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The Effects of Digital Competence and Perceived Organizational Support on Employee Performance through Employee Engagement at PT XYZ

Jumawan¹, Andri Catur Trissetianto², M. Rizky Pratama³

¹Universitas Bhayangkara Jakarta Raya, Jakarta, Indonesia, jumawan@dsn.ubharajaya.ac.id

²Institut Teknologi dan Bisnis Dewantara, Bogor, Indonesia, andricatur1991@gmail.com

³Universitas Bhayangkara Jakarta Raya, Jakarta, Indonesia,
muhammad.rizky.pratama17@mhs.ubharajaya.ac.id

Corresponding Author: jumawan@dsn.ubharajaya.ac.id¹

Abstract: Digital transformation in manufacturing requires employees to use digital systems while maintaining operational quality and productivity. This study proposes a model to examine the effects of digital competence and perceived organizational support on employee performance through employee engagement at PT XYZ, a manufacturing company where digital technologies have been adopted but are not yet used across all processes. Drawing on the digital competence framework, perceived organizational support theory, and work engagement literature, the study specifies digital competence and perceived organizational support as independent variables, employee engagement as a mediator, and employee performance as the dependent variable. A quantitative explanatory design is proposed using an employee survey and, where available, company performance indicators. The measurement model and structural relationships can be evaluated using partial least squares structural equation modeling, with bootstrapping to test indirect effects. Because company-level survey data have not yet been supplied, this manuscript does not report fabricated coefficients, significance values, or empirical findings. Instead, it provides a reproducible research protocol, conceptual model, hypotheses, measurement plan, and result tables to be populated after data collection. The proposed study may help clarify whether employee engagement explains how individual digital capability and organizational support are associated with performance in a partially digitized manufacturing environment.

Keywords: digital competence, perceived organizational support, employee engagement, employee performance, manufacturing

INTRODUCTION

Manufacturing organizations increasingly combine physical production processes with digital systems for planning, monitoring, quality control, maintenance, inventory, and reporting. Digital transformation can change task requirements and the way employees coordinate work, but technology adoption alone does not guarantee better performance.

Employees must be able to use the systems relevant to their roles, and organizations must provide the resources and support needed to integrate technology into daily work. This issue is particularly relevant in settings where digital tools have been introduced selectively rather than across every process. At PT XYZ, digital technology is already used but its application is not yet comprehensive. This provides a meaningful context for examining the human-resource conditions associated with employee performance without assuming in advance that digital adoption has improved or weakened outcomes.

Digital competence is broader than basic computer operation. It includes the knowledge, skills, and judgment needed to use digital tools, information, communication systems, and problem-solving resources in a safe and effective manner. The DigComp 2.2 framework organizes digital competence around information and data literacy, communication and collaboration, digital content creation, safety, and problem solving (Vuorikari et al., 2022). In a manufacturing context, relevant manifestations may include entering production data accurately, retrieving work instructions, interpreting digital dashboards, using enterprise systems, and responding to system-related problems. The relevant indicators should be adapted to the actual technologies and job families present at PT XYZ; a single generic measure may not capture the distinct demands of production operators, technicians, warehouse staff, and administrative employees.

Competence may be associated with performance because employees who can use work-related digital systems are better positioned to complete technology-mediated tasks and resolve routine digital problems. However, the strength of this association is likely to depend on task design, system usability, training, access, and the extent to which digital tools are genuinely required. Consequently, the current study treats the relationship between digital competence and performance as an empirical question rather than an assumed causal fact. A further possibility is that digital competence is associated with employee engagement: employees who feel capable of handling digital tasks may experience fewer avoidable barriers and may be more willing to invest energy in their work. This proposed mechanism requires testing in the specific organizational setting.

A second explanatory factor is perceived organizational support (POS), defined as employees' general beliefs about the extent to which the organization values their contributions and cares about their well-being. Eisenberger et al. (1986) introduced the construct and provided an influential basis for studying how employees interpret organizational treatment. Support can be reflected in fair treatment, supervisor assistance, access to resources, recognition, development opportunities, and concern for employee welfare. During technology transitions, support may also include practical training, accessible technical assistance, clear communication about process changes, and sufficient time to learn new systems. These practices should be measured as employees' perceptions rather than presumed to exist simply because the company has introduced digital tools.

