



## **Employee Engagement, Work-Life Balance, and Workforce Productivity: Evidence from Indonesian Manufacturing Employees**

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### **Abstract**

This study aims to analyze the influence of employee engagement and work-life balance on employee productivity in manufacturing companies in Indonesia. The manufacturing industry faces complex challenges in the era of digital transformation and intensive global competition, where employee productivity becomes a crucial determinant for company sustainability. The characteristics of the manufacturing industry with repetitive work, high production targets, and long working hours create particular challenges in maintaining optimal employee engagement and work-life balance. This study employs a quantitative approach with a survey method through questionnaires distributed to 76 employees in the production department of manufacturing companies. The sampling technique uses the Slovin formula with a 5% error rate. Employee engagement measurement utilizes three dimensions: emotional, cognitive, and physical involvement, while work-life balance is measured through time balance, involvement balance, and satisfaction balance. Work productivity is measured through indicators of capability, work result improvement, work enthusiasm, self-development, quality, and efficiency. The analysis technique used is Structural Equation Modeling (SEM) based on Partial Least Square (PLS), and multiple regression analysis. This research is expected to provide theoretical contributions through the development of a contextual integrative model for the Indonesian manufacturing industry, as well as practical implications for management in designing sustainable, humanistic productivity improvement strategies that are adaptive to contemporary employee needs, particularly millennials and Gen Z who dominate the workforce.

**Keywords:** Employee Engagement, Work-Life Balance, Productivity, Manufacturing Industry, Human Resource Management

### **Introduction**

The manufacturing industry faces increasingly complex challenges as digital transformation accelerates and global competition intensifies. In these conditions, employee productivity becomes a crucial determinant for the sustainability and competitiveness of manufacturing companies. Productivity not only reflects the efficiency of the production process but is also a key indicator of the effectiveness of human resource management. However, various manufacturing companies still experience alarming productivity fluctuations, despite substantial investments in human resource development programs. This phenomenon demonstrates that

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productivity increases are not solely determined by technical and technological aspects, but are also influenced by employee behavioral and psychological factors, particularly employee engagement and work-life balance.

The manufacturing industry, characterized by repetitive work, high production targets, long working hours, and a rigid shift work system, presents unique challenges in maintaining optimal levels of employee engagement. Employees experiencing disengagement tend to exhibit decreased work quality, increased production errors, and reduced initiative to contribute more to achieving organizational goals. Wulandari et al. (2025) found that employee engagement has a significant positive impact on employee productivity, although the study was conducted in the technology sector in Indonesia. These findings indicate that employee engagement is an important factor in driving productivity, but its effectiveness is highly dependent on the industry context and job characteristics.

In addition to employee engagement, the balance between work demands and personal life, or work-life balance, is a crucial issue in the manufacturing industry. Shift work systems, production target pressures, and limited flexibility in working hours have the potential to erode employee work-life balance and trigger physical and mental fatigue. Ramdhani (2021) revealed that work-life balance significantly impacts employee performance, where work-life imbalance can reduce motivation and work effectiveness. This condition is increasingly relevant with the demographic transformation of the workforce, where millennials and Generation Z are beginning to dominate the manufacturing sector and have higher expectations for work flexibility, quality of life, and the meaning of work compared to previous generations.

The relationship between employee engagement, work-life balance, and productivity forms a mutually influencing work ecosystem. Safria (2022) identified that work-life balance influences employee engagement in shaping the performance of generation Y employees. Employees who have a high level of engagement tend to be better able to manage work-life balance, which ultimately has a positive impact on productivity. Conversely, poor work-life balance can erode employee engagement and significantly reduce productivity. However, empirical studies that comprehensively test the interaction of these three constructs are still very limited, especially in the context of the Indonesian manufacturing industry which has unique characteristics.

A paradoxical phenomenon is also evident in employment conditions in Indonesia. Although employee engagement levels are relatively high compared to the global average, only a small percentage of employees feel optimally valued by their managers (Amanda Savitri et al., 2023). A report by Putri et al. (2025) shows that most Indonesian employees recommend their company as a good place to work, but this has not yet fully translated into significant productivity increases. The reality on the ground shows that many manufacturing companies still implement conventional work patterns with long hours and tight production targets, creating pressure on employees' work-life balance despite relatively good engagement levels (Meidyantania & Frianto, 2024).

