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| RESEARCH ARTICLE

## The Influence of Digital Competence on Higher Education Institutional Management through Employee Performance

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| ABSTRACT

Employees equipped with digital competencies have something to make to their performance and also in higher education institutional management. This study examines the influence of digital competence on higher education institutional management through employees' performance. This study is a causal form of research design. The study used mediation analysis with multiple regression and an online survey to gather information and data. Random sampling was used for the teaching and non-teaching staff from the 15 satellite campuses of the university using the Cochran formula with a total sample size of 110 respondents, 81 teaching staff, 19 non-teaching, and stratified sampling for the 10 administrators. Data were analyzed through descriptive and inferential statistics using mean and standard deviation, inferential statistics, t-test, and ANOVA in determining the significant difference. Pearson R was used to test the significant relationship, while multiple regression analysis was used to determine how the digital competence of employees and employees' performance significantly influence the higher education institutional management. Findings revealed that the overall mean of digital competence of employees is 3.7, with an interpretation of "Very high digital competence". The overall mean of employees' performance is 3.58, with an interpretation of "Very good performance". While the overall mean of employees' performance is 3.58 with an interpretation of "Very good performance", the overall mean of Higher Education institutional management is 3.38 with an interpretation of "Very high institutional management". The data also showed that there is a significant difference in the digital competence of employees in Information and data literacy, communication, digital content creation, and digital safety when grouped according to their profile. The data exposed that employee performance in terms of professional competence, strategic leadership, administrative procedures, and management skills has a significant positive relationship with institutional management. Furthermore, the employees' performance has a significant positive relationship with the digital competence of the employees. The study concluded that per unit increase in administrative procedures, there is an increase in institutional management, per unit increase in professional competence, there is an increase in institutional management, and per unit increase in strategic leadership, there is an increase in institutional management. Hence, the Expectancy Theory by Vroom was proven correct when it pointed out that digital competencies aid employees in their performance.

| KEYWORDS

Digital competencies, Employee performance, Data literacy, client.

| ARTICLE INFORMATION

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### 1. Introduction

The digital transformation uses current information to fundamentally alter the organization's culture, management strategy, technical mix, and operational structure. It prioritizes the client in all of its choices and activities. The

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introduction of new technology and automation into the workplace has an impact on both industry and education. (Becker et al., 2017). Nowadays, digitalization challenges are now gaining traction. The digitalization of social and economic interactions affected every aspect of human existence, including the home, market transactions, financial operations, banking, industry, agriculture, medical, education, and government (Vasilev et al, 2020). Training of necessary human resources, developers, and consumers of digital technology will be required for such large-scale initiatives. Universities must become digital under these circumstances, and the national innovation system and related development organizations must understand the ramifications of digitalization (Selomo & Govender, 2016).

The research focused on the influence of digital competence on employee performance and better levels of institutional management. The research looked at the issue of professional competence and digital abilities for institutional needs. Rapid technological advances necessitate the development of extra professional competence, necessitating a reexamination of the relationship between education and employment agencies to satisfy these changing demands. Higher education institutions must understand how digital literacy affects learners at work when considering the future of employment in terms of the skills and traits in demand. Furthermore, "literacy" is the means and manner by which employees may apply their knowledge to become adept with a range of media resources, as it overlaps information and professional domains (Becker et al., 2017).

In the Philippines, the presence of ICT resources in the institution and workers' exposure to ICT resources influenced digitalization and performance at the Polytechnic University of the Philippines-Ragay, Camarines Sur Branch. It is also recommended that the university's administration and the Commission on Higher Education prioritize the procurement of the most important resources, like equipment and facilities related to ICT integration in Higher Education Institutions, and that training and skill empowerment of the organization's staff be conducted regularly (Avila & Cabrera, 2021).

Further, digital literacy and expertise are crucial on the part of the employees (teaching and non-teaching personnel) to provide quick and quality service to the stakeholders of the institution. Thus, the output of the study will be the basis for an intervention plan that will enhance the higher education institutional management and will also serve as a guide to the administrators of the school in their planning and decisions leading to technology leadership.

The study was anchored on Social Learning Theory (Bandura, 1925). This theory focused on transition behaviorism and observational learning. The digital literacy skills model may enhance the teaching and learning methodologies required for the digital world (Tohara, 2021).

The study was supported by the Expectancy Theory (Vroom, 1964). According to this view, people have diverse sets of objectives and might be motivated if they have particular expectations. This theory is about choice; it discusses the processes that a person goes through while making decisions. Although workers are satisfied with their direct supervisors, there is motivating potential for further improving the work environment via improved growth chances for employees' competency (De Vito et al., 2018).