Organizational support may be associated with performance directly, because employees who have adequate resources and assistance may be better able to carry out their responsibilities. It may also relate to employee engagement. When employees believe the organization values their contribution and supports their needs, they may be more willing to invest themselves in their work. This logic is consistent with the broader organizational support perspective, although the size and direction of effects should be established from the data. The present study therefore examines POS as a separate predictor rather than combining it with digital competence. The two constructs represent distinct levels of explanation: one concerns the employee's capabilities, while the other concerns the employee's perception of organizational treatment.

Employee engagement is proposed as a mediator linking digital competence and organizational support to performance. Schaufeli et al. (2002) conceptualized work engagement through vigor, dedication, and absorption. Vigor concerns energy and mental

resilience; dedication reflects significance, enthusiasm, and pride; and absorption concerns being fully concentrated in work. These dimensions distinguish engagement from job satisfaction, organizational commitment, and general motivation, even though the constructs may be related. Engagement may help explain why employees with adequate capabilities and perceived support invest more effort and persistence in work activities. In a manufacturing environment, engagement could be relevant to sustained attention, proactive problem solving, and commitment to work standards, while actual performance should still be measured separately.

The theoretical logic of mediation is that digital competence and POS may be associated with a more engaged work state, which in turn may be associated with better employee performance. This does not imply that engagement is the only pathway. Digital competence may also help employees complete tasks directly, and organizational support may provide resources that improve performance independently of engagement. Accordingly, the conceptual model includes both indirect paths through engagement and direct paths from each independent variable to performance. This structure enables the study to distinguish evidence of mediation from evidence of direct association. Cross-sectional survey data can establish statistical associations but cannot, by themselves, prove temporal or causal ordering; a longitudinal design would provide stronger evidence about changes over time.

The research gap for PT XYZ is therefore contextual and empirical. The company has introduced digital technologies, but use is not yet comprehensive across processes. This situation raises a practical question about how employee capabilities and perceptions of organizational support relate to performance during a staged transition. It also creates a need to test whether engagement provides a plausible explanatory mechanism. The manuscript does not claim that no previous study has investigated these constructs together; rather, it positions the contribution as a context-specific test of an integrated model in a partially digitized manufacturing setting. The novelty claim should be refined after a systematic review of recent studies in manufacturing, digital competence, POS, engagement, and performance.

Based on this rationale, the study has four objectives: (1) examine the association of digital competence with employee engagement; (2) examine the association of perceived organizational support with employee engagement; (3) examine the direct associations of digital competence, organizational support, and engagement with employee performance; and (4) test the indirect effects of digital competence and organizational support on performance through engagement. These objectives are represented by seven hypotheses. The expected practical contribution is a clearer basis for deciding whether the company should prioritize digital capability development, organizational support practices, engagement initiatives, or a combination of these approaches. Recommendations must ultimately follow the empirical findings rather than precede them.

Literature Review and Hypothesis Development

Digital competence

Digital competence refers to the ability to use digital technologies purposefully, safely, and effectively in activities relevant to a person's role. The DigComp framework provides a structured starting point, but its citizen-oriented dimensions should not be transferred mechanically to an industrial workforce. In this study, indicators should be contextualized to the digital systems employees actually use at PT XYZ. Potential indicators include operating relevant systems, locating and interpreting digital work information, communicating through approved digital channels, protecting information, and resolving routine technology-related problems. Items should avoid measuring access to technology as if it were competence: access is an organizational condition, while competence is an employee capability.

In a partially digitized organization, digital competence may vary by role and exposure to systems. Employees who rarely use digital tools may not have the same opportunities to

develop or demonstrate skills as employees whose tasks are heavily digitized. Sampling and measurement should therefore record work unit, role, tenure, training exposure, and frequency of digital-system use as contextual variables. These descriptors can help interpret findings and prevent inappropriate comparisons across job categories.

