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DEVELOPING DIGITAL COMPETENCE OF LECTURERS AT PRIVATE UNIVERSITIES IN HANOI

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Abstract: Digital competence is the ability to effectively use and exploit information and communication technology (ICT) in work, study and life (Phan et al., 2023). Developing digital competence is not only a simple occupational requirement but also a decisive factor for the success of the digital transformation process in higher education (Pham et al., 2025) and helps lecturers enhance teaching quality, develop expertise, and contribute to training human resources capable of adapting to the digital society (Pham, 2024). The article analyzes the current status of the factors constituting digital competence of lecturers at private universities in Hanoi. The results provide a premise for proposing solutions to develop lecturers' digital competence, contributing to improving the quality and effectiveness of teaching activities, contributing to achieving the goals of the digitalization process in higher education.

Keywords: Digital competence; higher education; lecturers; private university

I. INTRODUCTION

The Industrial Revolution 4.0 and the digital technologies such as artificial intelligence (AI), big data, cloud computing and the Internet of Things (IoT), are being comprehensively reshaping the way of universities to operate, teach, research and interact with learners (Nguyen, 2025). Digital transformation in higher education is not simply the integration of technology into traditional activities, but a process of overall change in thinking, methods and training models to improve quality, expand access to knowledge and meet the increasing expectations of learners and society (Phan et al., 2023)

To carry out digital transformation in education, lecturers must possess digital competence which can help them to work in an open and global educational environment (Pham, 2024), and developing digital competence of lecturers has

become an essential factor and one of the important core competencies for lifelong learning (Nguyen et al., 2024). Digital competence is not limited to basic information technology skills but include a comprehensive set of knowledge, skills and attitudes necessary to be able to live, work and teach effectively in a digital environment (Pham et al., 2025). Lecturers need to be able to apply technology to innovate content, teaching methods, design creative learning activities, enhance interaction, and support students' self-learning process (Nguyen et al., 2024). Furthermore, lecturers are also responsible for developing digital competence for their own students, helping future generations become digital citizens and active workers, with the capacity to adapt to a constantly changing society (Santos et al., 2022).

In order to create strategic competitive advantages, enhance prestige and ensure sustainable development, in recent times, private universities in Hanoi have rapidly innovated and invested in technology, enhancing training in digital technology application skills to develop lecturers' digital competence. Although lecturers' digital competence has improved significantly in recent times, results such as the ability to apply digital technology in teaching, testing, assessment and designing learning materials have improved significantly. However, the development of lecturers' digital competence at private universities still faces difficulties in (1) lecturers' digital skills and qualifications; (2) infrastructure and resources at private universities; (3) mechanisms and policies to support lecturers in developing digital competence... The article analyzes the current status of digital competence of the teaching staff, identifies influencing factors, and thereby proposes systematic and feasible solutions to develop digital competences for lecturers, contributing to improving training quality and promoting the success of the digital transformation process at private universities, meeting the requirements of the current international integration context.

2. THEORETICAL REVIEW

2.1. The roles of digital competence for lecturers

Digital competence is understood as a person's ability to use information technology in a specific context (Zitha I et al., 2023). Digital competence is a set of knowledge, skills and attitudes, strategies and awareness required when using information technology and digital media. Therefore, digital competence is the ability to deploy a person's knowledge, skills, and attitudes in a certain context with the support of digital resources and digital technology tools (Biggins et al., 2019). Digital competence is one of the key elements for lifelong learning and is necessary

to participate in today's increasingly digital society (Wesselink and Giaffredo, 2015). According to UNESCO (2018), Digital competence is the ability to access, manage, understand, combine, communicate, evaluate and create information securely and appropriately through digital technology to serve simple to complex tasks as well as start-up businesses. This is a synthesis of many component competencies such as computer literacy, IT literacy, information literacy and communication literacy. According to the European Commission (2021), Digital competence is understood as the ability to effectively use digital technology, including searching, evaluating, using and creating information through digital tools and platforms, to meet the needs of learning, work and personal life.

