

## The Role of Employee Engagement and Gender in the Relationship between Human Resource Management Practices and Employee Job Performance

Jutamard Thaweepaiboonwong<sup>1\*</sup> and Thanit Thinnam<sup>2</sup>

\*Corresponding author email: jutamard.t@ku.th\*

(Received: May 22, 2025   Revised: July 18, 2025   Accepted: August 5, 2025)

### ABSTRACT

This study investigates how human resource management (HRM) practices influence employee job performance, with employee engagement acting as a mediator, and explores whether gender moderates this relationship. Survey data were collected from 268 employees at large manufacturing firms in Thailand and analyzed using structural equation modeling. The results indicate that employee engagement partially mediates the relationship between HRM practices and job performance, while gender does not moderate this relationship. These findings enhance our understanding of the interaction between HRM practices and employee engagement and offer practical guidance for developing effective HRM strategies and engagement programs in emerging-market manufacturing contexts.

**Keywords:** Human Resource Management Practices; HRM; Employee Job Performance; Gender; Employee Engagement

---

<sup>1</sup> Assistant Professor, Ph.D., Faculty of Management Sciences, Kasetsart University

<sup>2</sup> Independent Researcher

## Background and Significance of the Research Problem

Organizational human resource management (HRM) encompasses the processes by which an organization manages its employees to achieve strategic objectives. The HRM function integrates policies, practices, and systems shaping employee behavior, attitudes, and performance (Cascio & Aguinis, 2024; Noe et al., 2023).

Since its emergence in the 1980s, numerous studies have demonstrated that HRM practices substantially influence employee job performance (Agarwal & Baltazar, 2019; Cooper et al., 2019). Conceptual frameworks typically fall into two main categories: those examining the direct relationship between HRM practices and performance outcomes, and those exploring indirect pathways via psychological or behavioral constructs. For example, Mahadevan and Mohamed (2014) assessed the effects of three HRM practices (training and development, performance appraisal, and employee participation) on job performance, while Agarwal and Baltazar (2019) investigated six practices (employee relations, performance management, work analysis and design, compensation and rewards, recruitment and selection, and training and development). Recent literature has shown that HRM practices primarily shape employees' psychological and behavioral attributes, which, in turn, drive performance. Cooper et al. (2019) proposed a four-step model in which (i) HRM practices enhance the social climate; (ii) social climate mediates the HRM–resilience relationship; (iii) resilience improves job performance; and (iv) resilience mediates the social climate–performance link. Uddin et al. (2017) examined gender as a moderator and job satisfaction as a mediator in the HRM–operational performance link, finding that job satisfaction either partially or fully mediated the effect of HRM, although this pathway did not differ significantly between male and female employees.

HRM is inherently context-specific. A substantial number of studies have been conducted in developed economies, particularly in Western Europe and North America, whereas research in developing countries remains comparatively limited (Budhwar & Debrah, 2001). To address this gap, this study focused on large manufacturing firms in Thailand.

This study investigated the mechanisms linking HRM practices to employee job performance, incorporating employee engagement as a mediating variable and gender as a moderating variable. Although HRM practices serve as the primary antecedent and employee job performance as the outcome, the inclusion of both mediator and moderator variables provides a more nuanced understanding of how HRM practices enhance performance. Accordingly, we assessed the mediating role of employee engagement and the moderating effect of gender on the relationship between HRM

and employee job performance. Despite extensive research on the direct and isolated mediator/moderator effects, most studies have not concurrently incorporated employee engagement as a mediator and gender as a moderator within a single unified framework to fully explain how HRM practices drive job performance.

### Research Objectives

1. To examine the effect of HRM practices on employee job performance, with employee engagement specified as a mediating variable.
2. To assess whether gender moderates the relationships among HRM practices, employee engagement, and employee job performance.

### Scope of the Study

This study employed structural equation modeling (SEM) to examine the relationships between the variables by analyzing the mediating effect of employee engagement and the moderating effect of gender. HRM practices were operationalized across four domains: training and development, recruitment and selection, reward systems, and performance management. Employee job performance was evaluated in terms of workload, work quality, and time management. Employee engagement was measured using three facets: vigor, dedication, and absorption. The study sample comprised 268 full-time employees from large-scale manufacturing firms in Chonburi Province, Thailand.

### Literature Review

This research draws on two established frameworks. The first, Social Exchange Theory, posits that employees reciprocate organizational investments in HRM policies, practices, and systems by exhibiting higher levels of engagement (Blau, 1986). The second, the Ability–Motivation–Opportunity framework, proposes that HRM practices build employees’ capabilities, strengthen their motivation, and create conditions for meaningful work. These elements collectively foster engagement, which, in turn, drives job performance (Appelbaum et al., 2000).