Perceived organizational support

POS captures a generalized perception of organizational care and appreciation. Eisenberger et al. (1986) showed the importance of employees' beliefs about organizational support, and subsequent research has used the construct to understand employee attitudes and behavior. In the present context, POS should be measured as a broad perception of support rather than as a checklist of individual HR practices alone. Training, equipment, supervisor assistance, recognition, and communication about digital changes can be included as examples in contextual discussion, but the questionnaire should preserve the conceptual distinction between perceived support and specific practices.

Employee Engagement

Work engagement is commonly described as a positive work-related state characterized by vigor, dedication, and absorption (Schaufeli et al., 2002). The construct is appropriate as a mediator because it represents how employees invest energy and attention in work, rather than a work outcome itself. To reduce construct overlap, engagement items should not directly ask whether employees meet production targets or produce high-quality work; such content belongs in the performance measure. The study should select a validated engagement instrument and follow its licensing and scoring requirements.

Employee performance

Employee performance should be operationalized in terms of work behaviors or results that are relevant to the role. For manufacturing jobs, possible dimensions include task quality, quantity or productivity, timeliness, adherence to work procedures, and effectiveness. These dimensions may not apply identically to every job. Where feasible, the study should combine a validated survey measure with supervisor ratings or objective indicators such as output per shift, defect rates, rework, or on-time completion. Objective indicators should be compared only among employees with sufficiently comparable roles and working conditions.

Hypothesis Development

H1: Digital competence is positively associated with employee engagement. Employees who perceive themselves as capable of using the digital tools required by their jobs may experience fewer technology-related obstacles and may be better able to invest attention and energy in work.

H2: Perceived organizational support is positively associated with employee engagement. When employees believe that the organization values their contribution and supports their well-being, they may be more willing to invest themselves in their work.

H3: Employee engagement is positively associated with employee performance. Energy, dedication, and concentration may support persistence, careful execution, and sustained effort, although performance also depends on resources, task design, and other conditions.

H4: Digital competence is positively associated with employee performance. Digital capability may help employees complete tasks that involve digital information, systems, and tools more accurately and efficiently.

H5: Perceived organizational support is positively associated with employee performance. Support may improve access to resources and assistance that enable employees to meet work requirements.

H6: Employee engagement mediates the relationship between digital competence and employee performance. This hypothesis concerns the indirect effect from digital competence through engagement to performance.

H7: Employee engagement mediates the relationship between perceived organizational support and employee performance. This hypothesis concerns the indirect effect from POS through engagement to performance.

METHOD

Research design

The proposed study uses a quantitative, explanatory design to examine direct and indirect associations among four constructs. The unit of analysis is the individual employee at PT XYZ. A cross-sectional questionnaire is a practical starting point, but its limitations must be acknowledged: responses collected at one time point cannot establish temporal precedence and may be affected by common-method bias. If operational access permits, a stronger design would collect predictor and engagement measures at one time and obtain performance ratings or operational indicators at a later time.

Research Setting and Population

The research setting is PT XYZ, a manufacturing organization that has adopted digital technology in some, but not all, processes. The target population should be defined as employees whose work is relevant to the constructs and who have sufficient exposure to the company's work systems to answer the questionnaire. The final manuscript must specify the research location, data-collection period, total eligible population, inclusion and exclusion criteria, and the number of respondents. These details are not available at the drafting stage and must be inserted from the approved research plan and actual fieldwork.

Sampling and Sample Size

Where the eligible population is heterogeneous across production, maintenance, quality, warehouse, and administrative functions, stratified sampling by work unit or job family is preferable if a complete sampling frame is available. If access constraints require non-probability sampling, the choice and its limitations must be reported transparently. Sample size should be justified using an a priori power analysis or a suitable method for the intended PLS-SEM model; it should not rely solely on the simplistic 'ten-times rule'. The final report must state the planned and achieved sample size, response rate, missing-data handling, and any exclusions.

Measures and Questionnaire Development

The questionnaire should use validated scales where possible, with careful adaptation to the language and operational context of PT XYZ. A five-point agreement scale may be used if consistent with the selected instruments (1 = strongly disagree to 5 = strongly agree). Translation and back-translation, expert review, and a small pilot test are recommended. The pilot should assess clarity, relevance, completion time, and whether items are understood consistently across job families. Any modifications to established instruments should be documented.