Digital competence of an university lecturer is considered as digital teaching competence, which is a set of values, beliefs, knowledge, skills and attitudes of lecturers related to technological, information and communication aspects using digital technology in a professional context. Digital competence of lecturers has become an indispensable core competence for teaching and learning activities in universities as well as social activities related to the digital field. In the current context, digital competence is not only a purely technical skill but has become a comprehensive professional competence, playing a decisive role in the work efficiency of lecturers in all aspects: from teaching, assessment, research to professional development and social responsibility in training human resources for the digital future. The role of digital competence for lecturers is demonstrated through the following aspects:

Firstly, digital competence contributes to improving the core competencies of lecturers in the digital age. Digital transformation in higher education is an inevitable trend to develop the digital economy and lecturers are considered the main factors determining the success of this process. Therefore, digital competence is not only a supplementary skill but has become a core competency, indispensable for teaching and learning activities. (Santos et al., 2022). Supplying digital competence for lecturers is an urgent requirement for them to be able to adapt and meet the challenges and opportunities posed by the digital education environment. Digital competence determines the ability to adapt and develop sustainable careers of future teachers (Nguyen et al., 2024). Furthermore, digital competence is considered one of the eight core competencies important for lifelong learning, necessary for each individual to be able to live, learn and work effectively in an increasingly digital society (Pham, 2024).

Secondly, digital competence contributes to improving the quality and effectiveness of teaching. digital competence helps lecturers apply scientific and

technological achievements to innovate teaching content and methods. Lecturers can use digital tools to design lectures, organize creative learning activities, and suit the needs of learners (Pham et al., 2025). digital competence helps lecturers increase interaction, create a flexible learning environment, and improve assessment effectiveness. The application of information technology in teaching helps promote interaction between teachers and learners, making lectures more flexible and agile. Digital technology helps lecturers and students interact anytime, anywhere, without being limited by space and time. In addition, lecturers can use technology to build and implement more flexible, objective, and effective assessment methods. For example, they can use tools such as electronic diaries, blogs, or management software to track student progress;

Third, digital competence contributes to promoting professional development and scientific research. digital competence allows lecturers to access online learning opportunities such as courses and seminars to improve their knowledge. They can join online research communities to learn from colleagues and experts, and use digital resources such as e-books and online journals to develop their expertise. Lecturers can apply ICT in scientific research and educational management. Digital technology is an essential tool to conduct research, innovate and improve the teaching process, contributing to the development of the university.

Fourthly, digital competence helps lecturers carry out the task of developing digital competence for the student generation. Lecturers are responsible for developing digital competence for students to help learners have the ability to apply digital technologies in learning, problem solving and creativity. This helps students become effective citizens and active workers after graduation (Santos et al., 2022).

2.2. Digital competency framework for lecturers

In the context of rapid development of information technology and communication, digital technology is being used more and more in the educational environment (Parlak, 2017). Developing digital competence for lecturers is an urgent requirement, especially in the context of digital transformation of education (Pham et al., 2025). In Vietnam, the Ministry of Education and Training issued Decision No. 1282/QĐ-BGDĐT dated May 10, 2022 on the plan to enhance the application of IT and digital transformation in education and training in the period 2022-2025, which requires adding regulations on digital competency to the standards for teachers and educational managers (Ministry of Education and Training, 2022). Digital competence is needed for teachers to be able to effectively apply ICT in teaching, scientific research and educational management (Phan et al., 2023). For

lecturers, digital competence includes skills in using ICT tools, the ability to design and implement online teaching activities, and the application of ICT in scientific research and educational management. Improving lecturers' digital competence not only helps them adapt to the modern educational environment but also contributes to improving the quality of training and developing high-quality human resources for the country (Nguyen et al., 2024)

