The Influence of Job Characteristics and Work Motivation on Teacher Performance: The Mediating Role of Digital Dexterity and The Moderating Role of Perceived Organizational Support at Vocational High School Ketintang Surabaya

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Article Info :	**Abstract**
	This study aims to investigate the determinants of teacher performance in the vocational education sector, focusing on job characteristics and work motivation as the main antecedents. This study also examines the mediating role of digital dexterity and the moderating effect of Perceived Organizational Support (POS). An explanatory quantitative approach was adopted using Partial Least Squares-based Structural Equation Modeling (SEM-PLS). The research population and sample were all teaching staff at SMK Ketintang Surabaya, totaling 91 people (a saturated sample). Data was collected through questionnaires and processed using SmartPLS 3.0. The findings indicate that job characteristics and work motivation have a significant effect on digital dexterity and teacher performance. Digital dexterity was proven to mediate this influence. Specifically, Perceived Organizational Support (POS) was also shown to significantly moderate the relationship between digital dexterity and teacher performance. These results provide a theoretical contribution, showing that job design and organizational support influence performance in the era of digital transformation. A practical implication that can be applied is the importance of schools providing tangible support and autonomous job design to maximize teachers' digital competencies.

**Keywords:** Job Characteristics, Work Motivation, Digital Dexterity, Perceived Organizational Support, Teacher Performance.

INTRODUCTION

Employee performance is the fundamental foundation of an organization's success, where the achievement of company targets heavily relies on the collective efforts of all its human resources, not merely on individuals alone (Solehan, 2024). In the modern business landscape, the focus of performance has shifted from mere financial profit to the creation of strategic value, primarily driven by digital transformation that is fundamentally altering the work environment. Digital transformation in the workplace, supported by an organization's dynamic capabilities, positively influences the work environment and enhances organizational performance (Chatterjee et al., 2023).

The relevance of this digital transformation is clearly evident in the national context of Indonesia. According to data from the Ministry of Communication and Informatics, there has been a consistent increase in the national digital transformation index, as illustrated in the following chart.
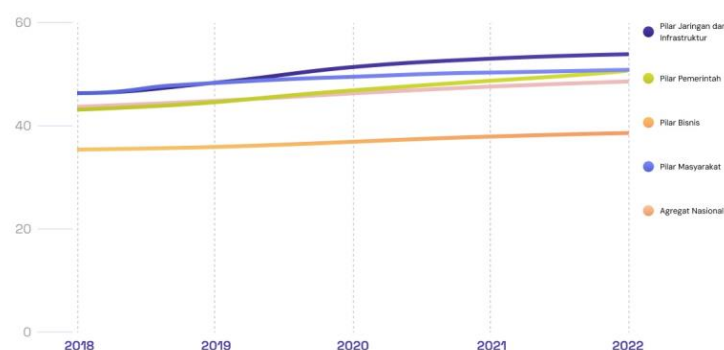

Figure 1. National Digital Transformation Index Development Trend

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In 2022, Indonesia recorded a National Digital Transformation Index (IKD) score of 49.2, an increase from 43.67 in 2018 (Ministry of Communication and Informatics of the Republic of Indonesia, 2025). Although showing a positive trend, this progress is still dominated by the infrastructure and network pillar, while the aspect of productive utilization in the business and society pillars still needs to be improved. This gap between adequate infrastructure and suboptimal utilization confirms that the level of workforce digital dexterity is not just an outcome, but a key driver for the success of the ongoing digital transformation efforts (Ministry of Communication and Informatics of the Republic of Indonesia, 2025).

To navigate these challenges, organizations require digital dexterity, which is a learned ability to achieve fluency in collaboration, adaptability, and creativity (Makhafola et al., 2025). This ability differs from ordinary digital competence as it places greater emphasis on innovation in utilizing digital tools (Santi & Pradana, 2022), which in turn can enhance employee performance multidimensionally, encompassing innovation, productivity, and task efficiency (Barbu et al., 2025).

