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Understanding Employee Performance In Hybrid Work Environments: The Mediating Role Of Work Engagement

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Abstract

This study examines how telework and flexible work arrangements influence employee job performance through the mediating role of work engagement among office employees in central air conditioner manufacturing companies in Tangerang Regency, Indonesia. Using a quantitative explanatory approach, data were collected through an online survey distributed via Google Forms during March–April 2026, involving 180 respondents selected through purposive sampling. The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. The results indicate that telework and flexible work practices positively and significantly affect both work engagement and employee job performance. Employees who experience greater flexibility and autonomy in their work systems tend to show higher levels of engagement, which in turn contributes to improved performance. Furthermore, work engagement was found to play a significant mediating role in strengthening the relationship between hybrid workplace practices and job performance. These findings suggest that the implementation of hybrid work systems can create a more adaptive and supportive work environment, enhancing employees' psychological attachment, motivation, and productivity. Although this study is limited to office employees in manufacturing companies within Tangerang Regency and uses a cross-sectional design, the findings provide valuable contributions to the literature on hybrid workplace management. In addition, the study offers practical implications for organizations seeking to develop effective work systems that support employee engagement and optimize performance in the evolving world of work.

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INTRODUCTION

The rapid transformation of the modern workplace has fundamentally changed how organizations manage human resources, coordinate work activities, and maintain organizational performance across industries (Kniffin et al., 2021). Advances in digital technologies, cloud-based collaboration systems, and communication platforms have enabled organizations to adopt more flexible working arrangements that are no longer entirely dependent on physical office presence (Allen et al., 2021). This transformation accelerated significantly following the COVID-19 pandemic, which forced organizations worldwide to redesign traditional work systems in order to sustain operational continuity and employee productivity under highly uncertain conditions (Carnevale & Hatak, 2020; Kustiawan et al., 2022). Consequently, the hybrid workplace model has emerged as one of the most prominent organizational practices in the post-pandemic era, combining on-site and remote working arrangements through digital technology integration (Wang et al., 2021).

The increasing adoption of hybrid work systems reflects a broader organizational shift toward flexibility, adaptability, and employee-centered work practices (Andiyana & Haryoko, 2026; Barrero et al., 2021). Globally, organizations have increasingly integrated hybrid working arrangements into long-term operational strategies due to their potential to improve efficiency, employee autonomy, and organizational responsiveness (Barrero et al., 2021). Similarly, organizations in Indonesia have experienced substantial changes in work patterns, particularly among office-based employees whose work activities can be performed through digital collaboration technologies (PwC, 2023). This shift has encouraged organizations to redesign human resource management practices in ways that support both operational effectiveness and employee well-being in increasingly dynamic business environments.

In practice, hybrid workplace systems are commonly represented through telework and flexible work arrangements (Allen et al., 2021). Telework refers to work activities conducted outside conventional office environments through the use of information and communication technologies that facilitate remote collaboration and task completion (Gajendran & Harrison, 2007). Meanwhile, flexible work refers to the flexibility provided to employees regarding work schedules, locations, and methods, allowing individuals to adjust work patterns according to personal and organizational needs (Hill et al., 2008).

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These working arrangements are considered essential components of modern organizations because they provide employees with greater autonomy and flexibility while enabling organizations to respond more effectively to changing environmental conditions.

From an organizational behavior perspective, the implementation of hybrid workplace systems may significantly influence employees' psychological conditions and work-related attitudes (Bakker & Demerouti, 2017). One of the most important psychological constructs associated with employee effectiveness is work engagement, which refers to a positive work-related psychological state characterized by vigor, dedication, and absorption in work activities (Schaufeli et al., 2002). Employees with high levels of work engagement tend to demonstrate stronger organizational commitment, higher intrinsic motivation, and greater willingness to contribute to organizational objectives (Bakker & Demerouti, 2017). Previous studies suggest that flexible working arrangements may enhance work engagement because employees perceive greater autonomy, trust, and control over their work activities (Andiyana, Mutiarani, et al., 2026; Bakker & Demerouti, 2017). Nevertheless, empirical findings regarding the effectiveness of hybrid work systems in strengthening employee engagement remain inconsistent across organizational and industrial contexts.

