IMPACT OF ORGANIZATIONAL SUPPORT POLICIES ON DIGITAL COMPETENCE OF LECTURERS AT CAN THO TECHNICAL ECONOMIC COLLEGE

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Title: *Impact of organizational support policies on digital competence of lecturers at Can Tho Technical Economic College*

Tác động của chính sách hỗ trợ của tổ chức đến năng lực số của giảng viên tại trường Cao đẳng Kinh tế Kỹ thuật Cần Thơ

Từ khóa: *cao đẳng Kinh tế - Kỹ thuật, chính sách hỗ trợ, giảng viên, năng lực số, tác động.*

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TÓM TẮT

Nghiên cứu này phân tích tác động của các chính sách hỗ trợ của tổ chức đến năng lực số của giảng viên tại trường Cao đẳng Kinh tế Kỹ thuật Cần Thơ. Nghiên cứu sử dụng Mô hình phương trình cấu trúc bình phương nhỏ nhất từng phần (PLS-SEM) để phân tích dữ liệu thu thập được từ 120 giảng viên. Kết quả cho thấy các yếu tố Hỗ trợ của tổ chức, đặc biệt là Cơ sở hạ tầng công nghệ, ảnh hưởng đáng kể đến mức độ sẵn sàng áp dụng công nghệ số của giảng viên, từ đó dự đoán mạnh mẽ năng lực số của họ. Những phát hiện này làm nổi bật vai trò trung gian của mức độ sẵn sàng áp dụng công nghệ trong mối quan hệ giữa hỗ trợ của tổ chức và phát triển kỹ năng số. Kết quả nghiên cứu cung cấp những hàm ý thực tế cho các nhà quản lý giáo dục và nhà hoạch định chính sách trong việc thiết kế và triển khai các chiến lược hỗ trợ hiệu quả để phát triển năng lực số trong số các giảng viên.

ABSTRACT

This study analyzes the impact of organizational support policies on the digital competence of lecturers at Can Tho Technical Economic College. This research employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze data collected from 120 lecturers. The results reveal that Institutional Support, particularly Technological Infrastructure, significantly influences lecturers' readiness to adopt technology, which in turn strongly predicts their digital competence. The findings highlight the mediating role of technology adoption readiness in the relationship between organizational support and digital skill development. These insights provide practical implications for educational managers and policymakers in designing and implementing effective support strategies to develop digital capabilities among lecturers.

1. Introduction

The rapid advancement of digital technologies, particularly in the context of the Fourth Industrial Revolution, has transformed the educational landscape across the globe. Digital competence has emerged as a core skill for educators, enabling them to effectively integrate information and communication technologies (ICT) into teaching and learning processes (Ferrari, 2013). As

educational institutions adapt to digital transformation, enhancing lecturers' digital competence is no longer optional but essential for improving instructional quality, fostering innovation, and ensuring educational equity.

In higher education, lecturers are increasingly expected to adopt digital tools for curriculum design, student engagement, online assessment, and virtual collaboration. However, the successful development of these competencies does not solely depend on individual efforts. It is significantly influenced by institutional policies and the environment in which lecturers operate (Kim & Bonk, 2006; Blanchard et al., 2016). Among these influences, organizational support policies including training programs, technological infrastructure, leadership commitment, and institutional encouragement play a pivotal role in fostering an environment conducive to digital skill acquisition (Nguyen et al., 2024; Hamzah et al., 2021).

In the Vietnamese context, particularly at colleges such as Can Tho Technical Economic College, the integration of digital technologies in education remains a pressing challenge. Despite governmental efforts in promoting digital transformation in education, there exists a gap in empirical research examining how organizational support mechanisms influence the digital competence of lecturers at this level of education.

Therefore, this study aims to explore the impact of organizational support policies on the digital competence of lecturers at Can Tho Technical Economic College. By investigating the relationships between perceived support, organizational factors, and lecturers' digital capabilities, the study seeks to provide evidence-based insights for educational policymakers and institutional leaders striving to foster digital transformation in teaching and learning.

