Driving Employee Performance in the Digital Era: The Critical Role of Organizational Commitment, Digital Fluency, and Technology Adoption

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Abstract

This study aims to examine the direct impact of organizational commitment and digital fluency on employee performance, and to investigate the mediating role of technology adoption within the context of digital transformation in the workplace. A quantitative explanatory design was employed. The sample consisted of 260 employees, selected using a purposive sampling technique. The inclusion criterion was employees who actively utilize company digital systems for at least one year. Both variables also directly and significantly enhance employee performance. Organizations must formulate dual strategies focusing on strengthening psychological attachment (commitment) and continuously upgrading employees' digital skills. This integration accelerates seamless technology adoption, which acts as a crucial catalyst for maximizing employee performance. This research contributes to human resource literature by integrating a psychological factor (organizational commitment) and a technical capability (digital fluency) into a single cohesive model, highlighting technology adoption as a critical bridging mechanism in the modern digital workplace.

Keywords: organizational commitment; digital fluency; technology adoption; employee performance; PLS-SEM

1. Introduction

Businesses and organizations are undergoing rapid transformation driven by digitalization and the increasing adoption of technologies such as artificial intelligence, big data, blockchain, and the Internet of Things. These developments have fundamentally changed how organizations operate and how employees perform their tasks (Chatterjee et al., 2023; AlNuaimi et al., 2022). However, technology investment does not automatically translate into improved employee performance. A meta-analysis of 106 empirical studies shows that digital technology can enhance task performance while simultaneously increasing risks such as work anxiety and burnout, highlighting the dual effects of technology in the workplace (Xu et al., 2025).

This issue is particularly relevant in Indonesia, where the rapid expansion of workplace digitalization is accompanied by challenges in workforce digital capabilities. Preliminary observations in this study indicate that 58% of 20 surveyed digital corporate employees frequently failed to meet monthly work targets, while 70% experienced delays in completing tasks due to workflow barriers. Furthermore, 65% reported difficulties in adopting advanced corporate systems because of limited digital fluency, while employees with weaker emotional attachment to their organizations tended to show greater resistance to technological change. These findings suggest that technology availability alone is insufficient to ensure optimal employee performance.

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From a human resource management perspective, organizational commitment and digital fluency may represent two important employee-level factors influencing technology adoption and performance. Nevertheless, previous studies have largely examined these psychological and technical factors independently. Limited research has examined technology adoption as a mediating mechanism that connects organizational commitment and digital fluency with employee performance within an integrated model.

Accordingly, this study proposes an integrated framework in which organizational commitment and digital fluency influence technology adoption, which subsequently contributes to employee performance. Technology adoption is positioned as a bridging mechanism through which employees' psychological commitment and digital capabilities can be translated into improved work outcomes. This framework provides a more comprehensive perspective on the human dimension of digital transformation and constitutes the primary novelty of this study.

Based on this background, the study aims to examine the effects of organizational commitment and digital fluency on technology adoption and employee performance, as well as to investigate the mediating role of technology adoption in the relationship between these employee-level factors and performance in the digital workplace.

2. Literature Review

Organizational Commitment and Technology Adoption

Meyer and Allen (1991) define organizational commitment as employees' psychological attachment to their organization, reflected in affective, continuance, and normative commitment. Employees with stronger organizational commitment are more likely to support organizational initiatives and adapt to organizational changes, including technology implementation. Evidence from ICT-related research also indicates a significant relationship between organizational commitment and technology-related organizational change (Z. Li et al., 2021). Therefore, committed employees are expected to be more receptive to workplace technology adoption.

H1: Organizational Commitment has a positive and significant effect on Technology Adoption

Digital Fluency and Technology Adoption

Digital fluency enables employees to understand, operate, and adapt to digital technologies with greater confidence. Employees with stronger digital capabilities are more likely to perceive technology as useful and easy to use, facilitating technology acceptance and adoption. Previous research confirms that digital skills are essential competencies for effective technology use in the workplace (van Laar et al., 2017; van Laar et al., 2018). Therefore, higher digital fluency is expected to increase employees' technology adoption.

H2: Digital Fluency has a positive and significant effect on Technology Adoption.