In addition to influencing employees' psychological conditions, hybrid workplace practices are also closely associated with employee job performance (Campbell & Wiernik, 2015). Job performance reflects employees' ability to perform assigned responsibilities effectively and efficiently according to organizational standards and expectations (Campbell & Wiernik, 2015). Existing studies generally indicate that flexible working systems can improve productivity by enabling employees to manage work schedules and work environments more efficiently (Bloom et al., 2015). Moreover, employees with higher levels of work engagement are more likely to demonstrate improved performance, proactive work behavior, and stronger organizational contributions (Christian et al., 2011). However, hybrid workplace implementation may also create managerial challenges related to communication effectiveness, coordination, supervision, and employee interaction, particularly when employees work across different locations and schedules (Waizenegger et al., 2020). These conditions indicate that the relationship between hybrid workplace practices and employee performance remains complex and requires further empirical investigation.

The issue becomes increasingly relevant within the manufacturing sector, particularly among companies operating in the Heating, Ventilation, and Air Conditioning (HVAC) industry. Although production activities generally require physical presence

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within manufacturing facilities, office-based employees involved in administration, planning, finance, procurement, and operational coordination increasingly adopt hybrid working arrangements. In Indonesia, the HVAC industry continues to experience substantial growth driven by urban development, infrastructure expansion, and increasing demand for energy-efficient cooling systems. Such industrial expansion intensifies organizational competition and requires manufacturing companies to improve operational efficiency and human resource performance in order to maintain competitiveness within the industry. Consequently, the management of hybrid workplace systems among office employees has become strategically important for manufacturing organizations seeking to balance workforce flexibility with organizational productivity.

Despite the growing adoption of hybrid workplace practices, several research gaps remain evident in the existing literature. First, prior studies on hybrid work systems predominantly focus on service industries and knowledge-intensive sectors, while empirical evidence from manufacturing organizations remains relatively limited. Second, previous research often examines the direct relationship between flexible work arrangements and employee performance without adequately exploring the mediating role of work engagement as an underlying psychological mechanism. Third, limited studies have specifically investigated hybrid workplace implementation within the Indonesian manufacturing context, particularly in the central air conditioner industry, where organizational coordination and operational effectiveness remain highly important. These gaps indicate the need for further empirical research to better understand how hybrid workplace practices influence employee performance within manufacturing organizations operating in emerging economies.

Based on these considerations, this study aims to examine the influence of hybrid workplace models on employee performance through the mediating role of work engagement among office employees working in central air conditioner manufacturing companies located in Tangerang Regency, Indonesia. Specifically, this study conceptualizes hybrid workplace practices through telework and flexible work arrangements and investigates both their direct effects on employee performance and their indirect effects through work engagement. By integrating perspectives from organizational behavior and flexible work literature, this study is expected to contribute theoretically to the development of hybrid workplace research and practically to organizational efforts in designing effective hybrid work policies that enhance employee engagement and organizational performance in increasingly dynamic business environments.

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LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Hybrid Workplace Practices and Job Performance

The transformation of modern workplaces has encouraged organizations to adopt hybrid workplace systems that combine conventional office-based work with flexible and technology-supported work arrangements (Wang et al., 2021). Advances in digital technologies and internet-based communication systems have enabled employees to perform work activities beyond traditional office boundaries while maintaining organizational coordination and productivity (Allen et al., 2021). Within this context, telework and flexible work represent two major dimensions of hybrid workplace practices that increasingly influence employee attitudes and performance in modern organizations.

This study is grounded in the Job Demands–Resources (JD-R) Theory, which explains that organizational resources such as flexibility, autonomy, and supportive work arrangements may enhance employees' motivation, psychological engagement, and work outcomes (Bakker & Demerouti, 2017). In hybrid workplace environments, telework and flexible work can be conceptualized as important organizational resources that help employees manage work demands more effectively while simultaneously improving work efficiency and psychological well-being.

Telework refers to work arrangements in which employees perform work-related activities outside traditional office environments through the utilization of information and communication technologies (Gajendran & Harrison, 2007). Telework enables employees to work remotely while maintaining communication and collaboration through digital platforms. Previous studies indicate that telework may improve employee productivity by reducing commuting time, minimizing workplace distractions, and increasing autonomy in managing work activities (Bloom et al., 2015). Employees working remotely often experience greater flexibility in organizing work schedules and work environments, which may contribute positively to task completion and work effectiveness (Allen et al., 2021). However, the effectiveness of telework depends largely on communication quality, technological readiness, and organizational support systems (Waizenegger et al., 2020).