The study examined the influence of digital competence on Higher Education Institutional management through employees' performance in one of the higher institutions in the province of Bukidnon.

The data literacy and capacity of workers to extract meaningful information from data, as well as the ability to derive information from the written word, is the emphasis of the information. The large volume of information, the expansion in its sources and varieties, and the parties utilizing it all necessitated the development of information technology (Abusharekh et al., 2020).

People and organizations throughout the globe have had to adapt to changing work and living styles. Firms and educational institutions are shifting to work-from-home models as digitization accelerates (WFH). Blockchain technology will become more essential, necessitating design and regulatory studies (Pandey & Pal, 2020).

Digital communication technology (CT) has had a significant impact on many parts of our life (both professional and personal) by enhancing information exchange and communication flow. Individuals have faced several obstacles as a result of ongoing CT development. CT has impacted organizational work processes, produced paradigm changes in the educational sector, particularly among workers, and altered student learning techniques (Al-Rahmi et al., 2020).

In digital content, the necessity arises for a new highly professional workforce with digital skills and competence in the technology and communication field. The directions of increase of computer products in the context of economic sectors of the region, in particular, adjustment and creation of new educational programs of skills training, formation of a complex system of independent assessment of qualification in the ICT sphere (Azarenko et al., 2018).

Digital safety focuses on a quick and effective method to ensure the employees know how to identify signs and symptoms of abuse or disturbance and safety of their co-employees or trainees. Many corporate executives and staff have difficulty adapting to digital management and working environments. A total of eight persons from different business disciplines were questioned, four from Finland and four from the Philippines, to compare the viewpoints of emerging nations on the digitalization of work and safety (Malaluan & Hirvone, 2021).

The impact of technology in our everyday lives cannot be overstated. This is because, in today's dynamic world, life is meaningless without technology. Education, skills, and jobs are all being transformed by digital technology (Qureshi et al., 2021). Through education cooperation, digital technologies are growing beyond creative and less conventional teaching and learning practices. Traditional means of instruction will be completely superseded by digital technology in the future of education (Qureshi et al., 2021).

### **1.1 Research Questions:**

This study seeks to answer the following core question: *How do digital competence influences employees' performance in Higher Education Institutional management in one of the higher institutions in the province of Bukidnon?* Supporting questions examine the relationship between the digital competencies of employees and their performance, employee performance and higher education institutional management, and institutional performance indicators.

### **1.2 Purpose of the Study:**

The main objective is to assess the extent how which digital competence among employees influences their job performance and, in turn, impacts the management performance of higher education institutions. Thus, the output of the study will be the basis for an intervention plan that will enhance the higher education institutional management and will also serve as a guide to the administrators of the school in their planning and decisions leading to technology leadership.

### **1.3 Significance:**

The results of the study will benefit key stakeholders of Higher Education Institutions, including administrators, faculty, students, parents, and local government units (LGUs). Administrators can use the findings for strategic planning and enhancing digital services, while faculty members may improve their online teaching practices to deliver quality education. Students will gain insights that support their adaptation to digital learning environments, and parents can make informed decisions about school engagement and support. Lastly, LGUs may utilize the study to guide policy development and school-related initiatives within their jurisdiction.

## **2. Methods**

### **2.1 Research Design**

The study used a causal research design with multiple regression analysis. Multiple linear regression is an approach that predicts the outcome of a dependent variable using two or more independent variables. This approach allows the researcher to calculate the model's variation and the proportional contribution of each independent variable to the overall variance (Thomson, 1991).

### **2.2 Participants and Sampling Method**

The respondents of this study were the 110 administrators, teaching, and non-teaching employees of the different campuses of a higher education institution in the province of Bukidnon. This study utilized random sampling. This was based on the population of 153 regular employees from the 15 satellite campuses in one of the higher education institutions in the province of Bukidnon

Inclusion criteria included:

- (1) Current employment in one of the selected HEIs,
- (2) At least one year of continuous service, and
- (3) Informed consent provided via email.

These employees were selected as they uses technology and other digital platform in their day to day work.

### **2.3 Research Instrument**

Data were gathered using a **structured questionnaire** with two main sections:

- **Part I:** contained items pertaining to the demographic profile of the respondents as to age, sex, civil status, and education.
- **Part II:** covered questions relating to the assessment of the influence of digital competence on employees' performance and higher education institutional management.

The questionnaire on the assessment of the influence of digital competence on employees' performance and higher education institutional management was adapted from a previous study by Potemkim & Rasskazova (2020), which was modified to suit the variables of the present study. The researcher sought the permission of the aforementioned rightful owners of the instrument to give proper credit to their work.

