



Digital Transformation, Well-Being, and Employee Performance: The Mediating Role of Engagement in Port Industry

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ABSTRACT

Research Aims: This study aims to examine the effect of digital transformation and employee well-being on employee performance, with employee engagement as an intervening variable in the port service industry.

Design/methodology/approach: This research employed a quantitative approach using primary data collected through structured questionnaires administered to 68 employees of PT. Pelabuhan Tanjung Priok Teluk Bayur Branch, Padang City. The data were analyzed using Structural Equation Modeling (SEM) with Partial Least Squares (PLS) version 4.0 to evaluate both direct and indirect relationships among variables.

Research Findings: The results of this study indicate that The results of this study indicate that (1) Digital transformation has a positive and significant effect on employee engagement. (2) Employee well-being has a positive but insignificant effect on employee engagement. (3) Digital transformation has a positive and significant effect on employee performance. (4) Employee well-being has a positive but insignificant effect on employee performance. (5) Employee engagement has a positive and significant effect on employee performance. (6) Employee engagement is able to mediate the effect of digital transformation on employee performance. (7) Employee engagement cannot mediate the effect of employee well-being on employee performance.

Theoretical Contribution/Originality: This study makes a significant contribution to the human resource management literature by presenting empirical evidence on the crucial role of digital transformation and employee well-being in optimizing employee performance through the mediation of employee engagement. In addition to enriching the theoretical body in the context of port services in Indonesia, this research also offers practical implications for port authority management in formulating inclusive digitalization strategies and measurable well-being policies to improve company productivity and operational competitiveness

Keywords: Digital Transformation, Employee Well-Being, Employee Engagement, Employee Performance

Introduction

Digital transformation has become a strategic priority for organizations seeking to enhance operational efficiency and sustain competitive advantage. Advances in digital technologies have reshaped work processes, decision-making systems, and patterns of employee interaction, particularly in operationally intensive sectors. As organizations increasingly rely on digital systems, attention has shifted from purely technological outcomes to the human implications of digital transformation, including its influence on employee attitudes, motivation, and performance (Ye et al., 2024).

Prior research has demonstrated that digital transformation can improve organizational performance by streamlining workflows, enhancing information accessibility, and supporting task execution. However, technological change alone does not guarantee improved employee outcomes. Employees' psychological states and motivational responses play a critical role in determining whether digital initiatives translate into enhanced performance (Firmansyah & Napitupulu, 2024).

Employee well-being reflects individuals' capacity to function effectively in their work roles, encompassing psychological, emotional, and physical dimensions. Well-being has been associated with positive work attitudes and sustainable performance, particularly in environments characterized by high task demands. Meanwhile, employee engagement represents a positive and fulfilling work-related state characterized by vigor, dedication, and absorption. Engagement has been widely recognized as a critical driver of discretionary effort and performance quality. Although the relationships among digital transformation, employee well-being, engagement, and performance have been examined in prior studies, the existing literature reveals several important limitations. However, previous studies have predominantly examined these variables in a fragmented manner, focusing either on direct effects or isolated relationships without sufficiently explaining the underlying mechanisms through which organizational and personal resources are converted into performance outcomes (Handayani et al., 2026).

Moreover, empirical studies that simultaneously integrate digital transformation and employee well-being within a unified theoretical framework remain limited. In addition, the mediating role of employee engagement has often been assumed rather than explicitly tested, particularly in operational and infrastructure-based organizations. Research in port and logistics contexts remains scarce, despite the sector's increasing dependence on digital systems and standardized operational processes (Kumi et al., 2025)

To address these gaps, this study is grounded in the Job Demands–Resources (JD-R) theory, which posits that job and personal resources activate motivational processes that enhance employee engagement and performance. This perspective is complemented by Social Exchange Theory, which explains employees' reciprocal responses to organizational investments. By integrating these theoretical lenses, this study positions digital transformation as a job resource and employee well-being as a personal resource, with employee engagement functioning as a central motivational

mechanism linking resources to performance outcomes (Han et al., 2025).