Similarly, flexible work refers to organizational practices that provide employees with discretion regarding work schedules, work methods, and work locations (Allen et al., 2013). Flexible work arrangements allow employees to balance professional responsibilities and personal needs more effectively, thereby improving work-life balance and psychological well-being (Hill et al., 2008). Employees who experience greater flexibility tend to perceive higher levels of organizational trust and autonomy, which may strengthen motivation and responsibility toward work activities (Bakker & Demerouti,

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2017). Previous empirical studies indicate that organizations implementing flexible work practices often demonstrate higher levels of employee satisfaction, organizational commitment, and productivity (De Menezes & Kelliher, 2011).

From the perspective of organizational behavior, both telework and flexible work may contribute positively to employee job performance because employees are able to manage work responsibilities more efficiently and effectively within flexible working environments. Job performance refers to the extent to which employees successfully perform work-related responsibilities in accordance with organizational expectations and performance standards (Campbell & Wiernik, 2015). Existing studies consistently report that flexible working systems may improve employee productivity and effectiveness when supported by appropriate organizational practices and technological infrastructure (Bloom et al., 2015). Based on these theoretical arguments and empirical findings, the following hypotheses are proposed:

H1: Telework positively influences job performance.

H2: Flexible work positively influences job performance.

Hybrid Workplace Practices and Work Engagement

Within organizational behavior literature, work engagement is recognized as one of the most important psychological factors influencing employee effectiveness and organizational performance (Schaufeli et al., 2002). Work engagement refers to a positive and fulfilling work-related psychological state characterized by vigor, dedication, and absorption in work activities (Schaufeli et al., 2002). Employees with high levels of work engagement tend to demonstrate stronger enthusiasm, persistence, and emotional attachment toward their work responsibilities (Bakker & Albrecht, 2018).

According to the Job Demands–Resources (JD-R) Theory, organizational resources such as flexibility, autonomy, and supportive work arrangements may strengthen employees' psychological attachment to work and increase engagement levels (Bakker & Demerouti, 2017). In hybrid workplace systems, telework and flexible work may function as important job resources that help employees manage work demands more effectively while simultaneously improving psychological well-being and intrinsic motivation.

Telework may positively influence work engagement because employees working remotely often experience greater control over work activities and work environments (Gajendran & Harrison, 2007). The flexibility associated with telework may reduce work-related stress and improve work-life balance by minimizing commuting time and

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increasing schedule flexibility (Allen et al., 2015). Previous empirical findings indicate that employees working within remote and flexible working systems tend to report higher levels of engagement because they perceive stronger organizational support and autonomy (Sardeshmukh et al., 2012). Furthermore, adequate technological support and effective communication systems may strengthen employees' sense of connection and involvement within organizational activities despite physical distance (Wang et al., 2021).

Similarly, flexible work arrangements may enhance work engagement because employees are given greater discretion regarding work schedules, work methods, and work locations (Hill et al., 2008). Employees who experience higher flexibility often perceive stronger organizational trust and support, which may improve motivation, emotional attachment, and dedication toward work activities (Allen et al., 2013). Flexible work may also improve employees' psychological well-being by helping individuals balance professional responsibilities and personal needs more effectively (Kossek et al., 2014). Consequently, employees working within flexible work systems are more likely to demonstrate higher levels of vigor, dedication, and absorption in their work activities. based on these theoretical arguments and previous empirical findings, the following hypotheses are proposed:

H3: Telework positively influences work engagement.

H4: Flexible work positively influences work engagement.

Work Engagement and Job Performance

Work engagement has been widely recognized as an important determinant of employee job performance across various organizational contexts (Christian et al., 2011; Kustiawan, Marpaung, et al., 2022). According to the JD-R Theory, employees who possess higher levels of engagement are more likely to invest cognitive, emotional, and physical energy into work activities, thereby improving work effectiveness and productivity (Bakker & Demerouti, 2017). Engaged employees tend to demonstrate higher levels of enthusiasm, persistence, and commitment in performing work responsibilities, which ultimately contributes positively to organizational performance outcomes (Bakker & Albrecht, 2018).

Previous empirical studies consistently report a positive relationship between work engagement and job performance (Christian et al., 2011). Employees with strong work engagement are more likely to exhibit proactive behavior, higher productivity, and greater willingness to contribute toward organizational objectives (Schaufeli et al., 2002). Moreover, engaged employees generally possess stronger intrinsic motivation and

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psychological resilience, enabling them to sustain optimal performance over longer periods (Bakker & Albrecht, 2018).