Table 1. Measures and Questionnaire Development

Construct	Conceptual definition	Potential measurement focus	Source / note
Digital competence (X1)	Ability to use work-related digital technologies effectively and safely	Use of relevant systems; digital information handling; digital communication; routine problem solving; digital safety	Adapt from DigComp 2.2; contextualize to actual systems and roles
Perceived organizational support (X2)	Perception that the organization values contributions and cares about well-being	Perceived appreciation, concern for welfare, assistance, and organizational responsiveness	Eisenberger et al. (1986); use a validated POS scale
Employee engagement (M)	Positive work-related state characterized by vigor, dedication, and absorption	Energy and persistence; enthusiasm and meaning; concentration in work	Schaufeli et al. (2002); select validated engagement measure

Employee performance (Y)	Effectiveness of employee task execution and work outcomes	Quality, quantity, timeliness, effectiveness, and role-appropriate standards	Use a validated performance scale and/or independent operational data
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Source: Research Result

Data collection procedure

Before data collection, the researcher should obtain organizational permission and any required institutional ethics approval. Participation should be voluntary, and employees should be informed about the purpose of the study, the intended use of data, confidentiality safeguards, and their right to withdraw. Supervisors should not pressure employees to participate or be given access to identifiable individual responses. Where performance records are linked to survey data, linkage should use coded identifiers and be restricted to authorized research personnel.

The questionnaire should be distributed through a channel appropriate to the workforce, including paper-based administration for employees who do not routinely use digital tools. This is important because an exclusively online survey could systematically exclude employees with limited digital access or confidence, thereby biasing the digital competence results. The final manuscript should report the administration method, dates, number invited, number responding, and number of usable cases.

Data Analysis

Data analysis may be conducted using partial least squares structural equation modeling (PLS-SEM) if the objective is prediction-oriented model assessment and the measurement structure is appropriate. The specific software and version must be reported after analysis. The analysis should begin with data screening, missingness assessment, response-pattern checks, descriptive statistics, and examination of potential outliers. Demographic or job-related variables should be reported in aggregate to protect confidentiality.

The measurement model should be evaluated before the structural model. For reflective constructs, report indicator loadings, internal consistency reliability (for example, composite reliability and/or ρ_A), convergent validity using average variance extracted (AVE), and discriminant validity using an appropriate procedure such as the heterotrait-monotrait ratio (HTMT). Thresholds should be treated as diagnostic guidance rather than automatic substitutes for substantive judgment. If formative measurement is used for any construct, a different evaluation procedure is required and must be justified.

The structural model should report collinearity diagnostics, path coefficients, confidence intervals, p-values where appropriate, explained variance (R^2), and effect sizes (f^2). Predictive assessment may be included when aligned with the study objective. The indirect effects $X1 \rightarrow M \rightarrow Y$ and $X2 \rightarrow M \rightarrow Y$ should be tested using bootstrapping with a clearly reported number of resamples and confidence-interval method. Mediation conclusions should be based on the estimated indirect effects and their uncertainty, not solely on whether a direct path is significant.

Because all constructs may be measured from the same respondent, common-method bias is a potential concern. Procedural remedies include assuring anonymity, separating predictor and outcome sections where feasible, using clear non-leading items, and collecting performance data from independent sources when possible. Statistical diagnostics may supplement but cannot replace sound design. The analysis should also consider whether job family, digital-system exposure, or training participation provides important context, while avoiding unnecessary overfitting in a modest sample.

Ethical considerations and reproducibility

The study should follow applicable institutional and organizational requirements for human-participant research and personal-data protection. The company should be referred to as PT XYZ if anonymization is required. No identifiable employee-level results should be

published. The final paper should disclose the survey instrument sources, questionnaire adaptations, data-cleaning decisions, software versions, and analysis settings sufficiently for independent assessment. The authors should not fabricate data or report planned analyses as completed results.