The development of this digital dexterity is heavily influenced by job design and individual internal drive. Job characteristics that emphasize flexibility, autonomy, and distributed structures inherently demand a high level of digital dexterity from employees (Duan et al., 2024). However, job demands alone are insufficient without strong work motivation. This motivation drives active engagement with digital tools, which builds the necessary experience and skills in a digital work environment (Chiu et al., 2022). Motivated employees tend to have a growth mindset, where they view new technology not as a threat, but as an opportunity for self-development (Kane, 2019).

In addition to internal factors, the company's support ecosystem plays a vital role. Perceived Organizational Support (POS) is necessary to create a psychologically safe environment for employees to adapt. When employees feel the organization cares about their well-being, it boosts their self-efficacy in facing technological challenges (Sameer, 2024). Investment in training and developing digital skills is crucial (Widodo et al., 2024), as this support makes employees more innovative and able to adapt to technological changes (Dewi et al., 2025).

The urgency of integrating human and technological aspects is reflected in SMK Ketintang Surabaya. This school strives to improve the quality of education through teaching staff who possess digital dexterity capabilities to support student readiness for the world of work (SMK Ketintang Surabaya, 2025). Teachers' mastery of technology is crucial for creating relevant and interactive learning in the digital era. Although many studies discuss these variables separately, there is no comprehensive research model that integrates job characteristics and work motivation on digital dexterity and teacher performance by positioning perceived organizational support as a moderator, particularly in an educational environment. Therefore, this study aims to fill this gap through a single, holistic analytical model.

Theoretically, this research is expected to fill a literature gap by presenting a comprehensive model that links job characteristics and work motivation to employee performance through digital dexterity, while positioning perceived organizational support as a moderating variable that is still rarely investigated, particularly in an educational setting. Meanwhile, in practical terms, especially for SMK Ketintang Surabaya, the results of this study can provide strategic guidance for the school management to enhance the digital capabilities of teachers. This will make the learning process more relevant and interactive, and encourage the creation of a work environment that supports workforce innovation and adaptability in facing the challenges of digital transformation.

RESEARCH METHODS

This research adopts a quantitative approach to examine the relationships between the variables of job characteristics, work motivation, digital dexterity, perceived organizational support, and teacher performance. The research sample consists of 91 teaching staff at SMK Ketintang Surabaya, selected using a saturated sampling technique.

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Table 1. Operational Definition of Variables

Variables	Variables Name	Dimension	Code	Indicator
Independent Variables	Job Characteristics	Skill Variety	KP1a	The job requires the use of various professional skills.
			KP1b	Work activities require diverse skills.
			KP1c	Teaching tasks provide opportunities to develop new expertise.
		Task Identity	KP2a	Each job has a clear workflow.
			KP2b	Work results can be seen clearly after the task is completed.
			KP2c	Work processes are carried out thoroughly from start to finish.
		Task Significance	KP3a	Work has a positive impact on students.
			KP3b	Tasks contribute to the development of educational institutions.
			KP3c	Work is important for school development.
		Autonomy	KP4a	Freedom is given to determine learning methods.
			KP4b	Work decisions can be made based on professional considerations.
			KP4c	Task execution is conducted with high independence.
		Feedback	KP5a	Information about work results is obtained clearly.
			KP5b	Feedback from supervisors helps improve performance.
			KP5c	Work evaluation is given regularly for continuous improvement.
	Work Motivation	About The job	MK1a	The job provides opportunities to test self-abilities.
			MK1b	Every responsibility fosters the spirit to achieve.
			MK1c	Difficulties in work are considered learning opportunities.
		Job Interest	MK2a	Work activities provide emotional satisfaction.
			MK2b	Tasks performed feel enjoyable and meaningful.
			MK2c	Work creates a positive spirit in routine activities.
		Recognition & Rewards	MK3a	Work achievements are appreciated by supervisors.
			MK3b	Rewards are given according to work contributions.
			MK3c	Work achievements are recognized by the work environment.
		Work Environment Support	MK4a	Colleagues provide encouragement in carrying out tasks.
			MK4b	The work atmosphere supports productivity improvement.

