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Transformational Leadership, Digital Competence, and Employee Performance: Examining the Mediating Role of Self-Efficacy and the Moderating Influence of Perceived Organizational Support

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Abstract
Research aims: To examine the influence of transformational leadership and digital competence on employee performance in Regional Apparatus Organizations (OPDs) in the Riau Islands Province, with self-efficacy as a mediating factor and organizational support as a moderating factor.
Design/Methodology/Approach: A quantitative approach using a survey method was employed. Data were collected from 185 employees in OPD using a structured questionnaire. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with Smart PLS software, allowing for both direct and indirect effect evaluations.
Research findings: Transformational leadership and digital competence were found to significantly enhance employee performance, both directly and indirectly, with self-efficacy mediating their positive effects. Organizational support further strengthened these relationships as a moderating factor. Together, these variables accounted for 90.3% of the variance in performance, emphasizing the need for leadership that inspires and equips employees with digital skills to thrive in a technology-driven workplace.
Theoretical Contribution/Originality: The study integrates leadership, digital competence, and psychological constructs (self-efficacy and organizational support) in the context of public sector organizations. It highlights the interplay between these variables, offering a comprehensive framework for improving employee performance in a digital era.
Practitioners/Policy Implications: The study emphasizes the importance of developing transformational leadership through targeted training and prioritizing digital competence to address digital-era challenges. Organizations should strengthen support systems, such as continuous training and recognition programs, to boost employee confidence and engagement, fostering sustained performance, innovation, and resilience.
Research Limitations/Implications: This study focuses on Regional Apparatus Organizations in Riau Islands Province, limiting generalizability. Its cross-sectional design restricts causal inference. As such, future research should consider longitudinal and qualitative approaches for deeper insights into these relationships.
Keywords: Transformational Leadership; Digital Competence; Employee Performance; Self-Efficacy; Organizational Support; Regional Apparatus Organization (OPD).

Introduction

In the ever-evolving digital era, public organizations in Indonesia, including Regional Apparatus Organizations (OPDs), face various complex challenges. Specifically, the Riau Islands Province, as a strategic region with great natural and geographical resource potential, requires superior OPD employee performance to ensure effective and efficient public service delivery. However, this improved performance cannot be separated from various supporting factors, such as leadership style, digital competence, self-efficacy, and organizational support (Sarna et al., 2024).

Digital transformation has become a primary demand in bureaucratic reform, yet many Regional Apparatus Organizations (OPDs) in Indonesia, particularly in the Riau Islands Province, continue to face challenges in terms of employees' digital competence. This competence encompasses the ability to use technology to enhance productivity and service quality, which is now a crucial element in the effective management of public organizations (Masod & Zakaria, 2024). Nevertheless, there is a disparity in technological mastery between OPDs located in urban centers and those in remote areas. Employees working in cities tend to have better access to digital training and modern technology, whereas employees in rural areas often face limited access to these resources. This disparity further widens the performance gap among OPDs, potentially hindering the overall quality of public services (Nath et al., 2025).

Apart from digital proficiency, transformational leadership is crucial for encouraging creativity, drive, and flexibility in the workplace. This type of leader can increase their dedication to work, foster trust, and motivate staff to realize the organization's goals (Aulia & Lin, 2024). Nonetheless, many OPDs still struggle with implementing transformational leadership due to a lack of structured leadership training and development programs. Traditional bureaucratic leadership styles that emphasize rigid procedures and formalities continue to dominate OPD management, often failing to motivate and inspire employees to innovate and improve their performance (Golmohammadi, 2025). Apart from leadership and digital competence, employee self-efficacy is another psychological aspect that significantly influences individual performance. Self-efficacy is the conviction that one can accomplish particular activities. Employees with strong self-efficacy are more likely to be proactive, creative, and resilient while addressing obstacles at work in the context of OPD work (Khan et al., 2024).

On the other hand, field observations revealed that many OPD employees in the Riau Islands Province experienced low self-efficacy, particularly when dealing with tasks that require technological adaptation and innovation. A lack of confidence in using technology often becomes a barrier to adapting to changes in the work environment, especially in this era of digitalization (Bahyan et al., 2024). Organizational support also plays a crucial role in strengthening the relationship between self-efficacy and employee performance. This support can come in the form of policies that promote employee competency development, adequate work facilities, and a conducive work environment (Musty, 2024). However, in the context of OPDs in the Riau Islands Province, many employees felt that their organizations did not provide sufficient support, either in the form of regular

training, access to technology, or incentives for outstanding employees. In addition to decreasing employee work satisfaction, this lack of organizational support eroded the favorable correlation between performance and self-efficacy. Even workers with high levels of self-efficacy may find it difficult to reach their full potential in these situations because there is little external organizational support (Golmohammadi, 2025).

This phenomenon reinforces the notion that OPD employee performance in the Riau Islands Province is influenced by various interrelated factors, including leadership style, digital competence, self-efficacy, and organizational support. Therefore, a comprehensive study is needed to identify the root causes of low employee performance and formulate appropriate strategies to enhance OPD employee performance in delivering improved public services. This study aims to examine the effects of digital competency and transformational leadership on OPD workers' performance in the Province of the Riau Islands, accounting for the moderating influence of organizational support and the mediating effect of self-efficacy.

This study's results should help a lot in coming up with plans to boost employee performance by using adaptive leadership techniques, improving digital skills, and making the most of organizational support (Sarna et al., 2024) by looking at things more completely. Thus, this study seeks to address the urgent need to understand the key factors influencing OPD employee performance while providing practical recommendations for local governments to manage human resources more effectively.

Literature Review and Hypotheses Development

The influence of transformational leadership on employee performance

Transformational leadership is defined as a leadership style aimed at inspiring, motivating, and developing individuals to achieve goals that exceed expectations (Bass & Riggio, 2006). Through intellectual stimulation, idealized influence, personalized attention, and inspirational motivation, transformational leaders impact their followers. In various organizational contexts, this leadership style has been proven to enhance work motivation, organizational commitment, and employee productivity. According to recent research, transformational leadership has a major impact on worker performance. According to research by Zu'bi et al. (2023), employee performance, organizational commitment, and transformative leadership are all positively correlated. Additionally, research conducted in Indonesia by Uripan and Mahendra (2025) found that transformational leadership is strongly correlated with work motivation and discipline, both of which have a major impact on employee performance in the setting of a digital workplace. Harmi et al. (2025) also support these findings by emphasizing the importance of effective communication paired with transformational leadership in improving employee productivity in the public sector. Additionally, Korakis and Poulaki (2025), in their systematic review, revealed that the effectiveness of transformational leadership is greatly influenced by the emotional intelligence of the leader. This underscores the

importance of combining emotional and strategic capabilities in influencing employee performance.

The influence of digital competence on employee performance

Digital competence includes an individual's ability to use digital technology effectively to achieve work goals (Ferrari, 2013). This competence is highly relevant in the digital era, where many organizations rely on technology for efficiency and productivity. Research by Purwanto et al. (2020) confirms that digital competence has a direct impact on employee performance in the public sector, especially in the implementation of e-government.

Sun et al. (2025) emphasize the importance of digital competence in the retail industry, particularly in helping employees adapt to automation. The study confirms that sufficient support and training in digital skills lead to improved employee performance and job satisfaction. Similarly, research by Manalu et al. (2025) in the banking sector highlights that digital restructuring requires adjustments in employee digital competencies, which in turn enhances organizational efficiency. Hartati et al. (2025) discovered that the combination of adequate work facilities and digital competence significantly impacts productivity in government agencies. Their findings underscore the importance of creating a supportive environment for employees to maximize their digital potential. In line with this, Sari and Suwandi (2025) explored the effectiveness of digital training programs in enhancing human resource competencies at multinational corporations in Indonesia. The study reported an 85% improvement in organizational performance due to targeted training.

Furthermore, Mujtahidin and Zulkifli (2025) highlighted the role of digital literacy and artificial intelligence (AI) in boosting employee productivity in the creative economy sector. Their study concluded that digital literacy is a significant driver of work productivity. Lastly, Sulistyo and Suryana (2024) designed a performance measurement method for digital firms utilizing the Balanced Scorecard concept. According to their research, one of the most important factors influencing performance in digitally driven firms is employee digital competency.

The influence of self-efficacy on employee performance

Bandura (1997) describes self-efficacy as an individual's belief in their capability to accomplish a specific task. In an organizational setting, self-efficacy is a significant factor that affects individual performance (Schunk & DiBenedetto, 2020). A study by Pratama and Widodo (2020) revealed that self-efficacy plays a mediating role in the relationship between transformational leadership and employee performance. Employees with high self-efficacy are more driven to meet work targets.