RESULTS AND DISCUSSION

Important reporting note: No employee-level dataset, survey output, or company performance records have been provided for PT XYZ. Therefore, numerical empirical results cannot responsibly be reported in this draft. The tables and figure below present the model and a results-reporting structure; they must be completed with actual observations before the manuscript is submitted as a completed empirical research article.

Proposed Model and Research Process

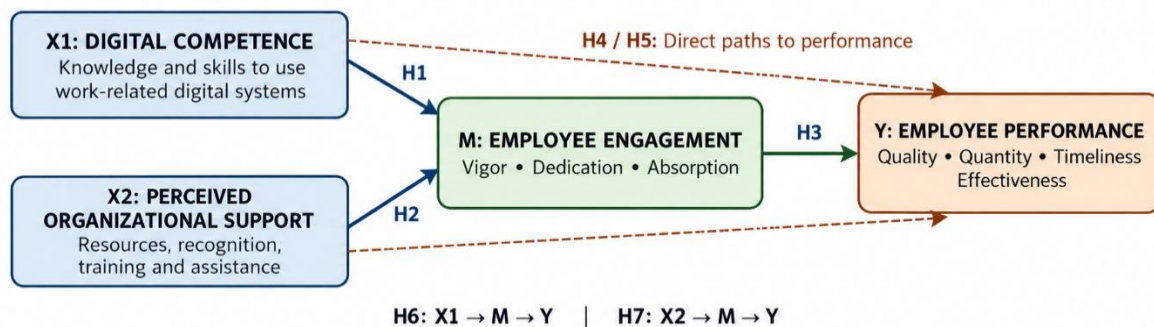


Figure 1. Proposed conceptual model and hypothesized direct and indirect paths.

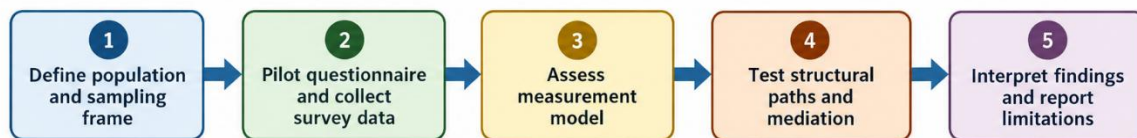


Figure 2. Recommended research workflow from sampling to mediation analysis.

Sample Profile and Data-Quality Results

The final article should report the profile of respondents and data quality before evaluating the hypotheses. In a manufacturing setting, work unit and frequency of digital-system use are particularly useful descriptive variables because digital exposure may differ substantially across roles. The table below is a reporting template and does not contain invented counts.

Table 2. Sample Profile and Data-Quality Results

Characteristic	Category / statistic	Result to report
Eligible population	Total eligible employees	[Insert N from HR-approved sampling frame]
Invited to participate	Number invited	[Insert count]
Usable responses	Responses retained after screening	[Insert n]
Response rate	Usable responses / invited × 100%	[Calculate from actual counts]
Work unit	Production / maintenance / quality / warehouse / administration / other	[Insert n and % by category]
Digital-system exposure	Low / moderate / high, or measured frequency	[Insert actual distribution]
Training exposure	Received / not received relevant digital training	[Insert n and %]
Missing data and exclusions	Rules and number excluded	[Describe actual screening]

Source: Research Result

Measurement Model Results

The measurement model should be evaluated using the actual instrument and observed data. Indicators should not be deleted merely to improve statistics if deletion undermines

content validity. Any item removal should be justified theoretically and reported transparently. Discriminant validity is particularly important for employee engagement and performance: engagement items should describe energy, dedication, and absorption, while performance items should describe task execution or work outcomes.

Table 3. Measurement Model Result

Construct	Indicator count	Reliability	AVE	Discriminant validity	Decision
Digital competence (X1)	[n]	[value]	[value]	[HTMT results]	[Retain/revise with justification]
Perceived organizational support (X2)	[n]	[value]	[value]	[HTMT results]	[Retain/revise with justification]
Employee engagement (M)	[n]	[value]	[value]	[HTMT results]	[Retain/revise with justification]
Employee performance (Y)	[n]	[value]	[value]	[HTMT results]	[Retain/revise with justification]

Structural Model and Hypothesis Testing

The structural model should be evaluated after the measurement model demonstrates adequate quality. Coefficients should be interpreted in direction, magnitude, and uncertainty, with attention to practical as well as statistical significance. For example, a statistically detectable association may still have limited operational importance, while a confidence interval can reveal uncertainty that a p-value alone does not communicate.

