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RESEARCH ARTICLE

The Influence of Innovation Culture and Digital Competency on Digital Transformation through Organizational Commitment

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ABSTRACT

Digital transformation has become a strategic priority in the education sector, yet its implementation in schools often faces internal challenges related to human resource readiness and organizational dynamics. This study aims to examine the influence of innovation culture and digital competency on digital transformation, with organizational commitment positioned as a mediating variable. The study adopts a quantitative approach using a survey method and was conducted at six Center of Excellence Vocational High Schools (SMK PK) in Banyumas Regency, Central Java, Indonesia. Data were collected from teachers and analyzed using Partial Least Squares–Structural Equation Modeling (SEM-PLS) with SmartPLS software. The results indicate that innovation culture, digital competency, and organizational commitment explain 66.8% of the variance in digital transformation, while digital competency and innovation culture explain 48.3% of the variance in organizational commitment. Path analysis results reveal that digital competency and innovation culture have positive and significant effects on digital transformation. Both variables also significantly influence organizational commitment. Furthermore, organizational commitment has a strong positive effect on digital transformation and is proven to partially mediate the relationships between digital competency and digital transformation, as well as between innovation culture and digital transformation. These findings highlight the importance of strengthening teachers' digital competency, fostering an innovation-supportive school culture, and enhancing organizational commitment to ensure the successful and sustainable implementation of digital transformation in vocational schools.

Keywords: digital competency; digital transformation; innovation culture; organizational commitment

1. Introduction

Digital transformation has become a strategic agenda in the education sector in response to an increasingly dynamic and technology-based environment. Schools are required to adopt digital technology to improve the quality of learning and organizational efficiency. However, various studies show that the implementation of digital transformation in schools does not always run optimally because it still faces

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internal challenges, particularly those related to human resource readiness and organizational dynamics [1], [2].

A number of studies have proven that digital transformation and innovation contribute positively to school performance and competitiveness. Kamaruddin et al. [3] showed that digital transformation can significantly improve school performance, while Mayasari [4] asserted that digital innovation encourages schools to achieve competitive excellence in the provision of educational services. One of the organizational factors that plays an important role in this process is innovation culture, because schools with an innovative culture tend to be more open to change and quicker to adopt digital technology. This is reinforced by the findings of Alshuhumi et al. [1], who stated that innovation culture has a significant effect on teachers' identification and affective commitment in schools.

In addition to a culture of innovation, the success of digital transformation in schools is also determined by the extent to which teachers have adequate digital competencies to translate the values of innovation into technology-based learning practices. Butt et al. [5] emphasized that the adoption of digital technology in schools is highly dependent on teachers' ability to use technology effectively. Similarly, Kiefer et al. [6] stated that the success of digital transformation is not only determined by technological readiness, but also by the readiness of human resources within the school organization in terms of digital competencies and mindset.

However, research findings on the influence of innovation culture on digital transformation show inconsistent results. Jewapatarakul and Ueasangkomsate [7] found that innovation culture has a positive influence on digital transformation readiness, but Hafeez et al. [8] showed that this influence is highly dependent on the organizational context and internal capabilities of schools. The inconsistency of these findings indicates that the relationship between innovation culture and digital transformation is not always direct, but is influenced by certain internal mechanisms.

Previous literature tends to view digital transformation as a matter of technology and organizational structure, while the behavioral and psychological aspects of individuals within schools have received relatively little attention. In the context of education, particularly vocational schools, the success of digital transformation is greatly influenced by the level of attachment and commitment of teachers to the institution and the values of change that are being promoted. Meyer and Allen [9] explained that organizational commitment reflects the psychological attachment of individuals that drives their willingness to contribute and actively engage in achieving organizational goals. In line with this view, Zulqifli and Syarifuddin [10] emphasized that teachers with a high level of organizational commitment tend to show greater readiness to support institutional change.

Based on this gap, this study positions organizational commitment as a mediating variable that explains how innovation culture and digital competency influence digital transformation in schools. By adopting the perspectives of Social Exchange Theory and Resource-Based View, this study aims to provide a more comprehensive understanding of the behavioral mechanisms that link innovation culture and digital competency to the success of digital transformation, particularly in the context of Center of Excellence Vocational High Schools (SMK PK) in Indonesia.

The structure of this paper consists of an introduction, which explains the phenomenon and gaps in previous research. The second section explains and develops a framework consisting of a literature review and the results of previous studies. The third section explains the method, sample selection, and analytical tools used. The fourth section explains the results of the analysis and discussion. Conclusions and recommendations for further research are presented in the final section.