Within hybrid workplace environments, work engagement may also function as an important psychological mechanism explaining how telework and flexible work contribute to employee performance. Employees who experience greater flexibility, autonomy, and organizational support through hybrid work practices are more likely to develop positive psychological attachment toward work, which subsequently enhances performance outcomes. Therefore, the following hypothesis is proposed:

H5: Work engagement positively influences job performance.

Based on the theoretical arguments and empirical findings discussed above, this study proposes an integrated conceptual framework explaining the relationships among telework, flexible work, work engagement, and job performance. In this framework, telework and flexible work are conceptualized as the primary dimensions of hybrid workplace practices that may directly influence employee performance as well as indirectly influence performance through work engagement as a mediating variable. Accordingly, the conceptual framework of this study is presented in Figure 1.

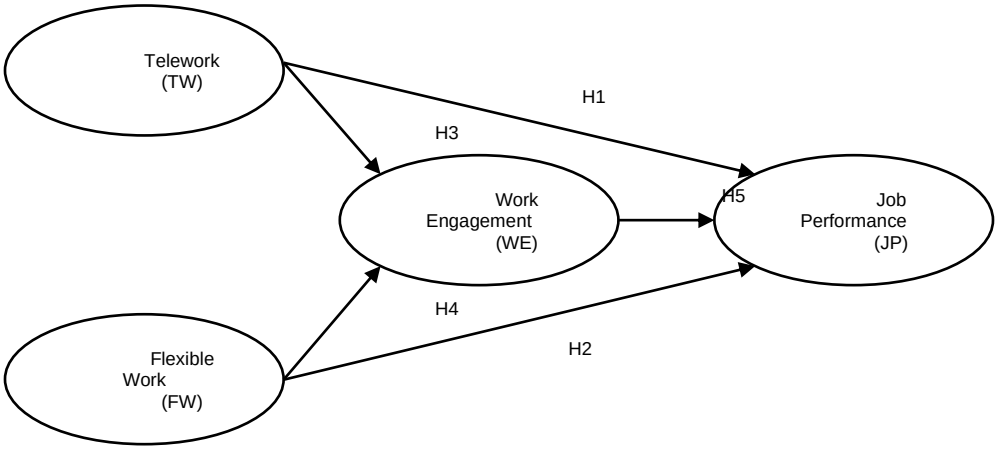


Figure 1. Research Framework

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METHODOLOGY

This study employed a quantitative approach with an explanatory research design to examine the relationships among telework, flexible work, work engagement, and job performance. The explanatory approach was considered appropriate because the study aimed to investigate both the direct and indirect effects of hybrid workplace practices on employee performance through work engagement as a mediating variable (Creswell & Creswell, 2018; Hair et al., 2019).

Data were collected using a survey method through a structured questionnaire distributed online via Google Forms. The questionnaire items were developed based on established scales adopted from previous studies. All variables were measured using a five-point Likert scale ranging from 1 = “strongly disagree” to 5 = “strongly agree” (Hair et al., 2019). The questionnaire distribution process was conducted during March and April 2026 among employees working in central air conditioner manufacturing industries located in Tangerang Regency, Indonesia. Respondents participated voluntarily, and the confidentiality of all responses was assured throughout the research process.

The population of this study consisted of office employees working in central air conditioner manufacturing companies located in Tangerang Regency, Indonesia. Office employees were selected because they are more likely to experience hybrid workplace practices compared with production employees whose work activities generally require physical presence within manufacturing facilities. The sampling process applied a purposive sampling technique by selecting respondents who had experience working under hybrid workplace arrangements.

The sample size was determined based on the indicator-to-sample ratio recommendation commonly used in Structural Equation Modeling (SEM), which suggests a minimum sample size of five times the number of measurement indicators used in the study (Hair et al., 2019). Since this study employed 36 questionnaire items, the minimum required sample size was 180 respondents. Accordingly, a total of 180 valid responses were collected and included in the final analysis.