2. Overview of research, theoretical basis and research method

2.1 Theoretical basis

2.1.1 The theory of digital competence and organizational support policies

Digital Competence is defined by Ferrari (2013) as the ability to use information and communication technology (ICT) tools effectively to collect, process, share and create information in a digital environment. In the educational context, teachers' digital competence includes the ability to use technology, creativity in teaching, digital interaction and attitudes towards technology. These components form the capacity to help teachers implement effective teaching activities.

In assessing the impact of organizational support policies on the digital competence of lecturers, it is essential to draw upon relevant theoretical frameworks that underpin this interaction. Several key concepts emerge from the literature, notably those surrounding perceived organizational support, organizational culture, and transformational leadership, which collectively influence lecturers' engagement, performance, and overall digital competency.

Perceived Organizational Support (POS) plays a crucial role in fostering an environment where lecturers feel valued and are thus more likely to engage in professional development, including acquiring digital skills. Priyatama et al. conducted a study that demonstrates how perceived organizational support acts as a vital mediator between intrinsic factors such as self-efficacy, optimism, hope, and resilience, and work engagement among lecturers. This suggests that when lecturers perceive strong support from their institutions, they are more likely to be engaged in their work, which includes developing digital competencies necessary for modern teaching methods Priyatama et al., 2018).

Organizational Culture also significantly influences lecturers' performance and their willingness to adopt new technologies. The environment is vital for encouraging lecturers to engage in continual improvement and adapt to digital requirements (Hiswara et al., 2023; Samsuri et al., 2024). Moreover, Setyorini et al. found that organizational culture influences commitment directly and indirectly through enhancing organizational citizenship behavior, which, in turn, affects lecturer performance (Setyorini et al., 2022).

Transformational Leadership is another significant factor linked to the effectiveness of organizational support policies. Research suggests that transformational leaders inspire their teams by fostering an innovative and supportive environment that promotes both personal and professional growth, aiming to enhance digital competencies among lecturers, as it encourages commitment and a shared vision for technology integration (Anwar et al., 2017).

Impact on Digital Competency Development: The interplay of these factors creates a framework that enhances lecturers' digital competencies. Organizations that effectively integrate POS, cultivate a positive organizational culture, and exhibit transformational leadership are more likely to empower their lecturers to embrace new technologies. This aligns with the view that strong leadership support drives the successful implementation of technological advancements, providing both the organizational structure and the personal motivation necessary for lecturers to thrive in a digital learning environment (Agarwal & Lakhera, 2023; Syahsudarmi et al., 2024).

In summary, the theoretical foundations underlying the impact of organizational support policies on lecturers' digital competence are well-established in the literature. Perceived organizational support, organizational culture, and transformational leadership are critical constructs that interconnect to create an environment where lecturers are motivated and equipped to enhance their digital skills effectively. Institutions must strategically employ these theories to ensure their policies effectively support lecturers in navigating the challenges and demands of contemporary digital education.

2.1.2 Overview of research

Organizational support policies play a critical role in enhancing the digital competence of lecturers, serving both as institutional endorsement and the provision of necessary technological infrastructure. Numerous studies highlight how effective organizational support fosters an environment conducive to the development of digital skills among educators.

Firstly, the concept of institutional support is pivotal in shaping educators' professional growth. Akib emphasizes that when teachers recognize that their organization values their contributions and prioritizes their well-being, they exhibit greater commitment and performance (Akib, 2022). This reflection is echoed in Suyitno's analysis, which posits that principal support significantly influences teacher performance through its impact on organizational commitment and attitudes, thereby enhancing overall teaching competence (Suyitno, 2022). Lecturers who receive institutional support, including training and guidance in the use of technology, are more likely to improve their digital literacy. Blanchard et al. (2016) found that institutional support is an important factor in motivating teachers to adopt technology in their teaching. Research by Kim and Bonk (2006) confirmed that providing training and technical support from the institution helps teachers develop skills in using technology effectively.