2. Literature review

2.1. Theoretical framework

This study bases its conceptual model on two complementary theoretical frameworks, namely Social Exchange Theory (SET) and the Resource-Based View (RBV), to explain the process of digital transformation in schools. Social Exchange Theory emphasizes social exchange mechanisms, whereby a work environment that supports innovation and learning encourages individuals' psychological attachment to the organization [11], [12]. In the context of schools, this attachment is reflected in organizational commitment, which motivates teachers to actively engage in change and support the implementation of digital transformation [10]. Meanwhile, the Resource-Based View conceptualizes innovation culture as an intangible organizational resource and digital competency as a strategic human capability that enables schools to respond to digital environmental demands [6], [13]. However, the possession of these resources does not automatically lead to effective digital transformation. Accordingly, the integration of RBV and SET highlights organizational commitment as a key mechanism through which internal resources are activated and translated into sustained digital transformation practices [14], [15].

Building on this integrated theoretical perspective, the hypotheses in this study are developed by linking organizational resources with teachers' behavioral responses in the digital transformation process. From an RBV standpoint, innovation culture and digital competency are expected to directly enhance schools' digital transformation capacity. At the same time, consistent with SET, these organizational investments are likely to elicit reciprocal responses from teachers in the form of stronger organizational commitment, which in turn facilitates their active support for digital transformation initiatives. Accordingly, the hypotheses capture both the direct effects of innovation culture and digital competency on digital transformation and their indirect effects through organizational commitment as a behavioral activation mechanism.

2.2. Social exchange theory

Social Exchange Theory explains that relationships between individuals and organizations are built through a process of social exchange based on the principle of reciprocity [11]. In the context of schools, when teachers perceive a work environment that supports innovation, learning, and competency development, they tend to build psychological attachment and a sense of obligation to the institution. This attachment is reflected in organizational commitment, which encourages teachers' willingness to actively participate in change initiatives and support the implementation of digital transformation. Thus, Social Exchange Theory provides a behavioral foundation for understanding how organizational values are translated into tangible support for digital transformation in schools.

2.3. Resource-based view

The Resource-Based View views organizations as a collection of resources and strategic capabilities that determine the organization's ability to respond to environmental changes [13]. In this study, innovation culture is positioned as an intangible resource that reflects the school's values, norms, and orientation towards innovation and learning, while digital competency represents the capabilities of human resources in utilizing digital technology. However, ownership of these resources and capabilities does not automatically result in effective digital transformation. Therefore, internal mechanisms are needed to activate and convert these resources into tangible change practices. In the context of schools, organizational commitment acts as a mechanism that enables innovation culture and digital competency to contribute effectively to the success of digital transformation.

2.4. Digital transformation

Digital transformation in the context of educational organizations is understood as a comprehensive change process that involves the use of digital technology to change the way schools operate, interact, and create value. Fitzgerald et al. [16] and Latif et al. [17] explained that digital transformation involves the use of new digital technologies to drive performance improvements and more effective working models, while Hening and Kumara [18] emphasized that digital transformation is the combined result of various digital innovations that shape new practices, values, and structures within organizations. In the context of schools, digital transformation is not only related to the adoption of technology, but also reflects the institution's ability to adapt to environmental changes and the demands of the digital age in a sustainable manner [4], [19].

2.5. Innovation culture

Innovation culture refers to the system of values, norms, and practices in schools that encourage creativity, learning, and the continuous search for new solutions. Ahmed [20] views innovation culture as an organizational environment that supports the creation of new ideas that contribute positively to organizational performance. In the context of schools, innovation culture reflects the extent to which institutions provide space for teachers to experiment, collaborate, and develop adaptive learning approaches. Previous studies have shown that innovation culture is an important intangible resource because it can increase organizational readiness to face change and support the success of innovation and digital transformation [21], [22].

2.6. Digital competency

Digital competency is understood as a set of knowledge, skills, and attitudes that enable individuals to use digital technology effectively to achieve work goals. Periáñez-Cañadillas et al. [23] explained that digital competency plays an important role in driving digital transformation because it enables individuals to make optimal use of technology in an organizational context. In a school environment, teachers' digital competency reflects their ability to access, use, and integrate digital technology in the learning process and organizational activities [24]. This competency includes not only technical skills, but also cognitive aspects and attitudes that support adaptation to digital change [25], [26].

2.7. Organizational commitment

Organizational commitment describes the level of psychological attachment of individuals to an organization, which is reflected in their acceptance of values, goals, and desire to remain part of the organization. Robbins and Judge [27] defined organizational commitment as a condition in which individuals side with the organization and are willing to maintain their membership. In the context of schools, teacher commitment is reflected in their willingness to contribute optimally to the achievement of institutional goals and to support change initiatives. Organizational commitment is an important factor because it determines the extent to which teachers are willing to exert effort, loyalty, and involvement in the digital transformation process carried out by schools [28], [29].