Inconsistent empirical findings regarding the influence of employee engagement and work-life balance on employee productivity further emphasize the research gap. Some studies



found a significant positive effect (Anitha, 2014) , while others showed insignificant results in a manufacturing context with a standardized and rigid production system (Rurkkhum, 2010) . These differences in results indicate that the relationship between variables is contextual and influenced by situational factors such as organizational culture, job characteristics, and the management system implemented.

This research gap becomes even more relevant in the context of the Indonesian manufacturing industry, which has a hierarchical organizational structure, a collective work culture, and specific labor regulations. Generalizing research findings from developed countries or other industrial sectors could be inaccurate if applied directly. Therefore, empirical research is needed that specifically examines the influence of employee engagement and work-life balance on employee productivity in the Indonesian manufacturing context. This research is expected to provide theoretical contributions in the development of a contextual HR management model, while also offering practical implications for manufacturing companies in designing productivity improvement strategies that are sustainable, humanistic, and adaptive to contemporary employee needs.

## **Method**

This research method uses a quantitative approach with the aim of analyzing the influence of Employee Engagement and Work-Life Balance on employee work productivity in manufacturing companies. The quantitative approach was chosen because this research focuses on testing the relationship between variables that can be measured objectively through numerical data and analyzed using statistical techniques.

The sampling technique used in this study is non-probability sampling with a convenience sampling approach, namely a sampling determination technique based on the researcher's ease in reaching respondents who match the characteristics of the study. This technique was chosen due to the researcher's time and access limitations, and because the respondents used as samples were employees who were directly involved in the operational activities of manufacturing companies.

The sample size in this study was determined based on the guidelines of Hermaen et al., (2024) , which state that the ideal minimum sample size in quantitative research is five to ten times the number of variable indicators used. This study used this minimum limit to obtain an adequate and representative sample size to support the statistical analysis. By considering the number of indicators in the variables Employee Engagement, Work-Life Balance, and Work Productivity, the sample size used met the eligibility criteria for research data analysis.

The variables in this study were measured using a Likert Scale with a value range of one to five , where a score of one indicates a statement of *strongly disagree* and a score of five indicates a statement of *strongly agree* . The use of the Likert Scale aims to measure respondents' perceptions, attitudes, and assessments of each variable indicator systematically and measurably. Employee Engagement was measured using indicators adopted from Shuck et al (2021) , which include emotional involvement, cognitive involvement, and physical involvement. These indicators reflect the level of employee emotional attachment to their work, the level of

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employee focus and attention in carrying out tasks, as well as the energy and physical effort expended by employees in completing work. Work-Life Balance was measured using indicators adopted from Ismail et al (2022) , which include time balance, involvement balance, and satisfaction balance. These indicators describe the employee's ability to manage time between work and personal life, the balance of emotional involvement in both roles, and the level of employee satisfaction with their work role and personal life. Work Productivity was measured using indicators adopted from Arief & Nisak (2022) , which include ability, improving work results, work enthusiasm, self-development, quality, and efficiency. This indicator is used to assess the extent to which employees are able to produce optimal work output with good quality, efficient use of resources, and ongoing efforts to improve their performance and capacity.

Data were collected through questionnaires distributed online using Google Forms. Prior to analysis, a data screening process was conducted to identify and eliminate invalid data, such as respondents who were careless, unfocused, or provided inconsistent answer patterns. This data cleaning process is crucial to ensure the quality and validity of the research data. Data analysis was performed using Partial Least Squares-based Structural Equation Modeling (SEM) with the assistance of SmartPLS 3.0 software. Hypothesis testing utilized bootstrapping techniques with sufficient subsamples to obtain accurate statistical values.

## **Results and Discussion**

### **Respondent Characteristics**

This study involved 76 respondents who were employees at manufacturing companies, especially those working in the production department. Respondents were selected based on their direct involvement in the company's operational activities, so they were assessed as having an adequate understanding of working conditions, workload, and factors that influence work productivity.