Table 1 Results of the Pre-Survey Questionnaire on Employee Performance at PT. Pelabuhan Tanjung Priok, Teluk Bayur Branch, Padang City

No.	Employee Performance Variables	Respondents' Answers					Total
		SS	S	KS	TS	STS	
1.	I can meet the work standards set by the company.	17	13	-	-	-	30
2.	I am able to achieve the targets set by management.	11	19	-	-	-	30
3.	I always arrive at work and leave work on time.	15	14	1	-	-	30
4.	I am able to prioritize tasks effectively so that every effort made yields maximum results for the company.	12	18	-	-	-	30
5.	I feel a strong sense of responsibility to achieve the goals of the department and the company.	16	14	-	-	-	30
Statement		30 Respondents					

Source: Results of the Preliminary Employee Performance Survey at PT. Pelabuhan Tanjung Priok, Teluk Bayur Branch, Padang City

Prior to the main study, a preliminary survey was conducted to capture initial perceptions of digital transformation, well-being, and engagement. While the descriptive findings indicated moderate levels of digital system utilization, variations in perceived ease of use and work pressure suggested potential inconsistencies in how digital initiatives support daily operational tasks. These preliminary insights highlight the need for a comprehensive empirical investigation to examine the interplay between digital transformation, well-being, engagement, and performance within a unified framework.

Based on the identified research gaps and theoretical foundation, this study aims to develop and empirically test an integrated model that explains how digital transformation and employee well-being influence employee performance, both directly and indirectly through employee engagement.

Accordingly, the study seeks to answer the following research questions:

1. How does digital transformation influence employee engagement and employee performance?
2. To what extent does employee well-being contribute to employee engagement and employee performance?
3. Does employee engagement mediate the relationship between digital transformation, employee well-being, and employee performance?

Literature Review

Job Demands Theory: Resource and Social Exchange Perspective

Job Demands Resources (JDR) theory states that employee attitudes and performance outcomes are shaped by the availability of job and personal resources that activate motivational processes. According to this framework, job resources enhance employees' ability to cope with job demands, foster engagement, and ultimately enhance performance. In the context of organizations experiencing technological change, digital systems and supportive working conditions are important resources shaping employee behavior.

To complement this perspective, Social Exchange Theory is employed to explain the behavioral mechanisms underlying the relationships among variables. Social exchange theory suggests that employees respond to organizational investments with reciprocal positive attitudes and behaviors. When organizations provide resources that facilitate work effectiveness and well-being, employees are more likely to demonstrate higher engagement and performance as a form of reciprocal exchange.

By integrating job demands resources and social exchange theory, this study establishes a coherent theoretical foundation that explains how organizational and personal resources are transformed into performance outcomes through employee engagement as a key motivational mechanism.

The Impact of Digital Transformation on Employee Engagement

According to Asari (2023), digital transformation is a process that aims to improve an entity by triggering significant changes in its characteristics through a combination of information, computing technology, communication, and connectivity.

According to Elistia et al. (2021), employee engagement is a workplace approach that can create the right conditions for all members of an organization to give their best every day, be committed to the organization's goals and values, and be motivated to contribute to the organization's success with an awareness of its benefits to themselves. Employee engagement can be considered as the level of involvement and mutual understanding between employees and the company, management, or among employees. This is in line with the findings Hamzah et al. (2024) which state that there is a positive and significant influence between Artificial Intelligence (AI) and employee engagement.

H1: Digital transformation is suspected to have a significant effect on employee engagement.

The Effect of Employee Well-being on Employee Engagement

According to Wardani et al. (2021), employee well-being itself is a description of the condition of employees at work, viewed not only from their own perspective regarding their perceived job satisfaction or emotional exhaustion, but also describing the overall welfare of these employees, such as physical, psychological, and personal aspects of the individual themselves.

According to Astuti & Suwandi (2022), employee engagement is an employee's attachment to a company or organization. Employee engagement is defined as employees

who are fully engaged and dedicated to their work and organization, connected physically, cognitively, and emotionally.

Based on the results of research Santoso (2024), there is a positive and significant influence between employee well-being and employee engagement. The results of research Herlambang et al. (2021) state that well-being does not have a significant partial effect on employee engagement.

H2: Employee well-being is thought to have a significant effect on employee engagement.

The Impact of Digital Transformation on Employee Performance

According to Egodawele et al. (2022), digital transformation is an evolutionary process that utilizes digital capabilities and technologies to enable business models, operational processes, and customer experiences to create value. Digitalization is anything digital that involves the transformation of all activities and relationships that have ever been carried out with the aim of creating new value for companies, employees, consumers, and others.