Maliyah (2024) determined that self-efficacy positively and significantly influences employee performance via the mediation of employee engagement. This study reinforces the view that employees' self-confidence plays a key role in achieving organizational goals. Additionally, Imran et al. (2025) showed that self-efficacy helps reduce emotional

exhaustion caused by work-life imbalance. This ultimately enhances employee performance. Another study by Bakhtiari et al. (2025) demonstrated that self-efficacy contributes to strengthening the culture of knowledge sharing among employees, which directly impacts organizational performance improvement. Lastly, Zhao and Huang (2025) revealed that self-efficacy helps mitigate the negative effects of work pressure on individual performance. High levels of self-efficacy enable employees to remain productive even under high work pressure.

Organizational support on employee performance

Organizational support denotes the extent to which an organization prioritizes the welfare and requirements of its personnel (Eisenberger et al., 1986). This support includes training, incentives, and the establishment of a conducive work environment, all of which are crucial for motivating individuals to excel. Prior research has demonstrated that organizational support can strengthen the relationship between employee competence and performance, chiefly by promoting increased motivation and engagement (Rhoades & Eisenberger, 2020).

Korir (2025) uncovered that organizational support, which includes rewards and skill development, significantly enhances job satisfaction in the public health sector. This study underscores the need to offer incentives to encourage staff to attain greater productivity. Moreover, a study by Petitta and Ghezzi (2025) revealed that flexible work arrangements supported by organizational policies help employees balance work and personal life. This type of support has a positive impact on both individual and organizational performance, especially in the era of hybrid work.

In the context of employee training, Ogarte et al. (2025) discovered that organizational training programs improve employees' ability to perform tasks more efficiently. An outsourcing company conducted this study, emphasizing the importance of organizational investment in training and mentoring programs. Furthermore, Saydam et al. (2025) investigated the role of organizational support in the hospitality industry in Turkey. Their study found that environmentally supportive organizational policies increased employee engagement and loyalty, which positively impacted organizational productivity.

Lastly, research by Leiva et al. (2025) highlighted the importance of remote work preferences supported by organizational policies, such as flexible schedules and adequate technology provision. This support not only enhances work productivity but also helps employees manage their workloads more effectively, particularly in hybrid work environments.

Research Methods

This study used an explanatory research approach to examine the causal links among transformational leadership, digital competence, employee performance, self-efficacy,

and organizational support. The main goal of this study is to find out how transformational leadership and digital competence affect employee performance, taking into account the role of self-efficacy as a mediator and organizational support as a moderator. Because this research model is so complicated, SmartPLS software was used to do the Partial Least Squares Structural Equation Modeling (PLS-SEM) data analysis. PLS-SEM is a great tool for this study, as it lets the researchers look at the complicated connections between many independent, mediating, and moderating variables. PLS-SEM is more adaptable than Covariance-Based SEM (CB-SEM). It does not depend on strict assumptions like normal data, and it works better for research that aims to make predictions rather than testing theories (Hair et al., 2019). Also, PLS-SEM works well with moderate sample sizes and can maximize the explained variance (R^2) of the dependent variables, which makes it a good choice for this study (Sarstedt et al., 2019).

The research population comprised personnel of Regional Apparatus Organizations (OPDs) in the Riau Islands Province, Indonesia. Due to the large number of OPD employees, a sampling technique was required to ensure accurate representation while maintaining a manageable sample size. Therefore, this study employed the Slovin formula, a widely used method for determining the appropriate sample size based on a known population size and a predefined margin of error. The Slovin formula allows for the selection of a representative sample size while maintaining accuracy and reducing sampling bias. The minimum sample size needed to make sure that the study's results could be applied to all OPD employees was calculated with a 5% margin of error. This led to a final sample size of 185 respondents.

Data collection was conducted through a structured questionnaire survey, which was distributed both online and offline to reach employees across various OPD offices, including those in urban centers and remote areas. The data collection process lasted for two months, allowing sufficient time for respondents to participate. Before collecting full-scale data, the researchers pre-tested the questionnaire with 30 OPD employees to enhance its reliability and validity. The researchers developed the final questionnaire based on validated scales from previous studies and divided it into four main sections. The initial component comprised demographic inquiries like age, gender, job title, and professional experience. In the second part, which was about independent variables, items from Bass and Avolio (1994) were used to measure transformational leadership, and Ferrari's (2013) European Digital Competence Framework (DigComp) was utilized to measure digital competence. The third part talked about mediating and moderating variables. A scale based on Bandura (1997) was used to measure self-efficacy, while a scale created by Eisenberger et al. (1986) was employed to measure organizational support. The final section of the questionnaire measured the dependent variable, employee performance, using indicators adapted from Motowidlo and Van Scotter (1994).

To ensure accuracy and validity, all variables were defined and measured in accordance with well-established theories in the literature. Transformational leadership was assessed through four main dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Avolio, 1994). Ferrari (2013)

conceptualized digital competence as a formative construct that encompasses employees' abilities to utilize technology for productivity, communication, security, and problem-solving. Self-efficacy was defined as employees' confidence in their ability to use technology effectively, as formulated by Bandura (1997). Employees' perceptions of the organization's value for their contributions and well-being guided the assessment of organizational support (Eisenberger et al., 1986). Lastly, employee performance was evaluated in terms of task performance and contextual performance, following the model proposed by Motowidlo and Van Scotter (1994). After data collection, responses were screened for missing values and outliers before conducting statistical analysis using SmartPLS software. The researchers performed the analysis in two main stages.

In the initial phase, the measurement model was assessed for validity and reliability using Cronbach's alpha and the Fornell-Larcker criterion, along with an analysis of average variance extracted and discriminant validity. The next phase involved evaluating the structural model. It looked at direct effects, such as how transformational leadership and digital competence affect employee performance, as well as indirect effects (mediated by self-efficacy) and interaction effects (mediated by organizational support). One of the best things about PLS-SEM is its bootstrapping method, which makes it possible to get a good idea of statistical significance, especially when testing indirect relationships and interaction effects (Henseler et al., 2016). By using this method of analysis, the study guarantees accurate results that give useful information about the things that affect OPD workers' performance in the Riau Islands Province.

Results and Discussion

Evaluation of Measurement Model (Outer Model)

The measurement model (outer model) was evaluated by confirmatory factor analysis (CFA) to determine the validity and reliability of latent components. The findings of the outer model evaluation in this study are detailed below.

Validity Test

This research used Smart PLS 3.0 software to evaluate the validity and reliability of the research instrument. Convergent validity was assessed via the loading factor value, whereas discriminant validity was evaluated through the analysis of the cross-loading value.
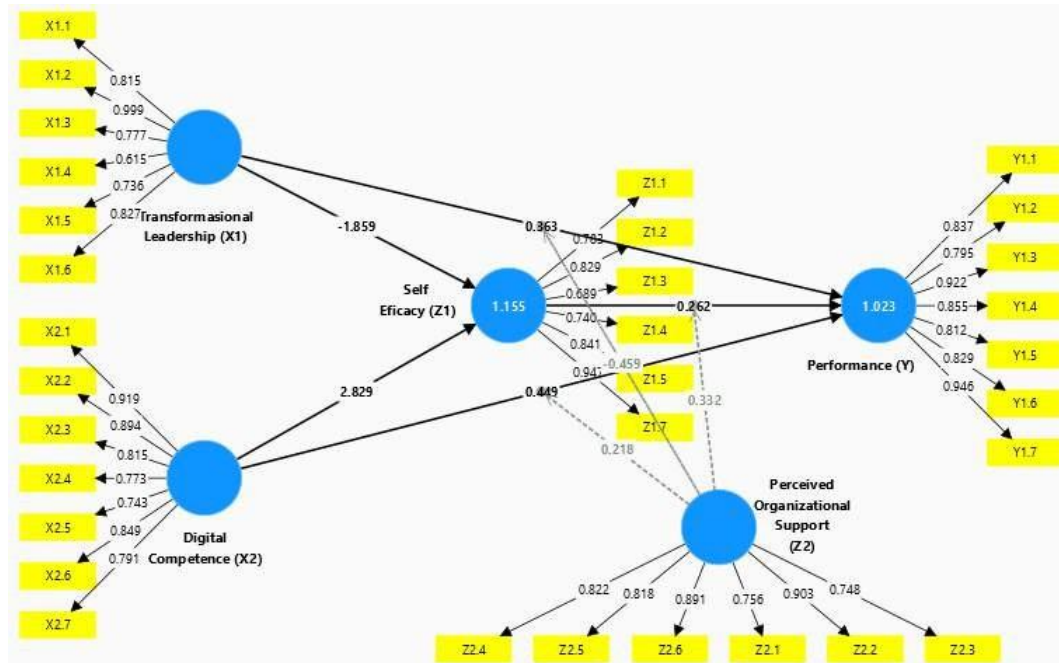
Figure 1 Outer Model

Convergent Validity

Convergent validity in the measuring model utilizing a reflective indicator technique was assessed by examining the correlation between item/component scores and construct scores, as determined by PLS. Figure 1 illustrates that all loading factor values surpassed the threshold of 0.7, signifying the validity of each indicator in this investigation. Therefore, these indicators are suitable for assessing the research variables.