The research model consisted of four constructs: telework, flexible work, work engagement, and job performance. Telework was measured using indicators related to work location flexibility, work autonomy, and work efficiency adapted from Gajendran & Harrison (2007) and Allen et al. (2015). Flexible work was measured through dimensions of work schedule flexibility, flexibility in work methods, and work–life balance based on Hill et al. (2008) and Allen et al. (2013). Work engagement was operationalized using the dimensions of vigor, dedication, and absorption adopted from Schaufeli et al. (2002),

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while job performance was measured through indicators of work quality, work quantity, and work effectiveness adapted from Campbell & Wiernik (2015). In total, 36 measurement items were used in this study.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected because it is suitable for analyzing complex relationships among latent variables and is appropriate for prediction-oriented research models (Hair et al., 2021). The analysis involved two stages: evaluation of the measurement model through convergent validity, discriminant validity, composite reliability, and Cronbach's alpha, followed by evaluation of the structural model through path coefficients, R-square values, and bootstrapping procedures to test the proposed hypotheses (Hair et al., 2019).

RESULT AND DISCUSSIONS

Result

This study involved 180 office employees working in central air conditioner manufacturing companies located in Tangerang Regency, Indonesia. The respondents were predominantly female employees (64.44%), while male employees accounted for 35.56% of the sample. Most respondents were between 28 and 43 years old (52.22%), followed by employees aged 20–27 years (34.44%) and those aged above 44 years (13.33%). In terms of educational background, the majority held a bachelor's degree (73.33%), indicating that the respondents generally possessed adequate educational qualifications and professional exposure relevant to hybrid workplace practices.

The measurement model was evaluated through convergent validity, discriminant validity, and reliability assessments. The outer loading values ranged from 0.886 to 0.954, exceeding the recommended threshold of 0.70 (Hair et al., 2021). In addition, the Average Variance Extracted (AVE) values ranged from 0.812 to 0.886, confirming satisfactory convergent validity because all constructs exceeded the minimum threshold of 0.50. Reliability testing further demonstrated that the constructs possessed acceptable internal consistency, as reflected by Cronbach's alpha values ranging from 0.971 to 0.984 and Composite Reliability values ranging from 0.975 to 0.986.

Discriminant validity was assessed using the Fornell-Larcker criterion, Heterotrait–Monotrait Ratio (HTMT), and cross-loading analysis. The results showed that the square root of AVE for each construct was greater than the correlations between constructs, while all HTMT values remained below the recommended threshold of 0.90. Furthermore, all indicators loaded highest on their respective constructs compared with other

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constructs included in the model. These findings indicate that the measurement model satisfied the recommended validity and reliability criteria and was appropriate for further structural model analysis.

The structural model evaluation showed that telework and flexible work explained 56.6% of the variance in work engagement ($R^2 = 0.566$). Meanwhile, telework, flexible work, and work engagement collectively explained 78.4% of the variance in job performance ($R^2 = 0.784$). These results indicate that the proposed research model possessed adequate explanatory capability in predicting employee engagement and performance within hybrid workplace environments.

The hypothesis testing results revealed that telework positively and significantly influenced job performance ($\beta = 0.365$, $t = 7.611$, $p < 0.001$), supporting H1. Flexible work was also found to positively influence job performance ($\beta = 0.294$, $t = 6.262$, $p < 0.001$), supporting H2. Furthermore, telework positively affected work engagement ($\beta = 0.436$, $t = 7.946$, $p < 0.001$), supporting H3, while flexible work positively influenced work engagement ($\beta = 0.466$, $t = 8.223$, $p < 0.001$), supporting H4. Work engagement was also found to positively influence job performance ($\beta = 0.395$, $t = 6.913$, $p < 0.001$), thereby supporting H5.

Table 1. Hypothesis Testing Results of the Structural Model

Hypothesis	Research Hypothesis Statement	Original Sample	T Statistic (>1,96)	P Value (<0,05)	Explanation
H1	Telework positively influences job performance	0.365	0.048	7.611	The data support the hypothesis
H2	Flexible work positively influences job performance	0.294	0.047	6.262	The data support the hypothesis
H3	Telework positively influences	0.436	0.055	7.946	The data support the hypothesis

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	work engagement				
H4	Flexible work positively influences work engagement	0.466	0.057	8.223	The data support the hypothesis
H5	Work engagement positively influences job performance	0.395	0.057	6.913	The data support the hypothesis

The mediation analysis further demonstrated that work engagement mediated the relationship between telework and job performance with an indirect effect value of 0.172. Similarly, work engagement also mediated the relationship between flexible work and job performance with an indirect effect value of 0.184. These findings indicate that hybrid workplace practices influence employee performance both directly and indirectly through employees' psychological engagement with their work.

The overall structural relationships among telework, flexible work, work engagement, and job performance obtained from the PLS-SEM analysis are illustrated in the following research model output.