According to Almulaiki (2023), employee performance is one of the most important factors leading to the success of any business. Therefore, many managers strive to find innovative ways in the company's performance management system to motivate employees and evaluate their performance efficiently and effectively. The main goal of employee motivation is to increase their productivity and improve their relationship with the organization where they work. And this is also supported by research conducted by Imelda & Aliya (2024) which states that digital transformation has a positive and significant impact on employee performance.

H3: Digital transformation is thought to have a significant impact on employee performance.

The Effect of Employee well-being on Employee Performance

Employee well-being also includes monitoring working conditions, creating industrial harmony through infrastructure for health, industrial relations, and insurance against illness, accidents, and unemployment for workers and their families. Employee health refers to the physical, mental, and emotional health of employees, which significantly affects their overall job satisfaction and productivity (Kuru, 2023).

According to Rani et al. (2022), employee performance is the result of work achieved by an individual in carrying out tasks in accordance with the responsibilities assigned to them. Basically, companies not only expect employees to be competent and skilled, but more importantly, they want employees who are willing to work and desire to achieve optimal results. This aligns with findings Sunarni (2023), which state that employee well-being has a positive and significant impact on employee performance. The higher the level of well-being provided by the company, the better the employee's performance. Meanwhile, research conducted by Pratiwi & Davina (2023) found that workplace well-being had no significant impact on employee performance.

H4: Employee well-being is thought to have a significant impact on employee

performance.

The Effect of Employee Engagement on Employee Performance

Employee engagement is the main reason for work that has been recognized as an important factor in measuring their productivity. Engaged employees demonstrate attributes such as loyalty, trust, and commitment to the organization. When workers are fulfilled and interested in their work, they are more imaginative and creative, enabling the organization to clearly advance in the long term despite changes in the economic situation (Brijmohan et al., 2022).

Performance comes from the words job performance or actual performance, which means work achievement or actual achievement attained by a person. Employees who carry out the tasks assigned to them usually strive to achieve maximum results. Employee performance is the quality and quantity of work achieved by an employee in carrying out their duties in accordance with the responsibilities assigned to them Nasrul et al. (2021). Research conducted by Magfijar & Ekhsan (2024) states that employee engagement has a positive and significant effect on employee performance. Meanwhile, the results of research conducted by Letsoin & Ratnasari (2021) stated that there was an insignificant influence between employee engagement and employee performance.

H5: Employee engagement is thought to have a significant impact on employee performance.

Employee Engagement Mediates the Effect of Digital Transformation on Employee Performance

This transformation involves internal relationships (including relationships between business model units or activities) and external relationships (such as rapidly expanding market reach). Digital transformation is a comprehensive process of change in creating value with various technologies centered on digitization Ritonga et al. (2023). According to Dira (2022), employee performance is the work results achieved by an individual in carrying out the tasks assigned to them based on their skills, experience, sincerity, and time. According to Sari (2021), employee engagement is an approach in the workplace that can create the right conditions for all employees to perform at their best every day. By committing to organizational goals and being motivated to contribute to the success of the organization with the awareness that it is beneficial for everyone in the organization. According to research by Isnawati & Waskito (2024), employee engagement partially mediates the effect of digital transformation on employee performance. Meanwhile, research by Hamzah et al. (2024) found that employee engagement did not significantly mediate the effect of Artificial Intelligence and Teams' Effective Performance on employee productivity.

H6: Employee engagement is thought to mediate the effect of digital transformation on employee performance.

Employee Engagement Mediates the Effect of Employee Well-Being on Employee Performance

In order for the company to achieve its goals, employees are expected to maximize

their performance. Because employee performance can affect the achievement of goals and the position of the organization in intense global competition, this is very important to note. The activities and improvements made must be in accordance with their responsibilities and the expected results. Employee performance can be measured by the quality of their work or by how they act in accordance with the responsibilities assigned to them (Sugma, 2022).

Over time, the concept of employee engagement has changed. This term now refers to employees' desire to contribute to their company and is an indication of their attachment to the company (Ikemizu et al., 2023).

According to research Faustine (2024), employee engagement acts as a mediator in the relationship between employee well-being and employee performance. According to research Claurisa & Triany (2023), there is no significant effect of employee well-being on employee performance through employee engagement. Meanwhile, research conducted by Siswanti et al. (2024) shows that employee engagement significantly mediates the influence between employee well-being (workplace well-being) and employee performance (task performance). Research conducted by Pratiwi & Davina (2023) found that employee engagement significantly mediates the influence between employee well-being (workplace well-being) and employee performance (job performance).

