

## A STUDY ON THE COMPETENCE OF UNIVERSITY LECTURERS IN THE SOCIO-ECONOMIC SECTOR IN VIETNAM

<sup>1</sup>Dau Hoang Hung, <sup>2</sup>Tran Thi Nga

<sup>1,2</sup>Hanoi University of Industry, Vietnam.

Email: [dauhoanghung@hau.edu.vn](mailto:dauhoanghung@hau.edu.vn), Tel.:+84397135868

Sincere thanks to the Hanoi University of Industry for sponsoring this research.

**ABSTRACT:** This paper presents research results on the competence building of university lecturers in the socio-economic sector in Vietnam. With a sample size of 116 observations, the results of the regression analysis show that there are 8 factors affecting the competence of university lecturers in the socio-economic sector, including (i) *Teaching competence*; (ii) *Scientific research competence*; (iii) *Soft skills*; (iv) *Foreign language competence*; (v) *Information technology competence*; (vi) *Practical experience*; (vii) *Ability to learn and develop personally*; (viii) *Professional ethics*. Based on research results, the article proposes some recommendations for universities and lecturers to improve the competence of lecturers and from that improve the training quality of universities in the socio-economic sector in Vietnam.

Keyword: Competence; Lecturer competence; Improve lecturer competence.

### 1. INTRODUCTION

In the development process of any country, higher education in general and universities in particular always have a key position and play a very important role. Universities not only play a key role in the field of training highly qualified scientific and technological human resources but have become major research centers for new knowledge production and development. modern technology transfer, contributing to sustainable development. Many countries have been implementing renovation and reform of higher education towards the development of diversification, standardization, and internationalization. This aims to establish a quality assurance system of university education with many criteria and standards for assessing the quality of training, developing scientific research and technology transfer, and community service in line with the explosive development of the Industrial Revolution 4.0. In addition, one of the urgent requirements in the Industrial Revolution 4.0 is to improve labor resources to continuously respond to changes in knowledge and skills requirements in the new technology working environment. This has set a mission for higher education and training in the world in general and in Vietnam in particular to provide a high-quality workforce to meet the development of society in the current context.

The problem that many developing countries like Vietnam are currently facing is the transition from theory-heavy education to equipping learners with knowledge and skills to help develop competence, promote innovation and creativity for learners, meeting the requirements set for workers in the era of the Industrial Revolution 4.0. With the change of new learning models and the development of science and technology, traditional educational methods will certainly face many challenges. One of the outstanding challenges is the difference in the level and ability of each student to receive knowledge. Each student has different needs and abilities to study and research. The advancement of science and technology allows instructors to design a suitable learning path for each subject. Modern educational software, when put into use, has shown a high degree of adaptation to the learning and research capabilities of each student, and allows them to study with a suitable route according to their needs. In many countries, suitable learning software has rapidly replaced, either partially or completely, the role of textbooks and hardcopy references. Besides, accessing and looking up information is becoming easier and easier. This leads to a big question for lecturers in Vietnam today in how to identify the skills that need to be equipped to adapt and perform well their roles and tasks in the context of transforming the traditional educational model into a new one. Therefore, it is essential to study the competence of lecturers in

general and lecturers in the socio-economic sector in particular in the context of international integration along with the rapid development of science and technology to improve the quality of teaching staff, thereby, improving the quality of training in the field of socio-economy.

## 2. THEORETICAL BASIS

### 2.1. The concept of competence and lecturer competence

#### 2.1.1. *The concept of competence*

Until now, there have been many accepted views on the concept of competence. Accordingly, depending on the specific context, researchers, recruiters, etc. will apply the appropriate point of view. We have consulted and found that, although they are stated from different perspectives, both in space and time, in essence, there still exist some similarities among the views on the term of competence. Accordingly, some perspectives on capacity can be mentioned as follows:

According to Thuc et al. (2020), competence is a combination of physical and mental actions corresponding to a certain type of activity in an individual performed voluntarily based on personal attributes (biological, psychological, and social values) and leads to results consistent with the actual level of the activity or the stated regulations.

According to Dung (2015), competence is a combination of unique attributes of an individual that is suitable for the requirements of a certain activity to ensure that that activity is effective.

According to Crick (2008), competence is a complex combination of knowledge, skills, understanding, values, attitudes, and desires that lead to effective action, which is expressed through human action.

According to Stephenson & Yorke (1998), competence is the integration of knowledge, skills, personal qualities, and understandings that are used appropriately and effectively, not just in conventional context and context of highly specialized expertise but also in the case of coping to change to suit new conditions and circumstances.

Thus, competence can be understood as the sum of some interrelated attributes of an individual, ensuring the effective performance of the job by each specific condition and circumstance. Accordingly, we agree with the point of view of Crick (2008) and believe that *competence is a complex combination of knowledge, skills, attitudes, understanding, ethics, and individual desires organized around a basic structure for carrying out intents to ensure appropriate and effective action through behavior.*

#### 2.1.2. Lecturer competence

It can be said that teaching is a specific profession related to the development of knowledge, skills, and attitudes of learners. From the viewpoint of professional capability, lecturers need to have a balance among factors of expertise, skills, attitudes, and ethics. Lecturers must have the ability to master the work and have outstanding cognitive speed and skills, which allows self-assessment of work performance and building of orientations for self-development in the future.

