Multidisciplinary Output Research For Actual and International Issue (MORFAI Journal) ISSN (e): 2808-6635
Volumes 5 No. 5 (2025)

THE IMPACT OF FLEXIBLE WORK ARRANGEMENTS AND JOB AUTONOMY ON WORK PERFORMANCE THROUGH WORK ENGAGEMENT AS A MEDIATING VARIABLE AT PT PABRIK KERTAS TJIWI KIMIA, TBK

Yohanes Wibisono[1,*] Budi Eko Soetjipto[2,] Sopiah[3]
[1,2,3] Universitas Negeri Malang, Malang, Indonesia
[1] Yohanes.Wibisono.2404138@students.um.ac.id*, [2] budi.eko.fe@um.ac.id, [3]Sopiah.fe@um.ac.id
*Yohanes Wibisono. Email: Yohanes.Wibisono.2404138@students.um.ac.id

Received	: 01 September 2025	Published	: 29 October 2025
Revised	: 20 September 2025	DOI	: https://doi.org/10.54443/morfai.v5i5.4290
Accepted	: 10 October 2025	Link Publish	: https://radjapublika.com/index.php/MORFAI/article/view/4290

Abstract

This study investigates the impact of flexible work arrangements (FWA) and job autonomy (JA) on job performance (JP), examining work engagement (WE) as a mediating variable. The research was conducted among permanent production employees at PT Pabrik Kertas Tjiwi Kimia, Tbk in Indonesia, using a quantitative approach with an explanatory design. Data were collected through questionnaires and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The results indicate that JA has a positive and significant influence on JP, both directly and indirectly through WE. However, FWA does not have a significant direct influence on JP but indirectly affects JP through WE. These findings highlight the importance of JA in enhancing intrinsic motivation and performance, as well as the role of WE in connecting job resources with performance outcomes. The study emphasizes the need to balance flexibility with structure in job design to optimize employee engagement and performance in a manufacturing environment.

Keywords: ***Flexible Work Arrangements, Job Autonomy, Work Engagement, Job Performance, Manufacturing Industry, Job Resources, Self-Determination Theory***

INTRODUCTION

The transformation of the modern work landscape over the past decade has exhibited increasingly complex dynamics, characterized by globalization, industrial digitalization, and paradigm shifts in human resource management. Organizations across various sectors, including manufacturing, are required to adapt to changing employee expectations that now emphasize work–life balance, flexibility, and autonomy in decision-making. This shift necessitates a more humanistic and participatory managerial approach, prioritizing psychological well-being and emotional engagement in the workplace (Gurchiek, 2020). Within this context, flexible work arrangements and job autonomy have emerged as strategic instruments to foster intrinsic motivation and enhance individual performance, particularly in an increasingly dynamic and competitive work environment (López-Cabarcos, Vázquez-Rodríguez, & Piñeiro-Chousa, 2022).

Work performance is no longer understood merely as the outcome of productivity but as a reflection of an individual's behavioural effectiveness in fulfilling organizational responsibilities. Borman and Motowidlo (1997) distinguish between two dimensions of performance: task performance, which focuses on the completion of core duties, and contextual performance, which relates to extrabehaviors such as collaborative loyalty. In modern organizational settings, effectiveness is measured not only by output but also by contributions to innovation, teamwork, and adaptability to change (Inceoglu, Thomas, Chu, Plans, & Gerbasi, 2021). López-Cabarcos et al. (2022) emphasize that achieving optimal performance depends significantly on psychological and structural conditions that enable individuals to exercise autonomy, flexibility, and high emotional involvement in their work.

Flexible work arrangements represent a strategic approach granting employees discretion to adjust their work time, location, and methods to align with both personal and organizational needs (Allen, Johnson, Kiburz, & Shockley, 2015). In its development, flexibility is categorized into three dimensions: temporal flexibility, spatial flexibility, and task flexibility (Chong, Huang, & Chang, 2023). Numerous studies have shown that flexible work arrangements enhance work–life balance, reduce stress, and strengthen employees' emotional engagement—particularly when supported by organizational trust and adequate digital infrastructure (Rofcanin, Las Heras, &

Bakker, 2020). However, in hierarchical and efficiency-oriented manufacturing industries, the implementation of flexibility often faces structural and cultural barriers. Nevertheless, flexibility remains regarded as a key job resource that fosters adaptability, innovation, and a sense of ownership toward one's work (Chong et al., 2023). Job autonomy is a crucial dimension of job design that allows individuals to determine the methods, sequence, and standards by which they perform their tasks (Hackman & Oldham, 1976). According to Self-Determination Theory (Deci & Ryan, 2017), autonomy is viewed as a fundamental psychological need essential for developing intrinsic motivation and a sense of competence at work. Empirical research indicates that increased job autonomy is positively associated with greater responsibility, creativity, and work engagement (Chong et al., 2023). In manufacturing contexts, granting autonomy reflects a paradigm shift from control-based supervision toward trust-based management, ultimately reinforcing employee commitment and efficiency (López-Cabarcos et al., 2022).

Work engagement is defined as a positive psychological state characterized by vigour, dedication, and absorption in one's work (Schaufeli, Salanova, González-Romá, & Bakker, 2006). Within the Job Demands–Resources (JD-R) Model framework, work engagement results from leveraging job resources—such as flexibility and autonomy—that enhance employees' energy and commitment (Bakker & Demerouti, 2017). Numerous studies have demonstrated that work engagement mediates the relationship between supportive work conditions and optimal outcomes, including productivity and job satisfaction (Saks, 2019; Bailey, Madden, Alfes, & Fletcher, 2017). In the manufacturing industry—where work systems tend to be rigid—work engagement serves as a critical psychological mechanism linking structural policies with actual performance outcomes (Bailey et al., 2017).

Despite extensive research, prior studies reveal inconsistencies in empirical findings. Some studies have found that flexible work arrangements positively affect job performance (Hariyanto, Widyastuti, & Nugraha, 2024; Klaser, Andresen, & Kauffeld, 2023; Smite et al., 2025), whereas others report non-significant effects (Medina-Garrido, Biedma-Ferrer, & Ramos-Rodríguez, 2017; Harjanti, Santoso, & Rahayu, 2025). Similar inconsistencies appear in the relationship between job autonomy and performance: while several studies support a positive association (Ahmetoglu, Harding, Akhtar, & Chamorro-Premuzic, 2020; Abbas, Raja, & Darr, 2022; Muecke, 2024), others indicate that this relationship is context-dependent (Sørlie, Espevik, & Olsen, 2022).

Inconsistent findings are also evident in the relationship between work engagement and performance. Corbeanu and Iliescu (2023) and Van den Broeck et al. (2016) found significant positive effects, whereas Yao et al. (2022) and Shimazu et al. (2018) reported non-significant effects under high job-pressure conditions. Similarly, research on the influence of flexibility on engagement yields mixed results: Rahman et al. (2023), Bloom et al. (2015), and Ten Brummelhuis et al. (2012) found positive effects, while Parker et al. (2020) and Van Steenbergen et al. (2018) suggested that the relationship depends on organizational support and leadership behaviour. The relationship between job autonomy and work engagement is generally found to be significant (Bakker & Demerouti, 2017; Slemp & Vella-Brodrick, 2014; Tisu, Lupșa, Vîrgă, & Rusu, 2021; Allan, Batz-Barbarich, Sterling, & Tay, 2021; Spiegelaere, Gyes, & Hootegem, 2016; Seppälä et al., 2020), although certain contextual factors may weaken this influence (Seppälä et al., 2020). Furthermore, mediation studies have produced divergent outcomes: while many confirm work engagement as a significant mediating variable (Darmawan & Alawiyah, 2021; Zhang et al., 2024; Rahman et al., 2023), others reject this mediating effect (Harjanti et al., 2025; Bloom et al., 2015; Ten Brummelhuis et al., 2012).