Author Redecker (2017) proposed the European Union's digital competence framework for educators (DigCompEdu): Including 6 main competency areas: (1) Professional commitment; (2) Digital resources; (3) Teaching and learning; (4) Assessment; (5) Empowering learners; (6) Promoting learners' digital competence. UNESCO's digital competence framework: Proposed 7 main competency groups: (1) Operating equipment and software; (2) Information and data competencies; (3) Communication and collaboration; (4) Digital content creation; (5) Security; (6) Problem solving; and (7) Career-related competencies (UNESCO, 2018). Based on the JISC digital competence framework (2021), authors Ninh (2024), Nguyen et al. (2024) proposed 6 core competencies: (1) Digital proficiency and productivity; (2) Information, data and communication capacity; (3) Capacity for innovation, creativity and problem solving; (4) Capacity for communication, collaboration and participation; (5) Capacity for digital learning and development; and (6) Capacity for identification and ensuring well-being in the digital environment. Authors Pham (2024) and Uerz (2021) proposed a digital competence framework for the specific target group of teachers with 4 factors: (1) Basic IT; (2) Capacity for designing, implementing and evaluating digital education; (3) Capacity for fostering digital competence for students; (4) Capacity for communication and collaboration in the digital education environment

3. RESEARCH METHODS

3.1. Theoretical model for researching lecturers' digital competence

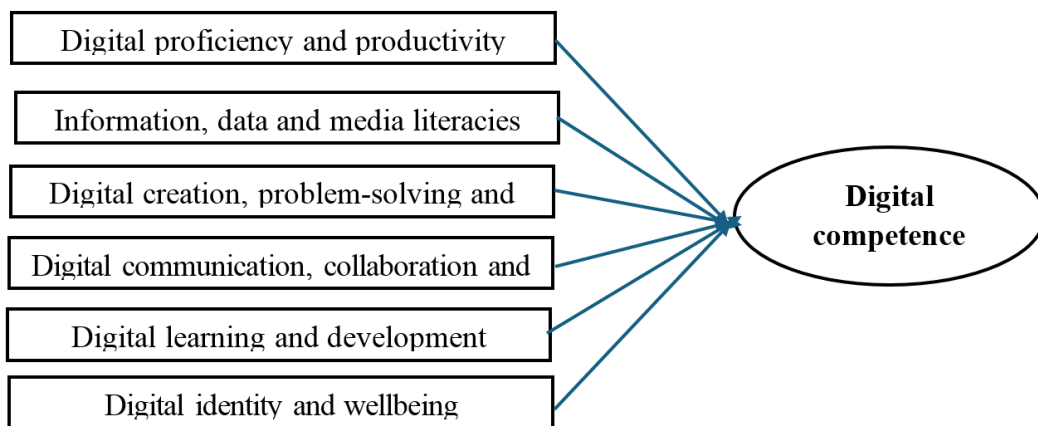
To study the digital competence of private university lecturers in Hanoi, the article chooses to inherit the Digital Competency Framework model of JISC and Ninh (2022). The JISC Digital Competency Framework model (2021) provides specific, updated and comprehensive guidelines on practicing digital competence in the higher education environment and has been tested to be statistically significant with a number of universities in Vietnam. In addition, the JISC Digital Competency Framework has components similar to the Digital Competency Framework for learners prescribed in Circular No. 02/2025/TT-BGDDT dated January 24, 2025 of the

Ministry of Education and Training. The JISC Digital Competency Framework consists of 6 core elements: (1) Digital proficiency and productivity; (2) Information, data and media literacies; (Information, data and multimedia communication competence); (3) Digital creation, problem-solving and innovation; (4) Digital communication, collaboration and participation; (5) Digital learning and development; (6) Digital identity and wellbeing. The model is depicted in the figure 1.

3.2. Description of the elements in the research model

3.2.1. Digital proficiency and productivity

Figure 1. Theoretical research model on lecturers' digital competences



Source: Author's proposal.

Digital proficiency and productivity is described through the ability to proficiently use digital devices, applications and software in learning, teaching, research and management; know how to choose the right tools to achieve high efficiency, be able to manage time, work and data with digital solutions and optimize work processes with technology (Ninh (2024)).