In "*Communicative Language Teaching Today*" Richards (2006) emphasized that any definition of teacher competence depends on teaching activity held in the community in a particular context, culture, and values. It also depends on the characteristics of the lecturer, the characteristics of the students, and the classroom setting because the main purpose of the teacher is to make the students learn effectively. To do so, a lecturer must be able to perform several activities such as planning classroom activities properly, providing effective instruction, and assessing learning using appropriate methods and techniques. The effectiveness or ineffectiveness of teaching is closely related to the competency of lecturers. Competent lecturers will also create favorable classroom conditions and an atmosphere for the learning activities of students.

According to McClelland (1973), competence is a person's knowledge and skills that can be seen on the tip of the iceberg, while other personal characteristics such as one's own views,

characteristics and motivations are the submerged part, hidden under the water. McClelland's model of lecturer competence shows that competent instructors need to know course content and skills to perform assigned tasks. Both of the above determinants can be acquired through practice and study. Personal opinion and self-worth result in a lecturer's confidence to be able to successfully teach, guide, and motivate students. Personal characteristics are physical characteristics such as the voice of the lecturer, the way of communication, the management of class status. Lecturers' motivations are important, as they are responsible for developing quality graduates.

Spencer & Spencer (1993) developed a model of lecturer competencies based on the model of McClelland. Accordingly, knowledge and skills are the easiest surface personality to develop while traits, and motivations are the hardest core personality to develop. Therefore, lecturer competence is not only about the types of advanced degrees or certifications obtained in the field of education, but also about strong competencies, values, attitudes, and motivations. Thus, with these competencies, lecturers will be able to participate in training successful students.

From the above overview and analysis, it can be seen that being a lecturer is a career field that requires not only highly specialized competency but also soft skills and other professional skills. Because, the object of "labor" of the lecturer is human, the product of the lecturer's labor includes not only the professional competency of the learner but also personality, morality, and social consciousness.

### **2.1.3. Criteria for measuring lecturer competency and research hypotheses**

The topic of lecturer competence has long received much attention from scientists. Hoa (2020) in the study "*Building a set of criteria to evaluate the competence of lecturers of specialized English department*" has built 3 criteria to measure the competency of lecturers including (i) Teaching capacity (methodological) competency; (ii) Subject-oriented competency; (iii) Research competence.

Korthagen (2004) has divided lecturer competency into 4 groups of criteria, which are: (i) *methodological competency*, (ii) *subject-oriented competency*, (iii) *competency communicative/reflective competency thinking*, and (iv) *organizational competency*.

In the study named "*The Strategy of Teachers in Developing Curriculum for Learning Process in Facing Challenges in Era of Industrial Revolution 4.0*" Sumar & Lamatenggo (2019) argues that in the Industrial Revolution 4.0, teachers must be professional teachers. In addition to being an educator, they must also be education administrators or facilitators, able to plan, implement, and evaluate educational resources for learners to learn effectively. Therefore, they need to change the traditional teaching method to multi-dimensional learning. Also, the role of the teacher needs to change from a transmitter of knowledge to a mentor, facilitator, motivator, inspirator, and facilitator of intellectual development and creativity to make learning more interesting for learners. Accordingly, the necessary competencies and skills for lecturers include: (i) *Critical thinking capacity*; (ii) *Innovative capacity*; (iii) *Information technology capacity*; (iv) *Communication skills*; (v) *Teamwork skills*; (v) *High self-confidence*.

According to Lam (2017) in the study titled "*Developing lecturer competence to improve the quality of education and training in universities and colleges in the context of globalization and knowledge explosion*", basic capacity The university lecturer version includes: (i) *Professional subject-oriented competence*; (ii) *Teaching competence*; (iii) *Research competence* in which "professional subject-oriented competence" is the part that lecturers are paying the most attention to. "Teaching competence" has just begun to receive attention and needs to be continued to develop through learning and personal development via practice and exploration in the application to teaching.

Hong, Horng, Lin, & ChanLin (2008) have divided competence into 5 groups of criteria, including (i) *mental capability*; (ii) *Communication skills (interpersonal skills)*; (iii) *management ability*; (iv) *professional capability and (v) personality traits*.

In the Workshop titled "Competency Based Training", Casey (1999) introduced the research paper "Method and procedure for developing competency standards". Accordingly, the competence of lecturers is divided into 7 criteria, including: (i) *Competence in analyzing and synthesizing information*, (ii) *Competence in conveying ideas and information*, (iii) *Competence in organizing and planning teaching activities*, (iv) *Competence in collaboration and teamwork*, (v) *Competence in using mathematical ideas and techniques*, (vi) *Competence in problem-solving*, (vii) *Competence in using information technology*.