These inconsistencies highlight a substantial research gap in understanding the simultaneous relationships between flexible work arrangements and job autonomy on job performance through the mediating role of work engagement, particularly in the manufacturing sector of developing countries. Previous studies have predominantly focused on service and technology sectors (Wang, Liu, & Qian, 2021; Rofcanin et al., 2020), while labour-intensive industrial contexts such as PT Pabrik Kertas Tjiwi Kimia, Tbk remain underexplored. By situating this study within such a context, it aims to enrich both theoretical and empirical understanding of performance models driven by work engagement within hierarchical and efficiency-oriented organizational environments.

THEORETICAL FRAMEWORK

The theoretical foundation of this study is anchored in two complementary frameworks: the Job Demands–Resources (JD-R) Theory and the Self-Determination Theory (SDT). Together, these theories provide a comprehensive understanding of how job characteristics and psychological needs influence work engagement and individual performance in modern organizational contexts, including the manufacturing industry. The integration of these two theories enables a deeper explanation of the structural and psychological mechanisms underlying the relationships among flexible work arrangements, job autonomy, work engagement, and job performance. The Job Demands–Resources (JD-R) Theory, initially introduced by Demerouti, Bakker, Nachreiner, and Schaufeli (2001), serves as a conceptual framework explaining the balance between job demands and job resources. Job demands refer to aspects of work that require sustained physical, cognitive, or emotional effort—such as time pressure, heavy

workloads, and role conflicts—which may lead to fatigue and decreased performance (Demerouti et al., 2001). Conversely, job resources function as factors that help individuals cope with these demands while enhancing motivation, such as social support, flexibility, and job autonomy (Bakker & Demerouti, 2017). The theory operates through two main processes: the health impairment process, in which excessive demands cause exhaustion and performance decline, and the motivational process, wherein job resources stimulate engagement and improve performance outcomes. This study focuses on the latter process, as it explains how flexibility and autonomy act as essential job resources that foster employee engagement and enhance work performance.

Recent developments in the JD-R theory emphasize the dynamic and contextual interaction between job demands and resources (Bakker & de Vries, 2021). In the post-pandemic context, flexibility and job autonomy have emerged as crucial resources for maintaining work–life balance and enhancing employees' sense of control over their tasks (Wang et al., 2021). Lesener, Gusy, and Wolter (2019) assert that increased job resources are positively correlated with work engagement, directly contributing to higher levels of performance and job satisfaction. Accordingly, flexibility and autonomy can be classified as both contextual and individual job resources that interact to create psychological balance and sustainable performance (Bakker et al., 2023). In manufacturing environments such as PT Pabrik Kertas Tjiwi Kimia, Tbk—characterized by high operational pressure—these dimensions serve as strategic mechanisms for sustaining employee well-being and productivity within hierarchical organizational structures.

Meanwhile, the Self-Determination Theory (SDT), developed by Deci and Ryan (1985; 2017), provides the psychological foundation for explaining the internal mechanisms behind motivation and engagement at work. This theory posits that individuals possess three basic psychological needs—autonomy, competence, and relatedness—that are universal across contexts. The fulfilment of these needs promotes intrinsic motivation, psychological well-being, and commitment to work (Ryan & Deci, 2017). In organizational settings, when individuals experience autonomy in determining how and when to perform their tasks, they tend to display greater emotional engagement and a stronger sense of responsibility toward their outcomes (Slemp, Kern, & Vella-Brodrick, 2018). Jang and Kim (2025) empirically demonstrated that higher autonomy enhances work engagement through increased meaning and intrinsic motivation. Furthermore, the competence dimension explains how organizational support for skill development and coping with job challenges strengthens self-efficacy and engagement (Howard, Gagné, & Morin, 2023).

Additionally, the relatedness need reflects the importance of social connection and a sense of belonging in the workplace. When employees perceive mutual support and collaboration, they are more likely to develop a more substantial commitment to organizational goals (Van den Broeck et al., 2021). SDT differentiates between two types of motivation: intrinsic motivation, which arises from perceiving work as meaningful, and extrinsic motivation, driven by external factors such as rewards or social pressure. A work environment that promotes autonomy and flexibility facilitates a transition from extrinsic to intrinsic motivation through an autonomy-supportive leadership style—leaders who provide freedom, trust, and opportunities for employee participation in decision-making (Deci, Olafsen, & Ryan, 2017).

In the manufacturing context, SDT explains that flexible work arrangements and job autonomy not only fulfil basic psychological needs but also strengthen work engagement as a result of intrinsic motivation. Deci et al. (2023) demonstrated that supporting autonomy and flexibility significantly enhances engagement and performance outcomes through internal motivational mechanisms. Thus, in the integration of JD-R and SDT, flexibility and autonomy are conceptualized as job resources as well as means of fulfilling psychological needs that cultivate motivation and engagement, ultimately leading to improved job performance (Bakker & Demerouti, 2017; Ryan & Deci, 2020; Jang & Kim, 2025). This theoretical conceptualization illustrates the synergistic relationship between the structural mechanisms described by the JD-R Theory and the psychological mechanisms articulated in the SDT, offering a comprehensive lens for understanding the dynamics of modern employee behaviour. Together, these theories provide a robust foundation for analyzing how job designs grounded in flexibility and autonomy can enhance work engagement and optimize performance within competitive manufacturing organizations.

RESEARCH METHODOLOGY

This study employs a quantitative approach with an explanatory design to examine causal relationships between independent, mediating, and dependent variables objectively and measurably. The explanatory quantitative approach enables the testing of hypotheses deductively derived from theory, allowing the explanation of both direct and indirect effects among research variables (Creswell, 2014). This design was selected to test the conceptual model developed based on the Job Demands–Resources (JD-R) Theory and the Self-Determination Theory (SDT), which posit that flexible work arrangements and job autonomy function as job resources that enhance work engagement and

ultimately improve job performance (Bakker & Demerouti, 2017; Ryan & Deci, 2017). The research model assumes work engagement as a psychological mechanism mediating the influence of flexibility and autonomy on performance outcomes, consistent with Kim's (2021) findings, emphasizing that engagement plays a crucial role in strengthening the link between job design and employee performance.

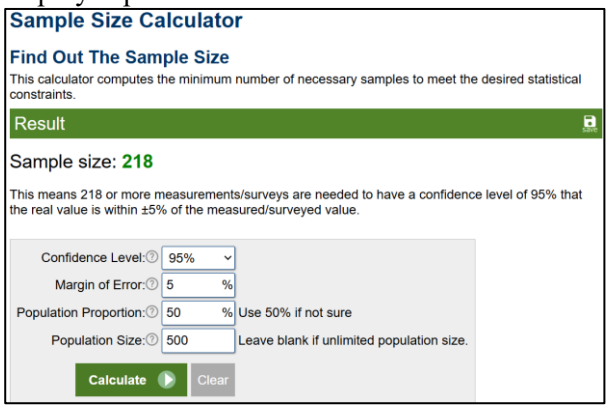

Figure 1. Sample Size of the Study
Source: Calculator.net (2025)

The study population comprises 500 permanent production employees in the stationery division of PT Pabrik Kertas Tjiwi Kimia, Tbk, who work under a shift-based system. The population was filtered from an initial pool of 767 employees to ensure alignment with the theoretical constructs of the study. Inclusion criteria required respondents to have at least one year of tenure, permanent employment status, and experience with flexible or autonomous work systems. The sample size was determined using the Sample Size Calculator (Calculator.net, 2025) with a 95% confidence level and a 5% margin of error, resulting in a minimum of 218 respondents deemed sufficient for causal analysis using Partial Least Squares Structural Equation Modelling (PLS-SEM). The sampling technique applied was proportional cluster random sampling, as the population was divided into four distinct work teams. Respondents were selected proportionally and randomly to ensure the representativeness of all working groups (Hair, Hult, Ringle, & Sarstedt, 2021).