#### HRM and Employee Job Performance

HRM comprises formal systems and practices intended to ensure the effective administration of human capital within an organization (Angonga & Oluoch, 2019) and plays a crucial role in aligning employees with both organizational objectives and role-specific expectations (Boon et al., 2011). Core HRM practices encompass strategic HRM, recruitment and selection, training and development, performance appraisal, career development, compensation, occupational health and safety, labor relations and collective bargaining, and international HRM (Sims, 2002).

Employee job performance refers to the actions undertaken to achieve organizational goals (Campbell, 1990). Organizational success depends heavily on such performance (Colquitt et al., 2022). Rather than being a singular construct, job performance encompasses multiple behavioral domains. Campbell (1990) delineated eight proficiencies in job-specific and non-job-specific tasks: communication, effort, personal discipline, team facilitation, supervision, and administrative duties. Motowidlo (2003) further argues that, to capture the full scope of performance, measurements must include both task performance (activities described formally in job descriptions) and contextual performance (discretionary behaviors that enhance psychological, social, and work environments). Within task performance, Campbell distilled three core facets—job quantity, job quality, and timeliness—that together capture employees’ essential contributions to organizational effectiveness.

Explaining the relationship between HRM practices and employee job performance has been a central research focus since the 1980s (Sanders & Looise, 2006). Empirical evidence has consistently indicated a positive association. For instance, Klepi (2019) reported that recruitment and selection correlated significantly with the financial, customer, internal process, and learning and growth performance dimensions of SMEs in Bosnia and Herzegovina. Agarwal and Baltazar (2019) found that six HRM practices—employee relations, performance management, work analysis and design, compensation and rewards, recruitment and selection, and training and development—were positively related to employee performance in Abu Dhabi’s banking sector. In China, Gahan et al. (2012) observed that the adoption of nine Western-style HRM practices—regularization of workers, training, benefits, incentive pay, labor–management cooperation, occupational health and safety committees, recruitment, probationary systems, and formal dispute settlement procedures—was associated with higher sales per employee, lower total labor costs, and reduced unit labor costs. Based on these findings, we proposed the following hypothesis:

Hypothesis 1. HRM practices have a significant positive impact on employee job performance.

### **Employee Engagement as a Mediator**

Employee engagement refers to the degree of an employee’s commitment and discretionary efforts within an organization. Engaged individuals invest both physical and psychological resources to exceed standard performance expectations in pursuit of organizational objectives. Sanders and Looise (2006) argue that HRM systems do not exert their effects on firm performance directly but rather shape organizational resources—particularly employees’ attitudes and behaviors—to drive performance. This study extends their logic to the individual level of job performance.

The Job Demands–Resources model posits that HRM practices serve as organizational resources that foster employee engagement, which, in turn, enhances employee job performance. Under this framework, HRM practices first influence employees' psychological states, as manifested through vigor, dedication, and absorption, which act as mediating mechanisms in translating HRM inputs into performance outcomes.

The association between HRM practices and employee engagement has been widely documented, with most studies reporting significant correlations. For example, in an exploratory survey of 385 academicians at private institutions in India, Mercy and Choudhary (2019) identified organizational supportiveness, procedural justice, perceived trust, job characteristics, role efficacy, rewards and recognition, and empowerment as key drivers of employee engagement. Similarly, Moletsane, Tefera, and Migiro (2019) found that personal attitudes, work environment, communication, leadership style, and employee commitment significantly predicted employee engagement. Harare, Zimbabwe, Wushe, and Shenje (2019) reported that antecedents of employee engagement included effective leadership, training and career development, compensation and incentive schemes, and organizational policies and procedures. Juyumaya et al. (2024) further observed that although job autonomy did not directly improve job performance, it significantly enhanced employee engagement, which, in turn, fully mediated the autonomy–performance relationship.

Previous research has also established a robust positive relationship between employee engagement and job performance. In a longitudinal field study of an Australian financial services firm, Carter et al. (2018) demonstrated that employee engagement dimensions—vigor, dedication, and absorption—correlated strongly with performance metrics such as the number of client appointments and products sold. Jackson (2014) observed that engaged employees not only excelled in their in-role tasks but also engaged in extra-role behavior. Similarly, Reisinger et al. (2012) show that optimal job performance occurs when employees experience work engagement, which is defined as an affective-motivational state conducive to discretionary effort. Accordingly, we proposed the following hypothesis:

Hypothesis 2. Employee engagement mediates the relationship between HRM practices and employee job performance.

### **Gender as a Moderator**

Gender has often been examined as a moderating variable within sociopsychological research frameworks (Baron & Kenny, 1986), particularly in developing countries where socioeconomic gender inequalities prevail. For instance, Gbadamosi and Ross (2012) investigated perceived stress

and performance-appraisal discomfort as predictors of core self-evaluations among managers in Botswana, with gender as a moderator. Although no overall moderating effect was determined, they observed that, for men, appraisal discomfort diminished as stress increased, whereas women's appraisal discomfort remained unaffected. Similarly, Uddin et al. (2017) explored gender roles as a moderator of the relationships between HRM practices, job satisfaction, and operational performance effort in Bangladesh; however, they found no significant differences between male and female respondents. Honnamane et al. (2024) showed that gender moderates the effects of job characteristics, perceived organizational support, and engaging leadership on work engagement, indicating that male and female employees respond differently to HRM practices.