Thus, it can be seen that the criteria for assessing and measuring the capability of university lecturers are now quite diverse and rich. However, in the context of Industrial Revolution 4.0, teaching and learning activities have been undergoing many drastic changes. Therefore, we believe that, in Vietnam, the requirements on lecturer competency when performing the tasks of universities must include measurement of the following criteria:

*Teaching capacity*: including a professional knowledge base that meets the requirements for teaching; having the ability to develop appropriate and up-to-date course curriculum curricula; completing the norm of teaching hours; developing lesson outlines and closely following the detailed course outlines; implementing classroom rules; designing lively and updated lectures with information technology applications, being able to assess learners' learning outcomes (Hoa, 2020), (Lam, 2017). There are teaching methods suitable for different students as well as the ability to organize diverse classes, apply technology tools for lively and multi-dimensional interactions. We develop the first hypothesis:

*H<sub>1</sub>: Teaching competence has a positive influence on lecturer competency.*

*Scientific research competence*: Having skills in building research topics from the records obtained during the acquisition of specialized knowledge to the skills of actual observation and analysis, in comparing those analyses with the current state of knowledge to discover the research problem. From there, as a basis for research design so that it can be conducted independently: having skills in using data processing tools, science-based assessments as well as publishing research works and reviewing scientific reports of colleagues; being able to guide students to carry out scientific research and to apply and deploy scientific and technological research results into teaching activities (Lam, 2017), (Hoa, 2020). We develop the second hypothesis:

*H<sub>2</sub>: Scientific research competence has a positive influence on lecturer competence*

*Communication competence*: It is the ability to convey information and lecture content to learners effectively and accurately in one or more forms and clear language. Use a variety of methods to communicate, write or draw messages, take notes quickly, completely, and accurately. Verbally express in a clear, fluent, and convincing manner through appropriate language and gestures in different situations and to listeners (Korthagen, 2004), (Hong, Horng, Lin & ChanLin, 2008). We develop the third hypothesis:

*H<sub>3</sub>: Communication competence has a positive influence on lecturer competence*

*Competence of inspiration*: Lecturers need to: share the goals of teaching-learning activities in the university in general and the modules that they undertake in particular as well as the expected results after finishing the course; always interact with students with an open and close attitude; encourage students' learning spirit and ready to support, answer students' questions within their scope; create favorable conditions for students to demonstrate their abilities... These competencies require both a training process as well as the passion and enthusiasm of lecturers; they can be assessed through Feedback from students at the end of term or through time attendance activities, suggestions from colleagues... We develop the fourth hypothesis:

*H<sub>4</sub>: Competence of inspiration has a positive influence on lecturer competence*

*Foreign language competence (English)*: Being able to study foreign documents in English to serve teaching and scientific research activities such as: compiling documents; developing training programs, detailed outlines, and lecture outlines for the modules. Being able to select and exploit sources of materials suitable for teaching and scientific research content. Having the ability to conduct an overview of scientific topics through published scientific works and to present and



publish research results in English in seminars or international journals. We develop the fifth hypothesis:

*H<sub>5</sub>: Foreign language competence has a positive influence on lecturer competence*

*Information technology competence:* Being able to apply modern and active teaching methods and information technology (IT) applications; using IT to share, exchange information, and collaborate with students and colleagues safely and effectively; using online teaching tools effectively. Being able to use data collection, analysis, and presentation tools in research activities to improve the quality of science in scientific reports (Casey, 1999), (Sumar & Lamatenggo, 2019). We develop the sixth hypothesis:

*H<sub>6</sub>: Information technology competence has a positive influence on lecturer competence*

*Practical experience:* Theory and practice are two sides of a matter; they are closely related and inseparable. Theory guides reality, but reality governs against theory, and practice is both the standard and the purpose of theory. Therefore, lecturers need to have experience in participating in and cooperating with enterprises and understanding the professional field, operational and organizational characteristics, and the management apparatus. They should be able to link businesses, companies, and organizations for students to visit, learn, and improve the practicality of the modules. We develop the seventh hypothesis:

*H<sub>7</sub>: Practical experience has a positive influence on lecturer competence.*

*Learning and self-development competence:* It means having "curiosity", perseverance, eagerness to learn expertise, and creativity. It motivates lecturers to continuously improve their professional skills for themselves and to continuously update their skills and knowledge of foreign languages, information technology, economy, politics, society...to be able to adapt to the continuous development of digital technology. We develop the eighth hypothesis:

*H<sub>8</sub>: Learning and self-development competence has a positive influence on lecturer competence.*

*Professional ethics:* Lecturers should have professional ethics, dedication to the profession, frankness, dedication in work, fair and true assessment of learners' capacity. In addition, they should possess honesty and trustworthiness, act as a rock for students, and have passion and long-term commitment to the teaching career, dedication, and devotion to student-oriented work. In communication, they should always apply standard codes of conduct, be highly qualified people, and have a habit of studying and researching continuously. We develop the ninth hypothesis:

*H<sub>9</sub>: Professional ethics has a positive influence on lecturer competence.*

The above-mentioned basic and core competency criteria, if properly evaluated and improved, will not only help the lecturers have the required competence to complete the assigned tasks but also have a comprehensive and sufficiently deep view to improve themselves and accompany the development of a young and dynamic generation of learners in the 4.0 education era.