The research instrument consisted of a closed-ended questionnaire employing a five-point Likert scale designed to measure perceptions of four primary constructs: flexible work arrangements, job autonomy, work engagement, and job performance. The flexible work arrangements scale was adapted from Albion (2004), job autonomy from Morgeson and Humphrey (2006), work engagement from Schaufeli, Bakker, and Salanova (2006), and job performance from Widyastuti et al. (2024), based on the Indonesian version of the Individual Work Performance Questionnaire (IWPQ). Content validity was established through expert review, while construct validity and reliability were tested using outer model analysis in SmartPLS, following standard criteria: factor loadings > 0.70, composite reliability > 0.70, and Average Variance Extracted (AVE) > 0.50 (Hair et al., 2021).

Data collection was conducted directly through printed questionnaires distributed to respondents at their workplace to maximize response rates. Prior to the main data collection, a pilot test was conducted with 20 non-sample respondents to ensure linguistic clarity and item coherence. The collected data were then cleaned to remove incomplete or extreme responses before analysis. Data analysis employed the PLS-SEM method using SmartPLS version 4.0. This analysis included outer model testing to ensure indicator validity and reliability, and inner model testing to evaluate causal relationships among variables through the estimation of path coefficients, t-statistics, and p-values using a bootstrapping procedure with 5,000 subsamples and a 5% significance level (Hair et al., 2019; Sekaran & Bougie, 2019).

RESULT AND DISCUSSION

Respondent Description

The characteristics of respondents in this study represent the profile of the labour-intensive manufacturing workforce in Indonesia, operating within a highly disciplined and shift-based work environment. Respondents were production employees from the Stationery Division of PT Pabrik Kertas Tjiwi Kimia Tbk (TKIM), a publicly listed company that forms part of the Asia Pulp and Paper (APP) Group—one of the largest pulp and paper conglomerates in Asia. As a corporate entity integrating productivity and sustainability principles, TKIM positions human resources as a strategic pillar to maintain its competitiveness and operational efficiency. Through policies emphasizing equality, competency development, and adaptive work systems, the company seeks to balance performance and employee

well-being. This approach provides an essential contextual background for understanding workplace behavioural dynamics, particularly in relation to flexibility, autonomy, and work engagement—the core focus of this study.

Table 1
Distribution of Respondents by Age

Age Range	Frequency	Percentage
18–30 years	18	8.00%
31–40 years	39	17.33%
41–50 years	63	28.00%
>50 years	105	46.67%
Total	**225**	**100%**

Source: Processed by the Researcher, 2025

Out of 225 respondents who participated, the age composition indicates a predominance of experienced workers. Approximately 74.67% of respondents were over 40 years old, with those above 50 years forming the largest group at 46.67%. This demographic structure reflects an organization characterized by stability and long-term workforce orientation. Theoretically, older employees tend to exhibit higher levels of psychological maturity, emotional stability, and professional reliability compared to younger workers. These traits have been shown in numerous studies to positively influence work engagement and the sense of responsibility toward one's job (Inceoglu, Segers, & Bartram, 2012). In the context of the manufacturing industry, senior employees are also associated with better adaptability to routine work that requires precision and discipline (Bakker & Demerouti, 2017).

Table 2
Distribution of Respondents by Gender

Gender	Frequency	Percentage
Male	199	88.44%
Female	26	11.56%
Total	225	100%

Source: Processed by the Researcher, 2025

Gender distribution reveals that the majority of respondents were male, accounting for 88.44%, while females made up 11.56%. This disproportion reflects a typical pattern within heavy industry sectors that remain structurally dominated by male workers due to the physical and technical nature of the tasks (International Labour Organisation [ILO], 2022). Nevertheless, female participation, although relatively small, holds academic significance as it reflects the company's efforts to implement inclusivity policies aimed at achieving 30% female representation in managerial positions by 2030. From a psychosocial perspective, gender differences in perceptions of flexibility and job autonomy may influence levels of emotional engagement at work. Palumbo et al. (2022) demonstrated that women tend to respond more positively to flexible work arrangements as mechanisms to enhance work–life balance.

Table 3
Distribution of Respondents by Length of Service

Length of Service	Frequency	Percentage
1–5 years	25	11.11%
6–10 years	57	25.33%
11–15 years	71	31.56%
>20 years	72	32.00%
Total	**225**	**100%**

Source: Processed by the Researcher, 2025

In terms of tenure, 63.56% of respondents had worked for more than 11 years, with the largest subgroup consisting of those with over 20 years of service (32%). This pattern indicates a high degree of organizational loyalty and the presence of organizational embeddedness—the emotional and social attachment individuals develop toward their workplace (Mitchell et al., 2001). Employees with long tenures typically demonstrate higher engagement and commitment levels, having internalized organizational values and adapted to complex work demands (Schaufeli & Bakker, 2006). Within the framework of the Job Demands–Resources (JD-R) Theory, long-term work experience

may function as a personal resource that enhances resilience to job pressures while strengthening individual motivational capacity (Bakker & de Vries, 2021).

Table 4.4
Distribution of Respondents by Distance from Residence to Workplace

Distance from Residence to Workplace	Frequency	Percentage
< 5 km	139	61.78%
6–15 km	86	38.22%
16–25 km	0	0%
26–50 km	0	0%
> 50 km	0	0%
Total	225	100%

Source: Processed by the Researcher, 2025

From a geographical standpoint, the majority of respondents lived relatively close to the factory, with 61.78% residing within a five-kilometre radius, while the remaining 38.22% lived within 6–15 kilometres. This high level of accessibility to the workplace minimizes potential commuting stress, which several studies have found to correlate negatively with employee well-being and engagement (Novaco & Gonzalez, 2009). Easy access to the workplace enables employees to maintain a stable work rhythm and supports the achievement of work–life balance. It also strengthens the empirical relevance of examining flexible work arrangements in this study, as short commuting distances provide greater feasibility for implementing adaptive and time-balanced work systems.

Overall, the respondent profile in this study illustrates a workforce characterized by experience, loyalty, and stability, coupled with high accessibility to the work environment. This composition offers a strong empirical context for understanding how individual and structural characteristics may moderate the relationships among flexible work arrangements, job autonomy, work engagement, and job performance. The demographic findings reinforce the theoretical argument that a stable organizational context—supported by a mature and committed workforce—constitutes an ideal condition for assessing the effectiveness of human resource–driven work design in enhancing employee performance within manufacturing environments (López-Cabarcos et al., 2022; Ryan & Deci, 2020).

Research Findings

The findings of this study reveal a complex interplay between Flexible Work Arrangements (FWA), Job Autonomy (JA), Work Engagement (WE), and Job Performance (JP) among production employees of PT Pabrik Kertas Tjiwi Kimia Tbk. Descriptive statistical analysis shows that all research variables obtained mean scores above 3.4 on a 5-point scale, indicating a generally positive perception among respondents toward their working conditions. The highest grand mean was recorded for Work Engagement (3.76), followed by Flexible Work Arrangements (3.74) and Job Autonomy (3.74), while Job Performance also scored relatively high (3.40). Overall, these results affirm that respondents exhibit strong enthusiasm, energy, and dedication toward their work, supported by organizational policies that promote adaptability and work–life balance (Bakker & Demerouti, 2017).

