

The Role Of Digital Leadership In Performance Management to Improve Employee Productivity and Work Effectiveness

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Abstract

Change in the digital age is a cornerstone of modern business, driven by advancements in information technology. For organizations that wish to remain competitive in the global market, leveraging digital technology is no longer merely an option but a necessity. In this context, digital leadership emerges as a decisive factor, not only in managing change but also in driving the performance and productivity of an organization's human resources. Simply put, digital leadership is a leader's ability to leverage digital technology to guide, manage, and influence employees and organizational processes more effectively. With this kind of leadership, innovation often flourishes, collaboration between teams increases, and information is received more quickly and accurately. The appropriate use of digital technology also holds the potential for organizations to achieve operational efficiency, increased employee productivity, and enhanced work effectiveness. Furthermore, digital leadership makes a tangible contribution to supporting the implementation of performance management that is more responsive to a dynamic business environment. Through this approach, organizations can better manage employee performance in a more measurable, transparent, and technology-driven manner. Previous research has demonstrated that digital leadership fosters digital competencies

Keywords : *Leadership in digital era, employee management, performance management*

INTRODUCTION

Rapid technological advancements, coupled with the vast amount of information available, have significantly transformed workplace interactions and organizational management. The modern era has not only changed how organizations operate but has also influenced how employees perform their tasks, communicate, and how their performance is effectively evaluated. In this era, organizations must be able to adapt quickly to remain competitive in an environment that is increasingly keeping pace with the times (Rumapea, Siboro, & Manurung, 2024; Lahumuddin, Putra, & Kurniawan, 2024).

One key factor is leadership transformation. Leadership is no longer limited to conventional human resource management but also requires the ability to adapt through digital technology within organizational processes. This concept is becoming increasingly important, as leaders are now required to effectively utilize technology, drive innovation, and create a work environment that is adaptable to change (Maulina & Yulianti, 2023; Fitri, Rahman, & Putri, 2025; Sewang, 2024).

In recent decades, performance management systems have also undergone significant changes. Traditionally, employee performance evaluations were typically conducted manually and periodically. However, due to major technological advancements, many organizations have moved away from these outdated methods and adopted digital performance management systems. This approach is considered more effective because it enables real-time monitoring, greater transparency, and data-driven decision-making (Lahumuddin, Putra, & Kurniawan, 2024; Shafariah, Yusuf, & Ahmad, 2024; Syupriadin, Kurniawan, & Hidayat, 2025). These systems play a crucial role in helping organizations assess performance more accurately while also providing faster and continuous feedback to employees.

However, the reality is that not all organizations can effectively optimize the use of digital technology in performance management. There are still many challenges to overcome, such as limited digital readiness due to the rapid pace of change and difficulty in adapting, a lack of technological competence among employees—where only a few understand the systems and not everyone does—and a lack of adequate leadership support in driving digital initiatives. These challenges negatively impact employee productivity and work effectiveness (Syupriadin, Kurniawan, & Hidayat, 2025; Khan, Iqbal, & Khan, 2021).

Consequently, previous studies have focused only on the general relationship between digital leadership and employee performance, without recognizing that many factors specifically examine how digital leadership is integrated into digital performance management systems. Previous literature has viewed employee performance as a single entity without clear differentiation; this situation underscores the need for a more comprehensive examination (Kane, Palmer, Phillips, & Kiron, 2016; Westerman, Bonnet, & McAfee, 2017).

Given the numerous existing gaps, this study focuses on examining the role of digital leadership within digital performance management systems and its impact on employee productivity and work effectiveness. The research findings are expected to contribute both theoretically and practically, particularly by providing practical recommendations for organizations.

METHOD

This study focuses on a quantitative research approach using a multiple linear regression design to test the relationship between the independent and dependent variables under investigation. The choice of a quantitative approach is considered appropriate because it facilitates the measurement of variables, statistical hypothesis testing, and objective analysis of the contribution of predictor variables to the outcome variable (Sousa & Rocha, 2019).

The study population consists of 106 students, who are considered relevant to the context and objectives of the study. These students are assumed to have sufficient academic backgrounds and experience to provide meaningful responses regarding the variables under study.

*Placement of Tables and Figures:

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.568 ^a	.322	.320	.712	.322	124.015	2	522	<.001	1.683

a. Predictors: (Constant), Sistem Digital, Kepemimpinan Digital
b. Dependent Variable: Kinerja Karyawan

- R Square = 0,322 (32,2%)
This indicates that digital leadership and digital systems account for 32.2% of the variation in employee performance, while the remaining 67.8% is influenced by other factors (such as motivation, organizational culture, etc.). This indicates a moderate effect—not weak, but not yet strong.