Discriminant Validity

Discriminant validity was evaluated by contrasting the Average Variance Extracted (AVE) values of each construct with the correlations among other constructs in the model. Figure 1 illustrates that the cross-loading values of each targeted indicator demonstrated a more robust connection with their corresponding variables than with other variables. Consequently, it can be inferred that these indicators are generally valid.

Reliability Test

An instrument is deemed reliable if it satisfies these criteria: an Average Variance Extracted (AVE) value surpassing 0.5, a Cronbach's Alpha larger than 0.6, and a Composite Reliability score over 0.7.

Table 1 Calculation of AVE, Cronbach Alpha, and Composite Reliability

	Cronbach's Alpha	*rho_A*	*Composite Reliability*	*Average Variance Extracted (AVE)*
(Y)	0.937	0.941	0.938	0.686
(Z1)	0.926	0.930	0.927	0.681
(Z2)	0.951	0.953	0.951	0.736
(X1)	0.916	0.925	0.918	0.654
(X2)	0.913	0.928	0.914	0.645

According to Table 1, the Cronbach's Alpha values for each variable are: Employee Performance (Y) at 0.937, Self-Efficacy (Z1) at 0.926, Perceived Organizational Support (Z2) at 0.951, Transformational Leadership (X1) at 0.916, and Digital Competence (X2) at 0.913. These results imply that all indicators exhibited dependability when assessing their corresponding latent variables.

Structural Model Evaluation (Inner Model)

The assessment of the inner model employs many metrics, such as the coefficient of determination (R^2), Predictive Relevance (Q^2), and the Goodness of Fit Index (GoF) (Hussein, 2015). The structural model outcomes produced by Smart PLS 3.0 in this investigation are as follows:
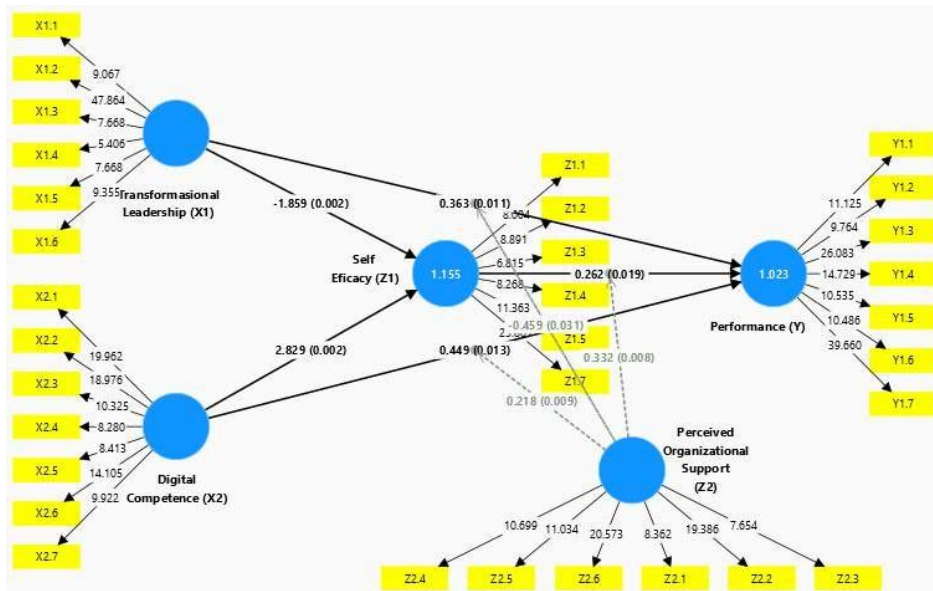

Figure 2 Structural Model (Inner Model)

R2 (R-square) results

In evaluating the model using PLS, the assessment began by examining the R-square (R^2) values for each dependent latent variable. The R^2 calculation results in this study are as follows:

Table 2 Correlation Value (r2)

	R-square	Adjusted R-square
Performance (Y)	0.918	0.903
Self_Eficacy (Z1)	0.932	0.914
Perceived_Organizational_Support (Z2)	0.904	0.893

Based on the bootstrapping results shown in Table 2, the R² value for the Self-Efficacy variable (Z1) was 0.914. This indicates that the Self-Efficacy variable (Z1) was influenced by the Transformational Leadership (X1) and Digital Competence (X2) variables by 91.4%. In other words, these factors contributed 91.4% to the variance in Self-Efficacy (Z1).

The R² value for the Perceived Organizational Support (Z2) variable was 0.893, indicating that it was influenced by the Transformational Leadership (X1) and Digital Competence (X2) variables by 89.3%. In other words, these factors contributed 89.3% to the variance in Perceived Organizational Support (Z2).

The R² value for the Employee Performance (Y) variable was 0.903, indicating that it was influenced by the Transformational Leadership (X1) and Digital Competence (X2) variables by 90.3%. In other words, these factors contributed 90.3% to the variance in Employee Performance (Y).

Hypothesis Testing

According to the findings of the outer model analysis, all examined hypotheses have satisfied the requisite requirements, rendering them appropriate for incorporation into this study's analytical model. This study used a 5% alpha threshold for hypothesis testing, indicating that a hypothesis is deemed significant if the t-statistic is > 2.048 or if the p-value is < 0.05. The 0.05 threshold signifies that the probability of departure is merely 5%, whereas the remaining 95% corroborates the acceptance of the hypothesis.

Hypothesis testing in this study was broken into two parts: direct impact testing and indirect effect testing (mediation). Direct effect testing was executed using bootstrapping in Smart PLS 3.0 software, whilst indirect effect testing was carried out using t-statistics on the indirect effect.

Table 3 Path Coefficients

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (|O/STDEV|)	P Values
X1 -> Z1	0.815	0.808	0.090	9,067	0.000
X2 -> Z1	0.777	0.772	0.101	7,668	0.034
X1 -> Z2	0.615	0.614	0.114	5.406	0.020
X2 -> Z2	0.736	0.733	0.096	7,611	0.047
X1 -> Y	0.827	0.822	0.088	9.355	0.000
X2 -> Y	0.773	0.767	0.093	8,280	0.018
Z1-> Y	0.743	0.737	0.088	8,413	0.016
Z2-> Y	0.791	0.971	0.080	9.922	0.004

Transformational Leadership (X1) Influences Self-Efficacy (Z1)

Based on the test results in Table 3, the t-statistic value for the relationship between the Transformational Leadership variable (X1) and the Self-Efficacy variable (Z1) was 9.067, with a significance value of 0.000. These results indicate that the t-statistic was ≥ 1.96, and the significance value was ≤ the level of significance (α = 5%). Therefore, the first hypothesis was accepted. This indicates that transformational leadership positively and significantly influences employee self-efficacy. Leaders who are able to provide inspiration, motivation, and support to their subordinates can increase their confidence in completing tasks and facing work challenges.

This finding is consistent with the theory of transformational leadership, which emphasizes the role of leaders in building subordinates' self-confidence and capabilities. This finding also aligns with transformational leadership theory, which emphasizes that a leader with a strong vision and the ability to demonstrate empathy and attention to individual needs can effectively build their subordinates' self-confidence. In other words, transformational leaders do not merely provide external motivation but also instill a belief in their subordinates that they possess the capacity to succeed.

Several previous studies support this finding. Jeong and Jeong (2024) revealed that transformational leadership enhances self-efficacy in facing technological challenges, such as the adoption of artificial intelligence (AI) in the workplace, enabling employees to feel more prepared and confident in adapting to changes. On the other hand, Givens (2024) found that transformational leadership not only impacts self-efficacy but also enhances subordinates' commitment, trust, and motivation, all of which collectively contribute to improved organizational performance.