2.8. Hypothesis development

Previous studies have shown that innovation culture aids digital transformation because it encourages organizational learning, creativity, and the adoption of new technologies [8], [14]. However, this relationship is conditional and is greatly influenced by management support, school readiness, and the dynamic capabilities of the organization [30]. Innovation culture influences the school's ability to learn and adapt, enabling more effective absorption and utilization of digital technology. Thus, the success of digital transformation depends

not only on technological readiness but also on the readiness of a school culture that supports innovation [31]. Based on this description, the following hypothesis is formulated:

H1: Innovation culture has a positive impact on digital transformation.

The success of digital transformation in various sectors, including education, is greatly influenced by the digital competency of human resources. Digital competency reflects the technical, pedagogical, and affective abilities of individuals in utilizing digital technology to support work and learning processes [32], [33]. A high level of digital competency enables schools to adapt, innovate, and collaborate more effectively in a dynamic digital environment [34]. Therefore, digital competency is an important prerequisite in supporting the success of digital transformation in schools [35]. Based on this description, the following hypothesis is formulated:

H2: Digital competency has a positive impact on digital transformation.

Innovation culture is an important factor that influences teachers' behavior and engagement in schools. A culture that encourages creativity, continuous learning, and risk-taking makes teachers feel valued and empowered, thereby strengthening their emotional attachment to the school [36]. An innovative work environment also increases psychological safety and trust, which ultimately strengthens teachers' affective commitment and loyalty [37], [38]. Thus, innovation culture plays an important role in building strong organizational commitment in the school environment [1]. Based on the above description, the following hypothesis is formulated:

H3: Innovation culture has a positive effect on organizational commitment.

Digital competency not only contributes to work efficiency, but also influences the level of individual commitment to the school. Teachers with high digital competency tend to feel more confident, relevant, and able to adapt to change, thereby increasing emotional attachment and loyalty to the school [32], [33]. In addition, systematic development of digital competency can increase intrinsic motivation and a sense of belonging, which ultimately strengthens organizational commitment [39], [40], [41]. Based on this description, the following hypothesis is formulated:

H4: Digital competency has a positive effect on organizational commitment.

Organizational commitment plays an important role in supporting the success of digital transformation in schools. Teachers with high levels of commitment tend to be more open to change, more involved in the innovation process, and more willing to support the implementation of digital technology [42]. Strong commitment also encourages continuous learning and increases the resilience of schools in facing changes in the digital environment [42], [43]. Therefore, organizational commitment is an important foundation for the success of sustainable digital transformation. Based on this description, the following hypothesis is formulated:

H5: Organizational commitment has a positive effect on digital transformation.

Innovation culture shapes values, norms, and practices that support experimentation, learning, and tolerance for failure. An innovative school environment creates psychological safety and organizational support, which in turn strengthens teachers' organizational commitment [44], [45]. This high level of commitment increases teachers' readiness and participation in digital transformation initiatives, so that organizational commitment acts as a mediator that bridges the influence of innovation culture on the success of digital transformation [42]. Based on this description, the following hypothesis is formulated:

H6: Innovation culture has a positive effect on digital transformation through organizational commitment.

High digital competency enables teachers to understand the benefits of digital transformation, use technology confidently, and adapt to new systems. This fosters a positive attitude toward change and strengthens organizational commitment [34]. Highly committed teachers tend to be more active in supporting innovation and the application of digital technology, so that organizational commitment functions as a mediating mechanism that explains how digital competency drives the success of digital transformation more effectively [43], [46]. Based on this description, the following hypothesis is formulated:

H7: Digital competency has a positive effect on digital transformation through organizational commitment.

3. Materials and methods

This study was conducted at the Center of Excellence Vocational High Schools (SMK) in Banyumas Regency, Central Java, Indonesia. A quantitative research approach with a survey method was employed to collect empirical data from teachers as respondents. The population comprised all teachers from six SMK Centers of Excellence in Banyumas Regency, totaling 321 individuals.

The sampling technique used was probability sampling with a quota sampling approach, aimed at ensuring proportional representation from each school. The sampling criteria included teachers who (1) were actively teaching at an SMK Center of Excellence, (2) had at least one year of teaching experience, and (3) were willing to participate in the study. Based on these criteria, the authors determined a quota of 56% of the total teacher population across the six schools.

The sample size was calculated at a 5% error level, resulting in a required sample of 182 respondents. Data collection was conducted over a one-week period, from 8 August to 15 August 2025, using an online questionnaire distributed via Google Forms. The distribution process was coordinated through the principals of each participating school to ensure compliance with the predetermined quota. After screening for completeness and response consistency, all 182 questionnaires were deemed valid and suitable for further analysis, as no significant missing or inconsistent data were identified.

