

The Role of Performance Appraisal and Work–Life Balance on Work Engagement: The Mediating Effect of Job Security in Malaysia's Oil and Gas Industry

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ABSTRACT

This study investigates the relationship between performance appraisal and work–life balance with the level of work engagement among employees in the oil and gas industry in Malaysia, using job security to as a mediating variable. The study is based on Social Exchange Theory (SET), which suggests that employees will return positive responses to positive actions from their organisation, including greater employee engagement in return for treatment with fairness in appraisal systems and work–life practices. A quantitative approach with cross sectional research design was used and structured questionnaire was administered to the employees of one of the big oil and gas organisations in Malaysia. A total of 236 usable responses were obtained and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) in the program of SmartPLS 4. The research framework includes direct relationship between the performance appraisal and work engagement and between work–life balance and work engagement, and the mediation role of job security in the above relationships. The results showed that performance appraisal and work–life balance had significant impacts on work engagement, with job security having the highest positive impact on engagement. The results of mediation analysis also showed that job security plays a significant role in mediating the relationships between HR practices and employee engagement. They found that such practices were interpreted as signals of stability and support at the organisation, from which employees responded with emotional, cognitive and physical investment. These results support the theory of Social Exchange Theory (SET), which states that HR practices are seen as 'signals' for stability and support in the organisation, which employees interpret and reciprocate through emotional, cognitive and physical investment. In practice, the study points to the need for clear evaluation systems, supportive working–life policies and communication about job security to help maintain engagement in a turbulent industrial landscape. The study adds to the theoretical and practical knowledge of the mechanism of employee engagement in high-risk sectors.

Keywords: Performance appraisal, Work-life balance, Job security, Work engagement, Malaysia, Oil and gas industry

INTRODUCTION

Work engagement is a central construct in contemporary organisational research, particularly in high-risk and performance-critical industries where employee attention, energy, and commitment directly influence operational safety and sustainability. Engagement is commonly defined as a positive psychological state characterised by emotional involvement, cognitive absorption, and physical energy directed toward work tasks (Schaufeli, 2022; Bakker & Demerouti, 2023). Empirical evidence consistently links work engagement to productivity, safety compliance, innovation, and reduced turnover intention (Albrecht & Marty, 2022). In safety-critical industries such as oil and gas, disengagement may lead not only to performance decline but also to heightened operational and compliance risks.

Malaysia's oil and gas sector is one of the country's most strategically important industries, contributing substantially to national GDP and employment. However, the sector is characterised by high physical demands, offshore rotations, technological transitions, and restructuring pressures driven by global energy market volatility. Recent workforce indicators suggest rising stress, burnout, and retention concerns within demanding industrial environments (DOSM, 2025; PETRONAS, 2024). In these conditions, sustaining employee engagement becomes increasingly complex, as employees may experience uncertainty, fatigue, and work–life imbalance that weaken psychological investment in work roles.

Human resource (HR) practices play a critical role in shaping employee perceptions of fairness, support, and stability. Performance appraisal systems influence employees' perceptions of recognition and procedural justice (DeNisi & Murphy, 2022; Aguinis & Burgi-Tian, 2022), while work–life balance policies affect psychological availability and recovery capacity (Haar et al., 2022; Kossek & Perrigino, 2022). However, in volatile and high-risk industries, HR practices may not directly translate into increased engagement unless employees interpret them as credible signals of long-term organisational support and employment continuity.

Although prior studies have examined the individual effects of performance appraisal, work-life balance, and job security on engagement, integrated mechanism-based testing within Malaysia's oil and gas sector remains limited. In particular, the mediating role of job security in linking HR practices to work engagement has not been systematically examined in this high-risk industrial context. Addressing this gap is important, as employment stability perceptions may represent a central psychological channel through which organisational practices influence discretionary effort and commitment.

Therefore, this study examines how performance appraisal and work–life balance influence work engagement and whether job security acts as a mediating mechanism.