Meanwhile, García et al. (2025) demonstrated that this leadership style is also effective in educational contexts, where teachers who apply transformational leadership can boost their students' confidence in engaging in physical activities. Other research, such as that conducted by Soleh et al. (2025), highlighted that transformational leadership has a direct effect on employees' self-efficacy, ultimately leading to improved work performance. Herbst et al. (2024) specifically examined how transformational leadership development programs help women build confidence in their leadership abilities.

Digital Competence (X2) Influences Self-Efficacy (Z1)

Based on the test results in Table 3, the t-statistic value for the relationship between the Digital Competence variable (X2) and the Self-Efficacy variable (Z1) was 7.668, with a significance value of 0.034. These results indicate that the t-statistic was ≥ 1.96, and the significance value was ≤ the level of significance (α = 5%). Therefore, the second hypothesis was accepted. This indicates that digital competence has a positive and significant influence on employee self-efficacy. Employees with high digital competence tend to have greater self-confidence in completing tasks involving technology. This finding supports the theory that mastery of digital skills can increase individual self-confidence in facing work challenges in the digital era.

Also, this finding aligns with Bandura's self-efficacy theory, which states that mastery in a specific field can enhance an individual's confidence in their ability to succeed in related tasks. In this context, digital competence becomes a crucial factor in helping individuals feel more prepared and capable of adapting to technology-driven situations. In other words, the ability to use technology effectively not only boosts employees' confidence but also enhances their productivity in the workplace.

Previous studies also support this finding. Aumann et al. (2024) demonstrated that digital self-efficacy among teachers plays a vital role in fostering positive attitudes toward the use of technology in teaching. Another study by Falma and Putra (2025) revealed a strong correlation between digital competence and the academic self-efficacy of first-year students, ultimately contributing to improved academic performance. Gao et al. (2025) also found that digital skills combined with resilience can significantly enhance individual self-efficacy, particularly when facing challenges in technology-based learning environments. Purworini et al. (2024) showed that digital literacy training significantly improves teachers' digital competence and self-efficacy, emphasizing the importance of training programs in building confidence in using technology. Additionally, Canoğulları and Sarı (2025) uncovered that digital competence influences the self-efficacy perceptions of middle school teachers, particularly in the context of integrating technology into their teaching methods. Bernsteiner et al. (2025) emphasized that in teacher education, digital competence is a key element in fostering confidence to use innovative technology in classrooms.

Transformational Leadership (X1) Influences Perceived Organizational Support (Z2)

Based on the analysis results in Table 3, the relationship between the Transformational Leadership variable (X1) and the Perceived Organizational Support variable (Z2) had a t-statistic value of 5.406 with a significance level of 0.020. Since the t-statistic exceeded the threshold of 1.96 and the significance value was within the acceptable $\alpha = 5\%$ level, the third hypothesis was supported. This indicates that transformational leadership has a positive and significant effect on employee perceptions of perceived organizational support. Leaders who are inspiring, supportive, and encourage employee development can increase the sense of support employees feel towards the organization. This finding suggests that good leadership can strengthen the relationship between employees and the organization, creating a more supportive work environment.

Transformational leadership plays a vital role in fostering this relationship. Through a clear vision, empathy, and personalized attention to subordinates, transformational leaders not only drive the achievement of organizational goals but also strengthen employees' trust and commitment to the organization. These leaders provide intrinsic motivation and recognize individual contributions, which ultimately enhance employees' appreciation of the organization they work for.

Previous studies further support these findings. Suoniemi (2024) highlighted that transformational leadership practices can positively impact employee well-being and their perceptions of perceived organizational support, particularly through an empathetic

approach and a long-term vision. Similarly, Owotemu et al. (2024) found that transformational leadership fosters a supportive and empowering work culture, which in turn enhances organizational performance. Additionally, Wang et al. (2024) reported that transformational leadership not only improves job performance but also strengthens employee relationships through enhanced perceptions of organizational support. Also, Tharushika et al. (2025) showed that how employees feel about perceived organizational support can be a key link between transformational leadership and their creativity. This shows how important supportive leadership is for encouraging innovation. Romy et al. (2024) talked about how transformational leadership can make the workplace more supportive, especially for millennials, by balancing employees' needs with the needs of the organization.

Digital Competence (X2) Influences Perceived Organizational Support (Z2)

According to the test results in Table 3, the relationship between the Digital Competence variable (X2) and the Perceived Organizational Support variable (Z2) had a t-statistic value of 7.611 with a significance level of 0.047. Since the t-statistic exceeded 1.96 and the significance value was within the acceptable $\alpha = 5\%$ threshold, the fourth hypothesis was confirmed. This indicates that digital competence has a positive and significant effect on employee perceived organizational support. Employees who have better digital skills tend to feel more supported by the organization because they are better able to overcome technological challenges and receive support in developing these skills. This finding highlights the importance of developing digital competence in enhancing positive relationships between employees and the organization.

Previous research supports this finding. Semenikhina (2025) also highlights how digital literacy contributes to enhancing employees' positive perceived organizational support, particularly in the education sector. Bäckelin (2024) discusses the importance of digital competence in improving professional development, especially in the public sector, through an integrated framework. Furthermore, Deliu and Olariu (2024) emphasize the role of universities in equipping future professionals with relevant digital skills, which strengthens their perceptions of institutional support. Aulia and Lin (2024) underline that digital competence, supported by effective e-leadership, can enhance employee engagement and well-being, particularly in remote work environments.

Transformational Leadership (X1) Influences Employee Performance (Y)

Based on the analysis results in Table 3, the relationship between the Transformational Leadership variable (X1) and the Employee Performance variable (Y) had a t-statistic value of 9.355 with a significance level of 0.000. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable $\alpha = 5\%$ threshold, the fifth hypothesis was confirmed. This finding suggests that transformational leadership positively and significantly impacts employee performance. Leaders who effectively inspire, motivate, and support their employees in achieving organizational objectives tend to enhance overall performance. This finding supports the theory that effective leadership can improve individual and team performance in an organization.

Transformational leadership not only provides external motivation but also fosters a strong work spirit by recognizing individual contributions and encouraging innovation by creating a close alignment between individual and organizational goals; transformational leadership helps enhance employees' sense of responsibility for their work outcomes, ultimately improving productivity and overall organizational performance. Previous studies support these. Rawashdeh et al. (2024) discovered that job satisfaction plays a vital mediating role in the connection between transformational leadership and employee performance. Their findings indicate that this leadership style significantly improves work outcomes by fostering employee well-being and overall job satisfaction. Additionally, Lukito et al. (2025) highlighted that transformational leadership plays a key role in fostering sustainable performance in family businesses, emphasizing how supportive leaders with a long-term vision can strengthen employee productivity and engagement. Furthermore, Askar and Prahiawan (2025) asserted that transformational leadership combined with job satisfaction has a significant impact on employee performance across various organizations in Indonesia.

Digital Competence (X2) Influences Employee Performance (Y)

Based on the analysis results in Table 3, the relationship between the Digital Competence variable (X2) and the Employee Performance variable (Y) had a t-statistic value of 8.280 with a significance level of 0.018. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable α = 5% threshold, the sixth hypothesis was confirmed. This finding suggests that digital competence has a significant and positive impact on employee performance. Employees who have good digital skills tend to be more efficient and effective in completing tasks, especially in a work environment that is increasingly dependent on technology. This finding confirms the importance of mastering digital competence in improving individual performance in the digital era.

The ability to master digital skills is crucial in today's digital era, as it not only enhances productivity but also boosts confidence in handling technology-based tasks. Organizations that actively invest in the development of employees' digital skills will benefit from improved performance, innovation, and overall competitiveness. Previous studies support these findings. Bäckelin (2024) discusses the importance of digital skills in the public sector, particularly in enhancing professional development through integrated digital frameworks. Additionally, Waluyo and Mulya (2024) highlight the relationship between digital literacy and employee performance in local government settings, demonstrating how technological proficiency can optimize public administration performance. Research by Sun et al. (2025) also shows how digital adaptability among retail employees improves their work efficiency, especially in industries that have embraced automation.

Self-Efficacy (Z1) Influences Employee Performance (Y)

Based on the analysis results in Table 3, the relationship between the Self-Efficacy variable (Z1) and the Employee Performance variable (Y) had a t-statistic value of 8.413 with a significance level of 0.016. Since the t-statistic exceeded 1.96 and the significance value

fell within the acceptable α = 5% threshold, the seventh hypothesis was confirmed. This finding suggests that self-efficacy has a significant and positive impact on employee performance. Individuals with strong confidence in their ability to accomplish tasks generally demonstrate superior performance. This aligns with the theory that self-belief and assurance in one's own capabilities contribute to better work outcomes and facilitate the achievement of organizational objectives.