The collected data were analyzed using Partial Least Squares–Structural Equation Modeling (SEM-PLS) with the assistance of SmartPLS software. SEM-PLS was selected because it is suitable for predictive analysis, complex research models, and does not require strict assumptions of data normality. In addition, SmartPLS was used due to its robustness, user-friendly interface, and widespread application in social science and educational research for estimating measurement and structural models simultaneously.

4. Results

4.1. Respondents' characteristics

The demographic profile shows that the sample was dominated by female respondents (57.7%), while male respondents accounted for 42.3%. The age distribution indicates that most respondents were in their productive working years, particularly those aged 26–35 years (42.3%), followed by the 36–45 age group (22.5%). In terms of educational background, respondents were predominantly bachelor's degree holders (94.5%), suggesting a relatively homogeneous educational profile. With respect to work experience, almost half of the respondents had less than five years of working experience (46.7%), indicating a relatively young workforce, while the remaining respondents were fairly evenly distributed between those with 6–10 years and more than 10 years of experience.

Table 1. Respondent Characteristics

Category	Frequency	Percentage
Gender		
Male	77	42.3%
Female	105	57.7%
Age		
< 25 years old	24	13.2%
26-35 years old	86	42.3%
36-45 years old	41	22.5%
> 45 years old	31	17%
Education		
Diploma	2	10.1%
S1	172	94.5%
S2	8	4.4%
Working Time		
< 5 years	85	46.7%
6-10 years	45	24.7%
> 10 years	52	28.6%

4.2. Outer model evaluation

The outer model evaluation is conducted to assess the reliability and validity of the indicators and constructs used in the study. The outer model assessment includes testing outer loadings, internal reliability, and construct validity. Construct validity is evaluated through convergent validity and discriminant validity. The recommended outer loading value is above 0.70, but values between 0.50 and 0.60 are still acceptable [47]. Internal reliability is evaluated using composite reliability and Cronbach's alpha, with values between 0.70 and 0.90 indicating an adequate level of reliability. Furthermore, convergent validity is assessed through Average Variance Extracted (AVE), where an AVE value of 0.50 or more indicates that the construct is able to explain at least 50% of the variance of its indicators. The results of the outer loading, composite reliability, Cronbach's alpha, and AVE tests are presented in Table 2.

Table 2. Outer Loading, Composite Reliability, Cronbach Alpha, and AVE

Variables	Item	Outer Loading	Cronbach's Alpha	CR	AVE
Digital Competency (DC)	DC1	0.731	0.909	0.927	0.613
	DC3	0.758			
	DC4	0.712			
	DC5	0.845			
	DC6	0.790			
	DC7	0.791			
	DC8	0.836			
	DC9	0.790			
Digital Transformation (DT)	DT1	0.789	0.948	0.955	0.639
	DT2	0.773			
	DT3	0.825			
	DT4	0.820			

Variables	Item	Outer Loading	Cronbach's Alpha	CR	AVE
	DT5	0.841			
	DT6	0.751			
	DT7	0.763			
	DT8	0.853			
	DT9	0.721			
	DT10	0.838			
	DT11	0.810			
	DT12	0.799			
Innovation Culture (IC)	IC1	0.828	0.880	0.909	0.626
	IC2	0.753			
	IC3	0.757			
	IC4	0.792			
	IC5	0.752			
	IC6	0.858			
Organizational Commitment	EBM1	0.809	0.993	0.946	0.716
	EBM2	0.779			
	EBM3	0.803			
	EBM4	0.845			
	EBM5	0.914			
	EBM6	0.874			
	EBM7	0.892			

Table 2. (*Continued*)

Based on the analysis results, it is known that all indicators used to measure the constructs in this study have outer loading values above 0.50, thus meeting the validity criteria and are declared capable of measuring the constructs under study well. The reliability test results show that the Cronbach's alpha and composite reliability values for all constructs, namely digital competency, digital transformation, innovation culture, and organizational commitment, are above the threshold value of 0.70. This indicates that all constructs have a good level of internal reliability. In addition, the Average Variance Extracted (AVE) value for each construct also meets the criteria recommended by Hair et al. [47], which is greater than 0.50, meaning that each construct is able to explain at least 50 percent of the variance of its indicators. Thus, it can be concluded that the measurement model in this study has met the criteria for convergent validity and reliability, making it suitable for use in further structural model testing.