Variables	Variables Name	Dimension	Code	Indicator
Mediation Variable	Digital Dexterity	Personal Innovativeness	MK4c	The work environment encourages comfort in working.
			DD1a	New technology is utilized to create creative learning methods.
			DD1b	New digital ideas are applied to improve work effectiveness.
			DD1c	Technological changes are seen as opportunities to innovate.
		Technology Self-Efficacy	DD2a	Digital applications are used with full confidence.
			DD2b	Operating technological devices is done without significant difficulties.
			DD2c	Technology challenges are faced with confidence.
		Strategic Tech Use	DD3a	Technology is used to achieve learning objectives.
			DD3b	Digital applications are used to increase work efficiency.
			DD3c	Technology is chosen based on the needs of learning activities.
		Digital Adaptation	DD4a	Changes in digital systems are followed quickly.
			DD4b	Adjustments are made when work devices are updated.
			DD4c	New digital environments are faced without hesitation.
Moderation Variable	Perceived Organizational Support (POS)	Organization Care	POS1a	The leadership cares about educator welfare.
			POS1b	Work needs get attention from the school.
			POS1c	School policies consider workload balance.
		Task Support	POS2a	The school provides needed facilities for work.
			POS2b	Assistance is given when facing work difficulties.
			POS2c	Organizational policies facilitate task completion.
		Performance Recognition	POS3a	Work achievements are valued as a form of accomplishment.
			POS3b	Work results are discussed in forums as positive examples.
			POS3c	Achievement is the basis for increased trust.
		Organization Trust	POS4a	Important tasks are given as a form of trust.
			POS4b	The leadership believes in the ability to carry out responsibilities.
			POS4c	The organization shows faith in educators' professionalism.
Dependent Variable	Teacher Performance	Quality of Work	KG1a	Work is completed with high accuracy.
			KG1b	Work results meet good learning quality standards.

Variables	Variables Name	Dimension	Code	Indicator
		Timeliness	KG1c	Each task provides real benefits for students.
			KG2a	Each task is completed on schedule.
			KG2b	Time discipline is maintained in all work activities.
			KG2c	Task completion delays can be minimized.
		Responsibility	KG3a	Job duties are carried out with full responsibility.
			KG3b	Work commitment is maintained in all teaching activities.
			KG3c	Work obligations are fulfilled without procrastination.