### **3. RESEARCH METHOD AND MODEL**

#### **3.1. Data sources and collection method**

The authors have conducted an online survey. All survey forms are designed on <https://docs.google.com/forms>, then sent to the lecturers via ZALO app and Email. The questionnaire was built based on conceptual research combined with qualitative research through the literature review and collection of opinions with educational administrators and lecturers.

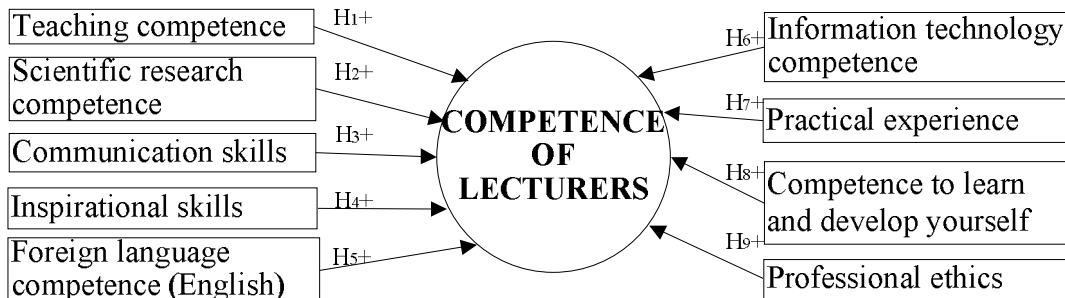
The survey was sent to 141 lecturers in the field of socio-economics at universities in Hanoi, Vietnam with accounting - auditing major, business administration major, and tourism accounting for 84 votes (41%), 54 votes (46.6%), and 14 votes (12.1%), respectively.

The total number of actual votes collected was 141 votes; after data cleaning, the number of votes that met the condition was 116 votes, ensuring sample size and reliability for quantitative analysis.

**3.2. Data analysis:** the study uses descriptive statistical analysis to clarify the basic characteristics of the data collected through survey forms. Descriptive statistics and quantitative analysis of data were performed on EXCEL and SPSS software. Survey data was synthesized on EXCEL software, then analyzed on SPSS by the following steps: (i) Cronbach's Alpha analysis; (ii) exploratory factor analysis EFA; (iii) correlation analysis; (iv) ANOVA and regression analysis to identify core competencies of trainers

**3.3. Research model**

*Research model:* Based on the research overview and research hypotheses, we build the research model as follows:



**Figure 1: Proposed research model**

**4. RESULTS**

**4.1. Description of the research sample**

**Table 1: Structure of gender and educational level**

Gender	Level	Quantity	Percentage	Total percentage
Male	Master's degree	10	8.6	18.1%
	Doctor degree	11	9.5	
Female	Master's degree	63	54.3	81.9%
	Doctor degree	32	27.6	

Of the 116 lecturers who responded to the survey, there were 21 men, accounting for 18.1%, and 95 women, accounting for 81.9%. There are 74 lecturers with master's degrees, of which, there are 63 female lecturers, accounting for 54.3%, and 10 male lecturers, accounting for 8.6%. There are 42 lecturers with doctorate degrees, of which 32 are female, accounting for 27.6%, and 11 are male, accounting for 9.5%.

**Table 2: Structure of age and seniority**

Age	Quantity (person)	Percentage %	Seniority	Quantity (person)	Percentage %
26-30	7	6,0	< 5 years	5	4,3
31-35	41	35,3	5-10	34	29,3
36-40	33	28,4	11-15	49	42,2
41-45	27	23,3	16-20	22	19
> 45	8	6,9	>20 years	6	5,2
Total	116	100%	0	116	100%

Of the 116 lecturers participating in the survey, all of them are over 26 years old. There are 7 people from 26 to 30 years old, accounting for 6%; 41 people from 31 to 35 years old, accounting for 35.3%; 33 people from 36-40 years old, accounting for 28.4%; 27 people from 41-45 years old, accounting for 23.3%; 8 people over 46 years old, accounting for 6.9%.

There are 5 people with less than 5 years of experience, accounting for 4.3%; 34 people with 5 to 10 years of experience, accounting for 29.3%; 49 people with 11 to 15 years of experience, accounting for 42.2%; 22 people with 16 to 20 years of experience; 6 people with over 20 years of experience, accounting for 5.2%.

#### 4.2. Testing the scale's reliability

The survey questionnaire is designed with a total of 79 questions with 6 questions about demographics and 73 questions about measuring lecturer competence according to the 5-level Likert scale.

There are 64 questions in 9 independent variables; the dependent variable is designed in the form of a formative scale with 9 questions.