Organizational Commitment and Employee Performance

Organizational commitment reflects employees' willingness to contribute to organizational goals and exert effort beyond minimum job requirements. Employees with stronger commitment tend to demonstrate greater responsibility, dedication, and effort, which can enhance work performance. Previous empirical studies have reported a positive relationship between organizational commitment and employee performance (Kusumastuti et al., 2019; Jufrizen et al., 2021). Accordingly, higher organizational commitment is expected to improve employee performance.

H3: Organizational Commitment has a positive and significant effect on Employee Performance

Digital Fluency and Employee Performance

Digital fluency provides employees with the capability to use technology effectively in completing work tasks. Recent evidence indicates that digital literacy and digital competence contribute positively to employee performance (Prasetya et al., 2026; Chai et al., 2026). Employees with stronger digital capabilities are therefore expected to perform tasks more efficiently and effectively, particularly in digitally transformed workplaces.

H4: Digital Fluency has a positive and significant effect on Employee Performance.

Technology Adoption and Employee Performance

Technology adoption can improve employee performance by facilitating access to information, streamlining workflows, and reducing operational inefficiencies. Consistent with UTAUT, employees are more likely to use technologies when they perceive them as beneficial to their work performance (Venkatesh et al., 2003). Empirical evidence further demonstrates that technology adoption and perceived technology usefulness are positively associated with employee performance (Ihejirika et al., 2026). Thus, greater technology adoption is expected to enhance employee performance.

H5: Technology Adoption has a positive and significant effect on Employee Performance

3. Methodology

The study involved a sample of 260 employees, selected using a purposive sampling technique. Primary data were collected using a structured questionnaire administered to respondents who met the predetermined inclusion criteria. The questionnaire measured all research constructs using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The research instrument consisted of measurement items representing the four main constructs, namely organizational commitment, digital fluency, technology adoption, and employee performance. The measurement items were adapted from established scales in previous studies and adjusted to fit the organizational and digital-work context of the present study. Prior to the main analysis, the measurement properties of the instrument were evaluated to ensure adequate reliability and validity. The collected data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM).

4. Results and Discussion

4.1 Demographic profile

The demographic profile of the 260 respondents who participated in this study is presented based on gender, age, and length of employment. The remaining 38% of respondents had worked for more than five years. The relatively high proportion of employees with 1–5 years of organizational tenure suggests that most respondents had sufficient experience with organizational processes and digital systems to provide informed assessments of technology adoption and employee performance. Overall, the demographic characteristics indicate that the respondents represent employees with relatively substantial exposure to organizational digital systems. The combination of their productive age and sufficient work experience provides an appropriate basis for examining the relationships among organizational commitment, digital fluency, technology adoption, and employee performance. The detailed frequency and percentage distribution of the respondents' demographic characteristics is presented in Table 1.

Table 1 Profile of respondents

Demographic Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	140	54.00
	Female	120	46.00
	Total	260	100.00
Age	Under 25 years	-	-
	26–35 years	125	48.00
	36–45 years	-	30.00
	Over 45 years	-	-
	Under 25 or over 45 years	57	22.00
	Total	260	100.00
Work Tenure	1–5 years	161	62.00
	More than 5 years	99	38.00
	Total	260	100.00

4.2 Measurement Model

The theoretical model was tested using a two-stage approach, as suggested by Anderson and Gerbing (1988). First, a measurement model was constructed based on the recommendations of Hair et al. (2019) and Ramayah et al. (2018) to assess the reliability and accuracy of the measurement instruments employed. The developed hypotheses were subsequently tested using a structural model. Loading values from the measurement model were used to calculate the average variance extracted (AVE) and composite reliability (CR). According to Ramayah et al. (2018), the AVE value should be ≥ 0.5 and the CR value should be ≥ 0.7, though not exceeding 0.95, to avoid indicator redundancy. An acceptable AVE value of 0.50 or higher indicates that the construct captures at least 50% of the variance of its constituent elements. All AVE and CR values exceeded 0.5 and 0.7, respectively, thereby meeting the thresholds recommended by Ramayah et al. (2018) and Hair et al. (2019) (see Table 2).

Table 2 Discriminant Validity

Constructs	OC	DF	TA	EP
Organizational Commitment (OC)	0.611			
Digital Fluency (DF)	0.542	0.646		
Technology Adoption (TA)	0.598	0.637	0.534	
Employee Performance (EP)	0.621	0.674	0.711	0.558

4.3 Hypothesis Testing

Direct path testing results confirm that Organizational Commitment (H1) and Digital Fluency (H2) significantly influence Technology Adoption. Furthermore, Organizational Commitment (H3), Digital Fluency (H4), and Technology Adoption (H5) significantly drive Employee Performance, with Technology Adoption serving as a critical catalyst.