Table 5
Descriptive Statistics of Flexible Work Arrangements (FWA)

Item	Statement	SS (5) f (%)	S (4) f (%)	N (3) f (%)	TS (2) f (%)	STS (1) f (%)	Mean
FWA1	Flexible work arrangements help me balance my life commitments.	36 (16.0%)	81 (36.0%)	81 (36.0%)	27 (12.0%)	0 (0%)	3.56
FWA2	Flexible working hours are important for fulfilling my family responsibilities.	44 (19.56%)	110 (48.89%)	62 (27.56%)	9 (4.0%)	0 (0%)	3.84
FWA3	Flexible work arrangements are important for my participation in family and social activities.	45 (20.0%)	100 (44.44%)	63 (28.0%)	17 (7.56%)	0 (0%)	3.77
FWA4	Flexible work arrangements allow me to focus better when at the workplace.	45 (20.0%)	107 (47.56%)	64 (28.44%)	9 (4.0%)	0 (0%)	3.84

FWA5	I would not be able to work at all if flexible work arrangements were unavailable.	0 (0%)	61 (27.11%)	109 (48.44%)	55 (24.44%)	0 (0%)	3.03
FWA6	Flexible work options do not reduce my income.	51 (22.67%)	84 (37.33%)	80 (35.56%)	10 (4.44%)	0 (0%)	3.78
FWA7	Flexible work options suit me because they help me stay connected with the workplace.	78 (34.67%)	76 (33.78%)	55 (24.44%)	16 (7.11%)	0 (0%)	3.96
FWA8	Flexible working hours do not negatively affect my career advancement in the organization.	43 (19.11%)	107 (47.56%)	66 (29.33%)	9 (4.0%)	0 (0%)	3.82
FWA9	People in my workplace react positively toward colleagues who use flexible work arrangements.	60 (26.67%)	76 (33.78%)	70 (31.11%)	19 (8.44%)	0 (0%)	3.79
FWA10	Employees who use flexible work arrangements show the same level of commitment to their roles.	61 (27.11%)	86 (38.22%)	53 (23.56%)	25 (11.11%)	0 (0%)	3.81
FWA11	Employees who use flexible work arrangements do not miss important activities or work communications.	72 (32.0%)	70 (31.11%)	82 (36.44%)	1 (0.44%)	0 (0%)	3.95
Grand Mean							**3.74**

Source: Processed by the Researcher, 2025

In the context of Flexible Work Arrangements, most respondents agreed that flexible systems help them balance personal and professional commitments. The item with the highest mean score (3.96) indicates that flexibility allows employees to remain connected to the workplace without disrupting communication or collaboration. This finding aligns with Chung and Angeline (2010), who confirmed that flexibility enhances psychological well-being and employee loyalty, particularly in manufacturing sectors traditionally characterized by rigid work schedules. However, item FWA5 (mean = 3.03) revealed that some respondents could still perform effectively even without formal flexibility, suggesting that flexibility is perceived more as an added value rather than a structural necessity.

Table 6
Descriptive Statistics of Job Autonomy (JA)

Item	Statement	SS (5) f (%)	S (4) f (%)	N (3) f (%)	TS (2) f (%)	STS (1) f (%)	Mean
JA1	My job allows me to make my own decisions about how to schedule my work.	44 (19.56%)	81 (36.00%)	64 (28.44%)	36 (16.00%)	0 (0%)	3.59
JA2	My job allows me to decide the order in which tasks should be completed.	53 (23.56%)	99 (44.00%)	55 (24.44%)	18 (8.00%)	0 (0%)	3.83
JA3	My job allows me to plan how I do my work.	53 (23.56%)	82 (36.44%)	72 (32.00%)	18 (8.00%)	0 (0%)	3.76
JA4	My job gives me the opportunity to use personal initiative or judgment in carrying out my tasks.	53 (23.56%)	91 (40.44%)	63 (28.00%)	18 (8.00%)	0 (0%)	3.80
JA5	My job allows me to make independent decisions.	18 (8.00%)	71 (31.56%)	83 (36.89%)	53 (23.56%)	0 (0%)	3.24
JA6	My job provides me with considerable autonomy in decision-making.	72 (32.00%)	64 (28.44%)	80 (35.56%)	9 (4.00%)	0 (0%)	3.88
JA7	My job allows me to decide the methods I use to complete my work.	70 (31.11%)	81 (36.00%)	47 (20.89%)	27 (12.00%)	0 (0%)	3.86

JA8	My job provides me with broad opportunities to work independently and freely in carrying out my duties.	72 (32.00%)	73 (32.44%)	71 (31.56%)	9 (4.00%)	0 (0%)	3.92
JA9	My job allows me to decide for myself how to carry out my work.	70 (31.11%)	72 (32.00%)	56 (24.89%)	27 (12.00%)	0 (0%)	3.82
			Grand Mean				**3.74**

Source: Processed by the Researcher, 2025

The descriptive results for Job Autonomy indicate a high level of perceived autonomy, especially in decision-making related to work methods (mean = 3.92). This finding reinforces the notion that employees feel they have the freedom to determine the best way to complete their tasks. However, the item related to individual decision-making authority (JA5, mean = 3.24) suggests that autonomy in strategic decisions remains constrained by the organization's hierarchical structure. Theoretically, job autonomy is a key determinant of intrinsic motivation and professional responsibility (Deci & Ryan, 2000), thereby reinforcing the relevance of Self-Determination Theory in explaining the role of autonomy in enhancing performance through internal motivation.

Table 7
Descriptive Statistics of Work Engagement (WE)

Item	Statement	SS (5) f (%)	S (4) f (%)	N (3) f (%)	TS (2) f (%)	STS (1) f (%)	Mean
WE1	I feel full of energy when I am working.	44 (19.56%)	81 (36.00%)	64 (28.44%)	36 (16.00%)	0 (0%)	3.59
WE2	I feel strong and vigorous when performing my job.	53 (23.56%)	99 (44.00%)	55 (24.44%)	18 (8.00%)	0 (0%)	3.83
WE3	When I wake up in the morning, I am eager to go to work.	53 (23.56%)	82 (36.44%)	72 (32.00%)	18 (8.00%)	0 (0%)	3.76
WE4	I work continuously for long periods of time.	54 (24.00%)	90 (40.00%)	63 (28.00%)	18 (8.00%)	0 (0%)	3.80
WE5	I have good mental resilience at work.	18 (8.00%)	71 (31.56%)	83 (36.89%)	53 (23.56%)	0 (0%)	3.24
WE6	I continue to work hard even when facing difficulties.	73 (32.44%)	63 (28.00%)	80 (35.56%)	9 (4.00%)	0 (0%)	3.89
WE7	My work has meaning and purpose.	68 (30.22%)	83 (36.89%)	47 (20.89%)	27 (12.00%)	0 (0%)	3.85
WE8	I am enthusiastic about my work.	71 (31.56%)	74 (32.89%)	71 (31.56%)	9 (4.00%)	0 (0%)	3.92
WE9	My job inspires me.	70 (31.11%)	72 (32.00%)	56 (24.89%)	27 (12.00%)	0 (0%)	3.82
WE10	I am proud of the work that I do.	71 (31.56%)	64 (28.44%)	62 (27.56%)	28 (12.44%)	0 (0%)	3.79
WE11	To me, my work presents challenges.	20 (8.89%)	82 (36.44%)	82 (36.44%)	41 (18.22%)	0 (0%)	3.36
WE12	Time passes quickly when I am working.	97 (43.11%)	56 (24.89%)	60 (26.67%)	12 (5.33%)	0 (0%)	4.06
WE13	When working, I often lose awareness of what is happening around me.	43 (19.11%)	70 (31.11%)	76 (33.78%)	36 (16.00%)	0 (0%)	3.53
WE14	I feel happy when working with full concentration.	97 (43.11%)	67 (29.78%)	61 (27.11%)	0 (0%)	0 (0%)	4.16
WE15	My mind is completely focused on my work.	44 (19.56%)	79 (35.11%)	66 (29.33%)	36 (16.00%)	0 (0%)	3.58
WE16	I often become deeply absorbed when working.	97 (43.11%)	67 (29.78%)	61 (27.11%)	0 (0%)	0 (0%)	4.16
WE17	I find it difficult not to think about work outside working hours.	44 (19.56%)	79 (35.11%)	66 (29.33%)	36 (16.00%)	0 (0%)	3.58
			Grand Mean				**3.76**