**Table 3: Statistics of variables in the research model and number of measurement questions**

TT	Variable name	Variable code	Number of question
1	Teaching competence	A1, A2, A3, A4, A5, A6, A7, A8	8
2	Scientific research competence	B1, B2, B3, B4, B5, B6, B7, B8	8
3	Communication competence	C1, C2, C3, C4, C5, C6	6
4	Competence of inspiration	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10	10
5	Foreign language competence (English)	E1, E2, E3, E4, E5, E6	6
6	Information technology competence	F1, F2, F3, F4, F5, F6, F7, F8	8
7	Practical experience	G1, G2, G3, G4, G5	5
8	Learning and self-development competence	H1, H2, H3, H4, H5, H6, H7, H8	8
9	Professional ethics	I1, I2, I3, I4, I5	5
10	Lecturer competence	K1, K2, K3, K4, K5, K6, K7, K8, K9	9

The Cronbach's Alpha coefficient was used to check the reliability of the scale and the close correlation between variables and the type of garbage variables.

According to Tho (2012), the variables with the total correlation coefficient (Corrected Item-Total Correlation) > 0.3 and the coefficient Cronbach's Alpha > 0.6 are considered suitable for inclusion in the next steps of analysis. The results of testing the correlation coefficients of the groups of factors are presented in Table 1 below.

**Table 4: Summary of the test results of the scale's reliability**

Factor	Cronbach's Alpha coefficient	Number of observation
- Teaching competence	0,814	5
- Scientific research competence	0,883	7
- Communication competence	0,751	5
- Competence of inspiration	0,840	6
- Foreign language competence (English)	0,885	5
- Information technology competence	0.860	6
- Practical experience	0,916	3
- Learning and self-development competence	0,907	4
- Professional ethics	0,888	3

The test results of the scale's reliability show that all factors have Cronbach's Alpha coefficient > 0.6 and removing any item in each factor does not increase Cronbach's Alpha coefficient. That show the data is suitable for analysis in the next steps.

### 4.3. Exploratory factor analysis (EFA)

Regarding the EFA, according to Hair, Anderson, Tatham, & Black (1998), the Factor loading  $> 0.3$  is considered minimal;  $>0.4$  is considered important and  $>0.5$  is considered to have practical significance. In addition, according to Trong & Ngoc (2008), the EFA analysis must satisfy the following requirements: the KMO coefficient (Kaiser-Meyer-Olkin) has a value from 0.5 to 1, Bartlett's test has statistical significance with the coefficient  $\text{Sig.} < 0.05$ , and the percentage of variance is greater than 50%.

The EFA results are as follows:

**Table 5: KMO and Bartlett's test results of independent variables**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.718
Bartlett's Test of Sphericity	Approx. Chi-Square	2160.514
	df	536
	Sig.	.000

KMO coefficient = 0.718 meets the requirements ( $0.5 \leq \text{KMO} \leq 1$ ). Bartlett's test has the significance level. = 0.000  $< 0.05$  (thus reject hypothesis: the correlation between the observed variables = 0 in the population or the observed variables are not correlated with each other in the population), which proves that the data used to analyze factor analysis is perfectly appropriate. At the same time, the matrix rotation gives results from 40 variables to draw a group of 8 factors.

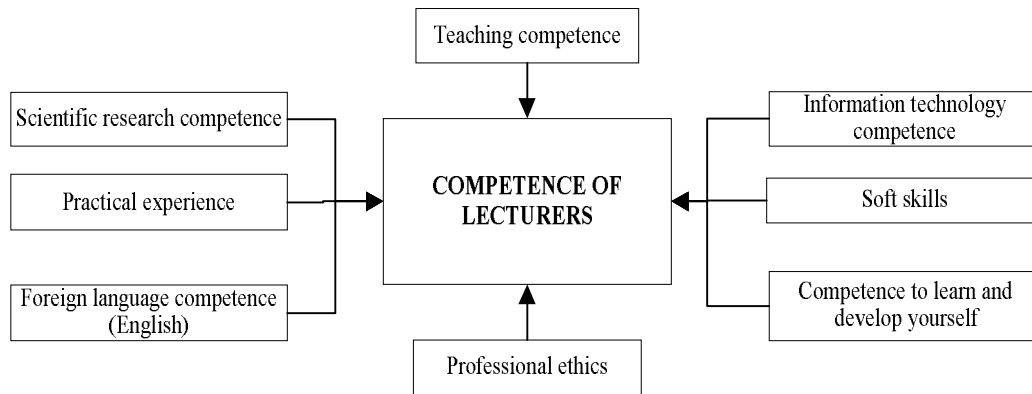
**Table 6: Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.520	32.999	32.999	8.520	32.999	32.999	4.717	10.721	10.721
2	4.383	9.962	42.961	4.383	9.962	42.961	4.571	10.389	21.110
3	2.634	5.986	48.947	2.634	5.986	48.947	4.053	9.212	30.321
4	2.172	4.937	53.885	2.172	4.937	53.885	3.925	8.919	39.241
5	1.973	4.484	58.369	1.973	4.484	58.369	3.152	7.164	46.404
6	1.410	3.205	61.574	1.410	3.205	61.574	2.882	6.550	52.955
7	1.046	2.377	72.709	1.046	2.377	72.709	1.634	3.713	71.437
8	1.011	2.297	75.006	1.011	2.297	75.006	1.571	3.569	75.006
9	.901	2.049	77.055						
...									