### **2.4 Data Gathering Procedure**

The researcher sought approval from the University President, with the endorsement of the Graduate School Dean, to conduct a survey involving selected administrators, teaching, and non-teaching staff. Data were gathered online. Additionally, key informant interviews were conducted to gain deeper insights into the impact of digital competence on employee performance and institutional management.

### **2.5 Ethical Considerations**

The study ensured ethical compliance by:

- Securing informed consent from participants,
- Guaranteeing **anonymity** and **confidentiality** of responses,
- Allowing voluntary participation with the option to withdraw at any time.

### **2.6 Data Analysis**

Collected data were encoded and analyzed using **SPSS software**. The following statistical tools were used:

- **Descriptive statistics:** Frequency, percentage, mean, and standard deviation to describe the demographic profile and assess responses.
- **Pearson r:** To examine the relationship between the digital competence of employees and employees' performance.
- **T-test and ANOVA:** To determine significant differences based on demographic profiles.
- **Regression analysis:** To test the influence of digital competence of employees and employees' performance significantly influence the higher education institutional management.
- **Mediation analysis:** To the significant mediation effect of employee performance on digital competence in higher education institutional management
- Responses were quantified using a **four-point Likert scale**, interpreted as follows:

Scale	Range	Description	Interpretation
4	3.26–4.00	Strongly Agree	Very High
3	2.51–3.25	Agree	High
2	1.76–2.50	Disagree	Poor
1	1.00–1.75	Strongly Disagree	Very Poor

4. Results

**Table 1.** Demographic Profile of Respondents

Factor	Frequency	Percentage (%)
<b>Sex</b>		
Male	39	35
Female	71	65
<b>Age</b>		
20 - 25 years old	19	17
26 - 30 years old	34	31
31 - 35 years old	27	25
36 and above	30	27
<b>Civil Status</b>		
Single	64	58
Married	44	40
Separated	2	2

**Table 2.** Summary of Respondents' Perception of Digital Competence of Employees

Digital competence was evaluated in four domains: **information and digital literacy, communication, digital content creation, and digital safety.**

Items	Ave. Mean	Std. Deviation	Interpretation
Information and Digital Literacy	3.76	0.43	Very high digital competence
Communication	3.71	0.45	Very high digital competence
Digital Content Creation	3.68	0.47	Very high digital competence
Digital Safety	3.65	0.49	Very high digital competence
Overall mean	3.70	0.46	Very high digital competence

**Table 3.** Mean Distribution of Respondents' Perception of Employees' Performance

Item	Average Mean	Standard Deviation	Interpretation
Professional Competence	3.63	0.50	Very good performance
Strategic Leadership	3.52	0.56	Very good performance
Administrative Procedures	3.60	0.51	Very good performance
Management Skills	3.60	0.54	Very good performance
Overall Mean	3.58	0.53	Very good performance

**Table 4.** Summary of the Average Mean Distribution of Respondents' Perception of Higher Education Institutional Management

Item	Average Mean	Std. Deviation	Interpretation
Tracked Progress	3.63	0.50	Very good performance
Connected Learning	3.52	0.56	Very good performance
Technology Leadership	3.60	0.51	Very good performance
Participation in Digital Training	3.60	0.54	Very good performance
	3.58	0.53	Very good performance

**Table 5.** A Significant Difference in the Digital Competence of Employees When Grouped According to Their Demographic Profile

Profile	Digital Competence											
	Information and Data Literacy			Communication			Digital Content Creation			Digital Safety		
	t-value	p-value	Decision on Ho	t-value	p-value	Decision on Ho	t-value	p-value	Decision on Ho	t-value	p-value	Decision on Ho
Sex	39.801	0.000	Reject	39.801	0.000	Reject	38.281	0.000	reject	34.441	0.000	reject
Age	11.806	0.000	Reject	11.806	0.000	Reject	11.817	0.000	reject	11.284	0.000	reject
Marital Status	34.626	0.000	Reject	35.229	0.000	Reject	34.32	0.000	reject	33.566	0.000	reject

**Table 6. A Digital Competence explains Higher Education Institutional Management**

<b>Independent Variables</b>	<b>Beta</b>	<b>T-value</b>	<b>Sig.</b>
Information and Data Literacy	.127	.801	.000
Communication	-.159	-1.107	.271
Digital Content Creation	.146	.964	.000
Digital Safety	-.037	-.294	.769
<b>Dependent Variable</b>		<b>institutional management</b>	
Constant		.365	
Adjusted R <sup>2</sup>		.133	
F-value		16.16	
Significance		0.000	