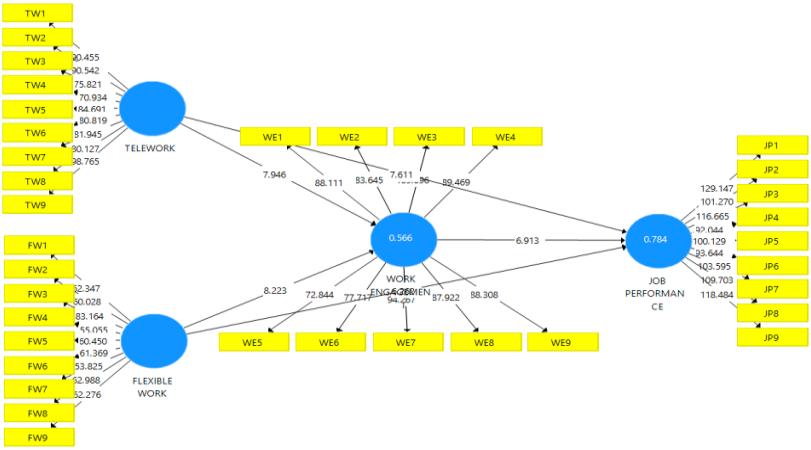


Figure 2. Structural Path T-Value Result

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DISCUSSIONS

The findings of this study demonstrate that hybrid workplace practices contribute positively to employee work engagement and job performance within manufacturing organizations. Specifically, telework and flexible work were found to significantly influence both work engagement and job performance among office employees working in the central air conditioner manufacturing industry. These findings support the Job Demands–Resources (JD-R) Theory, which explains that organizational resources such as flexibility, autonomy, and supportive work arrangements may strengthen employees' motivational processes and subsequently improve work outcomes (Andiyana et al., 2026; Bakker & Demerouti, 2017).

The positive effect of telework on job performance suggests that remote working arrangements may improve employees' effectiveness in managing work responsibilities. Employees working remotely are likely to experience greater autonomy, reduced commuting time, and improved flexibility in organizing work activities, enabling them to complete tasks more efficiently. This finding is consistent with previous studies indicating that telework may enhance employee productivity and operational efficiency in modern organizations (Bloom et al., 2015; Wang et al., 2021). Within manufacturing-related office environments, telework may also facilitate digital coordination and administrative continuity without requiring continuous physical presence in the workplace.

Similarly, flexible work was found to positively influence job performance, indicating that flexibility in work schedules and work methods contributes to employee effectiveness. Employees who are provided with greater discretion regarding how and when work activities are performed tend to perceive stronger organizational trust and autonomy, which subsequently enhances motivation and responsibility toward work tasks. This finding aligns with previous research suggesting that flexible working arrangements may improve employee productivity, work-life balance, and organizational commitment (Allen et al., 2013; De Menezes & Kelliher, 2011). In increasingly dynamic organizational environments, flexible work practices therefore represent an important managerial approach for improving workforce adaptability and operational performance.

The results further revealed that telework and flexible work positively influenced work engagement. This finding indicates that hybrid workplace practices may strengthen employees' psychological attachment toward work by improving work-life balance, autonomy, and perceived organizational support. Employees who experience greater flexibility in managing work activities are more likely to demonstrate higher levels of vigor, dedication, and absorption in their work responsibilities. These findings support previous

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studies suggesting that flexible working arrangements may positively affect employees' psychological well-being and intrinsic motivation (Bakker & Albrecht, 2018; Kossek et al., 2014). In this context, flexibility functions as an important job resource that helps employees manage work demands while maintaining positive psychological conditions in the workplace.

In addition, work engagement was found to positively influence job performance, indicating that psychologically engaged employees are more likely to demonstrate stronger commitment, persistence, and productivity in performing organizational responsibilities. Employees with high levels of engagement tend to invest greater cognitive and emotional energy into work activities, enabling them to maintain effective performance over time. This finding reinforces previous organizational behavior studies identifying work engagement as an important predictor of employee effectiveness and organizational performance (Christian et al., 2011; Schaufeli et al., 2002).

More importantly, the mediation analysis revealed that work engagement mediated the relationships between telework and job performance as well as between flexible work and job performance. This finding suggests that hybrid workplace practices do not merely improve employee performance through operational flexibility alone. Instead, the effectiveness of telework and flexible work depends substantially on how such work arrangements influence employees' psychological attachment toward their work. Employees who perceive greater flexibility, autonomy, and organizational support are more likely to develop stronger engagement, which subsequently contributes to improved performance outcomes.