The theoretical framework, such as Bandura's self-efficacy theory, supports this finding. It states that an individual's belief in their abilities significantly influences task performance, goal achievement, and job satisfaction. By fostering employee confidence, organizations can enhance productivity and create a more collaborative and innovative work environment. Previous research provides evidence to strengthen this finding. Milojević et al. (2024) highlighted the role of self-efficacy in the healthcare sector, where professionals with high confidence in their abilities demonstrated better motivation, satisfaction, and productivity. Rangkuti et al. (2024) explained how self-efficacy moderates the relationship between job demands and resources, thereby improving work engagement and employee performance. Additionally, Karamshahi et al. (2025) emphasized that self-efficacy plays a vital role in sustainable organizational performance, particularly in knowledge-based industries such as auditing. Maliyah (2024) also found that self-efficacy enhances employee work efficiency and strengthens their trust in the organization.

Perceived Organizational Support (Z2) Influences Employee Performance (Y)

Based on the analysis results in Table 3, the relationship between the Perceived Organizational Support variable (Z2) and the Employee Performance variable (Y) had a t-statistic value of 9.922 with a significance level of 0.004. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable α = 5% threshold, the eighth hypothesis was confirmed. This finding suggests that perceived organizational support has a significant and positive impact on employee performance. Employees who feel supported by their organization are more likely to perform better, as they feel valued and motivated to contribute toward shared goals. This finding confirms the importance of organizational support in improving individual performance in an organization.

Employees' perception of organizational support reinforces their psychological connection with the organization while also fostering a sense of security and confidence in carrying out their duties effectively. A work environment that nurtures employees' well-being enhances their sense of value, thereby encouraging them to perform at their highest potential. Previous research supports these findings. Amoadu et al. (2025) highlighted that organizational support in the healthcare sector enhances job satisfaction and employee performance. Additionally, Nieto-Aleman et al. (2025) revealed that work-life balance supported by the organization contributes to improved performance and reduced employee stress levels. Gustavsson et al. (2025) discussed the importance of organizational support in the context of software development teams using agile frameworks, showing that such support directly impacts team satisfaction and performance.

Indirect Effect Testing

The indirect effect test was carried out to assess the strength of the influence of the independent variable (X) on the dependent variable (Y) through the intervening variable (Z). This is determined based on the condition that the t-statistic value must be greater than 2.048. An indirect effect is considered significant if both direct effects that compose it are also significant. The results of this test are presented in the following table:

Table 4 Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics (|O/STDEV|)	P Values
X1-> Z1 -> Y	0.783	0.783	0.098	8,891	0.008
X2-> Z1 -> Y	0.689	0.680	0.101	6.815	0.023
X1 -> Z2 -> Y	0.740	0.735	0.089	8.268	0.011
X2 -> Z2 -> Y	0.748	0.747	0.098	7,654	0.017

Transformational Leadership (X1) has a significant influence on Employee Performance (Y) through Self Efficacy (Z1)

Based on the test results in Table 4, the relationship between the Transformational Leadership variable (X1) and the Employee Performance variable (Y) through the Self-Efficacy variable (Z1) had a t-statistic value of 8.891 with a significance level of 0.008. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable α = 5% threshold, the ninth hypothesis was confirmed. This finding suggests that self-efficacy serves as a mediating factor that enhances the impact of transformational leadership on employee performance. Leaders who inspire and support their subordinates can boost employees' self-confidence, which, in turn, positively influences their performance. This result highlights the crucial role of self-efficacy in reinforcing the link between transformational leadership and employee performance.

Transformational leadership significantly contributes to the development of self-efficacy through a clear vision, individualized attention, and intrinsic motivation provided to employees. This relationship creates a supportive work environment where employees feel valued and encouraged to give their best contributions. Thus, self-efficacy becomes a critical enhancer in improving both individual and team performance. Previous studies support these findings. Aziz et al. (2024) found that self-efficacy serves as an important mediator in enhancing the performance of lecturers in higher education institutions through transformational leadership. Another study by Soleh et al. (2025) demonstrated that the combination of transformational leadership and self-efficacy significantly improves the work effectiveness of employees in regional government offices. Similarly, Yunita and Darmastuti (2024) revealed that self-efficacy strengthens the influence of transformational leadership on employee efficiency, highlighting the importance of building confidence to achieve optimal performance. Supported by these findings, it can be concluded that organizations should prioritize the development of self-efficacy through supportive leadership and skill development programs to achieve better work outcomes.

Self-efficacy, or an employee's belief in their ability to succeed, is essential for enhancing work engagement, productivity, adaptability, and resilience (Bandura, 1997). Employees with high self-efficacy are more confident, proactive, and persistent, leading to greater efficiency and lower stress levels (Aziz et al., 2024). Organizations can strengthen self-efficacy by setting clear goals, providing autonomy, and offering continuous skill development programs, which help employees build confidence in their abilities (Bass & Riggio, 2006). Additionally, self-efficacy fosters adaptability and innovation, as employees with strong self-belief are more open to digital transformation and problem-solving (Purworini et al., 2024).

Beyond performance, self-efficacy significantly impacts motivation and employee retention. Employees with strong confidence in their skills exhibit higher job satisfaction, greater commitment, and lower turnover rates (Imran et al., 2025). Organizations that implement recognition programs, career development opportunities, and leadership training create a more engaged, resilient, and high-performing workforce (García et al., 2025). By fostering self-efficacy, businesses cultivate a confident and adaptable workforce, driving long-term organizational success.

Digital Competence (X2) has a significant effect on Employee Performance (Y) through Self Efficacy (Z1)

Based on the test results in Table 4, the relationship between the Digital Competence variable (X2) and the Employee Performance variable (Y) through the Self-Efficacy variable (Z1) had a t-statistic value of 6.815 with a significance level of 0.023. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable $\alpha = 5\%$ threshold, the tenth hypothesis was confirmed. This finding suggests that self-efficacy serves as a mediating factor that strengthens the impact of digital competence on employee performance. Employees with strong digital skills tend to have greater confidence in handling technology-related tasks, which, in turn, enhances their overall performance. This finding confirms the importance of mastering digital skills in improving performance through increased self-confidence.

Digital competence, which includes the ability to use, manage, and apply technology effectively, becomes more meaningful when combined with high levels of self-efficacy. In this context, organizations that focus on developing digital skills while simultaneously building employees' confidence can achieve higher levels of productivity, adaptability, and innovation. Previous studies support this finding. Setyaningrum et al. (2025) demonstrated that digital competence when paired with work-life balance, can enhance service performance by boosting confidence in applying skills. Furthermore, Rachmawati and Sahid (2024) discussed how digital competence influences career readiness and performance, with self-efficacy serving as a critical factor that helps employees adapt to technological advancements. Marlapa et al. (2024) also revealed that the combination of digital competence and self-efficacy can support the implementation of better sustainable work practices, particularly in the context of technology adoption.

Self-efficacy plays a crucial role in enhancing employee performance, particularly in the digital era, where technological competence is essential for efficiency and innovation. When employees believe in their ability to master digital tools, they experience lower anxiety, higher engagement, and improved productivity. Organizations can strengthen this by providing continuous digital training, mentorship programs, and opportunities for employees to apply new skills in real-world scenarios, reinforcing their confidence in utilizing technology effectively (Rachmawati & Sahid, 2024).

Beyond productivity, self-efficacy fosters adaptability, innovation, and resilience in the face of technological changes. Employees who trust their digital skills are more likely to embrace change, experiment with new solutions, and contribute to workplace innovation (Marlapa et al., 2024). Additionally, self-efficacy reduces resistance to digital transformation, as employees feel empowered to learn and integrate technology into their workflows. Organizations that promote a supportive environment, recognize digital achievements and provide structured career development paths enable employees to maximize their digital competence and drive long-term organizational success.

Transformational Leadership (X1) has a significant influence on Employee Performance (Y) through Perceived Organizational Support (Z2)

Based on the test results in Table 4, the relationship between the Transformational Leadership variable (X1) and the Employee Performance variable (Y) through the Perceived Organizational Support variable (Z2) had a t-statistic value of 8.268 with a significance level of 0.011. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable α = 5% threshold, the eleventh hypothesis was confirmed. This finding suggests that perceived organizational support acts as a mediator, enhancing the effect of transformational leadership on employee performance. Leaders who provide encouragement and inspiration can strengthen employees' perceptions of organizational support, which in turn leads to improved performance. This result underscores the crucial role of organizational support in facilitating the positive impact of leadership on employee performance.