LITERATURE REVIEW

Social Exchange Theory

Social Exchange Theory (SET) provides the theoretical foundation for understanding how organisational practices shape employee attitudes and behaviours. Rooted in the principle of reciprocity (Blau, 1964), SET posits that employees respond to favourable organisational treatment with positive attitudes and behaviours. When employees perceive fairness, recognition, and support from their organisation, they develop a sense of obligation to reciprocate through commitment, discretionary effort, and engagement (Saks, 2022).

In organisational contexts, HR practices function as signals of organisational intent. Fair appraisal systems signal recognition and procedural justice, while supportive work–life policies signal care and concern for employee well-being. These signals influence employees' perceptions of relational quality and employment stability. Within high-risk industries such as oil and gas, where uncertainty and restructuring pressures are common, stability signals become particularly salient. Employees who perceive organisational investment and continuity are more likely to reciprocate through emotional, cognitive, and physical engagement in their work roles.

Research Framework

This study adopted the research paradigm of Social Exchange Theory (SET) that addresses how favourable treatment by the organisation influences positive behaviour by the employee. Within this framework, job security is treated as the path between the independent (performance appraisal and work–life balance) and the dependent (work engagement) variables. The framework suggests that supportive work–life practices and fair appraisal systems improve employee perceptions of employment security, which in turn improve emotional, cognitive and physical involvement in the workplace. Thus, the framework proposed in this work will explore the direct and indirect links of the HR practices to work engagement based on job security in the oil and gas industry in Malaysia.

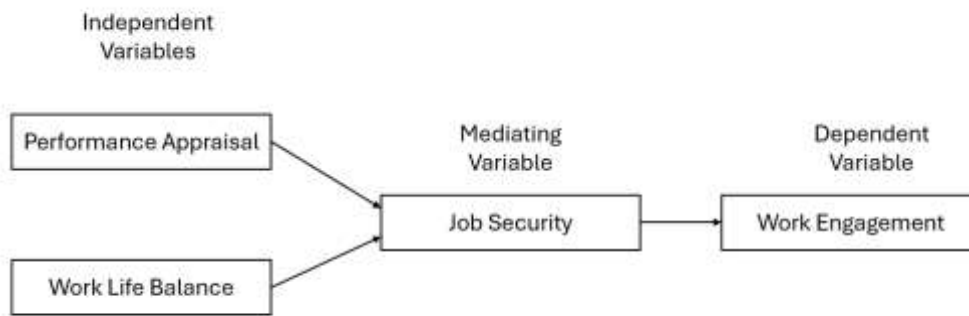


Figure 1: Research Framework

Performance Appraisal and Work Engagement

Performance appraisal is a core component of performance management systems and significantly influences employees' perceptions of fairness and recognition. Contemporary appraisal systems emphasise transparency, developmental feedback, and clear performance criteria (DeNisi & Murphy, 2022; Aguinis & Burgi-Tian, 2022). When appraisal processes are perceived as fair and constructive, employees develop greater trust and alignment with organisational objectives.

Empirical studies suggest that fair appraisal practices are positively associated with employee motivation and engagement (Kim et al., 2022). In high-demand industries, appraisal systems that acknowledge effort and provide developmental guidance strengthen employees' psychological attachment to their roles. From a SET perspective, fair appraisal signals organisational respect and investment, which employees reciprocate through increased engagement.

Accordingly, the following hypothesis is proposed:

H1: Performance appraisal positively influences work engagement.

Work-Life Balance and Work Engagement

Work-life balance reflects employees' ability to manage professional demands alongside personal and family responsibilities without prolonged strain (Allen & Martin, 2023). In demanding industries such as oil and gas, rotational schedules, long shifts, and remote operations may disrupt recovery processes and reduce psychological availability.

Research indicates that poor work-life balance contributes to emotional exhaustion and diminished engagement (Haar et al., 2022; Kossek & Perrigino, 2022). Conversely, organisational support for work-life balance enhances well-being and strengthens employees' capacity to invest attention and energy in work tasks. SET perspective, supportive work-life practices signal organisational care, encouraging reciprocal engagement behaviours.