The proposed indicators to measure the Digital proficiency and productivity factors include: (1) I am able to select and use digital technologies tools (Zoom/ Teams/GG meet) in the teaching process, and recognize their impact on teaching and learning outcomes; (2) I regularly manage classes, take attendance, and grade via Learning Management System (LMS); (3) I regularly use cloud (Google Drive, OneDrive) to store and share information and documents; (4) I can solve technical problems encountered in the process of using digital tools (software/applications); (5) I am able to access and work effectively on the use of the Internet and social networks in teaching; (6) I can apply software, digital tools (Chat GPT, Gemini, Notebook LM...) in teaching and scientific research

3.2.2. Information, data and media literacies

The Information, data and multimedia literacy factor is described through the ability to search, evaluate and use information from various sources; use data safely, legally and ethically; understand how to create, share and consume digital media content (articles, videos, images) proactively and creatively; the ability to search, evaluate and select academic information... The proposed indicators for measuring the Digital proficiency and productivity factor include: (1) I can search, analyze and interpret information about digital resources and evaluate the reliability of those digital resources; (2) I can use online document search applications and manage references; (3) I have the ability to store, organize and manage useful web addresses; (4) I can use and create digital media content (audio, video, infographics); (5) I can create online tests with analysis of results; (6) I can describe, code, or aggregate data into different types or groups; (7) I know how and regularly verify information before sharing it

3.2.3. Digital creation, problem-solving and innovation

The Digital creation, problem-solving and innovation factor is described through the ability to design digital learning materials (e-learning, videos, interactive slides); use digital tools to solve teaching problems; apply new technology (AI, AR/VR, big data).

Suggested indicators to measure the Digital creation, problem-solving and innovation factor include: (1) I can create e-learning lectures with interactive questions and design, develop, edit digital content (e-lectures, videos, infographics, simulations, etc.); (2) I know how to exploit new technology (AI, AR/VR, big data) in teaching practice (support for grading or academic advising), research; (3) I can use mind maps or other visual thinking tools in teaching, creating instructional videos or screencasts; (4) I can conduct online surveys using questionnaires and handle problems arising for a digital research project; (5) I can use specialized data analysis software in research; (6) I can use digital devices, software/applications, social networks, etc. to study, update knowledge, improve qualifications and discover new trends in ICT applications; (7) I can guide others in using digital devices, software/applications or troubleshoot technical problems related to ICT

3.2.4. Digital communication, collaboration and participation

The Digital communication, collaboration and participation factor is described through the ability to use digital channels to communicate with students and colleagues; academic collaboration via digital tools (Teams, Slack, Google Docs); participation in digital professional communities, etc.

The proposed indicators for measuring the Digital communication, collaboration and participation factor include: (1) I can use digital platforms to communicate effectively (email, LMS, academic social networks, forums); (2) I can co-write research papers via Google Docs and participate in online conferences and collaborations within and outside the organization (Google Workspace, MS Teams, Slack, etc.); (3) Build professional networks and participate in academic communities via digital environments; (4) I often use direct messaging/image sharing applications (such as Whatsapp, Instagram, Facebook, Twitter, Zalo, etc.); (5) Can I use online training platforms (such as Collaborate, Zoom, BigBlueButton).

3.2.5. Digital learning and development

The Digital learning and development element is described through the ability to exploit digital tools for self-study and professional development; manage online learning and personal development portfolios (e-portfolio, LinkedIn; participate in online courses (MOOCs, EdX, Coursera)... Suggested indicators for measuring the Digital learning and development factor include: (1) I have used digital tools for lifelong self-learning (MOOCs, open courseware, online courses); (2) I have a career development orientation through digital platforms (e-portfolio, LinkedIn, learning data warehouse), and update my career profile on LinkedIn; (3) Exploit technology to support teaching and research (LMS, survey tools, digital library), have monitored and applied resources from digital libraries; (4) I have completed an online course on digital teaching methods; (5) I understand and can guide learners to comply with copyright or information security in the digital environment.