Perceived organizational support amplifies the positive impact of transformational leadership by fostering a work environment that encourages collaboration and strengthens employees' sense of belonging. This not only boosts productivity but also nurtures stronger connections between employees and the organization. In essence, organizations that actively support their workforce can enhance the effectiveness of transformational leadership, leading to greater overall performance and engagement. Previous research supports these findings. A study by Owotemu et al. (2024) revealed that in the public sector, organizational support helps increase productivity by providing a more inclusive and supportive work environment. Meanwhile, Kurniawan and Nurmaya (2025) found that the combination of transformational leadership and perceived organizational support significantly enhances employee performance in Indonesian government agencies. These findings emphasize that organizations need to prioritize the development of a supportive work culture where employees feel valued and supported. By taking this approach,

organizations can maximize the benefits of transformational leadership and create a more productive and harmonious work environment.

A transformational leadership approach positively impacts employee performance by shaping their perception of organizational support making them feel valued and appreciated. Leaders who offer motivation, encouragement, and empowerment help cultivate a workplace culture that deepens employees' connection to the organization, thereby boosting their engagement, motivation, and overall productivity (Asgari et al., 2008). Employees who believe that their organization cares about their well-being and professional development tend to be more committed, resilient, and proactive in performing their duties. Organizations can reinforce this effect by implementing recognition programs, offering career development opportunities, and ensuring open communication channels, thereby strengthening employees' confidence in their organization's support system (Purwanto, 2020).

Beyond increasing motivation, perceived organizational support amplifies the impact of transformational leadership by enhancing job satisfaction and reducing workplace stress. Employees who work under transformational leaders in a supportive organizational culture tend to exhibit higher job loyalty and a strong sense of belonging, contributing to lower turnover rates and improved team collaboration. When employees feel that leaders and the organization are genuinely invested in their success, they are more motivated to contribute meaningfully to achieving organizational goals. To maximize this impact, organizations should cultivate a trust-based work culture, encourage positive leader-employee interactions, and establish a strong support system that enables employees to perform at their best while feeling valued and respected (Dinc et al., 2022).

Digital Competence (X2) has a significant effect on Employee Performance (Y) through Perceived Organizational Support (Z2)

Based on the test results in Table 4, the relationship between the Digital Competence variable (X2) and the Employee Performance variable (Y) through the Perceived Organizational Support variable (Z2) had a t-statistic value of 7.654 with a significance level of 0.017. Since the t-statistic exceeded 1.96 and the significance value fell within the acceptable α = 5% threshold, the twelfth hypothesis was confirmed. This finding suggests that perceived organizational support serves as a mediator that enhances the impact of digital competence on employee performance. Employees with strong digital skills who also feel supported by their organization tend to perform better. This result highlights the crucial synergy between digital competence and organizational support in driving employee performance improvements.

Digital competence enables employees to adapt to the continuously evolving technological demands in the workplace, while organizational support provides security, recognition, and motivation for employees to utilize these skills optimally. When these two elements align, employees not only feel more confident in facing work challenges but also become more motivated to deliver high-quality results. Previous research supports these findings. A study conducted by Masod and Zakaria (2024) demonstrated that in the

manufacturing sector, digital competence supported by organizational systems helps overcome technological challenges and enhances employee productivity. Another study by Bäckelin (2024) in Sweden's public sector revealed that organizational support combined with mastery of digital technology improves employees' effectiveness in using digital tools professionally. Furthermore, Aulia and Lin (2024) highlighted how leadership support in the digital context strengthens the relationship between AI-based digital competence and employee performance, especially in remote work settings.

Employees' digital competence plays a crucial role in enhancing performance, especially when reinforced by the perception of organizational support. Such support offers essential resources, motivation, and confidence, enabling employees to develop and utilize their digital expertise fully. Employees with strong digital competence can adapt quickly to technological changes, improving efficiency, innovation, and overall job performance (Pacheco & Coello-Montecel, 2023). However, without adequate organizational support, employees may struggle to utilize their digital skills effectively. Organizations that provide ongoing digital training, value employees' tech skills, and create an inclusive work environment help employees use digital tools effectively. This boosts their engagement and productivity (Garini & Muafi, 2023).

Beyond enhancing technical capabilities, the synergy between digital competence and perceived organizational support promotes workplace adaptability, creativity, and collaboration. Employees who feel supported in utilizing digital tools are more confident in adopting new technologies, less resistant to change, and more proactive in implementing digital solutions (Suseno & Suadma, 2023). Organizations that promote digital learning, support from leaders for using technology, and clear career growth in digital skills help employees handle digital changes better. This results in greater job satisfaction, less resistance to new technology, and ongoing performance improvements. By aligning digital competence with strong organizational support, businesses can cultivate a digitally competent and resilient workforce, ensuring long-term success in the evolving digital landscape.

Conclusion

This study highlights the interconnected roles of transformational leadership, digital competence, self-efficacy, and perceived organizational support in enhancing employee performance. Transformational leadership emerges as a critical driver, where leaders who inspire, motivate, and provide individualized attention significantly boost employee confidence and productivity. Additionally, digital competence is vital in today's technology-driven workplace, as it enables employees to adapt effectively, enhance efficiency, and meet organizational objectives. The role of self-efficacy is equally noteworthy; employees with high levels of self-belief exhibit greater resilience, adaptability, and initiative, thereby improving overall performance. Furthermore, perceived organizational support serves as a moderating factor, strengthening the relationship between employee competencies and performance by fostering a positive, resourceful, and inclusive work environment.

The findings suggest several actionable strategies for organizational policy. First, leadership development programs should emphasize transformational skills, such as vision setting, emotional intelligence, and employee empowerment. Organizations should also prioritize digital competence training through workshops and continuous learning initiatives to ensure employees can navigate evolving technological demands. Moreover, fostering a culture of organizational support—through recognition programs, flexible work arrangements, and the provision of adequate resources—can enhance job satisfaction and loyalty, which in turn drive productivity. These policies are essential for maintaining a competitive edge in rapidly changing and technology-driven sectors.

Despite these valuable insights, this study has several limitations. First, the study drew its findings from specific organizational contexts, potentially limiting their generalizability to other industries or cultural settings. Secondly, the cross-sectional design of this research limited the ability to determine causal relationships between variables. Hence, future studies should adopt a longitudinal approach to better examine the long-term impact of these factors on employee performance. Finally, the researchers need to learn more about how digital competence, self-efficacy, and outside factors like organizational culture might interact with each other so a better picture of how they all affect performance can be obtained.

Another limitation of this study is its cross-sectional research design, meaning that data were collected at a single point in time. This limitation restricted the ability to draw causal conclusions regarding the relationships between transformational leadership, digital competence, self-efficacy, perceived organizational support, and employee performance. To better understand how these relationships evolve, future research should employ a longitudinal design, allowing for a more comprehensive analysis of the long-term impact of these factors on employee performance.

As an extension of this study, future research could investigate how industry-specific dynamics affect the relationship between leadership, digital competence, and employee performance, as these influences may vary across the public sector, private enterprises, and multinational corporations. Furthermore, cultural factors should be taken into account, as variations in organizational and national cultures may influence how employees perceive leadership styles and organizational support.

References

Amoadu, M., Agyare, D. F., Doe, P. F., & Abraham, S. A. (2025). Examining the impact of psychosocial safety climate on working conditions, well-being and safety of healthcare providers: a scoping review. *BMC Health Services Research*, *25*(1), 90. https://doi.org/10.1186/s12913-025-12254-2

Asgari, A., Silong, A. D., Ahmad, A., & Samah, B. A. (2008). The relationship between transformational leadership behaviors, organizational justice, leader-member exchange, perceived organizational support, trust in management and organizational citizenship behaviors. *European Journal of Scientific Research*, *23*(2), 227-242.

Askar, R. Y., Prahiawan, W., & Khaerunnisa, E. (2025). Pengaruh Gaya Kepemimpinan Transformasional dan Motivasi Ekstrinsik terhadap Kinerja Karyawan dengan Kepuasan Kerja Sebagai Variabel Intervening ada PT. Bangun Beton Indonesia. *J-CEKI: Jurnal Cendekia Ilmiah*, *4*(2), 683-701.

Aulia, S. R., & Lin, W. S. (2024). Embracing the digital shift: Leveraging AI to foster employee well-being and engagement in remote workplace settings in the Asia Pacific region. *Asia Pacific Management Review*, 100339.