H7: Employee engagement is thought to mediate the relationship between employee well-being and employee performance.

Method

This research was conducted at PT. Pelabuhan Tanjung Priok Cabang Teluk Bayur, which operates in the field of port management and maritime logistics in the city of Padang. The company's main tasks include port operations, cargo data management, monitoring of dock activities, and control of operational efficiency in the field.

The population of this study consisted of all 68 employees. In this study, the author used a saturated sample. The reason for using a saturated sample technique was because the population size was small, so the sample in this study used the entire population as respondents, totaling 68 people.

This study uses a quantitative research design. Data were collected through structured questionnaires measured using a Likert scale (1-5). Data analysis was conducted using Structural Equation Modeling (SEM) with Partial Least Squares (PLS) version 4.0 to test the proposed hypotheses.

Result and Discussion

Outer Model Analysis

Outer model assessment aims to assess the correlation between item scores or indicators and their construct scores, which indicate the validity of an item statement. Outer model testing is conducted based on the results of questionnaire trials that have been conducted for all research variables. There are three criteria in the use of data analysis techniques to assess the outer model, namely convergent validity, discriminant

validity, and composite reliability. An item or statement is considered valid if it has a correlation value or convergent validity value above 0.7.

Convergent Validity Test Results

Based on outer model testing using SmartPLS, the following values were obtained for the research variable statements. In this study, the convergent validity values are above 0.7.

In the evaluation stage of the measurement model (outer model), convergent validity testing was conducted by looking at the outer loading value of each indicator. Based on the initial estimation results, there were several indicators that had outer loading values below the minimum limit of 0.7 so that they were declared not to meet the convergent validity criteria and needed to be eliminated from the model. The indicators that were eliminated were Y4 with an outer loading value of 0.577, X2.3 of 0.608, and Y3 of 0.681. For the outer loading before the elimination of the employee performance variable, namely, item Y.3 was valid because its value was >0.7. However, the outer loading after the elimination of the employee performance variable in Item Y.3 was invalid because its value changed to <0.7. Therefore, the outer loading after the elimination of item Y.3 was removed. This value was below the standard recommended in the PLS-SEM analysis, so these indicators were not retained in the model. After elimination, all remaining indicators showed outer loading values above 0.7, so the measurement model was declared valid and suitable to proceed to the structural model evaluation stage (inner model).

Outer Model Testing (Structural Model) After Elimination

Based on the results of outer model testing using SmartPLS, the correlation values between the research variable statements are as follows:

Table 2 Outer Loading Results After Elimination

Variable	Indicator	Value		Description
		Convergent Validity	Comparator	
Employee Performance	Y1	0,899	0,7	Valid
	Y2	0,918	0,7	Valid
	Y5	0,836	0,7	Valid
	Y6	0,872	0,7	Valid
	Y7	0,810	0,7	Valid
	Y8	0,951	0,7	Valid
	Y9	0,910	0,7	Valid
	Y10	0,896	0,7	Valid
	X1.1	0,957	0,7	Valid
	X1.2	0,937	0,7	Valid
Digital Transformation	X1.3	0,891	0,7	Valid
	X1.4	0,952	0,7	Valid
	X1.5	0,910	0,7	Valid
	X1.6	0,935	0,7	Valid
Employee Well-being	X2.1	0,859	0,7	Valid
	X2.2	0,861	0,7	Valid
	X2.4	0,787	0,7	Valid

Variable	Indicator	Value		Description
		Convergent Validity	Comparator	
Employee Engagement	X2.5	0,901	0,7	Valid
	X2.6	0,921	0,7	Valid
	X2.7	0,927	0,7	Valid
	X.2.8	0,939	0,7	Valid
	X2.9	0,933	0,7	Valid
	X2.10	0,914	0,7	Valid
	Z1	0,851	0,7	Valid
	Z2	0,796	0,7	Valid
	Z3	0,935	0,7	Valid
	Z4	0,913	0,7	Valid
	Z5	0,905	0,7	Valid
Z6	0,873	0,7	Valid	

Source: Results of SmartPLS data processing, (2026)

R-Square Value Evaluation

Next, the R-Square value will be evaluated to assess whether a particular exogenous latent construct has a substantive influence on the endogenous latent construct. The R-Square estimate is as follows:

Table 3 R-Square Value Evaluation

Variable	R-Square	R-Square Adjusted
Employee Engagement (Z)	0,782	0,788
Employee Performance (Y)	0,959	0,961