Table 4. Structural-model and mediation reporting

Hypothesis	Path / effect	Expected direction	Estimate (β)	95% CI	p-value	Decision
H1	X1 $\rightarrow$ M	Positive	[β_1]	[LL, UL]	[p]	[Supported / not supported]
H2	X2 $\rightarrow$ M	Positive	[β_2]	[LL, UL]	[p]	[Supported / not supported]
H3	M $\rightarrow$ Y	Positive	[β_3]	[LL, UL]	[p]	[Supported / not supported]
H4	X1 $\rightarrow$ Y	Positive	[β_4]	[LL, UL]	[p]	[Supported / not supported]
H5	X2 $\rightarrow$ Y	Positive	[β_5]	[LL, UL]	[p]	[Supported / not supported]
H6	X1 $\rightarrow$ M $\rightarrow$ Y	Indirect effect	[$a_1 \times b$]	[LL, UL]	[p / bootstrap CI]	[Supported / not supported]
H7	X2 $\rightarrow$ M $\rightarrow$ Y	Indirect effect	[$a_2 \times b$]	[LL, UL]	[p / bootstrap CI]	[Supported / not supported]

Discussion framework

The final discussion should be written only after the coefficients and confidence intervals are available. For H1, interpret whether digital competence is associated with engagement and compare the result with the theoretical proposition that capability may reduce task barriers and increase confidence in work. If the association is weak or absent, consider whether digital tools are used only in selected jobs, whether access rather than capability is the main constraint, or whether the measure did not fit the systems used at PT XYZ.

For H2, discuss whether perceived organizational support is associated with engagement. A positive result would be consistent with the proposition that employees respond to organizational care and resource provision with greater psychological investment in work. A non-significant result would not automatically mean support is unimportant; it may reflect limited variation in perceived support, differences among work units, sample size, or other contextual factors. The discussion must distinguish explanations supported by collected evidence from possibilities that require future testing.

For H3, assess whether engagement is associated with performance. If supported, discuss how vigor, dedication, and absorption may relate to persistence, focus, and consistent task execution. Avoid claiming that engagement alone determines performance, because manufacturing outcomes are also influenced by equipment availability, production planning,

materials, quality systems, staffing, and process design. If performance data come from self-reports, acknowledge that the association may partly reflect common-method variance.

For H4 and H5, interpret the direct paths from digital competence and organizational support to performance. These paths indicate whether the predictors are associated with performance beyond the indirect route through engagement. If direct paths remain meaningful alongside indirect effects, the pattern may be consistent with partial mediation; if indirect effects are supported while direct effects are not, the pattern may be consistent with indirect-only mediation. The conclusion should follow the actual confidence intervals and model specification rather than relying on a single significance test.

For H6 and H7, the core contribution concerns the indirect effects through engagement. A supported indirect effect would suggest that engagement is one statistical pathway linking a predictor to performance, but cross-sectional data would not prove that the predictor preceded engagement or that engagement caused later performance. A non-supported indirect effect would also be informative: it would indicate that the proposed mechanism was not demonstrated in the sample and could motivate alternative mediators such as role clarity, training transfer, self-efficacy, or work design in future research.

Potential Practical Implications

Once the results are available, practical recommendations should be prioritized according to the strongest and most actionable findings. If digital competence is important, PT XYZ could map digital skills by job family, identify task-specific gaps, provide role-based training, and evaluate training transfer through operational indicators. Training should not be treated as a universal solution: employees also need access to usable systems, clear procedures, sufficient practice time, and technical support.

If perceived organizational support is important, the company could review how supervisors provide assistance, how recognition is delivered, whether employees can raise technology-related problems safely, and whether resources are allocated fairly across units. If engagement is an important mediator, managers could examine work design, feedback, autonomy where feasible, communication, and the removal of avoidable barriers. These are potential implications, not findings of the present draft, and should be selected only when supported by empirical results and operational feasibility.