The indicators for job characteristics were adopted from Prayogi et al. (2021), work motivation from Gumasing et al. (2025), digital dexterity from Nikou et al. (2022), Perceived Organizational Support (POS) from Metria & Riana (2018), and teacher performance from Li et al. (2025). This study used an ordinal scale measurement technique, specifically a Likert scale. Assessments on this scale were given weighted scores from 1 to 5, where a score of 5 represents the answer "Strongly Agree," a score of 4 for "Agree," a score of 3 for "Neutral," a score of 2 for "Disagree," and a score of 1 for "Strongly Disagree."
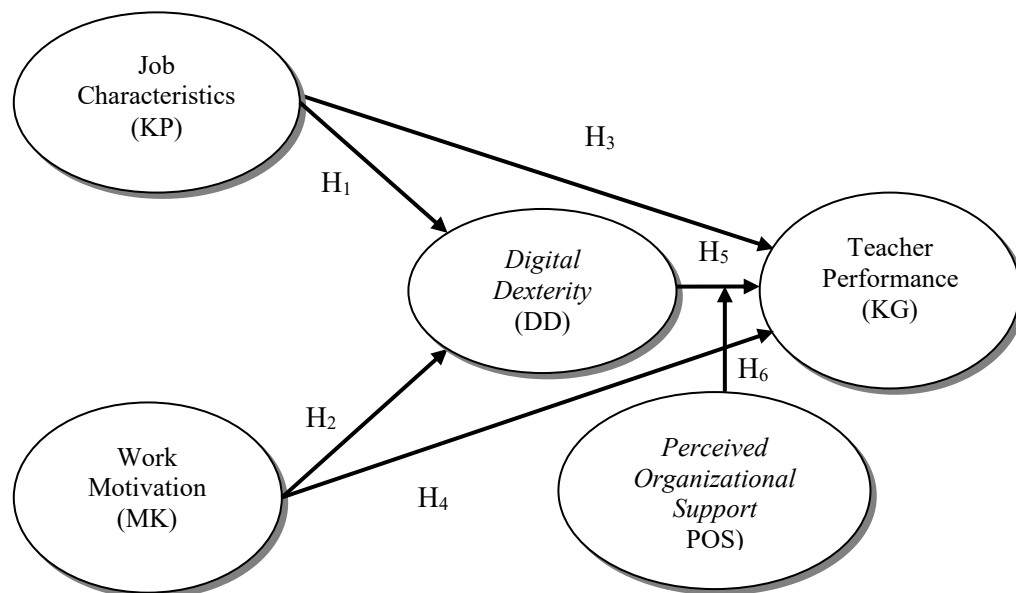

Figure 2. Conceptual Framework

The analysis technique used is Partial Least Square (PLS), which is a component-based predictive model with a variance-based or component-based approach (Ghozali, 2019). The measurement model evaluation consists of three stages: convergent validity test, discriminant validity test, and composite reliability test. The structural model evaluation is conducted by performing an R-squared (R^2) test and a path coefficient significance test.

RESULT AND DISCUSSION
Demographic Profile of Respondents
The demographic profile is presented to provide a clear overview of the general characteristics of the respondents involved in this study. This information is essential for understanding the

composition of the sample and identifying background factors that may influence the research variables. The demographic details include gender, age group, tenure, and educational attainment:

Table 2. Demographic Profile of Respondents

Category	Description	n	%
Gender	Female	56	62%
	Male	34	38%
Age	35–44 years	50	55%
	Other age groups	40	45%
Tenure	2–4 years	44	48%
	Others	46	52%
Education Level	Bachelor's Degree (S1)	84	92%
	Others	6	8%

Source: Researcher's findings, 2025

The results indicate that the majority of respondents fall within the productive age range and possess a relatively high level of education. The dominance of certain demographic characteristics offers meaningful context for interpreting the research findings. This composition also supports the relevance of the sample in representing the target population adequately.

Convergent Validity – Outer Loading Summary

The convergent validity assessment ensures that each indicator sufficiently represents the construct it is intended to measure. Outer loading values are used to evaluate the consistency of each indicator within its respective latent variable. The following table summarizes the range of outer loading values for all constructs:

Table 3. Convergent Validity – Outer Loading Summary

Variable	Indicators	Outer Loading Range
Job Characteristics (KP)	15 indicators	**0.756 – 0.829**
Work Motivation (MK)	12 indicators	**0.765 – 0.873**
Digital Dexterity (DD)	12 indicators	**0.764 – 0.828**
Perceived Organizational Support (POS)	12 indicators	**0.734 – 0.848**
Teacher Performance (KG)	9 indicators	**0.761 – 0.861**

Source: Researcher's findings, 2025

The results show that all indicators achieved outer loading values above the recommended minimum threshold. This confirms that the indicators exhibit satisfactory convergent validity across all constructs. Consequently, the measurement model is considered appropriate for further analysis.