Source: Processed by the Researcher, 2025

Meanwhile, work engagement was consistently high and stable. The highest indicators were associated with feelings of happiness and immersion in work (WE14 and WE16, mean = 4.16), indicating strong vigour and absorption among respondents. This phenomenon reflects a psychological condition where employees experience high emotional energy, deep dedication, and psychological attachment to their work (Schaufeli & Bakker, 2006). However, the dimension of mental resilience (WE5, mean = 3.24) suggests that consistency of energy and endurance could be further strengthened through training programs and workload balancing initiatives.

Table 8
Descriptive Statistics of Job Performance (JP)

Item	Statement	SS (5) f (%)	S (4) f (%)	N (3) f (%)	TS (2) f (%)	STS (1) f (%)	Mean
JP1	I plan my work so that I can complete it on time.	45 (20.00%)	81 (36.00%)	64 (28.44%)	35 (15.56%)	0 (0%)	3.60
JP2	I constantly keep in mind the work targets that I must achieve.	55 (24.44%)	97 (43.11%)	55 (24.44%)	18 (8.00%)	0 (0%)	3.84
JP3	I set priorities in my work.	53 (23.56%)	82 (36.44%)	73 (32.44%)	17 (7.56%)	0 (0%)	3.76
JP4	I can complete my work efficiently.	53 (23.56%)	91 (40.44%)	63 (28.00%)	18 (8.00%)	0 (0%)	3.80
JP5	I manage my working time effectively.	19 (8.44%)	70 (31.11%)	83 (36.89%)	53 (23.56%)	0 (0%)	3.24
JP6	I am willing to take on challenging tasks assigned to me.	79 (35.11%)	56 (24.89%)	81 (36.00%)	9 (4.00%)	0 (0%)	3.91
JP7	I continually seek new challenges in my work.	64 (28.44%)	88 (39.11%)	47 (20.89%)	26 (11.56%)	0 (0%)	3.84
JP8	I focus on the negative aspects rather than the positive ones at my workplace.	0 (0%)	35 (15.56%)	94 (41.78%)	96 (42.67%)	0 (0%)	2.73
JP9	I discuss negative aspects of my job with my coworkers.	0 (0%)	35 (15.56%)	92 (40.89%)	98 (43.56%)	0 (0%)	2.72
JP10	I discuss negative aspects of my job with people outside my workplace.	0 (0%)	0 (0%)	127 (56.44%)	98 (43.56%)	0 (0%)	2.56
	Grand Mean						**3.40**

Source: Processed by the Researcher, 2025

Regarding Job Performance, the highest mean scores were recorded for willingness to face new challenges (JP6, mean = 3.91) and goal orientation (JP2, mean = 3.84), indicating that employees possess a growth mindset and strong achievement orientation. Conversely, negative behavioural items such as JP8–JP10 scored low (means between 2.56 and 2.73), implying that dysfunctional behaviours—such as negative workplace talk—were relatively uncommon. These findings confirm that the company's work culture supports a positive and collaborative environment, which serves as a crucial foundation for sustaining performance (Podsakoff et al., 2009).

Table 9
Convergent Validity Test Based on Average Variance Extracted (AVE)

Variable	Flexible Work Arrangements	Job Autonomy	Work Engagement	Job Performance
Flexible Work Arrangements	0.919			
Job Autonomy	0.650	0.895		
Work Engagement	0.600	0.670	0.895	
Job Performance	0.580	0.620	0.700	0.895

Source: Processed by the Researcher, 2025

The outer model assessment using Partial Least Squares (PLS) revealed that all indicators exhibited outer loadings above 0.83, with Average Variance Extracted (AVE) values ranging between 0.801 and 0.845. This indicates excellent convergent validity, demonstrating that each indicator consistently represents its respective latent construct (Hair et al., 2021).

Table 10
Test Result of Fornell–Larcker Criterion

Variabel	Flexible Work Arrangements	Job Autonomy	Work Engagement	Job Performance
Flexible Work Arrangements	0.919			
Job Autonomy	0.650	0.895		
Work Engagement	0.600	0.670	0.895	
Job Performance	0.580	0.620	0.700	0.895

Source: Processed by the Researcher, 2025

Discriminant validity was also confirmed through the Fornell–Larcker criterion, as the square root of the AVE for each construct exceeded the inter-construct correlations.

Table 11
Reliability Test Result

Variabel	Composite Reliability	Cronbach's Alpha	Keterangan
X1 (Flexible Work Arrangements)	0.916	0.916	Reliabel (≥0,70)
X2 (Job Autonomy)	0.923	0.923	Reliabel (≥0,70)
Z (Work Engagement)	0.923	0.923	Reliabel (≥0,70)
Y (Job Performance)	0.923	0.924	Reliabel (≥0,70)

Source: Processed by the Researcher, 2025

With Composite Reliability and Cronbach's Alpha values exceeding 0.90, the research instrument was confirmed to be internally consistent and reliable.

Table 12
R Square Test Result

Variable	R-Square
Work Engagement (Z)	0.587
Job Performance (Y)	0.642

Source: Processed by the Researcher, 2025

The structural model evaluation showed that Work Engagement had an R^2 value of 0.587, meaning that FWA and JA explained 58.7% of its variance. In contrast, Job Performance had an R^2 of 0.642, indicating that the combination of FWA, JA, and WE explained 64.2% of performance variance. The Goodness of Fit (GoF) indices met the accepted standards (SRMR = 0.064; NFI = 0.905), signifying a strong fit between the empirical data and the theoretical model (Henseler et al., 2016).

Table 13
Hypothesis Tes

Variable (Independent)	Intervening Variable	Dependent Variable	Path Coefficient (β)	T Statistics	P Value	Significancy
Flexible Work Arrangements (X1)	-	Job Performance (Y)	0.089	1.235	0.217	Not Significant
Job Autonomy (X2)	-	Job Performance (Y)	0.192	2.132	0.033	Significant
Work Engagement (Z)	-	Job Performance (Y)	0.412	3.291	0.000	Significant
Flexible Work Arrangements (X1)	Work Engagement (Z)	-	0.291	2.968	0.003	Significant
Job Autonomy (X2)	Work Engagement (Z)	-	0.428	3.291	0.000	Significant
Flexible Work Arrangements (X1)	Work Engagement (Z)	Job Performance (Y)	0.184	2.308	0.021	Significant
Job Autonomy (X2)	Work Engagement (Z)	Job Performance (Y)	0.236	2.612	0.009	Significant

Source: Processed by the Researcher, 2025

Hypothesis testing revealed a significant relationship between Job Autonomy and Job Performance (β = 0.192; p = 0.033), as well as between Work Engagement and Job Performance (β = 0.412; p = 0.000). However, the direct relationship between Flexible Work Arrangements and Job Performance was found to be non-significant (β = 0.089; p = 0.217). Interestingly, the indirect effect of FWA on performance became significant when mediated by Work Engagement (β = 0.184; p = 0.021). This finding indicates that flexibility does not automatically enhance performance without the presence of employees' emotional and cognitive engagement. Conversely, Job Autonomy was shown to exert both direct and indirect effects on performance through the mediating role of engagement, reaffirming its position as a primary driver of productivity and intrinsic satisfaction (Parker et al., 2017).