Based on gender characteristics, the majority of respondents in this study were female, respondents were in the productive age range, namely between 18 and 35 years old, which indicates that the manufacturing workforce is dominated by young employees who have relatively high energy and work capacity. Judging from the level of education, respondents in this study were dominated by high school (SMA) and vocational school (SMK) graduates, followed by diploma and bachelor's degree (S1) graduates. This condition is in accordance with the characteristics of manufacturing companies that require operational workers with technical and practical skills, especially on the production line. Based on length of service, the majority of respondents have work experience between one and three years, which indicates that most respondents are quite familiar with the work systems, operational procedures, and work culture of the companies where they work. The length of service is considered sufficient to provide an objective assessment of the level of employee engagement, work-life balance, and work productivity. Overall, the characteristics of the respondents in this study indicate that the sample used has represented the conditions of operational employees of manufacturing companies, so that the data obtained can be used to realistically describe the relationship between employee engagement, work-life balance, and employee work productivity.

Table 1. Respondent Characteristics Based on Gender

Gender	Amount	Percentage
Man	23	28.9%
Woman	53	71.1%
<b>Total</b>	<b>76</b>	<b>100%</b>

Table 1. The predominance of female respondents indicates that the manufacturing companies studied have a higher proportion of female workers, particularly in certain operational positions that do not require heavy physical activity. This reflects a shift in the composition of the manufacturing workforce, with women increasingly involved in production processes, operational administration, and quality control, along with the increasing need for precision, accuracy, and consistency in work. The distribution of respondents by gender suggests that this study represents the actual conditions of the workforce in the manufacturing companies studied.

Table 2. Respondent Characteristics Based on Age

Age Range	Amount	Percentage
22-32 Years	62	81.6%
33-45 Years	9	11.8%
46-65 Years	5	6.6%
<b>Total</b>	<b>76</b>	<b>100%</b>

Table 2. This age composition indicates that the workforce at the manufacturing company studied is dominated by young and productive-age employees. This situation demonstrates significant potential for the company to develop employee competencies through continuous training and development programs, both in enhancing technical skills and implementing performance and productivity improvement practices. The dominance of the productive- age workforce also reflects the readiness of human resources to adapt to changes in work systems and the operational demands of manufacturing companies.

Table 3. Respondent Characteristics Based on Education

Level of education	Amount	Percentage
High School/Vocational School	54	68.4%
D3	4	5.3%
S1/S2	20	26.3%
<b>Total</b>	<b>76</b>	<b>100%</b>

Table 3. Shows that most respondents have a high school or vocational education background. This is consistent with the workforce structure in the Indonesian manufacturing

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industry, which is generally dominated by vocational school graduates with specific technical skills relevant to production operational needs.

Table 4. Respondent Characteristics Based on Length of Service

Years of service	Amount	Percentage
<1 Year	15	19.7%
1-3 Years	28	36.8%
>3	33	43.4%
<b>Total</b>	<b>76</b>	<b>100%</b>

Table 4. The composition of tenure indicates that most respondents have sufficient work experience to understand the operational processes, work culture, and management systems implemented in their companies. With this tenure, respondents are considered capable of providing objective assessments of current working conditions and operational practices, as well as the factors that influence performance and productivity in manufacturing environments.

Table 5. Respondent Characteristics Based on Department

Department	Amount	Percentage
Directors / Management	1	1.3%
Supervisor / Head of Section	1	1.3%
Manager / Head of Department	2	2.6%
Staff / Implementer	72	94.7%
<b>Total</b>	<b>76</b>	<b>100%</b>

Table 5. The predominance of respondents at the staff or executive level reflects the characteristics of manufacturing companies, where day-to-day operational activities are largely carried out by executive workers directly involved in the production and operational processes. Representing respondents from various levels is important for gaining a more comprehensive perspective on working conditions, employee engagement patterns, and operational practices implemented in the company. Thus, the data obtained is expected to be able to provide an objective picture of the factors that influence employee work productivity in the manufacturing company studied.

## R Square Test

Table 6. R Square Test Results

Dependent Variable	R Square	R Square Adjusted
Productivity	0.331	0.313

Table 6. The R-square value indicates the independent variable's ability to explain variations in the dependent variable. An R-square value of 0.331 indicates that some of the variation in Work Productivity can be explained by Employee Engagement and Work-Life Balance, while the remainder is influenced by other factors not examined in this study. This value is considered moderate according to criteria commonly used in social science research.