4.3. Inner model evaluation

In the structural model evaluation, Construct Cross-Validated Redundancy (Q^2) testing was conducted to assess the predictive ability of the model. Based on the analysis results, the Q^2 values for the digital

transformation and organizational commitment variables are each greater than zero ($Q^2 > 0$), indicating that the model has predictive relevance. The Q^2 values obtained are also in the strong category, indicating that the exogenous variables in the model are able to predict endogenous variables with a high degree of accuracy.

Furthermore, the R-square test results show that the R-square value for the digital transformation variable is 0.668, which means that 66.8% of the variation in digital transformation can be explained by the variables of digital competency, innovation culture, and organizational commitment, while the rest is explained by other variables outside the research model. The R-square value for the organizational commitment variable is 0.483, which indicates that 48.3% of the variation in organizational commitment can be explained by digital competency and innovation culture. Based on the criteria used, the R-square value is in the moderate to strong category, so it can be concluded that the structural model built has good clarity and predictive power. The results of testing the significance of the relationship between variables are presented in Table 3.

Table 3. Path Coefficient

	Original Sample	**STDEV**	**T Statistics**	**P Values**
Digital competency → Digital transformation	0.194	0.080	2.431	0.015
Digital competency → Organizational commitment	0.301	0.082	3.680	0.000
Innovation culture → Digital transformation	0.280	0.081	3.456	0.001
Innovation culture → Organizational commitment	0.466	0.080	5.819	0.000
Organizational commitment → Digital transformation	0.459	0.067	6.834	0.000
Digital competency → Organizational commitment → Digital transformation	0.138	0.043	3.242	0.001
Innovation culture → Organizational commitment → Digital transformation	0.214	0.045	4.788	0.000

The analysis results show that digital competency has a positive effect on digital transformation with a T-statistic value of 2.431 and a p-value of 0.015, indicating that the effect is significant. This finding indicates that the higher the level of digital competency possessed by teachers, the greater the school's ability to carry out the digital transformation process. Furthermore, innovation culture also has a positive effect on digital transformation with a T-statistic value of 3.456 and a p-value of 0.001. These results show that a school culture that supports innovation, learning, and openness to change plays an important role in driving the success of digital transformation.

In addition to direct effects, the results show that organizational commitment has a positive and significant effect on digital transformation with a T-statistic value of 6.834 and a p-value of 0.000. This finding confirms that the level of teachers' commitment to the school increases their readiness and involvement in supporting the implementation of digital-based changes. Furthermore, the results of testing the indirect effect show that organizational commitment mediates the relationship between digital competency and digital transformation with a T-statistic value of 3.242 and a p-value of 0.001. This indicates that teachers' digital competency will drive digital transformation more effectively when accompanied by a high level of organizational commitment. In addition, organizational commitment was also found to mediate the relationship between innovation culture and digital transformation with a T-statistic value of 4.788 and a p-value of 0.000, indicating that innovation culture will have a stronger impact on digital transformation when internalized in the form of teachers' commitment to the school.

5. Discussion

The results show that innovation culture has a positive and significant effect on digital transformation, with a coefficient value of 0.280, a T-statistic of 3.456, and a p-value of 0.001. These findings confirm that schools with an innovative culture tend to be more adaptive in the face of digital change, because innovation culture encourages openness to new ideas, the courage to take risks, and the ability to adapt to technological disruption. In the context of schools, innovation culture facilitates teachers and educational staff to try technology-based learning methods, utilize digital platforms, and integrate new systems into the educational process, thereby accelerating the realization of digital transformation.

The results of the analysis show that digital competency has a positive and significant effect on digital transformation, with a coefficient of 0.194, a T-statistic of 2.431, and a p-value of 0.015. These findings indicate that the success of digital transformation is not only determined by the availability of technology, but also by the ability of teachers and schools to understand, operate, and integrate digital technology into learning activities and school management. Digital competency enables individuals to adapt more quickly to technological changes, discover new opportunities, and actively contribute to the digitization process, so that digital transformation can run more effectively and sustainably.

The results show that innovation culture has a positive and significant effect on organizational commitment, with a coefficient of 0.466, a T-statistic of 5.819, and a p-value of 0.000. These findings indicate that a conducive innovative culture encourages teachers to feel valued, motivated, and connected to the school's vision and mission. Innovation culture not only encourages the emergence of new ideas, but also strengthens teachers' emotional attachment and sense of belonging to the school, thereby increasing their affective, normative, and sustainability commitment to the organization.

The test results show that digital competency has a positive and significant effect on organizational commitment with a coefficient of 0.301, T-statistic of 3.680, and p-value of 0.000. These findings indicate that teachers with good digital competency tend to feel more confident, professional, and valued by the school. School investment in digital skills development is perceived as a form of organizational support, which is then reciprocated by teachers through increased loyalty, engagement, and commitment to the school.