Therefore, the following hypothesis is proposed:

H2: Work-life balance positively influences work engagement.

Job Security and Work Engagement

Job security refers to employees' perception of stability and continuity in their employment (De Witte et al., 2022). In volatile industries, restructuring and technological transitions may heighten insecurity perceptions, even without immediate layoffs. Perceived job insecurity has been associated with stress, reduced motivation, and withdrawal behaviours (Shoss et al., 2023; Sverke et al., 2023).

Conversely, perceived job security enhances psychological safety and fosters long-term organisational commitment. Employees who feel secure are more willing to invest sustained emotional and cognitive energy in their roles. In safety-critical environments such as oil and gas, stability perceptions may be particularly influential in shaping engagement decisions.

Thus, the following hypothesis is proposed:

H3: Job security positively influences work engagement.

The Mediating Role of Job Security

While performance appraisal and work–life balance may directly influence engagement, their effects may be partially explained by employees’ perceptions of employment stability. Fair appraisal systems and supportive work–life arrangements signal organisational investment and long-term commitment. These signals shape perceived job security, which in turn influences employees’ willingness to reciprocate with engagement.

Besides from Social Exchange perspective, organisational practices serve as reciprocity signals, while job security represents the internalised belief that the employment relationship is stable and valued. Employees who interpret HR practices as stability-enhancing are more likely to invest emotional, cognitive, and physical energy in their work roles.

Accordingly, the following mediation hypotheses are proposed:

H4: Job security mediates the relationship between performance appraisal and work engagement.

H5: Job security mediates the relationship between work–life balance and work engagement.

METHOD

Sample and Procedure

This study employed a quantitative, cross-sectional survey design to examine the proposed relationships. Data were collected from employees of a major Malaysian oil and gas organisation. A total of 400 structured questionnaires were distributed to full-time executive and senior executive employees who were directly governed by internal human resource policies. These roles were selected because they are routinely exposed to formal performance appraisal systems, organisational work–life arrangements, and employment continuity signals.

Of the 400 questionnaires distributed, 236 usable responses were returned, representing a response rate of 59 percent. Participation was voluntary, and confidentiality was assured to minimise potential response bias. The cross-sectional design was considered appropriate for capturing employees’ perceptions of HR practices, job security, and engagement within a volatile and high-demand industrial context.

Measures

All constructs were measured using established multi-item scales adapted from prior literature and contextualised to the Malaysian oil and gas environment. Responses were recorded using a five-point Likert scale ranging from strongly disagree to strongly agree.

Performance appraisal was measured based on employees’ perceptions of fairness, transparency, clarity of criteria, and developmental value of the appraisal system (DeNisi & Murphy, 2022; Aguinis & Burgi-Tian, 2022). The items assessed the extent to which the appraisal process was perceived as accurate, consistent, and supportive of professional growth.

Work-life balance was assessed using items reflecting employees' ability to manage work demands alongside personal and family responsibilities without excessive strain (Allen & Martin, 2023; Haar et al., 2022). The scale captured perceptions of organisational flexibility, recovery opportunities, and managerial support for balancing professional and personal roles.

Job security was assessed through employees' perceptions of employment stability and continuity within the organisation (De Witte et al., 2022; Shoss et al., 2023). The items measured the degree to which employees felt confident about retaining their jobs despite industry volatility and organisational changes.

Work engagement was conceptualised as a multidimensional construct encompassing emotional, cognitive, and physical engagement (Schaufeli, 2022; Bakker & Demerouti, 2023). The scale measured enthusiasm and attachment to work (emotional engagement), concentration and absorption (cognitive engagement), and energy and effort investment (physical engagement).

Data Analysis

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 4 software. PLS-SEM was selected due to its suitability for predictive modelling and its robustness in handling complex mediation structures within non-normal data conditions.