The extracted variance reached 75.006% ( $>50\%$ ), showing that the 8 factors drawn explain 75.006% of the variation of the data, so the reduced scale is accepted. The 8 identified factors all have Eigenvalue coefficients representing the variation explained by 1 factor evenly  $> 1$  (this coefficient of the 8th factor - the last factor = 1.011) meets the requirements.

After the EFA, the matrix rotation mixed up the measurement variables in the factor groups. The author proceeded to rename the groups of factors. The names of 8 new factor groups are: A (*Teaching competence*); B (*Scientific research competence*); C (*Soft skills*); D (*Foreign language competence*); E (*Information technology competence*); F (*Practical experience*); G (*Learning and self-development competence*); H (*Professional ethics*). At the same time, the proposed research model was adjusted as shown in Figure 2.9.





**Figure 2: The adjusted research model**

After adjusting the research model, the authors calculated the mean value representing each new factor: *TbA* (mean value representing the factor *teaching competence*); *TbB* (mean value representing the *scientific research competence* factor); *TbC* (mean value representing the *soft skills* factor); *TbD* (mean value representing the *foreign language competence* factor); *TbE* (mean value representing the *Information technology competence* factor); *TbF* (mean value representing the *practical experience* factor); *TbG* (mean value representing the *Learning and self-development competence* factor); *TbH* (mean value represents the *Professional ethics* factor). The authors and conduct correlation analysis and regression analysis to test the hypotheses.

**4.4. Correlation analysis**

Based on the EFA analysis, the measurement scale of factors that are assessed as satisfactory would be included in the correlation analysis. The analysis was performed between the dependent and independent variables to assess whether the subsequent use of regression analysis was appropriate. The closer the absolute value of the correlation coefficient is to 1, the closer the relationship between the independent variable and the dependent variable is. It is also necessary to analyze the correlation between the independent variables because such correlations can affect the results of the regression analysis such as causing multicollinearity.

The research team calculated the mean of the independent and dependent variables, then performed correlation analysis between the variables.

Trên cơ sở phân tích EFA, thang đo các nhân tố được đánh giá đạt yêu cầu sẽ đưa vào

**Table 7: Correlations**

	TbA	TbB	TbC	TbD	TbE	TbF	TbG	TbH	TbK
TbA Pearson Correlation	1								
Sig. (2-tailed)									
TbB Pearson Correlation	.433**	1							
Sig. (2-tailed)	.000								
TbC Pearson Correlation	.725**	.423**	1						
Sig. (2-tailed)	.000	.000							
TbD Pearson Correlation	.286**	.409**	.255**	1					
Sig. (2-tailed)	.001	.000	.006						
TbE Pearson Correlation	.479**	.468**	.526**	.455**	1				
Sig. (2-tailed)	.000	.000	.000	.000					

TbF	Pearson Correlation	.387**	.419**	.464**	.262**	.307**	1			
	Sig. (2-tailed)	.000	.000	.000	.004	.001				
TbG	Pearson Correlation	.672**	.431**	.694**	.210*	.465**	.379**	1**		
	Sig. (2-tailed)	.000	.000	.000	.004	.000	.000			
TbH	Pearson Correlation	.662**	.370**	.740**	.201*	.421**	.376**	.728**	1**	
	Sig. (2-tailed)	.000	.000	.000	.001	.000	.000	.000		
TbK	Pearson Correlation	.514**	.548**	.566**	.443**	.462**	.430**	.481**	.504**	1**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	

Through Table 2.11, we can see that the independent variables all have a strong linear correlation with the dependent variable and the correlation coefficients are statistically significant ( $p < 0.01$ ). Specifically, the correlation relationship between the mean variable of lecturer competence (TbK) and the variables are as follows: The correlation with *A (Teaching competence)* is 0.514; with *B (Scientific research competence)* is 0.548; with *C (Soft skill)* of 0.566; with *D (Foreign language competence)* of 0.443; with *E (Information technology competence)* of 0.462; with *F (Practical experience)* of 0.430; with *G (Learning and self-development competence)* is 0.481; with *H (Professional ethics)* of 0.504.

#### 4.5. Regression analysis

**Table 8: ANOVA results**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	9.702	8	1.213	13.150	.000 <sup>b</sup>
Residual	9.868	107	.092		
Total	19.570	115			

From Table 8, we see,  $F = 13,150$  and  $Sig = 0.000 < 0.05$ , it can be confirmed that there exists a relationship between the variables TbA, TbB, TbC, TbD, TbE, TbF, TbG, TbH with TbK

**Table 9: Regression results**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	1.319	.316		4.181	.000		
TbA	.059	.110	.058	.533	.000	.397	2.520
TbB	.159	.056	.247	2.850	.001	.629	1.589
TbC	.195	.113	.214	1.727	.017	.308	3.251
TbD	.121	.047	.207	2.579	.000	.729	1.372
TbE	.019	.057	.029	.324	.006	.574	1.742
TbF	.048	.042	.093	1.148	.033	.717	1.395
TbG	.003	.083	.005	.041	.002	.376	2.659
TbH	.091	.084	.123	1.073	.000	.356	2.810