The results show that organizational commitment has a positive and significant effect on digital transformation, with a coefficient of 0.459, a T-statistic of 6.834, and a p-value of 0.000. These findings confirm that teachers with a high level of commitment tend to be more open to change, more ready to accept new policies, and more active in supporting the implementation of digital technology in schools. Organizational commitment functions as a psychological and social force that reduces resistance to change and increases the sustainability of digital transformation implementation.

The results of the analysis show that organizational commitment acts as a partial mediator in the relationship between innovation culture and digital competency on digital transformation. These findings indicate that although innovation culture and digital competency have a direct influence on digital transformation, this influence becomes stronger and more sustainable when supported by a high level of teacher commitment. Organizational commitment strengthens teachers' emotional attachment and loyalty, making them more willing to actively engage in supporting and succeeding the digital transformation agenda in schools.

Overall, the findings provide clear theoretical support for both Social Exchange Theory (SET) and the Resource-Based View (RBV). From an RBV perspective, innovation culture and digital competency function as strategic intangible resources that enable schools to develop and sustain digital transformation

capabilities. These resources enhance organizational adaptability by embedding digital practices within human capital and organizational routines. Meanwhile, the mediating role of organizational commitment aligns with SET, suggesting that when schools invest in supportive cultures and digital skill development, teachers reciprocate through stronger commitment, which in turn facilitates successful digital transformation. By integrating SET and RBV, this study extends prior research by demonstrating that digital transformation in educational institutions is not solely a technological issue, but a social and resource-based process driven by reciprocal relationships and internal capabilities.

6. Conclusion and practical implications

This study successfully proves that innovation culture and digital competency have a positive effect on digital transformation in schools, both directly and through organizational commitment as a mediating variable. These findings indicate that the success of digital transformation is not only determined by technological readiness, but also by an innovative culture and the digital capabilities of human resources, supported by a strong level of organizational commitment. Organizational commitment has been proven to play a strategic role in strengthening the influence of innovation culture and digital competency, as the emotional attachment, loyalty, and willingness of teachers to adapt are key factors in supporting digital change in the school environment.

The practical implications of this study emphasize the importance of the role of school management in building a conducive innovation culture and improving the digital competency of teachers and educational staff. Schools need to create an environment that encourages creativity, openness to new ideas, and the courage to try digital-based learning technologies. In addition, the development of digital competencies through continuous training and the provision of adequate technological infrastructure needs to be balanced with efforts to strengthen organizational commitment through effective communication, performance rewards, and the creation of a supportive work environment. Thus, digital transformation can run more optimally and sustainably.

This study has limitations, including the limited number of respondents and the scope of the study, which only focuses on a specific school context, so the results cannot be generalized widely. Therefore, further research is recommended to expand the research object to various levels and areas of education and consider adding other variables relevant to digital transformation. A more diverse research approach is also expected to provide a deeper understanding of the factors that support the success of digital transformation in the education sector.

Conflict of interest

The authors declare no conflict of interest.

References

1. Ahmed, P. K. (1998). Culture and climate for innovation. *European Journal of Innovation Management*, *1*(1), 30–43. https://doi.org/10.1108/14601069810199131
2. Aksoy, H. (2017). How do innovation culture, marketing innovation and product innovation affect the market performance of small and medium-sized enterprises (SMEs)? *Technology in Society*, *51*, 133–141. https://doi.org/10.1016/j.techsoc.2017.08.005
3. Albort-Morant, G., Henseler, J., Cepeda-Carrión, G., & Leal-Rodríguez, A. (2018). Potential and realized absorptive capacity as complementary drivers of green product and process innovation performance. *Sustainability*, *10*(2), 381. https://doi.org/10.3390/su10020381

4. Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment to the organization: An examination of construct validity. *Journal of Vocational Behavior*, *49*(3), 252–276. https://doi.org/10.1006/jvbe.1996.0043
5. Alshuhumi, S. R., Al-Hidabi, D. A., & Al-Refaei, A. A.-A. (2023). Unveiling the behavioral nexus of innovative organizational culture: Identification and affective commitment of teachers in primary schools. *Journal of Human Behavior in the Social Environment*, *34*(1), 130–152. https://doi.org/10.1080/10911359.2023.2267600
6. Awad, J. A. R., & Martín-Rojas, R. (2024). Digital transformation influence on organisational resilience through organisational learning and innovation. *Journal of Innovation and Entrepreneurship*, *13*(1). https://doi.org/10.1186/s13731-024-00405-4
7. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108
8. Basilotta-Gómez-Pablos, V., Matarranz, M., Casado-Aranda, L.-A., & Otto, A. (2022). Teachers' digital competencies in higher education: A systematic literature review. *International Journal of Educational Technology in Higher Education*, *19*(1). https://doi.org/10.1186/s41239-021-00312-8
9. Bawden, D. (2001). Information and digital literacies: A review of concepts. *Journal of Documentation*, *57*(2), 218–259. https://doi.org/10.1108/eum0000000007083
10. Bektiarso. (2022). The role of organizational commitment in mediating the relationship between competence and organizational culture with teachers performance. *Quality - Access to Success*, *23*(191). https://doi.org/10.47750/qas/23.191.19
11. Blau, I., & Shamir-Inbal, T. (2016). Digital competences and long-term ICT integration in school culture: The perspective of elementary school leaders. *Education and Information Technologies*, *22*(3), 769–787. https://doi.org/10.1007/s10639-015-9456-7
12. Blau, P. M. (1964). *Exchange and power in social life*. Transaction Publishers.
13. Braojos, J., Weritz, P., & Matute, J. (2024). Empowering organisational commitment through digital transformation capabilities: The role of digital leadership and a continuous learning environment. *Information Systems Journal*, *34*(5), 1466–1492. https://doi.org/10.1111/isj.12501
14. Butt, A., Imran, F., Helo, P., & Kantola, J. (2024). Strategic design of culture for digital transformation. *Long Range Planning*, *57*(2), 102415. https://doi.org/10.1016/j.lrp.2024.102415
15. Cardoso, A., Pereira, M. S., Sá, J. C., Powell, D. J., Faria, S., & Magalhães, M. (2023). Digital culture, knowledge, and commitment to digital transformation and its impact on the competitiveness of Portuguese organizations. *Administrative Sciences*, *14*(1), 8. https://doi.org/10.3390/admsci14010008
16. Espina-Romero, L., Ríos Parra, D., Noroño-Sánchez, J. G., Rojas-Cangahuala, G., Cervera Cajo, L. E., & Velásquez-Tapullima, P. A. (2024). Navigating digital transformation: current trends in digital competencies for open innovation in organizations. *Sustainability*, *16*(5), 2119. https://doi.org/10.3390/su16052119
17. Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency (TDC) framework. *Educational Technology Research and Development*, *68*(5), 2449–2472. https://doi.org/10.1007/s11423-020-09767-4
18. Fitzgerald, M., Kruschwitz, N., Bonnet, D., & Welch, M. (2014). Embracing Digital Technology: A New Strategic Imperative. MIT Sloan Management Review and Capgemini Consulting. *MIT Sloan Management Review*.
19. Greenberg, J., & Baron, R. A. (2003). *Behavior in organizations: understanding and managing the human side of work*.
20. Hafeez, S., Shahzad, K., & De Silva, M. (2025). Enhancing digital transformation in SMEs: The dynamic capabilities of innovation intermediaries within ecosystems. *Long Range Planning*, *58*(3), 102525. https://doi.org/10.1016/j.lrp.2025.102525
21. Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24. https://doi.org/10.1108/ebr-11-2018-0203
22. Helvaci, M. A., & Kiliçoğlu, A. (2018). The relationship between the organizational change cynicism and organizational commitment of teachers. *Journal of Education and Training Studies*, *6*(11a), 105. https://doi.org/10.11114/jets.v6i11a.3806
23. Hening, P., & Kumara, G. H. (2019). Public sector transformation in the digital age: obstacles and challenges for the government of indonesia. *Iapa Proceedings Conference*, 75. https://doi.org/10.30589/proceedings.2019.223
24. Jewapatarakul, D., & Ueasangkomsate, P. (2024). Digital organizational culture, organizational readiness, and knowledge acquisition affecting digital transformation in SMEs from food manufacturing sector. *Sage Open*, *14*(4). https://doi.org/10.1177/21582440241297405
25. Kamaruddin, E., Salman, I., Annahidl, N. A., Munawiroh, M., Siswanto, H. W., Siregar, I., Suprapto, S., Habibullah, A., Purwoko, D., Haudid, H., & Purwanto, A. (2024). Investigating the role of digital transformation and digital innovation on school performance. *International Journal of Data and Network Science*, *8*(3), 1557–1566. https://doi.org/10.5267/j.ijdns.2024.3.011