Social role theory posits that workplace gender expectations shape employees' responses to HRM practices and engagement initiatives. Consequently, gender norms may moderate the efficacy of HRM interventions and employee engagement programs, especially in cultural settings where traditional gender roles persist. Although younger cohorts of men and women in Thailand enjoy equal access to education, women remain disproportionately represented in fields traditionally perceived as "female," such as the liberal arts and home economics, and underrepresented in areas such as engineering and information technology. Employment patterns reflect these divides: women predominate in accommodation and food services, real estate, and certain professional occupations, whereas men dominate transportation, storage, information and communication, and agriculture (Office of the Permanent Secretary, Ministry of Labour, 2024). Although the working-age populations are nearly equal, a substantial proportion of women are classified as economically inactive because of their domestic responsibilities. Likewise, women's average remuneration and occupational status lag behind men's, and career progression is often constrained by familial obligations (Thinnam, 2011). Accordingly, we proposed the following hypothesis:

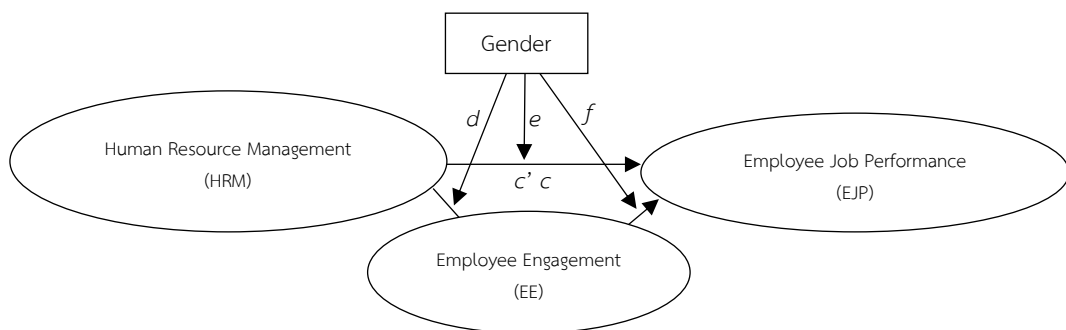
Hypothesis 3. Gender moderates the relationship between HRM practices and employee job performance.

Existing research has demonstrated that HRM practices indirectly enhance employee job performance via psychological mechanisms, namely employee attitudes and behaviors, and that workplace gender expectations likely shape employees' responses to HRM and engagement initiatives. However, empirical evidence from developing countries remains scarce, and Thailand's unique cultural and organizational context may yield distinct moderating effects. Accordingly, we proposed the following hypotheses:

Hypothesis 3a. Gender moderates the relationship between HRM practices and employee engagement.

Hypothesis 3b. Gender moderates the relationship between employee engagement and employee job performance.

A conceptual framework illustrating these hypotheses is presented in Figure 1. In this model, path A denotes the effect of HRM practices on employee engagement, path B indicates the effect of employee engagement on employee job performance, and path C shows the total effect of HRM on employee job performance. The moderating effect of gender on the HRM–employee engagement link is represented by path D, the HRM– employee job performance link by path E, and the employee engagement–employee job performance link by path F.



**Figure 1:** The Conceptual framework

## Research Methodology

### Population and Sample

The study population comprised employees working in large-scale manufacturing firms in Chonburi Province, a principal industrial hub within Thailand’s Eastern Economic Corridor. Although exact employee headcounts are not publicly available, the Office of the Permanent Secretary, Ministry of Labour (2024, February) reported that 452,399 individuals were employed in the manufacturing sector during Q4 2023.

Following Hair et al. (2019) and Kline (2016), we adopted a sampling ratio of 10–20 times the number of observed variables (10), recognizing that a minimum of 200 valid responses was required for structural equation modelling. Accordingly, 300 self-completion questionnaires were disseminated via Google Forms, using convenience sampling through HR managers at 15 readily accessible automotive parts manufacturers. This approach enabled rapid access to the target population under time and budget constraints. Of the distributed questionnaires, 275 were returned. After screening for missing data and outliers, 268 valid responses remained for analysis.