Aumann, A., Grassinger, R., & Weitzel, H. (2024). Exploring the Influence of Vicarious Experiences in Teaching with Digital Technology on Pre-Service Science Teachers' Digitalization-Related Affective-Motivational Dispositions. *Education Sciences*, *15*(1), 15. https://doi.org/10.3390/educsci15010015

Aziz, M. F. N., Mahmud, R., Hidayati, R., & Lataruva, E. (2024). The Role of Emotional Intelligence and Self-Efficacy in Enhancing Employee Performance: A Systematic Literature Review. *Research Horizon*, *4*(6), 183-194.

Bäckelin, J. (2024, December). Enhancing professional development in the Swedish public sector: Strategies for effective integration of micro-credential frameworks for competence management. In *International Symposium on Digital Transformation*.

Bahyan, H., Ajmal, M. M., & Saber, H. (2024). Going resilient with digital transformation, human capabilities and innovation readiness: empirical evidence from the energy sector. *Benchmarking: An International Journal*. https://doi.org/10.1108/bij-10-2023-0699

Bakhtiari, M., Sharei, Z., & Rezania, H. (2025). Analysis of the role of motivations and organizational culture on the intention to share knowledge in the direction of Online knowledge sharing. *Sciences and Techniques of Information Management*.

Bandura, A. (1997). Self-Efficacy: The Exercise of Control. WH Freeman.

Bass, B. M., & Avolio, B. J. (Eds.). (1994). *Improving organizational effectiveness through transformational leadership*. Sage.

Bass, B. M., & Riggio, R. E. (2006). *Transformational Leadership*. Psychology Press. https://doi.org/10.4324/9781410617095

Bernsteiner, A., Haagen-Schützenhöfer, C., & Schubatzky, T. (2025). Teacher Education in the Age of Digitality: Conclusions From a Design-Based Research Project. *European Journal of Education*, *60*(1), e12904. https://doi.org/10.1111/ejed.12904

Canoğulları, E., & Sarı, M. (2025). A Phenomenological Research on Examining Middle School Teachers' Digital Competency Self-Efficacy Perceptions. *Journal of Learning and Teaching in Digital Age*, *10*(1), 1-11. https://doi.org/10.53850/joltida.1407289

Deliu, D., & Olariu, A. (2024). The Role of Artificial Intelligence and Big Data Analytics in Shaping the Future of Professions in Industry 6.0: Perspectives from an Emerging Market. *Electronics*, *13*(24), 4983. https://doi.org/10.3390/electronics13244983

Dinc, M. S., Zaim, H., Hassanin, M., & Alzoubi, Y. I. (2022). The effects of transformational leadership on perceived organizational support and organizational identity. *Human Systems Management*, *41*(6), 699-716. https://doi.org/10.3233/HSM-211563

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

Falma, F. O., & Putra, A. H. (2025). Correlation between academic self-efficacy and digital competence: an empirical study on first year students. *Journal of Counseling, Education and Society*, *6*(1), 1-9.

Ferrari, A., & Punie, Y. (2013 *DIGCOMP: A framework for developing and understanding digital competence in Europe*. G. European Commission Joint Research Centre.

Gao, Y., Wang, X., & Reynolds, B. L. (2025). The Mediating Roles of Resilience and Flow in Linking Basic Psychological Needs to Tertiary EFL Learners' Engagement in the

Informal Digital Learning of English: A Mixed-Methods Study. *Behavioral Sciences*, *15*(1), 85. https://doi.org/10.3390/bs15010085

García, C. S., Reigal, R. E., Hernández-Martos, J., Hernandez-Mendo, A., & Morales-Sánchez, V. (2025) Transformational Teacher Leadership and Physical Education Students' Intention to be Active: The Mediating Roles of Motor Self-Efficacy and Enjoyment. *Perceptual and motor skills*, 315125241308604.

Garini, R. A., & Muafi, M. (2023). The effect of digital competence, work life balance and work stress towards service performance with moderation of emotional intelligence on employees of PT. X. International Journal of Business Ecosystem & Strategy (2687-2293), 5(2), 01-11. https://doi.org/10.36096/ijbes.v5i2.403

Golmohammadi, E. (2025). Identifying strategic capabilities in the formation of transient competitive advantage in beauty salons. *Commercial Strategies*.

Gustavsson, T., Ahmad, M. O., & Saeeda, H. (2025). Job Satisfaction at Risk: Measuring the Role of Process Debt in Agile Software Development. *Journal of Systems and Software*, 112350. https://doi.org/10.1016/j.jss.2025.112350

Hair, J.F., Hult, G.T.M., Ringle, C.M., & Sarstedt, M. (2019). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM). Sage Publications. https://doi.org/10.3926/oss.37

Harmi, H., Syahsudarmi, S., & Munthe, R. A. (2025). Pengaruh kepemimpinan transformasional dan komunikasi kerja terhadap kinerja pegawai pada sekretariat dewan perwakilan rakyat provinsi riau melalui kepuasan kerja sebagai intervening. *Amnesia (jurnal manajemen sumber daya manusia)*, *3*(1), 51-61.

Hartati, Y., Susanti, N., & Astuty, K. (2025). The Effect Of Competency And Work Facilities On Employee Performance Of Regional Financial Agencies In The Government Of Seluma Regency. *Jurnal Akuntansi, Manajemen dan Bisnis Digital*, *4*(1), 131-136.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International marketing review*, *33*(3), 405-431. https://doi.org/10.1108/IMR-09-2014-0304

Imran, M. K., Sarwar, A., Fatima, T., & Shabeer, S. (2025). Am I depleting from work or life? A nexus among work-life balance, self-efficacy, emotional exhaustion and performance. *Asia-Pacific Journal of Business Administration*. https://doi.org/10.1108/APJBA-05-2024-0253

Jeong, J., & Jeong, I. (2024). Driving creativity in the AI-enhanced workplace: roles of self-efficacy and transformational leadership. *Current Psychology*, 1-14. https://doi.org/10.1007/s12144-024-07135-6

Karamshahi, B., Fazel, A., & Harandi, A. (2025). Modeling the direct and mediating effect of knowledge management processes on sustainable organizational performance in auditing companies. *Audit Science*, *24*(97), 115-145.

Khan, M. I., Yasmeen, T., Khan, M., ul Hadi, N., Asif, M., Farooq, M., & Al-Ghamdi, S. G. (2024). Integrating industry 4.0 for enhanced sustainability: Pathways and prospects. *Sustainable Production and Consumption*. *https://doi.org/10.1016/j.spc.2024.12.012*

Korakis, G., & Poulaki, I. (2025). A Systematic Literature Review on the Relationship Between Emotional Intelligence and Transformational Leadership—A Critical Approach. *Businesses*, *5*(1), 4. https://doi.org/10.3390/businesses5010004

Korir, C. J. (2025). Job Satisfaction on Employee Performance at Uasin Gishu County Hospital, Kenya.

Kurniawan, A., Nurmaya, E., & Hidayat, A. C. (2025). Pengaruh Gaya Kepemimpinan Tranformasional, Perceived Organizational Support dan Person-Job Fit Terhadap

Kinerja Pegawai ASN BKAD Kabupaten Kulon Progo. *EKOMA: Jurnal Ekonomi, Manajemen, Akuntansi*, *4*(2), 4250-4265. https://doi.org/10.56799/ekoma.v4i2.7347

Lukito, D., Susanti, M., Susanto, Y., Judijanto, L., Ali, M., & Mahardhani, A. J. (2025). Determinants of sustainable employee performance: A study of family businesses in Indonesia. *Asia Pacific Management Review*, 100340. https://doi.org/10.1016/j.apmrv.2024.12.004

Maliyah, A. W. (2024). Pengaruh self efficacy dan organizational trust terhadap employee performance melalui employee engagement. *Jurnal Ilmu Manajemen*, 1006-1022.