The mediating role of work engagement also highlights the importance of psychological and behavioral factors in determining the effectiveness of hybrid workplace implementation. Although flexible working systems may provide operational advantages, employees' emotional and motivational responses toward those practices remain critical in shaping organizational outcomes. In line with the JD-R Theory, organizational resources provided through hybrid workplace systems may stimulate motivational processes that strengthen employee engagement and ultimately improve job performance (Bakker & Demerouti, 2017).

From a managerial perspective, the findings imply that organizations implementing hybrid workplace systems should not focus exclusively on technological infrastructure and operational flexibility. Organizations also need to ensure that employees continue to experience communication quality, managerial support, and organizational connectedness within flexible working environments. Maintaining employee engagement

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becomes particularly important in hybrid workplace settings where direct supervision and face-to-face interaction are relatively reduced compared with conventional office systems.

Overall, this study extends the existing literature on hybrid workplace practices by providing empirical evidence from the manufacturing sector, particularly within the Indonesian central air conditioner industry. Previous studies have predominantly focused on service industries and knowledge-based organizations, whereas empirical evidence from manufacturing-related office environments remains relatively limited. Therefore, this study contributes to the growing body of literature concerning hybrid workplace management, work engagement, and employee performance within emerging economies and increasingly technology-oriented organizational environments.

CONCLUSION

This study examined the influence of hybrid workplace practices, represented by telework and flexible work, on employee job performance through the mediating role of work engagement among office employees working in central air conditioner manufacturing companies in Tangerang Regency, Indonesia. The findings demonstrate that both telework and flexible work positively and significantly influence job performance as well as work engagement. In addition, work engagement was found to positively affect employee job performance.

The results further revealed that work engagement mediates the relationships between telework and job performance as well as between flexible work and job performance. These findings indicate that hybrid workplace practices contribute to employee performance not only through operational flexibility but also through employees' psychological attachment and engagement toward their work. Employees who experience greater flexibility, autonomy, and organizational support are more likely to demonstrate higher levels of vigor, dedication, and absorption, which subsequently improve their work performance.

The findings support the Job Demands–Resources (JD-R) Theory, which emphasizes that organizational resources may stimulate motivational processes that enhance employee engagement and performance. This study also extends the existing literature on hybrid workplace management by providing empirical evidence from the manufacturing sector, particularly within the Indonesian central air conditioner industry, where research concerning hybrid work practices remains relatively limited. From a practical perspective, the findings suggest that organizations implementing hybrid workplace systems should focus not only on technological infrastructure and operational

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efficiency but also on maintaining employee engagement, communication quality, and organizational support in flexible working environments.

Despite providing important empirical findings, this study has several limitations that should be acknowledged. First, the study focused only on office employees working in central air conditioner manufacturing companies located in Tangerang Regency, which may limit the generalizability of the findings to other industries or organizational contexts. Second, the study employed a cross-sectional research design in which data were collected at a single point in time, limiting the ability to capture changes in employee perceptions and behaviors over longer periods. Third, this study relied on self-reported questionnaire data, which may increase the possibility of common method bias and subjective response tendencies among respondents.

In addition, the study examined only work engagement as a mediating variable in explaining the relationship between hybrid workplace practices and job performance. Other organizational and psychological factors that may influence employee performance, such as organizational culture, leadership style, job satisfaction, digital competency, and organizational support, were not included in the current research model.

Future studies are encouraged to expand the research context by involving respondents from different industries, organizational scales, and geographical regions in order to improve the generalizability of findings related to hybrid workplace practices. Comparative studies between manufacturing and service industries may also provide broader insights into how hybrid work systems influence employee behavior across different organizational environments.

Future research may also employ longitudinal research designs to better understand the long-term effects of telework and flexible work on employee engagement and performance. Such approaches may provide deeper insights into how employees adapt to hybrid workplace systems over time and how organizational practices evolve in response to changing work environments.

Furthermore, future studies are encouraged to incorporate additional mediating or moderating variables, such as organizational support, leadership style, psychological well-being, digital readiness, organizational culture, and employee resilience, in order to develop a more comprehensive understanding of hybrid workplace effectiveness. The inclusion of these variables may help explain the broader organizational and behavioral mechanisms underlying employee performance within increasingly flexible and technology-oriented work environments.

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