The analysis followed a two-stage approach. First, the measurement model was evaluated to assess internal consistency reliability, convergent validity, and discriminant validity. Composite reliability, Cronbach's alpha, and average variance extracted (AVE) were examined to ensure construct reliability and validity. The Fornell-Larcker criterion and heterotrait-monotrait ratio (HTMT) were used to assess discriminant validity.

Second, the structural model was assessed by examining path coefficients, coefficient of determination (R^2), effect sizes (f^2), and predictive relevance (Q^2). Mediation effects were tested using bootstrapping procedures with bias-corrected confidence intervals to determine the significance of indirect effects. This approach enabled rigorous testing of the mediating role of job security in the relationships between performance appraisal, work-life balance, and work engagement.

RESULTS

Measurement Model

The measurement model was evaluated to assess internal consistency reliability, convergent validity, and discriminant validity. Table 1 presents the reliability and convergent validity results.

Table 1: Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability (CR)	AVE
Performance Appraisal	0.91	0.93	0.68
Work-Life Balance	0.88	0.91	0.64
Job Security	0.92	0.94	0.72
Work Engagement	0.93	0.95	0.69

All constructs exceeded the recommended threshold of 0.70 for Cronbach's alpha and composite reliability, indicating strong internal consistency. The average variance extracted (AVE) values were above 0.50 for all constructs, confirming adequate convergent validity.

Discriminant validity was assessed using the heterotrait–monotrait (HTMT) ratio.

Table 2: Discriminant Validity (HTMT)

Relationship	Value
PA – WLB	0.63
PA – JS	0.58
PA – WE	0.67
WLB – JS	0.61
WLB – WE	0.54
JS – WE	0.71

All HTMT values were below the recommended threshold of 0.85, confirming satisfactory discriminant validity among the constructs.

Structural Model

The structural model was assessed by examining path coefficients, coefficient of determination (R^2), and effect sizes (f^2). Bootstrapping procedures were applied to test the significance of the hypothesised relationships.

Table 3: Structural Model Results

Hypothesis	Path	β	t-value	p-value	Result
H1	PA → WE	0.29	3.84	<0.001	Supported
H2	WLB → WE	0.21	2.97	0.003	Supported
H3	JS → WE	0.41	5.62	<0.001	Supported

Performance appraisal and work–life balance were both positively and significantly related to work engagement. Job security demonstrated the strongest direct effect on work engagement ($\beta = 0.41$), indicating its central role in shaping employee engagement within the oil and gas context.

The model explained a substantial proportion of variance:

- R^2 (Job Security) = 0.42
- R^2 (Work Engagement) = 0.58

These values indicate strong explanatory power.

Effect sizes (f^2) further indicated that job security exerted the largest effect on work engagement compared to performance appraisal and work–life balance.

Mediation Analysis

The mediating role of job security was tested using bootstrapping with bias-corrected confidence intervals.

Table 4: Indirect Effects (Mediation Analysis)

Hypothesis	Indirect Path	β	t-value	p-value	Mediation Type
H4	PA → JS → WE	0.15	3.96	<0.001	Partial
H5	WLB → JS → WE	0.14	3.42	0.001	Partial

Both indirect effects were statistically significant, confirming that job security mediates the relationships between performance appraisal and work engagement, and between work–life balance and work engagement.

The presence of significant direct and indirect paths suggests partial mediation. Importantly, the magnitude of the indirect effects reinforces the central role of job security as a psychological mechanism linking HR practices to engagement. Overall, the findings indicate that job security functions as a strong mediator and the most influential predictor of work engagement in this model.

DISCUSSION

This study examined how performance appraisal and work–life balance influence work engagement and whether job security acts as a mediating mechanism within Malaysia’s oil and gas industry. The findings provide several important insights. First, performance appraisal was found to positively influence work engagement. This result supports prior research suggesting that fair and transparent appraisal systems enhance employee motivation and commitment (DeNisi & Murphy, 2022; Aguinis & Burgi-Tian, 2022). In high-risk environments such as oil and gas, where performance expectations are stringent and accountability is high, employees appear to reciprocate fair evaluation practices with greater emotional, cognitive, and physical investment in their work. This aligns with Social Exchange Theory, which posits that employees respond positively when organisational systems signal recognition and procedural justice (Saks, 2022).