Fornell-Larcker Criterion

The Fornell-Larcker criterion is employed to evaluate discriminant validity among the constructs in the model. This method examines whether the square root of the AVE for each construct exceeds its correlations with other constructs. The table presents the results of the discriminant validity assessment:

Table 4. Fornell-Larcker Criterion

Variable	DD	KG	KP	MK	POS
DD	**0.799**				
KG	0.802	**0.812**			
KP	0.709	0.727	**0.783**		

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MK	0.656	0.694	0.525	**0.825**	
POS	0.503	0.587	0.485	0.514	**0.791**

Source: Researcher's findings, 2025

The findings indicate that most constructs meet the required discriminant validity criteria. This demonstrates that each construct is sufficiently distinct from the others. The establishment of discriminant validity reinforces the robustness of the measurement model.

HTMT Ratio

The HTMT ratio serves as an additional measure to confirm discriminant validity more rigorously. This approach is considered sensitive in detecting potential issues of construct overlap. The table below displays the HTMT values for all construct pairs:

Table 5. HTMT Ratio

Variable	DD	KG	KP	MK	POS
DD	—				
KG	0.844	—			
KP	0.737	0.765	—		
MK	0.676	0.732	0.540	—	
POS	0.526	0.619	0.504	0.535	—

Source: Researcher's findings, 2025

Most HTMT values fall below the recommended threshold, indicating that the constructs are empirically distinguishable. These results validate the adequacy of discriminant validity within the model. Accordingly, the structural relationships among the variables can be interpreted with confidence.

Composite Reliability & Cronbach's Alpha

Reliability analysis is conducted to examine the internal consistency of indicators used to measure each construct. Cronbach's Alpha and Composite Reliability serve as the primary metrics for assessing reliability. The following table presents the reliability values for all variables:

Table 6. Composite Reliability & Cronbach's Alpha

Variable	Cronbach's Alpha	Composite Reliability
Job Characteristics (KP)	0.955	0.960
Work Motivation (MK)	0.957	0.680*
Digital Dexterity (DD)	0.948	0.955
Perceived Organizational Support (POS)	0.945	0.952
Teacher Performance (KG)	0.935	0.946

Source: Researcher's findings, 2025

The results show that most constructs exhibit excellent reliability and exceed the suggested thresholds. This strong internal consistency demonstrates that the indicators are stable and dependable. High reliability further strengthens the validity of the measurement model used in this study.

Structural Model – Path Coefficients (Hypotheses Testing)

Path analysis is performed to evaluate the relationships among the constructs and determine the acceptance of the proposed hypotheses. The coefficients, t-statistics, and p-values provide evidence of the significance of each path. The table summarizes the full results of the hypothesis testing process:

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Table 7. Structural Model – Path Coefficients (Hypotheses Testing)

Hypothesis	Path	Coefficient	t-Statistic	p-Value	Result
H1	KP → DD	0.504	5.732	0.000	Supported
H2	MK → DD	0.391	4.113	0.000	Supported
H3	KP → KG	0.239	3.129	0.002	Supported
H4	MK → KG	0.221	2.690	0.007	Supported
H5	DD → KG	0.393	4.370	0.000	Supported
H6	DD×POS → KG	0.100	2.318	0.020	Supported

Source: Researcher's findings, 2025

The analysis reveals that nearly all structural paths are statistically significant. This outcome confirms the strength of the relationships outlined in the theoretical framework. These findings offer solid empirical support for the conclusions drawn from the model.

R-Square (R^2) and Q-Square (Q^2)
R^2 values are used to assess the explanatory power of the predictor variables on the endogenous constructs. Meanwhile, Q^2 values indicate the predictive relevance of the overall model. The table below summarizes both metrics for the core endogenous variables:

Table 8. R-Square (R^2) and Q-Square (Q^2)

Endogenous Variable	R^2	Interpretation	Q^2
Digital Dexterity (DD)	0.614	Moderate	0.378
Teacher Performance (KG)	0.762	Substantial	0.484

Source: Researcher's findings, 2025

The R^2 results demonstrate that the model has strong explanatory capability for the dependent variables. Positive Q^2 values confirm that the model possesses adequate predictive accuracy. Collectively, these indicators support the overall suitability of the structural model.