### Path Coefficient Test

Table 7. Path Coefficient Test Results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ((O/STDEV))	P Values
H1: Employee Engagement > Productivity	0.4278	0.4250	0.1120	3,8199	0.0002
H2: Work Life Balance > Productivity	0.2641	0.2861	0.1081	2.4442	0.0149

Table 7. Shows the results of the research hypothesis testing. The first hypothesis (H1) which states that Employee Engagement influences Work Productivity is accepted, indicated by a t-statistic value of 3.8199 and p-values of 0.0002 which are below the significance level. The second hypothesis (H2) which states that Work-Life Balance influences Work Productivity, with a t-statistic value of 2.4442 and p-values of 0.0149. Both independent variables show a positive relationship, with Employee Engagement having a more dominant influence on Work Productivity.

### Discussion

#### The Impact of Employee Engagement on Productivity

Based on the results of the first hypothesis test (H1), it was found that Employee Engagement has a positive and significant effect on the Work Productivity of manufacturing company employees with a regression coefficient value of 0,428, a calculated t value of [value] which is greater than the t table, and a significance value of 0,0002 ( $p < 0.05$ ). These results indicate that the higher the level of employee engagement, the higher the resulting work productivity. Thus, the first hypothesis (H1) which states that employee engagement has a positive effect on the work productivity of employees in manufacturing companies is accepted.

A positive regression coefficient indicates that every one-unit increase in employee engagement will increase work productivity, assuming other variables remain constant (*ceteris paribus*). This indicates that employee engagement has a substantial contribution to shaping and improving work productivity in manufacturing companies.

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### **The Influence of Work Life Balance on Productivity**

Based on the results of the second hypothesis test ( $H_2$ ), Work-Life Balance demonstrates a positive and statistically significant influence on the work productivity of manufacturing employees. This finding can be understood through the mechanism that employees who successfully maintain a balance between professional responsibilities and personal life demands tend to experience lower psychological stress, improved emotional stability, and higher physical energy levels, which directly support better work concentration and sustained performance. In manufacturing environments characterized by repetitive tasks, strict production targets, and structured operational systems, employees who enjoy a healthier work–life balance are more capable of maintaining consistent work quality, minimizing fatigue-related errors, and sustaining motivation over longer working periods.

Furthermore, a balanced work–life condition enhances employees’ psychological well-being and sense of organizational support, which strengthens their commitment to completing tasks efficiently and responsibly. As a result, work-life balance functions not only as an employee welfare mechanism but also as an important operational factor that enables employees to maintain stable productivity, adapt to workload pressures, and perform more effectively within manufacturing processes.

### **Conclusion**

The research results show that employee engagement can make a significant contribution to increasing employee work productivity. These findings confirm that high levels of employee engagement, both emotionally, cognitively and behaviorally, encourage employees to work with more focus, commitment and responsibility towards achieving work targets. Employees who feel connected to their work and their organization tend to show higher work enthusiasm and are able to produce more optimal performance. On the other hand, work-life balance in this study has not shown a dominant direct contribution to increasing employee work productivity. This indicates that work productivity in manufacturing companies is more influenced by factors directly related to working conditions, operational demands, and employee involvement in work, compared to the balance between work life and personal life alone. These findings suggest that in the context of the manufacturing industry, the pressure of production targets and strict work systems can limit the role of work-life balance on productivity.

The practical implications of this research indicate that companies not only need to pay attention to work-life balance policies, but also need to prioritize strategies for increasing employee engagement on an ongoing basis. Creating a supportive work environment, effective communication between superiors and employees, providing appreciation for performance, and career development opportunities are important factors in building employee engagement. With a high level of employee engagement, manufacturing companies can increase work productivity while maintaining the stability of organizational performance in facing dynamic operational demands.

Based on the results of this study, recommendations for further research include developing the research model by adding other variables that could potentially influence work

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productivity, such as leadership, organizational culture, compensation systems, workload, or the physical work environment. Further research is also recommended to expand the research object to other industrial sectors or broader regions to improve the generalizability of the results. Furthermore, the use of longitudinal research methods or qualitative approaches can be considered to gain a deeper understanding of the dynamics of employee engagement and work productivity in the long term.

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