3.2.6. Digital identity and wellbeing

Digital identity and wellbeing factor is described through the understanding rights, responsibilities, data security and personal privacy when participating in the digital environment.

Suggested indicators to measure the Digital identity and wellbeing factor include: (1) I always develop a healthy and sustainable attitude when using technology; (2) I understand and always consider the privacy of others when sharing information; (3) I always proactively link different media (such as email, Twitter ResearchGate) to grow my followers; (4) I always set privacy settings on all social networking applications I participate in and use strong passwords and 2-factor authentication; (5) I know how to and proactively use social networks to expand and nurture relationships in research and teaching activities; (6) I know how to and proactively maintain the boundaries between personal and work accounts; (7) I know how to and proactively use health-related applications or health-related forums

3.3. Survey sample and data collection

With 37 observed variables in the model, the study conducted a survey on 200 lecturers at private universities in Hanoi. Lecturers participating in the survey mainly have a Master’s degree, accounting for 75%, aged 36-45 years old, accounting for 55% with training majors in Information Technology, Economics, Business, Finance, accounting for 62.5% of the survey participants. The survey sample ensures representativeness for the teaching staff of private universities in Hanoi.

The survey sample was selected by a convenient method. The completed online survey form was sent to lecturers via email or zalo group with a total of 200 survey samples collected from 12 private universities in Hanoi. The survey data was processed using excel software in the form of descriptive statistics.

4. RESEARCH RESULTS AND DISCUSSION

4.1. Digital Proficiency and Productivity

Table 1. Digital Proficiency and Productivity

Digital Competency Factors and Assessment Criteria	Average value	Min value	Max value
Digital Proficiency and Productivity	3.91	1	5
Ability to select and use digital technology tools (Zoom/Teams/GG meet) in the teaching and learning process, and recognize their impact on teaching and learning outcomes;	4.13	1	5
Regularly manage classes, take attendance, and grade via LMS	3.7	1	5
Regularly use cloud (Google Drive, OneDrive) to store and share information and documents	3.95	1	5
Ability to solve technical problems encountered in the process of using digital tools (software/applications)	3.85	1	5
Ability to access and work effectively in using the Internet and social networks in teaching	3.88	1	5
Ability to apply software and digital tools (Chat GPT, Gemini, Notebook LM...) in teaching and scientific research	3.93	1	5

Source: Survey data analysis results.

The survey results show that the factor of Digital technology proficiency and productivity is the strongest digital competency factor of lecturers with an average

score of 3.91/5 points. Lecturers have a high ability to select and use Digital technology tools (Zoom/Teams/GG meet) in the teaching process, the ability to recognize their impact on teaching and learning outcomes, reaching 4.13/5 points, and the ability to apply software and digital tools (Chat GPT, Gemini, Notebook LM...) in teaching and scientific research reaching 3.93/5 points. However, lecturers do not regularly manage classes, take attendance, and grade through LMS (reaching 3.7/5 points and are not really able to solve technical problems encountered in the process of using digital tools (software/applications), reaching 3.85/5 points.

4.2. Communication, Collaboration and Participation

Table 2. Levels of Communication, Collaboration and Participation

Digital Competency Factors and Assessment Criteria	Average value	Min value	Max value
Communication, Collaboration and Participation	3.83	1	5
I can use digital platforms to communicate effectively (email, LMS, academic social networks, forums).	3.83	1	5
I can co-write research papers via Google Docs and participate in online conferences and collaborations within and outside the organization (Google Workspace, MS Teams, Slack...).	3.85	2	5
Build professional networks and participate in academic communities through digital environments	3.78	2	5
I often use instant messaging/image sharing applications (such as Whatsapp, Instagram, Facebook, Twitter, Zalo,...)	3.93	1	5
I can use online training platforms (such as Collaborate, Zoom, BigBlueButton)	3.78	1	5

Source: Survey data analysis results.