## Data Collection Tools

We employed a self-administered questionnaire as the primary data collection instrument, structured into four sections in accordance with the conceptual framework. Section 1 elicited the respondents' general information, including gender and other demographic characteristics. Section 2 measured HRM practices using a 14-item scale adapted from Beijer et al. (2019) and Demo et al. (2012), comprising training and development (4 items, Cronbach's  $\alpha = 0.82$ ), recruitment and selection (4 items,  $\alpha = 0.91$ ), rewards and recognition (3 items,  $\alpha = 0.80$ ) and performance management (3 items,  $\alpha = 0.90$ ). Section 3 assessed employee job performance via a 14-item instrument based on Na-Nan et al. (2017), covering job quantity (5 items,  $\alpha = 0.90$ ), job quality (5 items,  $\alpha = 0.88$ ), and job time (4 items,  $\alpha = 0.86$ ). Section 4 investigated employee engagement as a mediator, employing a 16-item scale from Schaufeli et al. (2002) and Na-Nan et al. (2020), which comprised vigor (5 items,  $\alpha = 0.84$ ), dedication (5 items,  $\alpha = 0.90$ ) and absorption (6 items,  $\alpha = 0.78$ ). All constructs were rated on a five-point Likert scale (1 = extremely low; 5 = extremely high).

## Data Analysis

Descriptive statistics (mean, standard deviation, skewness, and kurtosis) were computed to assess data distribution. Covariance-based structural equation modelling served as the primary analytical technique, with statistical significance set at  $p < 0.05$ . To examine the moderating effect of gender, a multigroup SEM analysis was performed using 5,000 bootstrap samples.

## Results

### General Information about the Respondent

The sample consisted of 268 full-time manufacturing employees, of whom 133 (49.6%) were men and 135 (50.4%) women. The largest age cohort was 25–29 years (82 respondents; 30.6%), followed by 30–34 years (61; 22.8%), 35–39 years (47; 17.5%), over 39 years (44; 16.4%) and under 25 years (34; 12.7%). Regarding monthly income, most respondents (73; 27.2%) reported earnings of THB 25,001–35,000, whereas 68 (25.4%) earned less than THB 20,000.

### Preliminary Analysis

Table 1 shows the means and standard deviations of the study variables. All absolute skewness and kurtosis values were below 2, indicating univariate normality (George & Mallery, 2010). Correlations among the variables were positive and statistically significant, with none exceeding 0.80, thereby minimizing concerns about multicollinearity and supporting the stability of the model (Kline, 2016).



**Table 1:** Descriptive statistics for the study sample (n = 268)

Variables		Mean	SD	Level
Human resource management	<b>HRM</b>			
Training and development	HRM1	3.67	0.67	high
Recruitment and selection	HRM2	3.70	0.75	high
Rewards and recognition	HRM3	3.63	0.62	high
Performance management	HRM4	3.61	0.70	high
Employee engagement	<b>EE</b>			
Vigor	EE1	3.66	0.57	high
Dedication	EE2	3.77	0.60	high
Absorption	EE3	3.42	0.59	moderate
Employee job performance	<b>EJP</b>			
Job quantity	EJP1	3.67	0.70	high
Job quality	EJP2	3.75	0.56	high
Job time	EJP3	3.59	0.63	high

### Assessment of the Measurement Model

Table 2 presents the assessment of the measurement model. Overall, the model demonstrated a good fit to the data. The relative chi-square ( $\chi^2/df$ ) was 1.6, whereas the goodness-of-fit index (GFI) and adjusted GFI (AGFI) reached .95 and .91, respectively. The residual error was low (RMR = .01) where RMR stands for root mean square residual, and the root mean square error of approximation (RMSEA) was .03. The fit indices were normed fit index (NFI = .96), Tucker–Lewis index (TLI = .98), incremental fit index (IFI = .99), and comparative fit index (CFI = .99)

**Table 2:** The standardized regression weight, square multiple correlation, composite reliability and average variance extracted for the measurement model

Latent variable	Observed variable	Standardized Regression Weight ( $\beta$ )	Square Multiple Correlation (SMR)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Human	HRM1	.090***	0.82	0.93	0.78
Resource	HRM2	0.85***	0.72		
Management	HRM3	0.89***	0.80		
(HRM)	HRM4	0.85***	0.73		

**Table 2:** The standardized regression weight, square multiple correlation, composite reliability and average variance extracted for the measurement model (Continued)

Latent variable	Observed variable	Standardized Regression Weight ( $\beta$ )	Square Multiple Correlation (SMR)	Composite Reliability (CR)	Average Variance Extracted (AVE)
Employee	EE1	0.92***	0.85	0.89	0.72
Engagement	EE2	0.87***	0.76		
(EE)	EE3	0.75***	0.56		
Employee Job	EJP1	0.70***	0.48	0.79	0.82
Performance	EJP2	0.75***	0.57		
(EJP)	EJP3	0.77***	0.60		

\*\*\* $p < .0001$

All standardized factor loadings exceeded 0.70 (Hair et al., 2019), ranging from 0.85 to 0.90 for HRM constructs, 0.70 to 0.77 for employee job performance (EJP) constructs, and 0.75 to 0.92 for employee engagement (EE) constructs. Squared multiple correlations varied between 0.48 and 0.85, confirming indicator reliability. The composite reliabilities were all above 0.70, and average variance extracted (AVE) values exceeded 0.50, demonstrating acceptable internal consistency and convergent validity (Hair et al., 2019).

