically, our study has implications for organisations looking for ways to improve employee commitment. Our findings suggest the need for managers to ensure that employees are aware of the performance to be achieved in order to be rewarded, and the criteria used to evaluate such performance, increase pay and promotion. This is because clarity reduces the possibility of employees attributing alternative explanations for rewards received. This is important considering the perceptions of unfairness result in intangible costs through the negative impact on the extent of employee trust, job satisfaction and commitment (see Crawshaw, 2006).

For the HEI, the situation is more severe as universities are currently grappling with the gamification of performance appraisal process for academic staff members (Franco-Santos and Otley, 2018). Perryman and Calvert (2020) attribute this severity to the decreasing funding available to universities notwithstanding the increasing pressure to perform. This has been further worsened by the growing number of metrics (e.g., National Student Survey (NSS), Research Excellence Framework (REF), Teaching Excellence Framework (TEF), and Postgraduate Taught Experience Survey (PTES)) used to measure universities' performance in the UK. Consequently, our study has significant implications for the higher education sector to consider the welfare and commitment of academics more as they strive to improve student satisfaction and the manpower development needs of society.

Our results show that while procedural justice (i.e., performance appraisal process) directly impacts employee commitment, distributive justice (i.e., appraisal outcome), only significantly affects employee commitment through reward. This suggests that organisations (especially universities) should ensure that appraisal outcomes are translated into rewards (that reflects trusted outcomes) so that employees become more committed to their organisations. This is particularly significant to universities if they must avoid the gamification of the performance appraisal process for academic staff members (see e.g., Franco-Santos and Otley, 2018). Aboubichr and Conway (2023) find that some universities took performance appraisal process more seriously during REF cycles and did not fully consider other roles such as course leadership, citizenship behaviour and mentorship. This impacted performance appraisal

outcomes of academics as they (academics) perceived that their efforts in totality were not reflected in their rewards. Therefore, we recommend that managers implement an appraisal process that captures the roles undertaken by academics and reward their performance accordingly, regardless of the timing of the REF, TEF and other evaluation metrics in UK HEI. Limitations of the study and suggestions for future research

Notwithstanding the theoretical contributions and practical implications, our study is not without limitations. Our cross-sectional data from a single time source may limit our understanding of employee commitment. This is because employee commitment may be formed over time. We, therefore, recommend that a longitudinal study with data from different sources be conducted to uncover the complexities of the performance appraisal process and employee commitment relationship over time. We are also aware that other antecedents such as work climate and leadership support may influence performance appraisal and employee commitment relationships. These aspects are core indicators of interactional justice and will further provide more insights into the relationship. Also, we welcome future studies to investigate employee commitment at individual dimension levels.

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Table 1: Mean, standard deviation and correlation matrix of study variables

				•								
	Mean	S.D	1	2	3	4	5	6	7	8	9	10
1. University Type I	1.71	0.45										
2. University Type II	1.82	0.76	49**									
3. Experience	3.11	1.51	.03	01								
4. Age	3.26	0.99	.10	03	.63**							
5. Gender	1.52	0.52	.06	04	04	11*						
6. Salary	2.39	1.22	21**	.11*	.48**	.35**	16**					
7. Performance appraisal process	4.20	1.22	.13*	.08	14**	09	-0.02	-0.01	(0.83)			
8. Performance appraisal outcome	3.51	1.77	-0.06	.06	08	11*	0.02	.11*	.47**	(0.87)		
9. Employee reward	3.23	1.24	0.04	-0.01	15**	14**	.04	05	.50**	.48**	(0.70)	
10. Employee commitment	4.02	1.58	.04	.07	.01	.06	0.04	0.06	.52**	.38**	.48**	(0.88)

Note. **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). Cronbach alphas are in parentheses on the diagonal.

Source(s): Authors own creation and work

Table 2: Indicator loadings and model fit criteria

Performance Appraisal ($\alpha = 0.827$; CR = 0.884; AVE = 0.655)^a

 $(seven-point \ scale, \ anchored \ by \ 7 = "Totally \ agree"; \ 1 = "Totally \\ disagree")$ Standardised loadings t-values

How much work I get done is important to my performance review.	0.769	26.410
How much effort I put into my job is important to my performance review.	0.855	59.600
How many "extra" things I do (e.g., participation in Open Days, conferences, symposiums etc) is important to my performance review.	0.771	24.290
Coming up with good ideas for the University improves my performance review.	0.840	48.630

Performance Appraisal Outcome ($\alpha = 0.864$; CR = 0.916; AVE = 0.785)

(seven-point scale, anchored by 7 = "Strongly agree"; 1 = "Strongly disagree")

Whether or not I get a pay raise depends on my performance.	0.858	37.654
If you are one of the better performers in this University, you will get one of the better raises.	0.894	62.677
If I perform well, my chances of moving up the pay scale are improved.	0.906	81.606

Employee Reward ($\alpha = 0.698$; CR = 0.812; AVE = 0.522) c

(seven-point scale, anchored by 7 = "Totally agree"; 1 = "Totally disagree")

Performance appraisals and pay increases are based primarily on individual achievements.	0.783	29.829
Feedback from colleagues and/or students are incorporated into performance appraisal.	0.687	17.477
Performance appraisals are used primarily for staff development than for evaluating employees' past accomplishments and failures.	0.600	11.235
Promotions are based primarily on the achievement of quality-based goals as opposed to quantity-based goals.	0.801	31.057

Employee Commitment ($\alpha = 0.878$; CR = 0.915; AVE = 0.729)^d

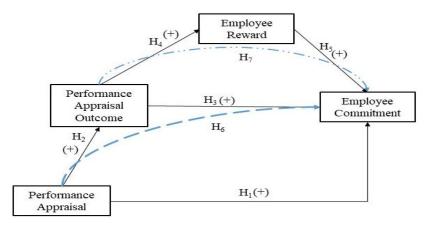
(seven-point scale, anchored by 7 = "Completely right"; 1 = "Completely wrong")

I expect to work at this University for a long time.	0.828	36.732
I feel loyal to this University.	0.869	50.050
I feel trust toward management of my university.	0.850	66.136
I intend to stay in this University.	0.869	50.839

- a: Adapted from Mayer & Davis (1999)
- b: Adapted from Mayer & Davis (1999)
- c: Adapted from Lawler et al. (1995); Allen & Kilmann (2001)
- d: Adapted from Brockner et al. (1992); Shapiro & Kirkman (1999)

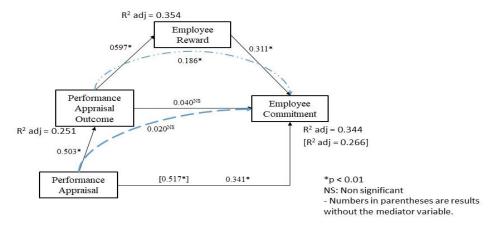
Source(s): Authors own creation and work

Figure 1: The relationship between the constructs in the study



Source(s): Authors own creation and work

Figure 2: Path coefficients and statistical significance of relationships in the mediation models



Source(s): Authors own creation and work