The data in Table 2 shows that the lecturers' ability to communicate, collaborate and participate in the digital environment is relatively high, reaching 3.83/5 points, in which the criterion of often using direct messaging/image sharing applications (such as Whatsapp, Instagram, Facebook, Twitter, Zalo,...) is rated highest, reaching 3.93/5 points; the criterion of writing research papers via Google Docs and participating in online seminars and collaborations inside and outside the organization (Google Workspace, MS Teams, Slack...), reaching 3.85/5 points. However, lecturers are still relatively limited in their ability to build professional networks and participate in academic communities through the digital environment and the ability to use online training platforms (such as Collaborate, Zoom, BigBlueButton)

4.3. Information, data and media literacies

Table 3. Level of Information, data and media literacies

Digital Competency Factors and Assessment Criteria	Average value	Min value	Max value
Information, data and media literacies	3.74	1	5
Ability to independently search, analyze, and interpret information about digital resources and evaluate the reliability of those digital resources	3.65	1	5
Ability to use online document search applications and manage reference materials	3.8	1	5
Ability to store, organize, and manage useful web addresses	3.8	1	5
Ability to use and create digital media content (audio, video, infographics)			
Ability to use and create digital media content (audio, video, infographics)	3.65	2	5
Ability to create online tests with analysis of results	3.83	2	5
Ability to describe, code, or aggregate data into different types or groups	3.63	2	5
Know how and regularly verify information before sharing	3.83	2	5

Source: Survey data analysis results.

The lecturer's Information, data and media literacies capacity is at a basic level, reaching 3.74/5 points. The lecturer has the ability to create online tests with analysis of results and knows how to regularly verify information before sharing with an assessment level of 3.83/5 points. However, the ability to describe, encode or aggregate data into different types or groups; the ability to search, analyze and interpret information about digital resources as well as evaluate the reliability of those digital resources and the ability to use and create digital media content (audio, video, infographic) of the lecturer is still limited, reaching 3.63 and 3.65/5 points.

4.4. Digital Identity and Digital Wellbeing

Table 4. Levels of Digital Identity and Digital Wellbeing

Digital Competency Factors and Assessment Criteria	Average value	Min value	Max value
Digital Identity and Digital Wellbeing	3.73	1	5
Develop a healthy and sustainable attitude when using technology	3.75	1	5

Understand and always consider the privacy of others when sharing information	3.75	1	5
Actively link different media (e.g. email, Twitter ResearchGate) to grow the number of followers	3.55	3	5
Always set privacy on all social media applications participated and use strong passwords, 2-factor authentication	3.83	1	5
Know how to actively use social media to expand and nurture relationships in research and teaching activities	3.78	2	5
Know how to actively maintain the boundary between personal and work accounts	3.75	1	5
Know how to actively use health-related applications or belong to health-related forums	3.7	1	5

Source: Survey data analysis results.

The lecturer's Digital Identity and Digital Wellbeing competencies are at a basic level, achieving 3.73/5 points. The lecturer always sets privacy on all social networking applications that he has participated in and uses strong passwords and 2-layer authentication to ensure personal information security. However, the lecturer does not have the ability to proactively link different media (such as email, Twitter ResearchGate) to develop the number of followers. The lecturer also does not really know how to proactively use health-related applications or health-related forums.

4.5. Elements of Digital Creativity, Problem Solving and Innovation

Table 5. Level of Digital Creativity, Problem Solving and Innovation

Digital Competency Factors and Assessment Criteria	Average value	Min value	Max-value
Digital Creativity, Problem Solving and Innovation	3.68	1	5
Ability to create e-learning lectures with interactive questions and design, develop, edit digital content (e-lectures, videos, infographics, simulations...).	3.7	2	5
Know how to exploit new technologies (AI, AR/VR, big data) in teaching practice (support for grading or learning advice), research.	3.53	1	5
Ability to use mind maps or other visual thinking tools in teaching, create instructional videos or screencasts	3.65	2	5
Ability to conduct online surveys using questionnaires and handle problems arising for a digital research project	3.78	1	5