Table 3 presents the inter-construct correlations, along with the square roots of the AVE for each latent variable. In each case, the square root of the AVE exceeded the corresponding inter-construct correlation (Fornell & Larcker, 1981), thereby confirming discriminant validity. Furthermore, no correlation coefficient exceeded 0.80, indicating that multicollinearity was unlikely to compromise the model (Hair et al., 2019).

**Table 3:** The discriminant validity and correlation between latent variables

	HRM	EE	EJP
Human Resource Management (HRM)	<b>0.88</b>		
Employee Engagement (EE)	0.68	<b>0.85</b>	
Employee Job Performance (EJP)	0.78	0.79	<b>0.91</b>

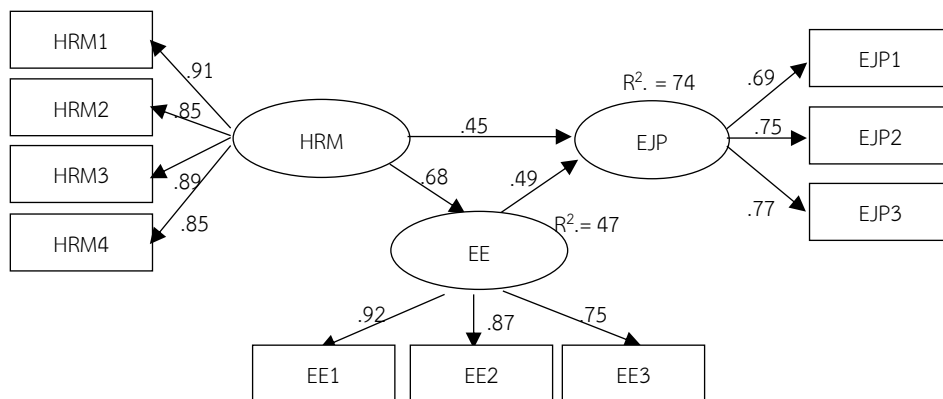
*Note:* The diagonal (bold) is the square root of the AVE.

### Assessment of the Structural Model

Figure 2 shows the fit indices of the measurement model. Fit statistics indicated an acceptable fit: relative chi-square ( $\chi^2/df$ ) = 1.6; GFI = 0.95; AGFI = 0.91; RMR = 0.01; RMSEA = 0.03; NFI = 0.96; TLI = 0.98; IFI = 0.99; and CFI = 0.99, confirming that the model provides a reasonable fit to the data.

### Investigating the Mediator Effect of Employee Engagement on the HRM- Employee Job Performance Relationship

The results of the mediation analyses are presented in Table 4. HRM exhibited a significant direct effect on EE ( $\beta = 0.68$ ,  $p < 0.001$ ), whereas EE, in turn, demonstrated a significant direct effect on EJP ( $\beta = 0.49$ ,  $p < 0.001$ ). Moreover, HRM's total effect on EJP comprised both its direct effect ( $\beta = 0.45$ ,  $p < 0.001$ ) and its indirect effect via EE ( $\beta = 0.33$ ,  $p < 0.001$ ).



Chi-Square=152.90, df=96, Relative Chi-Square=1.59, RMSEA=0.03  
RMR=0.01, GFI=0.95, CFI=0.99, NFI=0.96, TLI=0.98

**Figure 2:** The structural model

As the direct effect of HRM on EJP remained significant but smaller than its total effect, EE partially mediated this relationship. HRM and EE together accounted for 74 percent of the variance in EJP; comparable patterns emerged when the analyses were stratified by gender. These findings support Hypotheses 1 and 2.

**Table 4:** Structural equation analysis results for the mediating role of employee engagement between HRM practices and employee job performance

Variables	Dependent Variables					
	Employee Engagement			Employee Job Performance		
	(EE)			(EJP)		
	DE	IE	TE	DE	IE	TE
Human Resource Management (HRM)	0.68***	-	0.68***	0.45***	0.33***	0.78***
Employee Engagement (EE)				0.49***	-	0.49***
R <sup>2</sup>		0.47			0.74	

Note. DE = direct effect; IE = indirect effect; TE = total effect.

\*\*\* $p < .001$ .

### Investigating the Moderator Effect of Gender in the Relationship Between HRM, Employee Engagement, and Employee Job Performance

The moderating effect of gender was assessed by comparing the standardized regression weights of male and female employees, as detailed in Table 5. No significant differences emerged, indicating that gender did not moderate the relationship between HRM and EJP, HRM and EE, or EE and EJP. Consequently, Hypotheses 3, 3a, and 3b were not supported.