Source: Results of SmartPLS data processing, (2026)

Table 3 shows the R -Square value for the employee engagement construct is 0.782 or 78.2%, which illustrates the magnitude of the influence received by the digital transformation construct and the employee welfare construct in explaining or influencing employee engagement. The remaining 21.8% is influenced by other variables not examined in this study, such as leadership style, organizational culture, and others. Meanwhile, the R-Square value for the employee performance construct is 0.959 or 95.9%, which indicates the magnitude of the influence received by the employee performance construct from the digital transformation construct, employee well-being, and employee engagement. The remaining 4.5% is influenced by other variables not examined in this study, such as job satisfaction, work discipline, and others. The higher the R-Square value, the greater the ability of the exogenous construct to explain the endogenous variable, resulting in a better structural equation. Where the variables of digital transformation (X1), employee well-being (X2), and employee engagement (Z) together have a dominant influence on the employee performance variable (Y), with employee engagement as the main mediator.

The coefficient of determination (R^2) indicates the proportion of variance in the endogenous constructs explained by the exogenous variables. The results show that

employee performance has an R^2 value of 0.959, suggesting that 95.9% of its variance is explained by digital transformation, employee well-being, and employee engagement. Meanwhile, employee engagement demonstrates a substantial explanatory power, indicating that the proposed model possesses strong predictive capability within the observed organizational context.

Although the R^2 value obtained in this study is classified as very high for social science research, this finding should be interpreted with caution. A high R^2 does not automatically indicate model superiority, but rather reflects the strength of the explanatory variables within a specific empirical setting. In this study, the high R^2 value may be attributed to several factors, including the homogeneous characteristics of respondents, the focus on a single organization, and the use of perceptual data collected from a single source. These conditions can intensify inter-variable correlations and potentially increase the explanatory power of the model.

Furthermore, the strong operational integration and standardized work processes within the organization may contribute to the high level of explained variance in employee performance. Nevertheless, the possibility of common method bias and limited generalizability cannot be fully excluded. Therefore, while the model demonstrates excellent predictive relevance in this context, future studies are encouraged to apply multi-source data, longitudinal designs, or cross-organizational samples to further validate the robustness of the findings.

Beyond statistical significance, effect size (f^2) was assessed to evaluate the practical contribution of each exogenous construct to the endogenous variables. According to Cohen's criteria, f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively.

The results indicate that digital transformation exhibits a large effect size on employee engagement, suggesting a substantial contribution to enhancing employee involvement. Employee engagement also demonstrates a large effect size on employee performance, highlighting its central role in translating organizational initiatives into performance outcomes. In contrast, employee well-being shows a small effect size on both employee engagement and employee performance, indicating a relatively limited contribution within the studied context.

The effect size analysis provides important insights beyond hypothesis testing by illustrating the magnitude of influence exerted by each construct. The large effect of digital transformation on employee engagement suggests that digital initiatives function not only as technological improvements but also as psychological drivers that enhance employees' sense of competence, efficiency, and involvement. This finding aligns with the view that digital systems can reshape work experiences by increasing transparency, autonomy, and task clarity.

Similarly, the large effect size of employee engagement on performance underscores its strategic importance as a key mechanism through which organizational changes are converted into tangible outcomes. Engaged employees are more likely to demonstrate proactive behavior, persistence, and discretionary effort, which collectively enhance

performance.

Conversely, the relatively small effect size of employee well-being suggests that while well-being remains an important organizational concern, its direct contribution to engagement and performance may be context-dependent. In highly structured and performance-driven environments, such as the organization examined in this study, technological and engagement-related factors may exert a stronger influence than well-being initiatives alone.

Overall, the findings indicate that the relationships observed in this study are not merely statistical associations but reflect underlying organizational mechanisms. Digital transformation enhances employee engagement by improving work processes and enabling efficiency, which in turn strengthens employee performance. This evidence supports the role of employee engagement as a critical intervening variable that bridges organizational transformation and performance outcomes. Thus, the results contribute to both theoretical development and managerial practice by emphasizing the strategic role of digital transformation and engagement in improving organizational performance.