Effect Size (f^2)
Effect size analysis is conducted to determine the relative contribution of each predictor variable to the endogenous variables. This measure helps identify the magnitude of influence exerted by each relationship. The following table provides the f^2 values for all relevant predictors:

Table 9. Effect Size (f^2)

Predictor	DD	KG
Job Characteristics (KP)	0.476	0.113
Work Motivation (MK)	0.287	0.107
Digital Dexterity (DD)	—	0.247
DD×POS	—	0.059
Perceived Organizational Support (POS)	—	0.074

Source: Researcher's findings, 2025

The results show varying effect sizes across the predictors, with some variables exerting notably stronger influence. These values help highlight which constructs play the most significant roles within the model. Such insights are essential for both theoretical interpretation and practical implications of the study.

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The Effect of Job Characteristics on Digital Dexterity

Job characteristics are shown to have a positive and significant influence on digital dexterity, indicating that job designs that promote autonomy, skill variety, and collaboration directly support the development of teachers' technological capabilities. When individuals experience greater freedom in decision-making and exposure to diverse tasks, they tend to build stronger confidence in exploring and utilizing digital tools. This finding aligns with the work of Scholze and Hecker (2023) as well as Akter et al. (2023), who demonstrated that job designs embedding digital resources and learning opportunities significantly enhance employees' self-efficacy and innovation. Their results reinforce the idea that well-structured job characteristics serve as psychological enablers in the digital transformation process.

However, the results are not entirely consistent across all contexts, as nuances appear in several studies. Trang (2022), for example, found that the skill variety dimension did not yield a significant effect on psychological outcomes or performance in specific work settings. This suggests that the influence of job characteristics may depend on organizational culture, workload distribution, or the relevance of the skills required. Consequently, while job characteristics generally contribute to digital dexterity, certain dimensions may operate differently depending on situational or environmental factors, highlighting the importance of contextual alignment in job design.

The Effect of Work Motivation on Digital Dexterity

Work motivation has a positive and significant effect on digital dexterity, illustrating that intrinsic drive plays a crucial role in encouraging teachers to learn, adapt, and master digital tools. Individuals with high motivation typically show stronger willingness to engage in digital experimentation and ongoing skill development. This result supports the findings of Saputrabey et al. (2025) and Anistyasari et al. (2024), who emphasized that motivated employees exhibit higher digital adaptability and literacy. Their research highlights motivation as a psychological force that strengthens technological engagement.

Contrasting evidence indicates that motivation does not always translate into digital capability. Sun and Gao (2020) found that intrinsic motivation did not significantly influence technology usage intentions, while Starke and Ludviga (2025) reported that autonomous motivation did not directly affect digital competence. These differences suggest that motivation alone may be insufficient without adequate resources, training, or organizational encouragement. As a result, the development of digital dexterity requires not only strong internal motivation but also an environment that facilitates effective digital learning and experimentation.

The Effect of Job Characteristics on Teacher Performance

Job characteristics have a positive and significant effect on teacher performance, implying that autonomy, task significance, and constructive feedback foster psychological states that enhance productivity. Teachers who perceive their work as meaningful and well-structured tend to demonstrate higher engagement and efficiency. This conclusion is reinforced by Prayogi et al. (2021), Astutik and Priantono (2020), and Senen et al. (2020), whose studies consistently show that favorable job characteristics elevate employee performance. These results collectively confirm that job design plays an essential role in shaping professional behavior and output quality.

Not all evidence supports the uniform influence of job characteristics on performance outcomes. Trang (2022) found that the skill variety dimension did not significantly influence in-role performance through psychological ownership, suggesting that some dimensions may contribute less than others. This deviation points to the possibility that job characteristics affecting psychological states may vary in strength depending on the work environment or employee expectations. Therefore, while job characteristics generally enhance performance, their impact may be multidimensional and sensitive to contextual factors.