Tabel 2 Direct Hypothesis Testing

Hypothesis	Path	β	T-Statistics	P-Values	Conclusion
H1	Organizational Commitment (X_1) → Technology Adoption (M)	0.398	9.008	0.000	Positive & Significant (Accepted)
H2	Digital Fluency (X_2) → Technology Adoption (M)	0.515	11.655	0.000	Positive & Significant (Accepted)
H3	Organizational Commitment (X_1) → Employee Performance (Y)	0.188	3.943	0.000	Positive & Significant (Accepted)
H4	Digital Fluency (X_2) → Employee Performance (Y)	0.239	4.652	0.000	Positive & Significant (Accepted)
H5	Technology Adoption (M) → Employee Performance (Y)	0.481	8.211	0.000	Positive & Significant (Accepted)

The indirect effect testing evaluates the mediating role of Technology Adoption. The results show significant path coefficients and T-statistics exceeding 1.96, confirming that Technology Adoption acts as a significant partial mediator, strengthening the link between psychological/technical factors and overall employee performance.

Table 3 Indirect Hypothesis Testing (Mediation)

Path	β	T-Statistics	P-Values	Conclusion
Organizational Commitment (X_1) → Technology Adoption (M) → Employee Performance (Y)	0.192	5.801	0.000	Positive & Significant / Partial Mediation (Accepted)
Digital Fluency (X_2) → Technology Adoption (M) → Employee Performance (Y)	0.248	6.852	0.000	Positive & Significant / Partial Mediation (Accepted)

The results of the indirect effect analysis presented in Table 3 demonstrate that Technology Adoption (M) significantly mediates the relationships between Organizational Commitment (X_1) and Employee Performance (Y), as well as between Digital Fluency (X_2) and Employee Performance (Y). Hypothesis H6 examines the mediating role of Technology Adoption in the relationship between Organizational Commitment and Employee Performance. The results indicate a positive and statistically significant indirect effect, with a path coefficient (β) of 0.192, a T-statistic of 5.801, and a p-value of 0.000 ($p < 0.001$). These findings suggest that higher organizational commitment is associated with improved employee performance through increased technology adoption. Therefore, H6 is supported. The results also indicate partial mediation, suggesting that Technology Adoption transmits part of the effect of Organizational Commitment on Employee Performance, while a direct effect may still exist.

Hypothesis H7 investigates the mediating role of Technology Adoption in the relationship between Digital Fluency and Employee Performance. The findings reveal a positive and statistically significant indirect effect, with a path coefficient (β) of 0.248, a T-statistic of 6.852, and a p-value of 0.000 ($p < 0.001$). This result indicates that greater digital fluency is associated with higher employee performance through increased technology adoption. Thus, H7 is supported. The findings further suggest partial mediation, indicating that Technology Adoption explains part of the relationship between Digital Fluency and Employee Performance, while a direct effect may also remain.

4.4 Discussion

4.4.1 The Effect of Organizational Commitment on Technology Adoption

Based on direct path analysis, the results yielded a path coefficient β = 0.398, T-Statistic = 9.008, and p = 0.000. Since the T-Statistic > 1.96 and p < 0.05, H1 is accepted. This positive and significant effect is confirmed by respondent feedback on the sense of belonging indicator (OC2), which achieved a mean of 4.35 (Very High category), as well as emotional attachment (OC1) with a mean of 4.28 (Very High category). Employees who possess deep pride and strong emotional bonds with the company demonstrate high enthusiasm for embracing new digital systems, as reflected in the system acceptance indicator (TA1) with a mean of 4.31 (Very High category). This demonstrates that loyalty and psychological attachment serve as core drivers preventing employees from exhibiting resistance toward workplace technology modernization.