Second, work–life balance demonstrated a positive and significant effect with work engagement. Given the demanding schedules, rotational assignments, and operational pressures within the oil and gas sector, employees’ ability to balance work and personal responsibilities appears crucial for sustaining psychological availability. Supportive work–life arrangements reduce strain and enable employees to maintain focus and energy at work (Haar et al., 2022; Kossek & Perrigino, 2022). The findings confirm that even in rigid industrial contexts, perceived organisational care for employee well-being enhances engagement.

Most notably, job security emerged as the strongest predictor of work engagement. Employees who perceived higher employment stability were significantly more likely to demonstrate engagement across all dimensions. This finding is consistent with research showing that perceived insecurity undermines motivation and psychological commitment (De Witte et al., 2022; Shoss et al., 2023). In a volatile industry characterised by technological transitions and restructuring pressures, stability perceptions appear to play a pivotal role in shaping employees’ willingness to invest discretionary effort.

The mediation analysis further strengthens this conclusion. Job security significantly mediated the relationships between performance appraisal, work–life balance, and work engagement. This indicates that HR practices do not merely influence engagement directly; rather, they operate by shaping employees’ perceptions of long-term organisational stability. When employees interpret appraisal fairness and work–life support as signals of organisational commitment, they develop stronger perceptions of job security, which in turn enhance engagement.

These findings provide strong support for Social Exchange Theory. Performance appraisal and work–life balance function as reciprocity signals, while job security represents the internalised stability belief that triggers reciprocal engagement behaviour. In volatile and safety-critical industries, stability signals may be particularly salient, amplifying the importance of job security as a central psychological mechanism.

CONCLUSION

This study examined how performance appraisal and work-life balance influence work engagement, and tested the mediating role of job security within Malaysia’s oil and gas industry. Drawing on Social Exchange Theory, the findings demonstrate that HR practices function as organisational signals that shape employees’ perceptions of fairness, support, and stability. These perceptions, especially job security, are central to employee engagement in determining whether employees reciprocate with emotional, cognitive, and physical investment in their work roles.

The results confirm that both performance appraisal and work-life balance positively influence work engagement. Employees who perceive appraisal systems as fair and developmental, and who experience

supportive work–life arrangements, are more likely to demonstrate sustained energy, focus, and commitment. More importantly, job security emerged as the strongest predictor of engagement and significantly mediated the relationships between HR practices and engagement. This indicates that employees’ perceptions of employment stability represent a central psychological mechanism through which organisational practices translate into discretionary effort and motivation.

In the context of a volatile and high-risk industry such as oil and gas, these findings carry particular significance. Operational uncertainty, technological transitions, and restructuring pressures heighten employees’ sensitivity to stability signals. When organisations communicate fairness, support, and continuity through their HR systems, employees are more willing to remain psychologically present and engaged despite external pressures.

Overall, this study reinforces the importance of designing transparent performance appraisal systems, implementing meaningful work–life balance initiatives, and strengthening communication around employment stability. In safety-critical and performance-intensive industries, sustainable engagement depends not only on motivation but also on employees’ confidence in the long-term integrity and stability of the employment relationship.

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Author Contributions

Muhammad Rizuan Bin Hasan, Bidayatul Akmal Mustafa Kamil, and Wan Fatimah Solihah Wan Abdul Halim jointly contributed to the development of the conceptual framework, literature review, and manuscript preparation. All authors were involved in refining the arguments, reviewing the content, and approving the final version of the manuscript.

Data Availability Statement

No new data were created or analyzed in this study. Materials supporting the review, including search protocols and synthesis notes, are available from the corresponding author upon reasonable request.

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