Ability to use specialized data analysis software in research	3.6	1	5
Ability to use digital devices, software/applications, social networks, etc. to study, update knowledge, improve qualifications and detect new trends in ICT applications	3.8	1	5
Ability to guide others in using digital devices, software/applications or to fix technical problems related to ICT	3.68	1	5

Source: Survey data analysis results

Lecturers' Digital Identity and Digital Wellbeing competencies are not high, reaching 3.68/5 points. Lecturers' ability to use digital devices, software/applications, social networks, etc. to study, update knowledge, improve qualifications and detect new trends in IT applications, conduct online surveys using questionnaires and handle problems arising for a digital research project. However, most lecturers do not really know how to exploit new technologies (AI, AR/VR, big data) in teaching practice (supporting grading or academic advising), research as well as using specialized data analysis software in research. The assessment level for these two criteria is relatively low, from 3.53/5 to 3.6/5 points.

4.6. Digital learning and development

Table 6. Learning and Digital learning and development

Digital Competency Factors and Assessment Criteria	Average value	Minvalue	Maxvalue
Digital learning and development	3.63	1	5
Have used digital tools for lifelong self-learning (MOOCs, open learning materials, online courses)	3.7	1	5
Have career development orientation through digital platforms (e-portfolio, LinkedIn, kho dữ liệu học tập), và cập nhật hồ sơ nghề nghiệp trên LinkedIn.	3.6	2	5
Ability to exploit technology to support teaching and research (LMS, survey tools, digital library), have monitored and applied resources from digital library.	3.78	2	5
Have completed an online course on digital teaching methods.	3.45	2	5
Understand and be able to guide learners to comply with copyright or information security in the digital environment	3.6	2	5

Source: Survey data analysis results.

The capacity of lecturers to learn and develop in the digital environment is not high, reaching 3.63/5 points. The number of lecturers who have not used digital tools for lifelong self-learning (MOOCs, open learning materials, online courses)

or have the ability to exploit technology to support teaching and research (LMS, survey tools, digital libraries), have not followed and applied resources from digital libraries, a small number of lecturers have completed online courses on digital teaching methods; have career development orientation through digital platforms (e-portfolio, LinkedIn, learning data warehouse), and update career profiles on LinkedIn or Understand and can guide learners to comply with copyright or information security in the digital environment. The assessment level with these criteria is from 3.54 - 3.6/5 points.

The analysis results show that lecturers at private universities in Hanoi have relatively good capacity in using digital technologies in teaching, scientific research, document storage and sharing. Lecturers also have relatively good capacity in using digital platforms for effective communication (email, LMS, academic social networks, forums) or participating in seminars, online collaboration inside and outside the organization (Google Workspace, MS Teams, Slack ...). These are basic capacities that help lecturers improve the effectiveness of teaching and scientific research on digital platforms. However, lecturers have not really proactively developed their own digital competence through courses or learning and applying digital technologies in classroom management, communication, cooperation, development and creativity as well as ensuring information security. The analysis results also show that most lecturers are not really confident in using digital technologies in teaching and developing students' competence. Lecturers need to be supported and developed in digital competence to improve their skills in designing, implementing, and evaluating digital education, as well as their ability to communicate and collaborate in the digital environment, thereby helping lecturers improve their ability to adapt to the digital education environment and contribute to the sustainable development of higher education.