- Coefficient (β)

Digital Leadership	0.391	Positive effect
Digital System	0.254	Positive effect

The better the digital leadership, the more all variables point in a positive direction. This indicates that as the quality of digital leadership improves and digital systems become more effective, performance also increases.

- t-value (Partial Test)

Variabel	t-value	Sig.	Keterangan
Digital Leadership	9.243	<0.001	Significant
Digital System	6.007	<0.001	Significant

Both variables have a significant effect on employee performance.

- The research results show that:
Digital leadership and digital systems have a positive and significant influence on employee performance. The most dominant variable is digital leadership.
The model explains 32.2% of the variation in employee performance.

Thus, these findings are consistent with prior studies stating that digital leadership plays an important role in improving employee productivity and work effectiveness.

RESULTS AND DISCUSSION

This study aims to examine the extent to which digital leadership and digital systems contribute to employee performance, particularly in terms of productivity and work effectiveness. Using a multiple linear regression approach, several significant findings were identified (Fitri, Rahman, & Putri, 2025; Shafariah, Yusuf, & Ahmad, 2024).

The calculations yielded a coefficient of determination (R^2) of 0.322. This figure indicates that the two variables—digital leadership and digital systems account for 32.2% of the total variation in observed employee performance. The remaining 67.8% is attributed to variables outside the model, including work motivation, organizational culture, and the individual capabilities of each employee. Thus, this model can be categorized as having moderate explanatory power (Rumapea, Siboro, & Manurung, 2024; Lahumuddin, Putra, & Kurniawan, 2024).

Furthermore, the results of the regression coefficient estimates show that both predictors have a positive relationship with employee performance. Digital leadership recorded a β value of 0.391, while the digital system stood at $\beta = 0.254$. This pattern indicates that the better the quality of the implemented digital leadership and digital systems, the higher the overall employee performance (Maulina & Yulianti, 2023; Fitri, Rahman, & Putri, 2025).

Partial significance testing via the t-test also yielded strong findings. Digital leadership yielded a t-value of 9.243 with $p < 0.001$, while digital systems recorded a t-value of 6.007 at $p < 0.001$. Since both probability values are well below the 0.05 threshold, it can be concluded that each variable exerts a statistically significant influence on employee performance (Sewang, 2024; Khan, Iqbal, & Khan, 2021). Of the two, digital leadership emerged as the variable with the most dominant influence (Fitri, Rahman, & Putri, 2025; Sewang, 2024).

These findings reinforce the view that digital leadership occupies a highly strategic position in driving productivity and work effectiveness. Leaders who are adept at leveraging digital technology have been shown to be capable of creating a more flexible work ecosystem, one that is open to innovation and fosters collaboration among team members (Westerman, Bonnet, & McAfee, 2017; Verhoef et al., 2021; Malone, 2019). This aligns with the theoretical framework of contemporary leadership in the digital age, which identifies technological competence, organizational agility, and the capacity to manage change as indispensable elements.

The strong influence of digital leadership suggests that leaders serve as the primary driving force behind the successful implementation of digital performance management systems. Active support from leaders during the digital transformation process encourages employees to be more open to new technologies, develop their digital skills, and complete tasks more efficiently. In turn, this leads to increased productivity both in terms of quantity and in the dimensions of work quality and efficiency.

On the other hand, digital systems have also proven to make a positive and significant contribution as supporting infrastructure for organizational performance. The presence of digital systems enables real-time performance monitoring, transparency in the evaluation process, and data-driven decision-making (Lahumuddin, Putra, & Kurniawan, 2024; Shafariah, Yusuf, & Ahmad, 2024; Syupriadin, Kurniawan, & Hidayat, 2025). However, the lower coefficient of digital systems compared to digital leadership underscores one crucial point: technology alone

is not enough.

Without solid leadership to support it, the potential of digital systems risks not being fully realized. This further reinforces the argument that the human element in this case, leadership remains a central factor even in a fully digitized work environment (Maulina & Yulianti, 2023; Lahumuddin, Putra, & Kurniawan, 2024).

The R^2 value of 32.2% also serves as a reminder that there are many other factors that contribute to employee performance beyond the two variables studied. Motivation, job satisfaction, organizational culture, and work environment conditions are among the variables suspected to contribute significantly to productivity and effectiveness. Therefore, future research should consider a more holistic model to obtain a more comprehensive picture (Kane, Palmer, Phillips, & Kiron, 2016; Sousa & Rocha, 2019).

Overall, the results of this study align with various previous studies concluding that digital leadership plays a role in driving innovation, facilitating communication flows, and strengthening employees' digital competencies (Maulina & Yulianti, 2023; Fitri, Rahman, & Putri, 2025; Sewang, 2024; Khan, Iqbal, & Khan, 2021). What distinguishes this study from previous research is its effort to integrate digital leadership with a digital-based performance management system in a unified manner, while positioning productivity and work effectiveness as two dimensions of performance that are analyzed separately yet complement each other.