Research Contribution and Novelty

The proposed contribution is an integrated test of an individual capability factor and an organizational perception factor within a model that includes employee engagement as a mediator in a manufacturing organization undergoing partial digital adoption. The value of the study would come from its empirical evidence and careful contextualization, not from claiming that the constructs are entirely new. A defensible novelty statement should be finalized after comparing the model with recent peer-reviewed studies, identifying what those studies have already tested, and specifying how PT XYZ's operational context or measurement strategy adds insight.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This manuscript develops a research model for examining the relationships of digital competence and perceived organizational support with employee performance through employee engagement at PT XYZ. The model specifies five direct relationships and two indirect effects, allowing the study to assess whether engagement statistically mediates the associations between the two predictors and performance. The proposed methods include context-sensitive measurement, transparent sample reporting, evaluation of the measurement and structural models, and bootstrapping for indirect effects. Because no employee survey data or company performance records have been supplied, empirical conclusions about the

hypotheses cannot yet be drawn. The final article must replace the result templates with verified analysis output and revise the conclusion to answer each research question based on those findings.

Limitations

The present manuscript is a developed research draft rather than a completed empirical report. Its principal limitation is the absence of primary data from PT XYZ, which prevents estimation of path coefficients, measurement quality, effect sizes, or mediation effects. The proposed cross-sectional survey would also limit causal interpretation and may be vulnerable to common-method bias if all variables are measured from the same respondent at the same time. Finally, a single-company study may have limited generalizability, and differences in digital exposure across job families may complicate comparisons.

Recommendations

The next stage should collect data using a validated and contextually adapted instrument, document the population and sample, and include independent performance indicators where feasible. A time-separated design or repeated measurements would strengthen the interpretation of mediation. Future research may compare units with different levels of digital-system use, examine training exposure as a contextual factor, or test alternative mechanisms such as digital self-efficacy and role clarity. Any recommendations for PT XYZ should be finalized after the empirical results are analyzed.

Author Contributions

Author contribution statement to be completed by the actual author(s). For a single-author manuscript, specify the author's contributions to conceptualization, methodology, instrument development, data collection, analysis, writing, and final approval. Do not attribute data collection or analysis that has not occurred.

Ai Disclosure Statement

During manuscript preparation, a generative AI tool was used to assist with drafting, organization, and language refinement. The author is responsible for verifying all citations, ensuring the accuracy of the research design and reported results, obtaining permissions where required, and revising the manuscript based on actual data. No empirical results have been generated or represented as observed findings in this draft.

Acknowledgment

To be completed if PT XYZ, participating employees, institutional supervisors, or other parties provide material assistance. Do not identify individuals or disclose company information without appropriate permission.

REFERENCES

- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500–507. <https://doi.org/10.1037/0021-9010.71.3.500>
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71–92. <https://doi.org/10.1023/A:1015630930326>
- Vuorikari, R., Kluzer, S., & Punie, Y. (2022). DigComp 2.2: The Digital Competence Framework for Citizens. Publications Office of the European Union. <https://doi.org/10.2760/115376>

- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. Springer. <https://doi.org/10.1007/978-3-030-80519-7>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43, 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Rhoades, L., & Eisenberger, R. (2002). Perceived organizational support: A review of the literature. *Journal of Applied Psychology*, 87(4), 698–714. <https://doi.org/10.1037/0021-9010.87.4.698>
- Shuck, B., & Wollard, K. (2010). Employee engagement and HRD: A seminal review of the foundations. *Human Resource Development Review*, 9(1), 89–110. <https://doi.org/10.1177/1534484309353560>
- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, 64(1), 89–136. <https://doi.org/10.1111/j.1744-6570.2010.01203.x>
- Campbell, J. P., & Wiernik, B. M. (2015). The modeling and assessment of work performance. *Annual Review of Organizational Psychology and Organizational Behavior*, 2, 47–74. <https://doi.org/10.1146/annurev-orgpsych-032414-111427>