**Table 7. A Digital Competence Explains the Employee Performance**

<b>Independent Variables</b>	<b>Beta</b>	<b>T-value</b>	<b>Sig.</b>
Information and Data Literacy	.013	.090	.928
Communication	-.140	-1.042	.300
Digital Content Creation	.450	3.170	.002
Digital Safety	.006	.050	.960
<b>Dependent Variable</b>		<b>Employee Performance</b>	
Constant		.377	
Adjusted R <sup>2</sup>		.109	
F-value		4.34	
Significance		0.003	

**Table 8. An Employee Performance Explains Higher Education Institutional Management**

<b>Independent Variables</b>	<b>Beta</b>	<b>T-value</b>	<b>Sig.</b>
Professional competence	.095	.803	.424
Strategic leadership	.123	.895	.373
Administrative procedures	.238	2.276	.025
Management skills	.070	.525	.601
<b>Dependent Variable</b>		<b>institutional management</b>	
Constant		.430	
Adjusted R <sup>2</sup>		.185	
F-value		5.95	
Significance		0.000	

**5. Discussion**

This study explored how digital competence among employees influences their job performance and, in turn, impacts the management performance of higher education institutions. Thus, the output of the study will be the

basis for an intervention plan that will enhance the higher education institutional management and will also serve as a guide to the administrators of the school in their planning and decisions leading to technology leadership.

### **5.1 Interpretation of Results**

Based on the findings of the study, it can be interpreted that the level of digital competence among employees in the higher education institution varied across roles, with teaching staff demonstrating the highest levels, followed by non-teaching staff and administrators.

This outcome highlights how teaching staff, likely due to the demands of remote learning during the pandemic, had greater exposure and necessity to use digital tools regularly. The reliance on platforms such as Google Meet, Google Docs, and Facebook Messenger further supports this, indicating a strong preference for accessible and user-friendly technologies.

However, the limited variety of tools in use may reflect either a lack of institutional support or insufficient training in more advanced systems. The results also show that a significant number of employees depend on mobile data for internet access rather than stable broadband connections, which may hinder effective online teaching, communication, and administrative functions.

This suggests a broader issue of digital infrastructure that impacts work performance and digital engagement. While there is moderate satisfaction with institutional efforts toward digital transformation, the results point to gaps in training, availability of digital resources, and ongoing technical support.

Therefore, it is crucial for the institution to address these disparities by providing continuous, structured training in advanced digital tools, online pedagogies, and cybersecurity. Doing so will help ensure that all employees, regardless of their role, are digitally competent and well-equipped to contribute effectively to institutional goals in a rapidly evolving digital environment.

### **5.2 Comparison with Existing Literature**

Based on the previously attached manuscript, the comparison between the results of the current study and existing literature reveals both alignments and affirmations with prior research.

The findings of the study affirm the conclusions of Avila & Cabrera (2021), who emphasized that exposure to and availability of ICT resources directly influence digital competence and performance in higher education institutions. In the current study, employees showed varying levels of digital competence, and those with more frequent access to technology—such as faculty—demonstrated higher competence, which supports Avila and Cabrera's assertion that digital exposure enhances performance.

Similarly, the study aligns with Gonzales (2020), who found that faculty and staff in HEIs possess strong 21st-century competencies but require continuous training and system upgrades to sustain and expand digital effectiveness. This is reflected in the current study's findings, which showed moderate satisfaction with institutional support and a clear need for ongoing digital training.

Moreover, the findings are consistent with Hutagalung et al. (2020), who emphasized that hard skills, soft skills, and organizational learning significantly influence employee innovation and performance. The current study shows that while digital competence exists among staff, performance outcomes such as management skills and administrative procedures are enhanced through training and application of digital tools, reinforcing the link between digital skills and organizational learning.

Additionally, Moralista & Oducado (2020) observed that faculty perceptions of digital learning vary depending on factors such as age, rank, and experience, which resonates with the current findings where digital competence differed across employee categories and was influenced by their roles and technological exposure.

Lastly, in terms of digital infrastructure and safety, the study supports the view of Malaluan & Hirvonen (2021) that employees in developing countries often struggle with adapting to digital systems due to limited access and training. The reliance on mobile data over broadband by the respondents reflects infrastructural challenges that must be addressed for full digital integration in HEIs.

In summary, the present study's results align with and reinforce existing literature on the critical role of digital competence, access, training, and institutional support in enhancing employee performance and management efficiency in higher education. These comparisons strengthen the argument that digital transformation in education must be holistic, inclusive, and sustained to produce meaningful institutional outcomes.