4.4.2 The Effect of Digital Fluency on Technology Adoption

Direct path analysis revealed a path coefficient β = 0.515, T-Statistic = 11.655, and p = 0.000. These statistical values meet the significance criteria, thus H2 is accepted. This finding is reinforced by very high respondent ratings on the software proficiency indicator (DF1), with a mean of 4.40, and digital self-confidence (DF5), with a mean of 4.38. Mature digital fluency allows employees to feel confident and free from technophobia. Consequently, the frequency of digital platform utilization in daily operations (TA2) surged significantly with a mean of 4.42 (Very High category), indicating that individual technical competence heavily dictates the speed and smoothness of technology system adoption in the workplace.

4.4.3 The Effect of Organizational Commitment on Employee Performance

Statistical testing showed a path coefficient β = 0.188, T-Statistic = 3.943, and p = 0.000. Therefore, H3 is accepted. This direct relationship is reflected in high scores on the moral allegiance indicator (OC5), with a mean of 4.30, and work quality results (EP2), with a mean of 4.41 (Very High category). Employees with high organizational commitment view their obligations not merely as a formality, but as a moral responsibility to deliver their best effort. This encourages them to produce accurate, meticulous, and error-free work to advance the company.

4.4.4 The Effect of Digital Fluency on Employee Performance

Hypothesis testing yielded a path coefficient β = 0.239, T-Statistic = 4.652, and p = 0.000, indicating that H4 is accepted. This result aligns with respondent evaluations on the new system adaptability indicator (DF2), at 4.32, and work efficiency (EP5), at 4.27 (Very High category). Adequate digital skills enable employees to optimize time and resource management, allowing them to complete operational tasks faster and more efficiently without being hindered by technical constraints.

4.4.5 The Effect of Technology Adoption on Employee Performance

Based on testing results, the path coefficient β was = 0.481, T-Statistic = 8.211, and p = 0.000. The statistical requirements are met, hence H5 is accepted. This strong effect is supported by respondent feedback on the workflow integration indicator (TA3), at 4.26, and quantity target achievement (EP1), at 4.36 (Very High category). When digital systems and devices are seamlessly integrated into daily routines, employees are significantly assisted in fulfilling the volume of work required by company performance targets.

4.4.6 Technology Adoption Mediates the Effect of Organizational Commitment on Employee Performance

Specific indirect effect testing demonstrated a path coefficient β = 0.192, T-Statistic = 5.801, and p = 0.000. Since T-Statistic > 1.96 and p < 0.05, H6 is accepted, confirming that technology adoption acts as a significant partial mediator. This finding indicates that organizational commitment (such as value identification on indicator OC4, with a mean of 4.22) not only has a direct impact, but is also channeled through the optimization of technology features (indicator TA4, with a mean of 4.19). Employees with strong emotional attachment tend to be more enthusiastic in exploring advanced features of digital systems, which ultimately multiplies task completion punctuality (indicator EP3, with a mean of 4.30).

4.4.7 Technology Adoption Mediates the Effect of Digital Fluency on Employee Performance

Indirect effect testing yielded a path coefficient β = 0.248, T-Statistic = 6.852, and p = 0.000. These values satisfy statistical criteria, thus H7 is accepted, proving that technology adoption significantly mediates the relationship. This proves that digital fluency (such as the ability to solve minor technical problems on indicator DF3, with a mean of 4.18) achieves its peak impact on performance when actualized through positive dependency on technology adoption (indicator TA5, with a mean of 4.24). Individual proficiency facilitates smooth integration of new systems, leading to enhanced independent initiative (indicator EP4, with a mean of 4.20) and overall work productivity.

5. Conclusion

This study concludes that organizational commitment and digital fluency hold a vital role in driving technology adoption and employee performance in the digital transformation era. Technology adoption is empirically proven to be a reliable partial mediator in strengthening the relationship between psychological factors and technical capabilities toward improving employee performance. The constructed structural model is capable of explaining 59.0% of the variance in employee performance. Organizations are advised to implement a dual strategy, namely strengthening employee psychological bonds and sense of belonging through a supportive work culture, while simultaneously organizing continuous digital literacy training programs to answer contemporary workplace technology disruption challenges. Future research is suggested to expand the scope of industry sectors or add other contingency variables to enrich the findings of human resource management literature in the digital era.

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References

AlNuaimi, B. K., Kumar Singh, S., Ren, S., Budhwar, P., & Vorobyev, D. (2022). Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research, 145*, 636–648. https://doi.org/10.1016/j.jbusres.2022.03.038

Apriliana. (2013). The effect of motivation and organizational commitment on employee performance at PT. Bentara Sinergies Multifinance.