Hypothesis Testing

Hypothesis testing aims to answer the problems in this study, namely the effect of certain exogenous latent constructs on certain endogenous latent constructs, both directly and indirectly through mediating variables. Hypothesis testing in this study can be assessed based on the t-statistic or t-count value compared to the t-table value of 1.96 at an alpha level of 5%. If the t-statistic/calculated t-value is less than the t-table value of 1.96 at an alpha level of 5%, then H_0 is rejected, and if the t-statistic/calculated t-value is greater than the t-table value of 1.96 at an alpha level of 5%, then H_a is accepted. The following are the SmartPLS output results, which illustrate the estimation output for structural model testing:

Direct Effect

This table 4 shows the results of hypothesis testing from the SmartPLS inner model, which examines the interrelationships between variables related to digital transformation, employee performance, and employee well-being. The test uses criteria of a t-value >1.96 and a p-value <0.05 to determine whether the hypothesis is accepted or rejected.

Table 4 Direct Effect

Description	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Explanation
Digital Transformation (X1) → Employee Engagement (Z)	0,700	0,697	0,189	3,702	0,000	Accepted

Description	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Explanation
Employee Well-being (X2) → Employee Engagement (Z)	0,195	0,196	0,183	1,064	0,287	Rejected
Digital Transformation (X1) → Employee Performance (Y)	0,378	0,367	0,115	3,294	0,001	Accepted
Employee Well-being (X2) → Employee Performance (Y)	0,196	0,208	0,109	1,800	0,072	Rejected
Employee Engagement (Z) → Employee Performance (Y)	0,441	0,440	0,052	8,479	0,000	Accepted

Source: Results of the SmartPLS Inner Model Test, (2026)

Indirect Effect

Table 5 Indirect Effect

Description	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics	P Values	Explanation
Digital Transformation (X1) → Employee Engagement (Z) → Employee Performance (Y)	0,309	0,305	0,086	3,611	0,000	Support
Employee Well-being (X2) → Employee Engagement (Z) → Employee Performance (Y)	0,086	0,088	0,083	1,040	0,299	Not Supported

Source: Results of the SmartPLS Inner Model Test, (2026)

This table shows the results of hypothesis testing from the SmartPLS inner model,

which examines the interrelationships between variables related to digital transformation, employee performance, and employee well-being. The test uses criteria of a t-value >1.96 and a p-value <0.05 to determine whether the hypothesis is accepted or rejected.

Based on the direct and indirect effect analyses presented in Tables 5 and 6, the overall hypothesis testing results can be summarized as follows:

The findings indicate that digital transformation has a significant influence on employee engagement and employee performance. In contrast, employee well-being shows a positive but insignificant relationship with both employee engagement and employee performance. Furthermore, employee engagement is confirmed to play a crucial role in improving employee performance and acts as an effective mediating variable in the relationship between digital transformation and employee performance. However, employee engagement does not mediate the relationship between employee well-being and employee performance. Overall, these results demonstrate that performance improvement in the studied organization is primarily driven by digital transformation and strengthened through employee engagement rather than by well-being factors alone.

Discussion

The Effect of Digital Transformation on Employee Engagement

The findings show that digital transformation plays a significant role in strengthening employee engagement. These results indicate that the implementation of digital systems in organizations has successfully supported employee work processes, increased efficiency, and reduced operational complexity. This statement is supported by the results of research Hamzah et al. (2024) which states that there is a positive and significant influence between Artificial Intelligence (AI) on employee engagement. From the perspective of Job Demands–Resources (JD-R) theory, digital transformation can be categorized as a job resource that facilitates task completion and increases employees' sense of competence. When employees perceive digital tools as a support rather than a burden, they tend to feel more motivated, engaged, and emotionally connected to their work. This finding is consistent with previous research that emphasizes the role of technology as a driver of engagement, particularly in operational environments that depend on speed, accuracy, and coordination.

The Effect of Employee Well-being on Employee Engagement

Although employee well-being demonstrated a positive relationship with employee engagement, the effect was not strong enough to significantly impact engagement in this organizational context. This finding suggests that well-being initiatives alone may not automatically lead to higher engagement, especially in organizations with highly structured workflows and performance-oriented cultures. This finding is supported by research Herlambang et al. (2021), which found that well-being had no significant effect on employee engagement. In such environments, employees may prioritize task efficiency and system reliability over subjective well-being factors. From a social exchange perspective, employees may perceive well-being programs as standard

organizational obligations rather than unique resources that guarantee reciprocal engagement. These findings align with previous research showing that the effect of well-being on engagement is context-dependent and can vary based on organizational characteristics and job demands.