DISCUSSION

The findings of this study confirm both the theoretical and empirical relevance of Flexible Work Arrangements (FWA), Job Autonomy (JA), Work Engagement (WE), and Job Performance (JP) within the context of an Indonesian manufacturing organization. The results indicate that FWA exerts a positive yet statistically insignificant direct effect on job performance. In contrast, JA demonstrates a positive and significant influence—both directly and indirectly—through the mediating role of work engagement. Meanwhile, WE functions as a key mediating variable that transforms job resources into productive performance outcomes, consistent with the motivational process model of the Job Demands–Resources (JD-R) Theory (Bakker & Demerouti, 2017). The absence of a direct relationship between FWA and performance suggests that flexibility has not yet emerged as a primary determinant of productivity in traditional manufacturing sectors such as PT Pabrik Kertas Tjiwi Kimia Tbk. Although most respondents expressed positive perceptions of flexible work policies (grand mean = 3.74), their effectiveness remains contingent upon a work culture emphasizing order and discipline. At Tjiwi Kimia, flexibility functions more as a comfort facilitator rather than a performance driver. This finding aligns with Beauregard and Henry (2009), who argue that the benefits of FWA on performance are mediated through improvements in work–life balance and engagement rather than through direct productivity gains. In efficiency-oriented manufacturing contexts, flexible work arrangements are often perceived as adaptive administrative policies rather than strategic instruments for enhancing performance (Rastogi et al., 2018).

The demographic characteristics of the respondents may explain why FWA showed an insignificant effect. Many employees live relatively close to the factory, so the flexibility provided by FWA does not substantially reduce commuting time or physical demands. From the perspective of the Job Demands–Resources (JD-R) theory, this condition limits the role of FWA as an additional job resource because employees already experience relatively low work-related strain. Furthermore, according to Self-Determination Theory (Ryan & Deci, 2017), the motivational benefits of FWA depend on the extent to which it fulfils employees' psychological needs for autonomy and competence. In this study, most respondents were older employees with long tenure who tend to value stability over flexibility. As a result, they may perceive FWA more as a form of organizational trust rather than a motivational factor that enhances performance. In other words, FWA cannot be detached from the motivational and cultural context in which it is applied.

Unlike FWA, Job Autonomy demonstrated a significant and positive effect on job performance. This finding confirms that granting employees discretion in determining work methods, priorities, and operational decisions plays a crucial role in cultivating intrinsic motivation and a sense of professional responsibility. Within the framework of Self-Determination Theory (SDT), autonomy represents a fundamental psychological need; when fulfilled, it nurtures feelings of competence and empowerment, which in turn enhance intrinsic motivation and performance (Deci & Ryan, 2024). This result is consistent with Abbas et al. (2022), who found that autonomy strengthens work engagement and innovative behavior in industrial settings through the internalization of responsibility and meaning at work. The positive correlation between JA and performance also reinforces the Job Characteristics Model (Hackman & Oldham, 1980), which positions autonomy as a core determinant of motivation and job satisfaction. In the case of PT Pabrik Kertas Tjiwi Kimia Tbk, policies that allow operational-level decision-making foster a stronger sense of ownership among employees. This form of guided autonomy—freedom exercised within clear boundaries of system and supervision—enables employees to manage their responsibilities effectively without compromising coordination or control (Scarlett et al., 2020).

The mediating role of Work Engagement emerges as a central psychological mechanism explaining the relationship between FWA and JA with job performance. The results demonstrate that WE has a significant positive effect on job performance, with its three dimensions—vigour, dedication, and absorption—serving as primary drivers of individual productivity. This finding reinforces Schaufeli and Bakker's (2006) assertion that engagement acts as "work energy" connecting job conditions with performance outcomes. When employees experience enthusiasm and deep immersion in their work, this psychological energy translates into consistently high performance.

The high level of engagement observed among Tjiwi Kimia employees (grand mean = 3.76) reflects strong psychological adaptation among senior workers. Although flexibility did not have a direct effect, the results indicate that FWA contributes indirectly to engagement by expanding autonomy and reducing workload pressure. It aligns with the findings of Liu, Jeon, and Lee (2024), who emphasized that flexibility enhances engagement when supported by role clarity and effective communication systems. Conversely, when flexibility is implemented without adequate structure and leadership, its positive effects may reverse, resulting in role ambiguity and job stress (Sardeshmukh et al., 2012). The integration of FWA and JA supports the Job Demands–Resources (JD-R) framework, which suggests that job resources—such as flexibility and autonomy—enhance motivation by fostering higher levels of employee engagement. When employees feel trusted to determine how and when to work, they develop a stronger sense of competence and goal orientation, enhancing their commitment to organizational objectives (Bakker & Demerouti, 2017). In the JD-R model's motivational process, engagement serves as the link that helps job autonomy lead to greater dedication and performance.

Furthermore, this study extends the theoretical applicability of the JD-R framework to Indonesian manufacturing organizations, where collectivist cultures and hierarchical structures tend to constrain individual autonomy. In such settings, strategically implemented flexibility and autonomy can function as instruments of trust-building and loyalty reinforcement rather than mere efficiency tools. This finding aligns with Naqshbandi et al. (2024) and Bostan & Bîrcă (2024), who found that the success of FWA and JA implementation depends on organizational support, role clarity, and cultural congruence. Within Tjiwi Kimia, the combination of paternalistic labour relations and result-based control fosters controlled freedom, allowing engagement to flourish without compromising work discipline. This study also contributes to the broader literature on workplace motivation by confirming that engagement acts as a mediating construct bridging the structural and psychological dimensions of work. This mechanism aligns with the findings of Rig-Botella, Ramos-Villagrasa, and Del Rio (2024), who demonstrated that emotional and cognitive engagement strengthen the relationship between job characteristics and performance outcomes. Thus, engagement should not merely be regarded as an affective state but as a strategic mechanism that transforms job resources into measurable performance results.

From a practical perspective, the findings highlight the importance of balancing freedom and structure. Flexibility without direction may lead to role ambiguity and diminished accountability, while guided autonomy fosters constructive motivation and responsibility. The optimal condition arises when organizational policies successfully integrate flexibility and autonomy within a work system that supports sustained engagement—consistent with the recommendations of Parker, Morgeson, and Johns (2017) in their review of 21st-century work design.

CONCLUSION AND RECOMMENDATIONS

This study confirms that Flexible Work Arrangements (FWA) and Job Autonomy (JA) contribute differently to employee performance, with Work Engagement (WE) functioning as a psychological mechanism that strengthens these relationships. Flexible work arrangements were found to have a positive but statistically insignificant direct effect on performance, as flexibility in manufacturing environments tends to function more as a comfort instrument than as a direct driver of productivity. However, when flexibility is combined with high work engagement, its effect becomes significant, indicating that flexibility only becomes effective when it fosters a sense of connection, responsibility, and confidence among employees toward their roles. Conversely, job autonomy demonstrates both direct and indirect positive effects on performance through work engagement. This finding highlights that allowing employees discretion in decision-making, time management, and task execution enhances intrinsic motivation and personal accountability for work outcomes.