The analysis results showed that, the 8 independent variables TbA, TbB, TbC, TbD, TbE, TbF, TbG, TbH with standardized Beta coefficients in Table 9 are TbA = 0.058, TbB = 0.247, TbC = 0.214, TbD = 0.207, TbE = 0.209, TbF = 0.093, TbG = 0.05, TbH = 0.123, respectively with all significance levels less than 0.5. These coefficients show the importance of *teaching competence, scientific research competence, soft skills, foreign language competence, information technology competence, practical experience, learning and self-development competence, and professional*

*ethics factors* when they are simultaneously included in the explanatory model for the dependent variable Lecturer competence. Therefore, it can be confirmed that these variables are significant in the model. Besides, the VIF coefficients are all  $< 10$ , so there is no multicollinearity phenomenon. The regression model obtained is:

$$TbK=1,319+0,58TbA+0,247TbB+0,214TbC+0,207TbD+0,029TbE+0,093TbF+0,05TbG+0,123TbH$$

Through the regression equation, we can conclude that, in the research model, the factor that has the greatest influence on lecturer competence in the socio-economic sector of universities in Vietnam is *teaching competence*, followed by *scientific research competence*, soft skills (including communication skills and inspirational skills), foreign language competence, professional ethics, practical experience, *learning and self-development competence* and *information technology competence* as having the least influence.

**Table 10: Summary of the regression model**

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.704 <sup>a</sup>	.496	.458	.30369

The results in Table 10 show that  $R^2 = 0,496$  so the relationship between the factors TbA, TbB, TbC, TbD, TbE, TbF, TbG, TbH, and TbK is relatively good. In other words, the 8 factors, namely *teaching competence*, *scientific research competence*, *soft skills*, *foreign language competence*, *information technology competence*, *practical experience*, *learning and self-development competence*, and *professional ethics* explain 49.6% of the variation in *lecturer competence*. Thus, the remaining 50.4% of the variation of *lecturer competence* ( $1 - R^2 = 0,504$ ) is explained by other factors that have not been included in the model and random error.

## 5. SOME CONCLUSIONS AND RECOMMENDATION

### 5.1. Conclusion

During the research, the authors used a combination of qualitative and quantitative research methods to understand and build a theoretical basis and a set of scales of factors affecting the lecturer competence. The qualitative research method was carried out through expert interviews and document research. The quantitative research method was carried out by distributing survey questionnaires to 141 lecturers with the results of 116 satisfactory answer sheets. The measurement scales of factors are built based on the literature review, fundamental theories, and analysis, processed by EXCEL and SPSS software.

Test results of the theoretical model show that this model is compatible with data and is meaningful. EFA results of influencing factors and their levels of influence on lecturer competency present the following factors: *teaching competence*, *scientific research competence*, *soft skills*, *foreign language competence*, *information technology competence*, *practical experience*, *learning and self-development competence*, and *professional ethics*. The *teaching competence* factor has the greatest influence, followed by the scientific research competence, soft skills (including communication skills and inspirational skills), foreign language competence, professional ethics, practical experience, learning and self-development competence, and finally information technology competence as having the least information. These factors all have a positive influence on the lecturer competence so the research hypotheses are all accepted.

From the survey results, it can be seen that, at present, information technology exploitation and application competence of lecturers in teaching as well as in conducting scientific research is currently not highly efficient compared with the objectives and requirements of the lecturers' tasks in the Industrial Revolution 4.0.

In terms of theory, the measurement results in this research can contribute to the theoretical basis for other studies in this field. In terms of practice, the factors included in the research model play a very important role in the teaching and training process in the socio-economic field at universities in Vietnam. Therefore, the scales and research results are the basis for lecturers in the

socio-economic sector to refer to so that they can improve teaching activities as well as improve training efficiency.

## 5.2. Recommendation

### 5.2.1. From universities

**Firstly, improving lecturer competence:** Strengthening direction for improving teaching capability of lecturers in general and those in the socio-economic sector in particular. Promoting propaganda so that lecturers become deeply aware of the position and importance of building generations of qualified and capable lecturers to successfully complete training and scientific research tasks in the Industrial Revolution 4.0.

Organizing advanced training and innovation of active teaching methods, avoiding the situation that lectures lean too much towards theory. Improving skills in using modern teaching means, applying information technology in teaching, promoting the activeness of learners. Creating favorable conditions and environment, support, and encouragement for lecturers in the process of learning and training.

**Secondly, improving scientific research competence:** Creating favorable research conditions and environments so that each lecturer can promote his or her own research capability. Organizing many scientific forums to attract lecturers and unit-level scientific seminars for lecturers to have opportunities for academic exchange.

Creating a mechanism to encourage lecturers to come up with their own new research directions. Associating research with teaching. Coordinating research with domestic and foreign colleagues.

Encouraging and creating favorable conditions for lecturers to build strong, core research groups, perform the task of publishing scientific works in international journals, and guide/support other young lecturers in their studies.

**Thirdly, improving foreign language competence:** Encourage lecturers to participate in programs to foster and improve foreign language ability. Requesting and sponsoring funds for teachers to take English certification exams of prestigious international organizations. Establishing criteria for English certificates and year-end evaluation to have worthy encouragements and rewards.