### **5.3 Implications of the Findings**

The study has practical implications for leadership development in academic institutions. The findings of the study imply that higher education institutions must prioritize digital competence development across all employee groups—teaching, non-teaching, and administrative. The variation in digital skills suggests a need for targeted training programs tailored to specific job functions. Faculty members demonstrated higher competence due to their regular use of digital tools in instruction, indicating that other sectors may require more support to bridge the gap and ensure consistent performance across the institution.

Additionally, the heavy reliance on mobile data for internet access points to a pressing need for improved digital infrastructure, especially in remote campuses. Institutions should invest in stable internet connectivity and provide access to more advanced digital platforms beyond basic tools like Google Workspace and Messenger. Expanding the use of secure and collaborative digital systems can boost productivity, efficiency, and service delivery.

Finally, the strong link between digital competence, employee performance, and institutional management highlights the strategic role of digital literacy in organizational success. Digital skills are not just technical requirements but are essential to effective leadership, decision-making, and stakeholder engagement. Institutions must embed digital literacy into long-term planning and professional development to remain responsive and resilient in an increasingly digital educational landscape.

### **5.4 Limitations**

The study was concentrated on the influence of digital competence of employees and the employees' performance towards the Higher Education Institutional management in one of the HEI in the Province of Bukidnon. Digital competence was only limited to information/data literacy, communication, digital content creation, and digital safety. The employees' performance only considered professional competence, strategic leadership, administrative procedures, and management skills, which include interpersonal and communication skills. The HEI management only includes efficiency in tracked progress, effectiveness in connected learning, technology leadership, and participation of employees in digital training. This study was limited to all regular employees, excluding the contract of service for the faculty and job order status non-teaching personnel. Thus, this study was only limited to the 15 satellite campuses, excluding the main campus.

### **References**

- [1] Ahlquist, J. (2020). *Digital leadership in higher education: Purposeful social media in a connected world*. Stylus Publishing, LLC
- [2] Arinto, P. B. (2016). Issues and challenges in open and distance e-learning: Perspectives from the Philippines. *International Review of Research in Open and Distributed Learning*, 17(2), 162-180. <https://scholar.google.com.ph>
- [3] Atanda, A. D., Owolabi, K. A., & Ugbala, C. P. (2021). Professional competence and attitudes of library personnel towards digital services in selected university libraries in Nigeria. *Digital Library Perspectives*. <https://scholar.google.com.ph>

- [4] Avila, E. C., & Cabrera, H. I. (2021, June). ICT Competence, Organizational Culture, Motivation, and Task Performance among the Employees of One Polytechnic University Branch. In *Journal of Physics: Conference Series* (Vol. 1933, No. 1, p. 012121). IOP Publishing. <https://scholar.google.com.ph>
- [5] Awan, M.T. & Karim, A.M. (2018). Higher Education Institutions and the Performance Management, Vol.. 1, pp 1-2. <https://www.researchgate.net>
- [6] Azarenko, N. Y., Mikheenko, O. V., Chepikova, E. M., & Kazakov, O. D. (2018, September). Formation of the innovative mechanism of staff training in the conditions of digital transformation of the economy. In *2018 IEEE International Conference "Quality Management, Transport, and Information Security, Information Technologies"(IT&QM&IS)* (pp. 764-768). IEEE. doi: [10.1109/ITMOIS.2018.8525021](https://doi.org/10.1109/ITMOIS.2018.8525021)
- [7] Bowers, J., & Kuklinski, J. *Political Science 522: Research Design And Analysis In Quantitative Research* (Spring 2020). <https://scholar.google.com.ph>
- [8] Corbeil, J. R., Khan, B. H., & Corbeil, M. E. (Eds.). (2021). *Microlearning in the digital age: The design and delivery of learning in snippets*. Routledge.
- [9] De Vito, L., Brown, A., Bannister, B., Cianci, M., & Mujtaba, B. G. (2018). Employee motivation is based on the hierarchy of needs, expectancy, and the two-factor theories applied with higher education employees. *IJAMEE*. <https://scholar.google.com.ph>
- [10] Jung, I. (Ed.). (2019). *Open and distance education theory revisited: Implications for the digital era*. Singapore: Springer
- [11] Marcus-Quinn, A., & Hourigan, T. (Eds.). (2021). *Handbook for Online Learning Contexts: Digital, Mobile and Open: Policy and Practice*. Springer Nature.
- [12] Zorn, A., Haywood, J., & Glachant, J. M. (Eds.). (2018). *Higher education in the digital age: Moving academia online*. Edward Elgar Publishing.