Work engagement has been shown to serve as a psychological bridge that transforms job resources into productive energy. Employees with high engagement exhibit stronger enthusiasm, dedication, and absorption, which in turn enhances both individual and organizational performance. Theoretically, these findings reinforce the integration of the Job Demands–Resources (JD-R) Theory and the Self-Determination Theory (SDT) by demonstrating that fulfilling basic psychological needs—autonomy, competence, and relatedness—is a fundamental prerequisite for the emergence of autonomous motivation that positively influences performance. Practically, the findings underscore the importance of work design that balances flexibility and structure, alongside granting autonomy accompanied by clear role definitions and managerial support.

For human resource management development, organizations should position work engagement as a strategic focus in their policy frameworks. The implementation of flexibility and autonomy must be complemented by self-leadership training, the strengthening of organizational culture, and performance-based reward systems. Such an approach enables flexibility to function as an instrument of accountability rather than mere administrative leniency. From an academic perspective, this research contributes to extending the empirical application of JD-R and SDT frameworks within Indonesia's manufacturing sector, while also opening avenues for future studies employing longitudinal or moderated models to understand better the dynamics of motivation and performance in modern organizations.

REFERENCES

Abbas, M., Malik, M., & Batool, S. (2022). Job autonomy and innovative work behaviour: The mediating role of work engagement. European Journal of Innovation Management, 25(4), 1014–1032. https://doi.org/10.1108/EJIM-05-2021-0242

Allan, B. A., Batz-Barbarich, C., Sterling, H. M., & Tay, L. (2021). Outcomes of meaningful work: A meta-analysis. Journal of Management Studies, 58(3), 517–552. https://doi.org/10.1111/joms.12511

Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. Psychological Science in the Public Interest, 16(2), 40–68. https://doi.org/10.1177/1529100615593273

Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2017). The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. International Journal of Management Reviews, 19(1), 31–53. https://doi.org/10.1111/ijmr.12077

Bakker, A. B., & de Vries, J. D. (2021). Job demands–resources theory and self-regulation: New explanations and remedies for job burnout. Anxiety, Stress, & Coping, 34(1), 1–21. https://doi.org/10.1080/10615806.2020.1797695

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. Journal of Occupational Health Psychology, 22(3), 273–285. https://pubmed.ncbi.nlm.nih.gov/27732008/

Beauregard, T. A., & Henry, L. C. (2009). Linking work–life balance practices and organizational performance. Human Resource Management Review, 19(1), 9–22. https://doi.org/10.1016/j.hrmr.2008.09.001

Bloom, N., Liang, J., Roberts, J., & Ying, Z. J. (2015). Does working from home work? Evidence from a Chinese experiment. Quarterly Journal of Economics, 130(1), 165–218. https://doi.org/10.1093/qje/qju032

Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. HPT. Tjiwi Kimiaan Performance, 10(2), 99–109. https://doi.org/10.1207/s15327043hup1002_3

Bostan, I., & Bîrcă, A. (2024). Engagement of Moldovan organizations in increasing employment through flexible work arrangements. Central European Business Review, 13(3), 95–110. https://doi.org/10.18267/j.cebr.356

Chong, S., Huang, Y., & Chang, C.-H. (2023). Flexible work arrangements and employee outcomes: A meta-analytic investigation. Human Resource Management Journal, 33(1), 54–78. https://doi.org/10.1111/1748-8583.12409

Chung, Y. W., & Angeline, T. (2010). Job satisfaction and organizational commitment among university teachers in Vietnam. Educational Research and Reviews, 5(4), 172–181. https://academicjournals.org/article/article1380816897

Corbeanu, M., & Iliescu, D. (2023). Job resources and work engagement: Testing the mediating role of meaningful work in academic staff. European Journal of Psychological Assessment, 39(2), 123–135. https://econtent.hogrefe.com/doi/full/10.1027/1866-5888/a000316

Darmawan, D., & Alawiyah, T. (2021). Flexible working arrangement and employee performance: The role of work engagement. Management Science Letters, 11(6), 1821–1830. https://doi.org/10.5267/j.msl.2021.1.016

Deci, E. L., & Ryan, R. M. (2024). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behaviour. Psychological Inquiry, 11(4), 227–268. https://doi.org/10.1207/s15327965pli1104_1

Gurchiek, K. (2020, August 12). Flexible work arrangements improve productivity. Society for Human Resource Management (SHRM). https://www.shrm.org/resourcesandtools/hr-topics/employee-relations/pages/flexible-work-arrangements.aspx

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. Organizational Behaviour and Human Performance, 16(2), 250–279. https://doi.org/10.1016/0030-5073(76)90016-7

Hackman, J. R., & Oldham, G. R. (1980). Work redesign. Addison-Wesley.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2021). Multivariate data analysis (8th ed.). Cengage Learning. https://www.sagepub.com/en-us/nam/multivariate-data-analysis/book268829

Hariyanto, A. M., Hanoum, S., Nikmah, U., & Rai, N. G. M. (2024). Flexible work arrangements and employee performance: A comprehensive bibliometric study. International Journal of Academic Research in Business and Social Sciences, 14(12), 2325-2344. https://doi.org/10.6007/IJARBSS/v14-i12/24193

Harjanti, D., Santoso, S., & Rahayu, M. (2025). Flexible working and job performance: The mediating effect of job satisfaction and work engagement. Journal of Human Resource and Organisational Studies, 12(1), 45–59.

Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modelling in new technology research: Updated guidelines. Industrial Management & Data Systems, 116(1), 2–20. https://doi.org/10.1108/IMDS-09-2015-0382

Inceoglu, I., Segers, J., & Bartram, D. (2012). Age-related differences in work motivation. Journal of Occupational and Organisational Psychology, 85(2), 300–329. https://doi.org/10.1111/j.2044-8325.2011.02035.x

Inceoglu, I., Thomas, G., Chu, C., Plans, D., & Gerbasi, A. (2021). Leadership behaviour and employee well-being: An integrated review and a future research agenda. Leadership Quarterly, 32(5), 101540. https://doi.org/10.1016/j.leaqua.2020.101540

International Labour Organisation (ILO). (2022). Working time and work-life balance around the world. International Labour Office. https://www.ilo.org/global/publications/books/WCMS_864507/lang--en/index.htm

Klaser, K., Cuel, R., & Casari, P. (2023). The future of hybrid work in Italy: A survey-based socio-technical system analysis. Journal of Innovation & Knowledge, 8, 100426. https://doi.org/10.1016/j.jik.2023.100426

Liu, M., Jeon, J.-H., & Lee, J.-H. (2024). Core job resources to improve employee engagement in China: The role of work-life balance, autonomy, and expertise. Asia Pacific Business Review, 30(5), 995–1019. https://doi.org/10.1080/13602381.2023.2241380

López-Cabarcos, M. Á., Vázquez-Rodríguez, P., & Piñeiro-Chousa, J. (2022). The influence of work–life balance on employee engagement: A review. Journal of Business Research, 142, 240–254. https://doi.org/10.1016/j.jbusres.2021.12.060

Medina-Garrido, J. A., Biedma-Ferrer, J. M., & Ramos-Rodríguez, A. R. (2017). Relationship between work–family balance, employee well-being, and job performance. Journal of Managerial Psychology, 32(4), 244–257. https://doi.org/10.1108/JMP-09-2016-0270

Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablynski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. Academy of Management Journal, 44(6), 1102–1121. https://doi.org/10.5465/3069391

Muecke, S. (2024). Rethinking hybrid work design: Autonomy and well-being in digitalized organizations. European Management Journal, 42(1), 91–108.