CONCLUSION

This study was designed to explore how digital leadership plays a role in technology-based performance management and its implications for employee productivity and work effectiveness. Based on a series of analyses conducted, it was concluded that both digital leadership and digital systems have a positive and statistically significant impact on employee performance.

Of the two variables, digital leadership emerged as the most influential factor. This finding reflects that a leader's ability to effectively utilize digital tools, foster a culture of innovation, and guide organizational change processes is a critical element in enhancing employee productivity and work effectiveness (Maulina & Yulianti, 2023; Fitri, Rahman, & Putri, 2025; Sewang, 2024). At the same time, digital systems also make a tangible contribution by providing a more structured, accountable, and evidence-based performance management process.

One point worth noting is that the model developed in this study explains only 32.2% of the total variation in employee performance. This figure suggests that beyond digital leadership and digital systems, there are other variables that shape performance such as employees' intrinsic motivation, organizational cultural values, and individual competency levels which should be addressed in future research.

Based on all the findings above, this study reinforces the argument that synergy between robust digital leadership and well-managed digital systems has the potential to significantly drive improvements in employee performance, both in terms of productivity and effectiveness. On this basis, organizations should prioritize strengthening digital leadership capabilities and optimizing the use of technology in performance management as strategic priorities that cannot be postponed.

For future research, it is highly recommended that subsequent researchers enrich the

model by incorporating relevant additional variables while expanding the scope of the study population. This step is expected to yield a more comprehensive understanding of the dynamics of factors determining employee performance amid the rapid development of the digital era.

DECLARATION OF GENERATIVE AI (if any)

In the process of drafting this manuscript, the authors utilized generative artificial intelligence technology solely for the purposes of language editing and improving text readability. The authors unequivocally affirm that the entire substance of this work including the research design, data analysis process, and conclusions is the result of the authors' own intellectual thought and work. All responsibility for the content of this publication rests entirely with the authors.

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REFERENCES

- [1] Rumapea, E. O., Siboro, I., & Manurung, K. (2024). Digital Leadership in Improving Organizational Employee Performance. *Holistic Science*, 4(3), 454–460.
- [2] Maulina, N., & Yulianti, E. (2023). The influence of digital leadership on millennial employee performance mediated by employee creativity. *Jurnal Manajemen dan Kewirausahaan*, 12(1).
- [3] Nugroho, H., Pratama, A., & Sari, D. (2024). The influence of digital leadership on employee performance with digital culture as a moderating variable. *Maneggio*, 1(6), 45–55.
- [4] Lahumuddin, M. Y. P., Putra, R. S., & Kurniawan, A. (2024). The effects of e-performance and digital leadership on employee performance. *Jurnal Manajemen Teknologi*, 23(2).
- [5] Fitri, M., Rahman, A., & Putri, S. (2025). Digital leadership and e-HRM transformation on human resource performance. *Journal of Business Studies and Management Review*, 9(1).
- [6] Sewang, S. (2024). The role of transformational leadership in enhancing employee performance in the digital era. *International Journal of Enterprise Modelling*.
- [7] Shafariah, H., Yusuf, M., & Ahmad, L. (2024). Leadership transformation in the digital age: Implications for employee performance and engagement. *International Journal of Management Science and Information Technology*.
- [8] Syupriadin, S., Kurniawan, R., & Hidayat, A. (2025). Leadership and employee performance in digital transformation: A systematic review (2020–2025).

Edunesia, 7(1).

- [9] Khan, A. U., Iqbal, M., & Khan, S. A. (2021). Impact of digital leadership on organizational performance. *Journal of Business Research*, 135, 391–401.
- [10] Kane, M., Palmer, D., Phillips, A., & Kiron, G. (2016). Is your business ready for a digital future? *MIT Sloan Management Review*, 57(4), 1–6.
- [11] Westerman, G., Bonnet, D., & McAfee, A. (2017). *Leading Digital: Turning Technology into Business Transformation*. Harvard Business Review Press.
- [12] Sousa, J., & Rocha, C. (2019). Digital learning: Developing skills for digital transformation of organizations. *Future Generation Computer Systems*, 91, 327–334.
- [13] Verhoef, S., et al. (2021). Digital transformation: A multidisciplinary reflection and research agenda. *Journal of Business Research*, 122, 889–901.
- [14] Malone, T. W. (2019). How human–machine ‘super minds’ are redefining the future of work. *MIT Sloan Management Review*, 60(4), 34–41.
- [15] Tarafdar, A., Beath, C., & Ross, J. (2019). Enterprise cognitive computing applications: Opportunities and challenges. *MIS Quarterly Executive*, 18(1), 21–37