In terms of technological infrastructure, Qu elaborates on how organizational investments in digital environments, including training and positive mindset cultivation, can enhance digital performance in information management systems (Qu, 2024). This aligns with the findings of Nguyen et al., who assert that key measures to develop lecturers' digital competence include investing in necessary technological resources as part of broader institutional policies (Nguyen et al., 2024). Without such infrastructural support, initiatives aimed at improving digital skills may falter, as indicated by Hamzah et al., who discuss the crucial role of digital leadership in organizing effective pedagogical practices during times like the COVID-19 pandemic (Hamzah et al., 2021). Adequate and modern technological infrastructure facilitates teachers to access and use technology in teaching. According to the study of Lau et al. (2014), advanced technological infrastructure has a direct relationship with the development of teachers' technological capacity. Waring (2017) pointed out that schools that invest in technological infrastructure will create a favorable environment for the use and development of digital skills.

In conclusion, the interplay between organizational support policies and the digital competence of lecturers is evident through a multitude of studies that stress the importance of both institutional and infrastructural backing. For educational institutions aiming to foster high levels of digital competence among their staff, implementing robust support mechanisms that integrate technological resources, professional development, and a culture of collaboration is essential.

2.2 Research model and method

2.2.1 Research model

Based on the theoretical foundation and related studies such as Blanchard et al. (2016), Kim and Bonk (2006), Lau et al. (2014) and Waring (2017), the proposed research model includes 3 factors affecting the digital competence of lecturers at Can Tho Technical Economic College, including: Institutional Support (IS), Technological Infrastructure (TI) and Readiness to Adopt Technology (RAT). Which RAT is an important intermediary variable that determines the level of Digital Competence (DC) of lecturers.

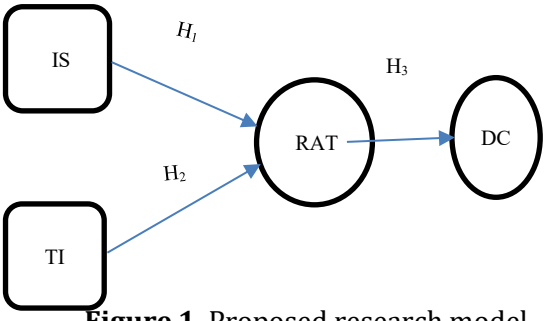

Figure 1. Proposed research model

Source: Author's synthesis, 2025

The scale and observed variables are described in detail in Table 1 below.

Table 1. Measurement Scales and Observed Indicators

Code	Scale	Source
IS	**Institutional Support**	Blanchard et al. (2016); Kim & Bonk (2006)
IS1	My school provides adequate training programs on digital technology for lecturers	
IS2	The school provides timely technical support when I encounter technological issues.	
IS3	The school encourages and facilitates technology adoption in teaching	
IS4	I receive technical support from the IT department when needed	
IS5	The school provides materials and instructions on how to use technology tools	
TI	**Technological Infrastructure**	Lau et al. (2014); Waring (2017)
TI1	My school has a well-established technological infrastructure to support teaching	
TI2	The Wi-Fi and internet system at my school is stable	
TI3	I can easily access digital tools when needed	
TI4	The school has standard technology laboratories to serve research and teaching	
TI5	The school provides technological equipment such as computers, projectors and modern presentation equipment	
RAT	**Readiness to Adopt Technology**	Venkatesh et al. (2003); Tondeur et al. (2017)
RAT1	I feel excited about adopting technology in teaching	
RAT2	I believe technology will help me enhance my teaching skills	
RAT3	I always look for opportunities to learn about educational technology	
DC	**Digital Competence**	UNESCO (2018)
DC1	I can create digital content (videos, interactive materials, presentations).	
DC2	I know about cybersecurity and personal information management	
DC3	Ability to secure and manage personal information	

Source: Author's synthesis, 2025

The observed variables in Table 1 are measured using a 5-level Likert scale. In which the conventional values are as follows: 1 is completely disagree, 2 is disagree, 3 is neutral, 4 is agree, 5 is completely agree.

2.2.2 Research method

2.2.2.1 Data Analysis Technique

The partial least squares structural equation modeling (PLS-SEM) analysis method is used to analyze the causal relationship. According to Hair et al. (2021), PLS-SEM is often applied when the data has a small sample size, does not follow a normal distribution, or the research model is highly exploratory. Additionally, PLS-SEM is considered a suitable method for analyzing mediating variables in the research model (Sarstedt, Hair Jr., Nitzl, Ringle, & Howard, 2020).