**Table 5:** Test of gender moderation effect

Independent Variable	Dependent Variable	Beta (SE)		Critical ratios (t-statistic)	Moderating effect
		Male	Female		
HRM	EE	0.69	0.68	0.25	No
HRM	EJP	0.38	0.55	-0.16	No
EE	EJP	0.54	0.41	1.50	No

### Discussion

Training and development exerted the strongest effect on employee job performance, followed in descending order by recruitment and selection, performance management, and rewards and recognition. This pattern underscores the importance of implementing comprehensive employee development policies to build the knowledge and skills required for optimal task performance.

Employee engagement significantly mediates the relationship between HRM practices and employee job performance; among its dimensions—vigor, dedication, and absorption—vigor exhibits the strongest mediating effect. These findings corroborate prior research (Carter et al., 2018; Moletsane et al., 2019; Wushe & Shenje, 2019) and underscore the value of employee engagement-enhancing initiatives such as flexible work arrangements and employee support units. Participation in such programs not only elevates engagement levels but also translates to improved job performance. In line with our findings, Juyumaya et al. (2024) showed that although job autonomy does not directly enhance performance, it significantly boosts engagement, which fully mediates the autonomy–performance relationship.

In the context of Thai manufacturing, no gender-based moderation was observed in the relationships between HRM and employee job performance, HRM and employee engagement, and employee engagement and employee job performance. These results align with those of Gbadamosi and Ross (2012) but contrast with those of Uddin et al. (2017). The absence of a significant moderation effect may reflect the sector’s cultural homogeneity and increasingly gender-neutral HRM practices. This may also stem from the convenience sampling method and minimal job-role differences between male and female respondents, which could have reduced the power to detect moderation. Future research should explore industries or organizational settings with more distinguished gender roles to ascertain whether these findings can be generalized across diverse cultural contexts. Nevertheless, Honnamane et al. (2024) demonstrated that gender moderates the impact of job characteristics, perceived organizational support, and engaging leadership on work engagement, suggesting boundary conditions that our study did not encompass.

This study advances HRM theory by empirically substantiating the proposition that “HRM refers to the policies, practices, and systems that influence employees’ behaviors, attitudes, and job performance” (Noe et al., 2023). Specifically, our findings confirm that key HRM practices, such as training and development, recruitment and selection, rewards and recognition, and performance management, are integral to shaping employee behavior and enhancing job performance (Boon et al., 2011; Grobler et al., 2019; Noe et al., 2023). Moreover, by situating the analysis within the context of a developing country, this study extends the HRM literature beyond its traditional focus on developed economies and illuminates the mediating role of employee engagement.

Several factors may explain why gender did not emerge as a significant moderator in this study. First, the firms we surveyed employ genuinely gender-neutral HRM policies; job descriptions, training opportunities, and performance criteria are identical for all employees, minimizing any gender-based disparities. Second, Thailand's collectivist culture and emphasis on organizational harmony tend to attenuate demographic differences; therefore, engagement and performance reflect shared norms rather than individual gender distinctions.

This study distinguishes itself by concentrating on the Thai manufacturing sector and concurrently investigating the roles of employee engagement and gender within the HRM–employee job performance relationship—areas that have received limited attention in research on developing countries.

## Conclusion

This study empirically assessed the impact of HRM practices on employee job performance in Thailand's large manufacturing sector. It explored employee engagement as a mediator of the HRM–employee job performance relationship and gender as a moderator of the links among HRM, employee engagement, and employee job performance. This study contributes to HRM literature by demonstrating that employee engagement mediates the relationship between HRM practices and employee job performance, whereas, in contrast, gender does not exert a significant moderating effect within the Thai manufacturing context.

## Limitations

This study has some limitations. First, employing convenience sampling and restricting the sample to frontline employees may constrain the external validity of our findings, although structural equation modeling was used. Second, reliance on self-reported measures from a single source raises the possibility of common method variance. Third, the cross-sectional design precluded strong causal inferences. Therefore, future studies should adopt probability-based sampling across multiple organizational levels and sectors, collect data from diverse sources (e.g., supervisor assessments and objective performance indicators), and implement longitudinal or time-lagged designs to enhance generalizability and causal evidence.

## Recommendations

### Practical Implications

Based on our results—where the four HRM dimensions (training and development, recruitment and selection, rewards and recognition, and performance management) with vigor as the key engagement mediator—manufacturing firms in Thailand should adopt the following practices:

1. Allocate the greatest share of HR resources to comprehensive training programs, workshops, and on-the-job learning to develop skills that most effectively enhance performance.
2. Implement a competency-based recruitment process, incorporating structured interviews and work-sample assessments, to secure optimal talent fit.
3. Introduce flexible work arrangements, regular short breaks, and employee wellness initiatives to bolster vigor, the engagement aspect that most strongly channels HRM investments into performance gains.
4. Establish clear performance metrics and tie both monetary and non-monetary rewards to those indicators while training managers to provide continuous coaching and feedback.
5. Prioritize quality and time-management measures on performance dashboards, as these outcomes exhibit the greatest responsiveness to HRM and engagement efforts.