The Effect of Digital Transformation on Employee Performance

The results of this study confirm that digital transformation positively contributes to employee performance. This is in line with the results of research Imelda & Aliya (2024) which stated that digital transformation has a positive and significant impact on employee performance. These findings indicate that digital technology has improved employees' ability to perform tasks more accurately, efficiently, and consistently. Digital systems support better coordination, real-time access to information, and standardized procedures, which are crucial in port and logistics operations. In line with the JD-R theory, digital transformation serves as a performance-enhancing resource by reducing workload and allowing employees to focus on value-added activities. This evidence supports previous empirical studies that highlight digital transformation as a key driver of productivity and operational performance.

The Effect of Employee Well-being on Employee Performance

Employee well-being showed a positive but insignificant relationship with employee performance. This suggests that while well-being remains a key organizational concern, its direct impact on performance may be limited in this specific context. This is supported by research Simarmata et al. (2024) that found employee well-being had a negative and less significant impact on employee performance. One possible explanation is that performance in operational organizations is more strongly influenced by system efficiency, procedural clarity, and engagement-related factors than by well-being initiatives alone. Employees may maintain performance standards due to formal regulations and operational demands, regardless of their perceived level of well-being. This finding supports previous studies that argue that employee well-being can impact performance indirectly rather than directly.

The Effect of Employee Engagement on Employee Performance

The findings indicate that employee engagement plays a crucial role in improving employee performance. Engaged employees tend to demonstrate higher levels of dedication, persistence, and voluntary effort, which directly contribute to improved performance outcomes. This is in line with research findings Magfijar & Ekhsan (2024) that found employee engagement to have a positive and significant impact on employee performance. These findings reinforce engagement's central position within the JD-R framework as a motivational mechanism that transforms organizational resources into tangible performance. In an operational environment, engaged employees are more likely to adhere to procedures, respond proactively to challenges, and maintain high-quality performance under pressure.

The Mediating Role of Employee Engagement in the Relationship between Digital Transformation and Employee Performance

This study confirms that employee engagement acts as an effective mediating variable in the relationship between digital transformation and employee performance. These findings suggest that digital transformation not only improves performance through technological advancements but also through its ability to foster employee engagement. This assertion is supported by research findings Isnawati & Waskito (2024) in which employee engagement partially mediated the effect of digital transformation on employee performance. Digital systems perceived as useful and supportive increase employee engagement in their work, which then leads to higher performance. These results provide empirical support for the JD-R and Social Exchange perspectives, emphasizing that organizational investments in digital transformation are more effective when they generate positive psychological responses among employees.

7. The Mediating Role of Employee Engagement in the Relationship between Employee Well-being and Employee Performance

In contrast, employee engagement did not mediate the relationship between employee well-being and employee performance. This finding suggests that increased well-being does not always translate into higher engagement or performance in this organizational setting. This is supported by research findings Claurisa & Triany (2023), which found an insignificant effect of employee well-being on employee performance through employee engagement. One possible explanation is that well-being initiatives may be perceived as an additional benefit rather than a core resource that directly influences work motivation. Consequently, employee well-being may contribute more to long-term sustainability and employee retention than to direct performance outcomes. These findings highlight the importance of aligning well-being programs with job characteristics and operational realities to enhance their effectiveness.

Conclusion

Based on the research findings, several conclusions can be drawn. First, digital transformation has a positive and significant impact on employee engagement at PT. Pelabuhan Tanjung Priok, Teluk Bayur Branch. Second, employee well-being showed a positive but insignificant impact on employee engagement. Third, digital transformation had a positive and significant impact on employee performance. Fourth, employee well-being did not have a significant positive impact on employee performance. Fifth, employee engagement had a positive and significant impact on employee performance. Sixth, employee engagement significantly mediated the effect of digital transformation on employee performance. Finally, employee engagement did not mediate the effect of employee well-being on employee performance.

Based on these findings, several recommendations are proposed. The management of PT. Pelabuhan Tanjung Priok, Teluk Bayur Branch, is expected to focus its organizational strategy more on strengthening digital transformation that aligns with employee needs and readiness to improve employee engagement and performance. Furthermore, although employee well-being showed an insignificant impact, efforts to improve well-being need to be maintained and aligned with the characteristics of operational work to have a more optimal impact on performance.

Furthermore, future researchers are advised to expand this research by adding other relevant variables, such as leadership style, organizational culture, or technological readiness, as well as using broader research objects so that the research results have stronger generalizability.

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