5. CONCLUSION AND RECOMMENDATIONS

In the process of developing the digital economy, the role of digital technology in higher education is becoming increasingly important and determines the stable and sustainable development of higher education activities and the success of the digital economy. Developing digital competence for university lecturers, especially lecturers of private universities, is an inevitable requirement, improving the quality and efficiency of training and scientific research activities, and contributing to helping students meet the regulations on the digital competency framework of learners. To develop the digital competency of lecturers, private universities need to:

Firstly, plan and implement the digital transformation strategy of the University associated with the development of the digital faculty. The University needs to issue digital competency standards for lecturers based on the reference framework of UNESCO, DigCompEdu or the Ministry of Education and Training;

Secondly, raise awareness and promote thinking about digital transformation and digital competence. University leaders and lecturers need to deeply understand the role and significance of digital transformation for the development of higher education and private universities in the context of integration. In addition, the university needs to organize regular seminars and workshops on the importance of digital competence in education and international integration, or support and encourage lecturers to change their behavior in using digital technologies in teaching.

Thirdly, strengthen training and fostering on digital technology for lecturers. The university needs to organize short-term training courses on online teaching technology, blended learning, educational data mining, AI in teaching, mining online scientific databases (Scopus, Web of Science, Google Scholar, ResearchGate) and using data analysis software (SPSS, SmartPLS, R, Python, NVivo) in scientific research.

Fourthly, increase investment in infrastructure and support tools. The university needs to invest in a friendly, stable LMS system that integrates AI and learning data analysis. Provide accounts, copyrighted software (Zoom, Microsoft Teams, Turnitin, AI tools to support learning), equip studios/multimedia rooms for lecturers to easily produce digital lectures and video learning materials.

For the teaching staff, to develop digital competence, teachers need to set digital career development goals such as making personal plans, including digital competence development results in career profiles, enhancing reputation and research cooperation opportunities. In addition, teachers need to enhance learning and application of digital technology in teaching, research and academic administration. Teachers need to be proactive and improve the effectiveness of self-study and continuous training; participate in online courses (MOOCs, international certificates such as Coursera, edX, FutureLearn) on digital teaching, EdTech, AI in education; update educational technology trends (AI, AR/VR, big data, blockchain in education); Actively practice skills in using LMS software in classroom management, learning material design software (Canva, Camtasia, Articulate); increase the application of technology in teaching such as: designing digital lectures (videos, infographics, online quizzes); Apply blended learning,

flipped classroom to increase student initiative; Use AI tools (ChatGPT, Copilot, Quillbot) to support the construction of outlines, suggest exercises, but selectively and control quality.

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NAVIGATING PRECAUTION AND AGENCY UNDER GEOPOLITICAL UNCERTAINTY: INSIGHTS FROM VIETNAMESE LISTED FIRMS

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Abstract: This study examines the impact of geopolitical risk (GPR) on corporate cash holding decisions among Vietnamese publicly listed firms from 2015 to 2024. Integrating both the precautionary motive and agency theory frameworks, the analysis employs robust panel data techniques and fixed effects regressions on firm-level financial data, with comprehensive control variables and rigorous robustness checks. The empirical results reveal that heightened geopolitical risk leads firms to increase cash holdings as a precautionary response to external shocks and liquidity risks, supporting the hedging hypothesis. Additionally, the study uncovers that firms actively manage agency conflicts by raising dividend payouts and utilizing credit borrowing to maintain liquidity buffers under uncertainty. The influence of GPR on cash policy is further moderated by governance characteristics, such as board independence and marketization levels. These findings contribute to the literature on corporate financial strategy under geopolitical uncertainty, offering nuanced evidence from an emerging market context. The study concludes with managerial and policy implications, and outlines future research directions related to multinational exposures and sectoral heterogeneity in the relationship between GPR and liquidity management.

Key words: Geopolitical risk; Corporate cash holdings; Precautionary motive; Agency problem; Vietnam; Liquidity management

1. INTRODUCTION

1.1. Rationale

Geopolitical risk has emerged as one of the most powerful drivers of corporate financial strategy in emerging markets. Recent events, including the Russia–Ukraine conflict, increasing tensions in the East Sea (South China Sea), and the ongoing US–China trade war, have created an environment of pervasive uncertainty and risk for businesses in developing economies such as Vietnam. In this challenging context, corporate cash holding decisions become critical, serving not only as a buffer against liquidity shocks but also as a means to strengthen internal governance and resilience.