#### **Recommendation for Further Research**

1. Future studies should adopt longitudinal or time-lagged designs and probability-based sampling across multiple organizational levels (frontline staff, supervisors, managers) to strengthen causal inference and enhance representativeness while integrating multi-wave data and objective performance metrics to reduce common method bias.
2. Beyond engagement and gender, researchers should investigate variables such as resilience, job satisfaction, and psychological well-being as mediators and examine moderators such as organizational culture, leadership style, and psychological safety while examining individual HRM dimensions and engagement components to isolate the distinct impact of each.
3. Incorporating semi-structured interviews, focus groups, or case studies with employees and HR professionals would uncover the contextual nuances of HRM implementation, allowing quantitative findings to be enriched by first-hand insights into culture, managerial support, and practical challenges in Thailand's manufacturing sector.

#### **References**

- Agarwal, S., and Baltazar, E. (2019). Assessing the association of HRM functions with employees' performance: The case of banking sector of UAE. *Skyline Business Journal*, 14(2), 53–70.  
<https://doi.org/10.37383/SBJ14021905>
- Angonga, M. C., and Oluoch, M. F. (2019). A theoretical account of human resource management practices, ethical work climate and employee ethical behavior: A critical literature review. *Business Management Dynamics*, 9(4), 1–8.

- Appelbaum, E., Bailey, T., Berg, P., and Kalleberg, A. L. (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Cornell University Press.
- Baron, R. M., and Kenny, D. A. (1986). The Moderator–Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations. *Journal of Personality and Social Psychology*, 51(6), 1173–1182. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Beijer, S., Peccei, R., van Veldhoven, M., and Paauwe, J. (2019). The turn to employees in the measurement of human resource practices: A critical review and proposed way forward. *Human Resource Management Journal*, 31, 1–17. <https://doi.org/10.1111/1748-8583.12229>
- Blau, P. M. (1986). *Exchange and power in social life* (2nd ed.). Routledge.
- Boon, C., Den Hartog, D. N., Boselie, P., and Paauwe, J. (2011). The relationship between perceptions of HR practices and employee outcomes: Examining the role of person-organization and person-job fit. *The International Journal of Human Resource Management*, 22(1), 138–162. <https://doi.org/10.1080/09585192.2011.538978>
- Budhwar, P. S., and Debrah, Y. A. (2001). Introduction. In P. S. Budhwar and Y. A. Debrah (Eds.), *Human resource management in developing countries* (pp. 1–15). Routledge.
- Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., Vol. 1, pp. 687–732). Consulting Psychologists Press.
- Carter, W. R., Nesbit, P. L., Badham, R. J., Parker, S. K., and Sung, L. K. (2018). The effects of employee engagement and self-efficacy on job performance: A longitudinal field study. *The International Journal of Human Resource Management*, 29(17), 2483–2502. <https://doi.org/10.1080/09585192.2016.1244096>
- Cascio, W. F., and Aguinis, H. (2024). *Managing human resources: Productivity, quality of work life, profits* (11th ed.). McGraw-Hill Education.
- Colquitt, J. A., LePine, J. A., and Wesson, M. J. (2022). *Organizational behavior: Improving performance and commitment in the workplace* (8th ed.). McGraw-Hill Education.
- Cooper, B., Wang, J., Bartram, T., and Cooke, F. L. (2019). Well-being oriented human resource management practices and employee performance in the Chinese banking sector: The role of social climate and resilience. *Human Resource Management*, 58(1), 85–97. <https://doi.org/10.1002/hrm.21934>