2.2.2.2 Sample size determination method

By the end of 2024, the total number of staff and lecturers at Can Tho Technical Economic College was 147 people. This study surveyed a total of 120 lecturers currently teaching at the school. The survey form was designed to send a survey link to the survey subjects, who are lecturers at the school, via the Google Forms application.

3. Results

1.1. Factor Rotation and Multicollinearity Test

The results of factor rotation (Table 2) indicate that all observed variables load most strongly on their respective theoretical constructs, with factor loadings ranging from 0.854 to 0.936. Specifically, the items measuring Digital Competence (DC) load from 0.881 to 0.930; Infrastructure Support (IS) from 0.854 to 0.919; Readiness for Adoption of Technology (RAT) from 0.896 to 0.936; and Training Intensity (TI) from 0.890 to 0.929. No significant cross-loadings were observed, confirming adequate discriminant validity between constructs (Hair et al., 2017).

Table 2. Cross-loadings of Items

Variable	DC	IS	RAT	TI	VIF
DC1	0.881				2.302
DC2	0.923				3.180
DC3	0.930				3.290
IS1		0.899			3.637
IS2		0.878			2.959
IS3		0.854			2.551
IS4		0.919			4.220
IS5		0.884			3.032
RAT1			0.896		2.467
RAT2			0.936		3.794
RAT3			0.931		3.732
TI1				0.904	4.010
TI2				0.922	4.634
TI3				0.892	3.533
TI4				0.890	3.224
TI5				0.929	4.829

Source: Processing survey data of 120 college lecturers, 2025

Regarding multicollinearity, all Variance Inflation Factor (VIF) values are below the threshold of 5, ranging from 2.30 to 4.83, indicating no serious multicollinearity issues in the measurement model (Hair et al., 2019).

1.2. Reliability and Convergent Validity

Table 3 presents the reliability and convergent validity results. All constructs demonstrate strong internal consistency, with Cronbach's Alpha values exceeding 0.8 and Composite Reliability values above 0.9, meeting recommended thresholds for construct reliability (Hair et al., 2017). Additionally, the Average Variance Extracted (AVE) values for all constructs are well above 0.5 (DC: 0.831; IS: 0.787; RAT: 0.848; TI: 0.823), indicating satisfactory convergent validity (Fornell & Larcker, 1981).

Table 3. Cronbach's Alpha, Composite Reliability, AVE, R2 and Q^2

Variable	Cronbach's Alpha	rho_A	Composite Reliability	AVE	Q^2
DC	0.898	0.902	0.936	0.831	0.748
IS	0.932	0.934	0.949	0.787	
RAT	0.910	0.911	0.944	0.848	0.770
TI	0.946	0.947	0.959	0.823	

Source: Processing survey data of 120 college lecturers, 2025

Moreover, the Q^2 values for the dependent variables RAT (Q^2 = 0.770) and DC (Q^2 = 0.748) are greater than 0.5, providing evidence of predictive relevance for the structural model (Chin, 1998).

1.3. Structural Model Results

The structural model results based on PLS-SEM (Table 4) indicate that all hypothesized relationships are statistically significant at $p < 0.001$. Specifically:

Training Intensity (TI) positively influences Readiness for Adoption of Technology (RAT) with a path coefficient of $\beta = 0.646$ ($t = 9.314$). This result is consistent with Lau et al. (2014), who argued that advanced technology infrastructure has a direct relationship with the development of teachers' technological competence. At the same time, Waring (2017) pointed out that schools that invest in technology infrastructure will create a favorable environment for the use and development of digital skills.

Infrastructure Support (IS) also significantly affects RAT with $\beta = 0.367$ ($t = 5.313$). This is consistent with previous studies, such as Tondeur et al. (2017), which found that institutional support is a fundamental condition for changing teachers' technology use behavior.

Most notably, RAT has a very strong effect on Digital Competence (DC), with $\beta = 0.956$ ($t = 114.059$), underscoring its pivotal mediating role in the model.