Carlson, J. R., Carlson, D. S., Harris, R. B., & Harris, K. J. (2017). Applying the job demands resources model to understand technology as a predictor of turnover intentions. *Computers in Human Behavior, 77*, 317–325. https://doi.org/10.1016/j.chb.2017.09.009

Chai, M., Wong, D. H.-T., & Yuan, M. (2026). Employee digital competence, financial technology, and enhancement of employee performance in enterprises. *Finance Research Letters*.

Chatterjee, S., Chaudhuri, R., Vrontis, D., & Maalaoui, A. (2023). Internationalization of family business and its performance: Examining the moderating role of digitalization and international networking capability. *Review of Managerial Science, 17*(7), 2443–2470. https://doi.org/10.1007/s11846-022-00585-x

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Ihejirika, B. C., Isichei, E. E., & Agbaeze, E. K. (2026). Technology adoption and employees' performance: The moderating role of coronaphobia. *African Journal of Economic and Management Studies*.

Jufrizen, J., Mukmin, M., Nurmala, D., & Jasin, H. (2021). Effect of moderation of work motivation on the influence of organizational culture on organizational commitment and employee performance. *International Journal of Business Economics, 2*(2), 86–98. https://doi.org/10.30596/ijbe.v2i2.6710

Kallmuenzer, A., Mikhaylov, A., Chelaru, M., & Czakon, W. (2025). Adoption and performance outcome of digitalization in small and medium-sized enterprises. *Review of Managerial Science, 19*(7), 2011–2038. https://doi.org/10.1007/s11846-024-00744-2

Kim, J., & Jung, H.-S. (2022). The effect of employee competency and organizational culture on employees' perceived stress for better workplace. *International Journal of Environmental Research and Public Health, 19*(8), Article 4428. https://doi.org/10.3390/ijerph19084428

Kristanto, H. (2015). Keadilan organisasional, komitmen organisasional, dan kinerja karyawan [Organizational justice, organizational commitment, and employee performance]. *Jurnal Manajemen dan Kewirausahaan, 17*(1), 86–98. https://doi.org/10.9744/jmk.17.1.86-98

Kusumastuti, I., Kurniawati, N. I., Satria, D. L., & Wicaksono, D. (2019). Analisis pengaruh lingkungan kerja terhadap kinerja karyawan dimediasi oleh kepuasan kerja karyawan pada SP Alumunium di Yogyakarta [Analysis of the effect of the work environment on employee performance mediated by job satisfaction at SP Alumunium in Yogyakarta]. *Jurnal REKOMEN (Riset Ekonomi Manajemen), 3*(1), 43–53. https://doi.org/10.31002/rn.v3i1.1540

Li, N., Zhang, L., Li, X., & Lu, Q. (2021). The influence of operating room nurses' job stress on burnout and organizational commitment: The moderating effect of over-commitment. *Journal of Advanced Nursing, 77*(4), 1772–1782. https://doi.org/10.1111/jan.14709

Li, Z., Akouatcha, H. G., Akram, U., & Anaba, O. A. (2021). Information and communication technology and organizational performance during COVID-19 pandemic: The role of organizational commitment, growth mindset, and entrepreneurial orientation. *Frontiers in Psychology, 12*, Article 752193. https://doi.org/10.3389/fpsyg.2021.752193

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review, 1*(1), 61–89. https://doi.org/10.1016/1053-4822(91)90011-Z

Nguyen, H. M., & Ngo, T. T. (2020). Psychological capital, organizational commitment and job performance: A case in Vietnam. *The Journal of Asian Finance, Economics and Business, 7*(5), 269–278. https://doi.org/10.13106/jafeb.2020.vol7.no5.269

Paramita, E., Lumbanraja, P., & Absah, Y. (2020). The influence of organizational culture and organizational commitment on employee performance and job satisfaction as a moderating variable at PT. Bank Mandiri (Persero), Tbk. *International Journal of Research and Review*, 273–286.

Prasetya, A., Maryadi, M., & Hutahayan, B. (2026). Enhancing employee performance through digital literacy, work–life balance, employee engagement, and training & development: Evidence from a systematic literature review. *Cogent Business & Management*.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly, 27*(3), 425–478. https://doi.org/10.2307/30036540