Manalu, B. H., Maria, E., Ady, S. U., & Sayidah, N. (2025). Bank Himbara's Employee Organizational Performance Model Through Employee Competencies. *Jurnal Ekuisci*, *2*(3), 146-157. https://doi.org/10.62885/ekuisci.v2i3.586

Marlapa, E., Pramudena, S. M., bin Rahmad, k., & Ahmad, N. H. (2024, November). Capacity building in job sustainability for permai members in Pulau Pinang, Malaysia. In *ICCD* (Vol. 6, No. 1, pp. 659-670). https://doi.org/10.33068/iccd.v6i1.798

Masod, M. Y. B., & Zakaria, S. F. (2024). Artificial Intelligence Adoption in the Manufacturing Sector: Challenges and Strategic Framework. *International Journal of Research and Innovation in Social Science*, *8*(10), 150-158. https://doi.org/10.47772/IJRISS.2024.81000013

Milojević, S., Aleksić, V. S., & Slavković, M. (2024). "Direct Me or Leave Me": The Effect of Leadership Style on Stress and Self-Efficacy of Healthcare Professionals. *Behavioral Sciences*, *15*(1), 25. https://doi.org/10.3390/bs15010025

Motowidlo, S. J., & Van Scotter, J. R. (1994). Evidence that task performance should be distinguished from contextual performance. *Journal of Applied psychology*, *79*(4), 475. https://doi.org/10.1037/0021-9010.79.4.475

Mujtahidin, M., Zulkifli, Z., & Hudaeri, H. (2025). Hubungan antara Penguasaan Literasi Digital dan Pemanfaatan AI dengan Kinerja Karyawan di Industri Ekonomi. *PRIMARY: Journal of Multidisciplinary Research*, *1*(1), 6-10.

Musty, B. (2024, October). AI-Powered Digital Assistants: Revolutionizing Business Operations and the Future of Secretarial Work. In 2024 Asian Conference on Communication and Networks (ASIANComNet) (pp. 1-6). IEEE. https://doi.org/10.1109/ASIANComNet63184.2024.10811016

Nath, A., Onib, S. A. A. S., Barsa, N. J., & Anika, A. (2025). A Quantitative Evaluation of the Impact of Digital Transformation on Operational Efficiency in Service-Oriented Organizations. https://doi.org/10.20944/preprints202501.0184.v1

Nieto-Aleman, P. A., Berné-Martínez, J. M., & Arnal-Pastor, M. (2025). The work–life balance puzzle: a key to success in business and life. *Management Decision*. https://doi.org/10.1108/MD-04-2024-0934

Ogarte, N. A., Bercasio, R. C. T., Lourdes, A., Floranza, S. D. N., Gonzalez, F. V., Morales, M. R. R., & Pili, J. F. G. (2025). Coaching modalities: Its implications on the performance of employees in a BPO company.

Owotemu, A. E., Bernardi, R., & Ayo-Soyemi, O. T. (2024). Impact of Leadership Strategy & Typology on Public Sector Organisational Performance: A Resource Management Perspective. *Voice of the Publisher*, *10*(4), 444-460. https://doi.org/10.4236/vp.2024.104035

Pacheco, P. O., & Coello-Montecel, D. (2023). Does psychological empowerment mediate the relationship between digital competencies and job performance?. *Computers in Human Behavior*, *140*, 107575. https://doi.org/10.1016/j.chb.2022.107575

Petitta, L., & Ghezzi, V. (2025). Disentangling the Pros and Cons of Flexible Work Arrangements: Curvilinear Effects on Individual and Organizational Outcomes. *Economies*, *13*(1), 20. https://doi.org/10.3390/economies13010020

Pratama, F., & Widodo, T. (2020). Self-Efficacy as a Mediator in Transformational Leadership. Journal of Occupational and Organizational Psychology, 9(2), 134- 145.

Purwanto, A. (2020). Effect of transformational leadership, perceived organizational support, job satisfaction toward life satisfaction: Evidences from Indonesian teachers. *International Journal of Advanced Science and Technology*, *29*(03), 5495-5503.

Purwanto, A., et al. (2020). Digital Competence in the Public Sector. International Journal of Public Administration, 43(5), 490-501.

Purworini, D., Pamungkas, E. W., Naidoo, G. M., Rahmadiva, L. A., Chasana, R. R. B., Setyawan, S., ... & Haryanti, Y. (2024). Enhancing digital literacy in early childhood school teachers: Technology and analysis approaches based on social cognitive theory. *Transformasi: Jurnal Pengabdian Masyarakat*, *20*(2), 401-412. https://doi.org/10.20414/transformasi.v20i2.10605

Rachmawati, D., Sahid, S., & Mahmud, M. I. (2024). Empowering Futures: Unveiling the Impact of Career Readiness on Job Seeker and Creator through Self-Efficacy. *Journal on Efficiency and Responsibility in Education and Science*, *17*(4), 299-313. https://doi.org/10.7160/eriesj.2024.170403

Rangkuti, S., Harsasi, M., Asih, D., Patiro, S. P. S., & Yusriani, S (2024). Observing the Influence of Job Demands, Job Resources, and Family Demands on Work Engagement Moderated by Self-Efficacy.

Rawashdeh, A., Elayan, M., Shamout, M., & Saleh, M. (2020). Job satisfaction as a mediator between transformational leadership and employee performance: Evidence from a developing country. *Management Science Letters*, *10*(16), 3855-3864. https://doi.org/10.5267/j.msl.2020.7.026

Rhoades, L., & Eisenberger, R. (2020). Perceived Organizational Support: A Review of the Literature. *Journal of Organizational Behavior, 24*(3), 299-316.

Romy, E., Biso, H., Hadikusumo, R. A., & Sriharyati, S. (2024). Turnover intention in millennial generation: the influence of transformational leadership, work-life balance, and perceived organizational support. *Maker: Jurnal Manajemen*, *10*(2), 262-274.

Sari, P. D., & Suwandi, S. (2025). Efektivitas Program Pelatihan dan Pengembangan SDM di PT Unilever Indonesia dalam Mendukung Kinerja Organisasi. *Socius: Jurnal Penelitian Ilmu-Ilmu Sosial*, *2*(6).

Sarna, S., Khalique, F., Luthra, A., & Bhardwaj, I. (2024). Navigating the digital era: assessing the role of digital transformational leadership in b-school teaching staff performance.

Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587-632). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-57413-4_15

Semenikhina, O. V. (2024). *The problem of forming information hygiene skills in computer science lessons*. Topical Paradigms of Training a Modern Teacher, 248–274. https://doi.org/10.30525/978-9934-26-504-4-12

Setyaningrum, R. P., Rulianti, E., & Susilo, P. (2025). Digitalisation Empowerment of Business to Digital Innovation in the Achievement of SDGs: A Survey on Creative Msme Actors in Indonesia. *Journal of Lifestyle and SDGs Review*, *5*(1), e02770-e02770. https://doi.org/10.47172/2965-730X.SDGsReview.v5.n01.pe02770

Sun, X. C., Swazan, I. S., & Youn, S. Y. (2025, January). Enhancing Digital Adaptability Performance Among Fashion Retail Employees Facing Automation Retail Services. In *International Textile and Apparel Association Annual Conference Proceedings* (Vol. 81, No. 1). Iowa State University Digital Press. https://doi.org/10.31274/itaa.18637

Suoniemi, A. (2024). Professionals' perceptions on management practices supporting employee well-being in a diverse working community.

Tharushika, K. R. D. S., Sellar, T., & Arulrajah, A. A. (2025). How Does Transformational Leadership Influence Employees' Creativity? Examining the Mediating Role of Perceived Organizational Support. *Sri Lankan Journal of Human Resource Management*, *15*(01).

Uripan, K. I., & Mahendra, A. M. (2025). The Influence of Transformational Leadership Style, Work Motivation, and Work Discipline on The Performance of Employees of RSUD Mojokerto District. *International Journal of Humanity Advance, Business & Sciences (IJHABS)*, *2*(3), 269-282. https://doi.org/10.59971/ijhabs.v2i3.389

Waluyo, B., & Mulya, N. P. (2024). Hubungan antara Literasi Digital dan Kinerja Pegawai dalam Era Transformasi Birokrasi di Kesbangpol Kabupaten Solok Selatan. *Nagasena: Jurnal Ilmu Komunikasi Buddha*, *1*(2).

Wang, L., Qian, L., Chang, S. C., Li, Z., & Nachiangmai, S (2024) A study on the effect of transformational leadership on job performance: a case study of Nanning development zone.

Yunita, N. D., & Darmastuti, I. The Effect of Transformational Leadership on Employee Performance Through Self-Efficacy as a Mediating Variable. *International Research Journal of Economics and Management Studies IRJEMS*, *3*(9).

Zhao, L., & Huang, H. (2025). The double-edged sword effects of leader perfectionism on employees' job performance: The moderating role of self-efficacy. *Frontiers in Psychology*, *16*, 1412064. https://doi.org/10.3389/fpsyg.2025.1412064

Zu'bi, S. K., Ibrahimb, H., & Ismailc, E. (2024). A Review of Literature on Human Resource Management, Leadership Style, and Employee Performance. *Journal of Change Management*, *24*(2).