Table 4. Cronbach's Alpha, Composite Reliability, AVE, R2 and Q^2

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
IS -> RAT	0.367	0.368	0.069	5.313	0.000
RAT -> DC	0.956	0.956	0.008	114.059	0.000
TI -> RAT	0.646	0.645	0.069	9.314	0.000
R^2				R Square	R Square Adjusted
DC				0.913	0.912
RAT				0.925	0.923

Source: Processing survey data of 120 college lecturers, 2025

The R^2 values demonstrate a high explanatory power, with 91.3% of the variance in DC and 92.5% of the variance in RAT explained by the independent variables. This confirms the structural model's robustness and its effectiveness in explaining lecturers' digital competence (Hair et al., 2017; Henseler et al., 2009)

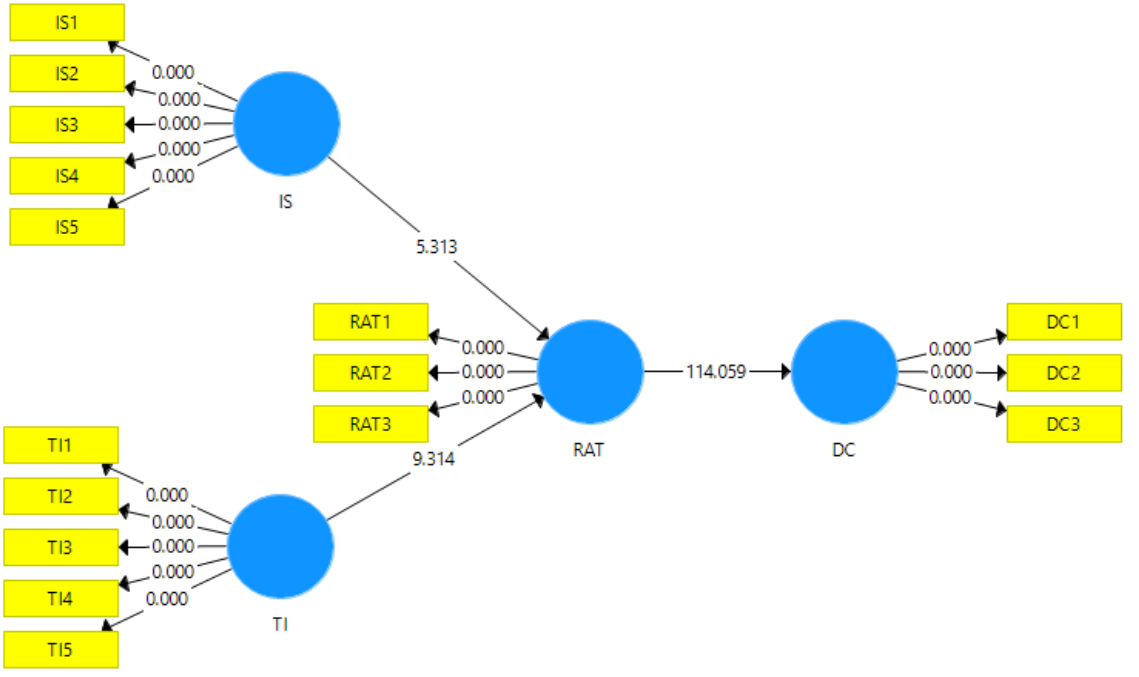

Figure 2. Path model

Source: Processing from survey data of 120 college lecturers, 2025

Conclusion

In the context of education being deeply affected by the Industrial Revolution 4.0, improving digital capacity for lecturers is a prerequisite for Can Tho Technical Economic College to implement a comprehensive digital transformation strategy effectively. This study has contributed to identifying factors that systematically affect lecturers' digital capacity, thereby providing a basis for proposing solutions suitable for school practices. The results of the research model show the impact of organizational support policies on the digital competence of lecturers, their readiness to apply technology, and their overall digital competence. Prioritizing investment in support policies and infrastructure is practical and suitable for the actual context of colleges today. Specifically, the upgrades include network system enhancements, the installation of smart classrooms, projectors, electronic boards, and wireless microphones, as well as the provision of high-configuration computers. Developing a user-friendly LMS system, integrating multiple platforms (web, app), easy to use for both lecturers and students. Issuing policies to support technology in teaching, such as reducing administrative burden, increasing allowances for lecturers who actively apply technology.

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