26. Kiefer, D., van Dinther, C., & Spitzmüller, J. (2021). Digital innovation culture: a systematic literature review. In *Lecture Notes in Information Systems and Organisation* (pp. 305–320). Springer International Publishing. https://doi.org/10.1007/978-3-030-86800-0_22
27. Lam, L., Nguyen, P., Le, N., & Tran, K. (2021). The relation among organizational culture, knowledge management, and innovation capability: its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(1), 66. https://doi.org/10.3390/joitmc7010066
28. Latif N, Noaman M S, Ismai N Q M. The Role of Organizational Culture in Driving Environmental Digital Transformation. Environment and Social Psychology 2025; 10(11): 3971. doi:10.59429/esp.v10i11.3971
29. Leal-Rodríguez, A. L., Sanchís-Pedregosa, C., Moreno-Moreno, A. M., & Leal-Millán, A. G. (2023). Digitalization beyond technology: Proposing an explanatory and predictive model for digital culture in organizations. *Journal of Innovation & Knowledge*, *8*(3), 100409. https://doi.org/10.1016/j.jik.2023.100409
30. Lopes, A. S., Sargento, A., & Farto, J. (2023). Training in digital skills—the perspective of workers in public sector. *Sustainability*, *15*(13), 10577. https://doi.org/10.3390/su151310577
31. López-Nuñez, J.-A., Alonso-García, S., Berral-Ortiz, B., & Victoria-Maldonado, J.-J. (2024). A systematic review of digital competence evaluation in higher education. *Education Sciences*, *14*(11), 1181. https://doi.org/10.3390/educsci14111181
32. Mayasari, A. (2023). Peran Transformasi Digital dan Inovasi Terhadap Kinerja Organisasi Pada Sekolah Yayasan Marsudirini Cabang Yogyakarta. *Journal on Education*, *5*(4), 16659–16672. https://doi.org/10.31004/joe.v5i4.2845
33. Meyer, J., & Allen, N. (1997). *Commitment in the workplace: Theory, research, and application*. SAGE Publications, Inc. https://doi.org/10.4135/9781452231556
34. Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, *1*(1), 61–89. https://doi.org/10.1016/1053-4822(91)90011-z
35. Morgan, R. M., & Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, *58*(3), 20–38. https://doi.org/10.1177/002224299405800302
36. Periáñez-Cañadillas, I., Charterina, J., & Pando-García, J. (2019). Assessing the relevance of digital competences on business graduates' suitability for a job. *Industrial and Commercial Training*, *51*(3), 139–151. https://doi.org/10.1108/ict-09-2018-0076
37. Pradana, M., Silvianita, A., Syarifuddin, S., & Renaldi, R. (2022). The implication of digital organisational culture on firm performance. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.840699
38. Robbins, Stephen P. , & Judge, T. (n.d.). *Organizational Behavior (Perilaku Organisasi)* . Salemba Empat. (2015)
39. Solis, B., & Group, A. (2014). *Digital Transformation: Why and how companies are investing in new business models to lead digital customer experiences.*
40. Tadesse Bogale, A., & Debela, K. L. (2024). Organizational culture: A systematic review. *Cogent Business & Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2340129
41. Uslu, T. (2015). Innovation culture and strategic human resource management in public and private sector within the framework of employee ownership. *Procedia - Social and Behavioral Sciences*, *195*, 1463–1470. https://doi.org/10.1016/j.sbspro.2015.06.445
42. Vărzaru, A. A., & Bocean, C. G. (2024a). Digital transformation and innovation: The influence of digital technologies on turnover from innovation activities and types of innovation. *Systems*, *12*(9), 359. https://doi.org/10.3390/systems12090359
43. Vărzaru, A. A., & Bocean, C. G. (2024b). Digital transformation and innovation: the influence of digital technologies on turnover from innovation activities and types of innovation. *Systems*, *12*(9), 359. https://doi.org/10.3390/systems12090359
44. Xin YX, Hamid AH, Mansor AN. Digital leadership and behavioral adaptation in higher education: Examining teachers' digital competency and teaching performance. Environment and Social Psychology2025; 10(11): 4229. doi: 10.59429/esp.v10i11.4229
45. Yousef, D. A. (2016). Organizational commitment, job satisfaction and attitudes toward organizational change: A study in the local government. *International Journal of Public Administration*, *40*(1), 77–88. https://doi.org/10.1080/01900692.2015.1072217
46. Yu, J., & Moon, T. (2021). Impact of digital strategic orientation on organizational performance through digital competence. *Sustainability*, *13*(17), 9766. https://doi.org/10.3390/su13179766
47. Zhang, W., Zeng, X., Liang, H., Xue, Y., & Cao, X. (2023). Understanding how organizational culture affects innovation performance: a management context perspective. *Sustainability*, *15*(8), 6644. https://doi.org/10.3390/su15086644
48. Zulqifli, M., Syarifuddin, A., & Kurniawaty. (2022). Etos Kerja dan Komunikasi Pengaruhnya terhadap Komitmen Organisasi pada Karyawan Universitas Indonesia Timur. *Journal of Applied Management and Business Research (JAMBiR)*, *2*(3), 231–238. https://doi.org/10.38531/jambir.v2i3.67