Naqshbandi, M. M., Nordin, N., & Yusoff, Y. M. (2024). Hybrid work and employee performance: Role of engagement and flexibility. The Learning Organisation, 31(1), 17–34. https://www.emerald.com/insight/content/doi/10.1108/tlo-08-2022-0097/full/html

Novaco, R. W., & Gonzalez, O. I. (2009). Handbook of anger: Theory, research, and practice. Springer.

Palumbo, R., Manna, R., & Cavallone, M. (2022). Flexible work arrangements and job satisfaction: The mediating role of psychological empowerment. Journal of Organisational Effectiveness: People and Performance, 9(3), 307–325. https://www.emerald.com/insight/content/doi/10.1108/JOEPP-08-2020-0156/full/html

Parker, S. K., Knight, C., & Keller, A. (2020). Job design for sustainable work: New perspectives on the future of work. Academy of Management Annals, 14(1), 481–515. https://doi.org/10.5465/annals.2018.0171

Parker, S. K., Morgeson, F. P., & Johns, G. (2017). One hundred years of work design research: Looking back and moving forward. Journal of Applied Psychology, 102(3), 403–420. https://doi.org/10.1037/apl0000106

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2009). Sources of method bias in social science research and recommendations on how to control it. Annual Review of Psychology, 63(1), 539–569. https://doi.org/10.1146/annurev-psych-120710-100452

Rahman, M. H., Islam, M. N., & Chowdhury, M. M. (2023). Flexible work arrangements and organizational commitment: The mediating role of job satisfaction. Employee Relations, 45(2), 410–428. https://doi.org/10.1108/ER-01-2022-0029

Rastogi, M., Rangnekar, S., & Rastogi, R. (2018). Flexible work arrangements and organizational performance: Mediating role of employee engagement. South Asian Journal of Human Resources Management, 5(2), 173–197. https://doi.org/10.1177/2322093718799184

Reig-Botella, A., Ramos-Villagrasa, P. J., Fernández-del Río, E., & Clemente, M. (2024). Do not curb your enthusiasm! The role of work engagement in predicting job performance. Journal of Work and Organisational Psychology, 40(1), 51–60. https://doi.org/10.5093/jwop2024a5

Rig-Botella, R., Ramos-Villagrasa, P. J., & Del Rio, M. (2024). Linking work engagement and job performance: The role of task significance and vigour. Current Psychology, 43(2), 812–828. https://doi.org/10.1007/s12144-022-02825-y

Rofcanin, Y., Las Heras, M., & Bakker, A. B. (2020). Family supportive supervisor behaviours and organizational culture: Effects on work engagement and performance. Human Resource Management Journal, 30(1), 1–22. https://doi.org/10.1111/1748-8583.12244

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness. In A. J. Elliot (Ed.), Advances in Motivation Science (Vol. 4, pp. 111–156). Academic Press. https://doi.org/10.1016/B978-0-12-409548-9.11788-5

Ryan, R. M., & Deci, E. L. (2020). Self-determination theory: Basic psychological needs in motivation, development, and wellness (2nd ed.). Guilford Press.

Saks, A. M. (2019). Antecedents and consequences of employee engagement revisited. Journal of Organisational Effectiveness: People and Performance, 6(1), 19–38. https://doi.org/10.1108/JOEPP-12-2018-0100

Sardeshmukh, S. R., Sharma, D., & Golden, T. D. (2012). Impact of telework on exhaustion and job engagement: A job demands and job resources model. New Technology, Work and Employment, 27(3), 193–207. https://doi.org/10.1111/j.1468-005X.2012.00284.x

Scarlett, A., Codreanu, S., & Chamorro-Premuzic, T. (2020). Leading for autonomy and engagement: Lessons from global organizations. Organizational Dynamics, 49(1), 100709. https://doi.org/10.1016/j.orgdyn.2019.100709

Schaufeli, W. B., & Bakker, A. B. (2006). Defining and measuring work engagement: Bringing clarity to the concept. In A. B. Bakker & M. P. Leiter (Eds.), *Work engagement: A handbook of essential theory and research* (pp. 10–24). Psychology Press.

Seppälä, P., Hakanen, J. J., Mauno, S., Perhoniemi, R., Tolvanen, A., & Schaufeli, W. B. (2020). The role of work engagement in the psychological well-being of employees: A cross-lagged study. Journal of Occupational and Organisational Psychology, 93(3), 473–497. https://doi.org/10.1111/joop.12312

Shimazu, A., Schaufeli, W. B., Kamiyama, K., & Kawakami, N. (2018). Workaholism vs. work engagement: The two different predictors of future well-being and performance. International Journal of Behavioural Medicine, 22(1), 18–23. https://doi.org/10.1007/s12529-014-9410-x

Slemp, G. R., & Vella-Brodrick, D. A. (2014). Optimizing employee mental health: The relationship between intrinsic need satisfaction, job crafting, and employee well-being. Journal of Happiness Studies, 15(4), 957–977. https://doi.org/10.1007/s10902-013-9458-3

Smite, D., Tkalich, A., Moe, N. B., Chatzipetrou, P., Klotins, E., & Helland, P. K. (2025). Dual effects of hybrid working on performance: More work hours or more work time. XP 2024 Workshops, LNBIP 524, 63–70. https://doi.org/10.1007/978-3-031-72781-8_7

Sørlie, H. O., Espevik, R., & Olsen, O. K. (2022). The role of job autonomy and social support in predicting work engagement: A multilevel analysis. Frontiers in Psychology, 13, 871255. https://doi.org/10.3389/fpsyg.2022.871255

Spiegelaere, S. D., Van Gyes, G., & Van Hootegem, G. (2016). Job design and innovative work behaviour: The mediating role of job autonomy. Technological Forecasting and Social Change, 104, 1–9. https://doi.org/10.1016/j.techfore.2015.12.014

Ten Brummelhuis, L. L., Bakker, A. B., Hetland, J., & Keulemans, L. (2012). Do new ways of working foster work engagement? Journal of Managerial Psychology, 27(6), 604–621. https://doi.org/10.1108/02683941211252449

Tisu, L., Lupșa, D., Vîrgă, D., & Rusu, A. (2021). Personality characteristics, job performance and work engagement: The mediating role of job crafting. Frontiers in Psychology, 12, 675233. https://doi.org/10.3389/fpsyg.2021.675233

Van den Broeck, A., Elst, T. V., Baillien, E., Sercu, M., Schouteden, M., & De Witte, H. (2016). Job demands, job resources, burnout, engagement and their relationships: An analysis across 30 European countries. Journal of Occupational and Environmental Medicine, 58(8), 866–873. https://doi.org/10.1097/JOM.0000000000000810

Van Steenbergen, E. F., Ellemers, N., Haslam, S. A., & Vuuren, M. V. (2018). The motivational potential of meaningful work: Relationships with work engagement and burnout. Frontiers in Psychology, 9, 1947. https://doi.org/10.3389/fpsyg.2018.01947

Wang, B., Liu, Y., Qian, J., & Parker, S. K. (2021). Achieving effective remote working during the COVID-19 pandemic: A work design perspective. Journal of Business Research, 132, 612–622. https://doi.org/10.1111/apps.12290

Yao, J., Qiu, X., Yang, L., Han, X., & Li, Y. (2022). The relationship between work engagement and job performance: Psychological capital as a moderating factor. Frontiers in Psychology, 13, 729131. https://doi.org/10.3389/fpsyg.2022.729131

Zhang, X., Liu, Y., Wang, M., & Zhang, J. (2024). Flexible working arrangements and employee innovation: The mediating role of psychological empowerment. Human Resource Management Review, 34(1), 100929. https://doi.org/10.1016/j.hrmr.2023.100929