The Effect of Work Motivation on Teacher Performance

Work motivation exerts a positive and significant influence on teacher performance, demonstrating that motivated individuals tend to invest greater effort and produce higher-quality work. Teachers with strong intrinsic or extrinsic motivation commonly show heightened persistence, creativity, and commitment to their professional responsibilities. This result echoes the findings of Diamantidis and Chatzoglou (2019), Santoso and Sitohang (2017), and Rahayu and Wahyuni (2021),

who identified motivation as a major predictor of performance improvement. Their research collectively affirms the central role of motivational factors in shaping workplace effectiveness.

Some studies present opposing outcomes, showing that motivation does not always guarantee enhanced performance. Nurlinda and Hidayat (2024) reported that work motivation did not significantly affect employee performance or engagement, suggesting that performance may be influenced by external constraints such as workload, organizational climate, or leadership style. These findings imply that motivation must be supported by structural and environmental factors to yield positive behavioral outcomes. As such, performance improvement requires both strong motivation and conducive organizational conditions.

The Effect of Digital Dexterity on Teacher Performance

Digital dexterity has a positive and significant effect on teacher performance, indicating that teachers who can adapt to and utilize digital technologies effectively tend to demonstrate improved efficiency and instructional quality. The ability to integrate digital tools into teaching processes enhances task execution and facilitates innovative pedagogical approaches. Research by Duan et al. (2024), Chong and Zainal (2024), and Dewi et al. (2025) further supports this conclusion, showing that digital competence contributes meaningfully to performance improvements. Their findings highlight the importance of digital adaptability in modern educational environments.

Despite these positive associations, contradictory evidence exists indicating that digital ability does not always correlate with performance. Cortez and Ponsades (2024) found no significant relationship between digital literacy and teaching performance, even when literacy levels were high. This suggests that digital dexterity must be complemented by appropriate pedagogical strategies, institutional support, and work conditions to influence performance effectively. Thus, while digital dexterity is a valuable asset, it may not automatically translate into superior outcomes without supportive contextual factors.

The Moderating Effect of Perceived Organizational Support (POS)

Perceived Organizational Support (POS) significantly moderates the relationship between digital dexterity and teacher performance, indicating that organizational appreciation and support strengthen the effectiveness of teachers' digital capabilities. A supportive environment enhances teachers' confidence in applying digital tools and fosters a sense of security when engaging in digital innovation. This finding corresponds with Dewi et al. (2025) and Zheng (2024), who demonstrated that organizational support amplifies the impact of digital competence on performance. Their research underscores the critical role of supportive structures in maximizing employee potential.

The moderating role of POS is not consistently observed across all organizational contexts. Sameer (2024) found that POS did not significantly moderate the relationship between digitalization benefits and task performance in certain public sector settings. These inconsistencies highlight that the effectiveness of POS may depend on organizational culture, leadership dynamics, and the perceived relevance of support systems. Consequently, the moderating influence of POS should be viewed as situational, functioning optimally only when organizational practices align with employee needs and digital expectations.

CONCLUSION

The findings of this study demonstrate that job characteristics, work motivation, and digital dexterity play critical roles in shaping teacher performance, with each variable showing a significant and positive effect on the outcomes measured. Digital dexterity emerges as a central capability that not only enhances performance directly but is further strengthened through perceived organizational support, highlighting the importance of institutional involvement in digital transformation. The results also reveal that although most relationships are consistent with prior research, several contrasting findings from previous studies indicate that contextual factors such as organizational culture, resources, and work conditions may influence the strength of these effects. Overall, the study underscores the need for educational institutions to design supportive job structures, foster motivation, and provide robust organizational support to optimize teachers' digital capabilities and performance in an increasingly technology-driven environment.

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