- Demo, G., Neiva, E. R., Nunes, I., and Rozzett, K. (2012). Human resources management policies and practices scale (HRMPPS): Exploratory and confirmatory factor analysis. *Brazilian Administration Review*, 9(4), 395–420. <https://doi.org/10.1590/S1807-76922012005000006>
- Fornell, C., and Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Gahan, P., Michelotti, M., and Standing, G. (2012). The diffusion of HR practices in Chinese workplaces and organizational outcomes. *ILR Review*, 65(3), 651–685. <https://doi.org/10.1177/001979391206500308>
- Gbadamosi, G., and Ross, C. (2012). Perceived stress and performance appraisal discomfort: The moderating effects of core self-evaluations and gender. *Public Personnel Management*, 41(4), 637–659. <https://doi.org/10.1177/009102601204100404>
- George, D., and Mallery, P. (2010). *SPSS for Windows step by step: A simple guide and reference (17.0 update, 10th ed.)*. Pearson.
- Grobler, A., Grobler, S., and Mathafena, R. (2019). Measurement of the perceptions of human resource practices in a seemingly collectivistic culture. *South African Journal of Human Resource Management*, 17(1), a1069. <https://doi.org/10.4102/sajhrm.v17i0.1069>
- Hair, J. F., Black, W. C., Babin, B. J., and Anderson, R. E. (2019). *Multivariate data analysis (8th ed.)*. Cengage Learning.
- Honnamane, P. S. S., Sreekanth, K., and Girish, G. P. (2024). The moderating role of gender in the relationships among job characteristics, engaging leadership, and perceived organizational support on work engagement. *International Journal of Academic and Applied Studies*, 4(2), 45–67.
- Jackson, L. (2014). *The work engagement and job performance relationship: Exploring the mediating effect of trait emotional intelligence* (Master's thesis, San Jose State University). San Jose State University ScholarWorks.
- Juyumaya, J., Torres-Ochoa, C., and Rojas, G. (2024). Boosting job performance: The impact of autonomy, engagement and age. *Revista de Gestão*, 31(4), 397–414. <https://doi.org/10.1108/REG-09-2023-0108>
- Klepić, I. (2019). Correlation of recruitment and selection of human resources and the performance of small and medium enterprises. *Naše Gospodarstvo/Our Economy*, 65(4), 14–26. <https://doi.org/10.2478/ngoe-2019-0016>

- Kline, R. B. (2016). *Principles and practice of structural equation modeling* (4th ed.). The Guilford Press.
- Mahadevan, A., and Mohamed, F. A. (2014). Impact of human resource management (HRM) practices on employee performance (A case of Telekom Malaysia). *International Journal of Accounting and Business Management*, 2(2), 29–42.
- Mercy, R. J., and Choudhary, J. K. (2019). An exploratory study on organizational factors affecting employee engagement. *CLEAR International Journal of Research in Commerce and Management*, 10(1), 6–9.
- Moletsane, M., Tefera, O., and Migiros, S. (2019). The relationship between employee engagement and organizational productivity of sugar industry in South Africa: The employees' perspective. *African Journal of Business and Economic Research*, 14(1), 113–134.  
<https://hdl.handle.net/10520/EJC-149c0fdc06>
- Motowidlo, S. J. (2003). Job performance. In W. C. Borman, D. R. Ilgen, and R. J. Klimoski (Eds.), *Handbook of psychology: Industrial and organizational psychology* (Vol. 12, pp. 39–53). John Wiley & Sons.
- Na-Nan, K., Chaiprasit, K., and Pukkeeree, P. (2017). Factor analysis–validated comprehensive employee job performance scale. *International Journal of Quality & Reliability Management*, 35(6), 1253–1267. <https://doi.org/10.1108/IJQRM-06-2017-0117>
- Na-Nan, K., Pukkeeree, P., and Chaiprasit, K. (2020). Employee engagement in small and medium-sized enterprises in Thailand: The construction and validation of a scale to measure employees. *International Journal of Quality & Reliability Management*, 37(9/10), 1325–1343.  
<https://doi.org/10.1108/IJQRM-10-2018-0290>
- Noe, R. A., Hollenbeck, J. R., Gerhart, B., and Wright, P. M. (2023). *Human resource management: Gaining a competitive advantage* (11th ed.). McGraw-Hill Education.
- Office of the Permanent Secretary, Ministry of Labour. (2024, February). *Labour situation report for Chonburi Province, Q4 2023 [PDF]*. <https://www.chonburi.mol.go.th>
- Office of the Permanent Secretary, Ministry of Labour. (2024, June). *Labor statistics yearbook 2023 [PDF]*. [https://www.mol.go.th/academician/reportstatic\\_labour](https://www.mol.go.th/academician/reportstatic_labour)
- Sanders, K., and Looise, J. C. (2006). The value of HRM: Optimising the architecture of HRM. *Management Review*, 17(3), 219–222. <https://doi.org/10.5771/0935-9915-2006-3-219>

- Schaufeli, W. B., Salanova, M., González-Romá, V., and Bakker, A. B. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies*, 3, 71–92. <https://doi.org/10.1023/A:1015630930326>
- Sims, R. R. (2002). *Organizational success through effective human resources management*. Greenwood.
- Thinnam, T. (2011). Married Thai working mothers: Coping with initial part-time doctoral study. *Human Resource Development Quarterly*, 22(3), 297–322. <https://doi.org/10.1002/hrdq.20079>
- Uddin, M. J., Miah, M. A. S., Rahman, M. M., and Rahaman, M. S. (2017). Mediation role of job satisfaction on HRM–operational performance relationship: A three-way moderation effect by gender. *Journal of Developing Areas*, 51(3), 437–452. <https://doi.org/10.1353/jda.2017.0083>
- Wushe, T., and Shenje, J. (2019). The antecedents of employee engagement and their effect on public sector service delivery: The case study of government departments in Harare. *South African Journal of Human Resource Management*, 17(1), Article a1082. <https://doi.org/10.4102/sajhrm.v17i0.1082>