Building a foreign language learning environment through English language conversion on information technology applications, internal mail system, electronic university system...

Encouraging presentation of reports in English at seminars, seminars, conferences.... Strengthening international cooperation in professional training with international professional associations and organizations. Developing a road map to convert traditional teaching majors with equivalent modules of international professional associations and organizations taught in English.

**Fourthly, improving information technology competence:** Ensuring equipment and information technology infrastructure for teaching and research. Building a core team of research and application of information technology in teaching and planning to improve the capability of information technology application for lecturers by training sessions, sharing effective scientific teaching methods on different online teaching applications.

Building a group of information technology engineers specializing in supporting and building training sessions to guide the installation of practical software and common office applications, and handle simple computer problems for teaching staff.

**Fifthly, improving professional ethics:** Regularly carrying out propaganda and education activities for the young generation of lecturers so that they become properly aware of their professional position, duties, and requirements of fostering professional ethics for themselves. From that, forming appropriate attitude and high responsibility in all social and teaching activities.

Building a healthy pedagogical environment, creating conditions for young lecturers to assert themselves in reality; harmoniously settling work relations in leading, directing and managing between lecturers and learners; actively preventing evils and negative issues from infiltrating universities

**Sixthly, improving practical experience:** Cooperating with businesses, and making plans to send lecturers for annual field trips according to each specific topic and time

Field trips can range from 15 days to 30 days. At the end of the trips, the lecturer must write a report on commenting and evaluating the actual research contents with the content being taught. Directions and solutions should be proposed to improve efficiency in training.

Providing financial support and creating favorable conditions for lecturers to effectively participate in practice at enterprises.

### 5.2.2. About university lecturers

**Firstly, improving teaching competence:** It is necessary to always enhance and update professional knowledge and actively participate in professional activities of the department, faculty, and the university. Participating in activities of building, supplementing, developing training programs, participating in compiling textbooks, reference materials, and topics for teaching and scientific research.

Studying and applying suitable teaching methods for each specific object and with the subjects in charge.

**Secondly, improving scientific research competence:** For inexperienced lecturers in performing scientific research tasks, it is necessary to actively cooperate with more experienced colleagues to learn and get support in the development of specific annual research plans.

Selecting a research field suitable to professional strengths and strengthening training skills in exploiting scientific information from Internet sources.

Actively writing articles to participate in seminars, scientific conferences, and other scientific research activities to catch trends and new research directions in the Industrial Revolution 4.0 and train personal thinking as well. Like hone your writing skills.

**Thirdly, improve foreign language competence:** Making specific English learning and self-training plans. Searching for long-term or short-term classes that are suitable for study to improve your foreign language skills.

Considering taking conversational English classes or trying to get a dual degree in English at schools that offer online training

Improving the spirit of self-study, set specific English learning goals for each stage

**Fourthly, improve learning and self-development competence:** It is necessary to promote the initiative, positivity, self-discipline in self-study and self-research to improve one's own teaching capability and to develop a plan for self-training, fostering and training for oneself. The plan must be specific, realistic, highly feasible as well as have high energy and determination to implement the self-training, self-retraining and training plan effectively.

Building for oneself the virtue of diligence, perseverance, not to be self-deprecating about the areas of knowledge, skills that are weak or lacking in yourself, as well as not being satisfied but stop striving.

**Fifthly, improving professional ethics:** Promoting solidarity; always having a sense of strict discipline; having high determination to complete all assigned tasks

Maintaining order, discipline, and order in teaching and learning, building a civilized and healthy training environment. Upholding the teacher's ethics, each teacher must be an exemplary teacher, a shining example for students to follow.

Regularly self-educating and learning to improve professional qualifications, pedagogical capability, passion, creativity, industriousness, hard work, and active study and research

**Sixthly, improving soft skills:** Practicing positive interaction methods suitable for each type of student. From an educational perspective, in addition to the main tasks of the lecturer, the moral and character orientation tasks for students are also very necessary.

It is necessary to be restrained and skillful in handling pedagogical situations to guide students, minimizing the use of their majesty.



## REFERENCE MATERIALS

- Casey, D. (1999). *Method and procedure for developing competency standards*. Paper presented at the Competency Based Training, Taichung, Taiwan.
- Crick, R. D. (2008). Key Competencies for Education in a European Context: narratives of accountability or care. *European Educational Research Journal, Volume 7*, 311-318.
- Dung, N. V. (2015). *Nurturing and training pedagogical competence - some discussions from personal experience*. Proceedings of the scientific conference, Tay Ninh Pedagogical College.
- Hair, J., Anderson, R., Tatham, R., & Black, W. (1998). *Multivariate Data Analysis*. New Jersey: Prentice-Hall International. In: Inc.
- Hoà, H. T. (2020). Developing a set of criteria to evaluate competence of lecturers of specialized English department. *Journal of International Economics and Management, 123*. Retrieved from
- Hong, J.-C., Horng, J.-S., Lin, C.-L., & ChanLin, L.-J. (2008). Competency disparity between pre-service teacher education and in-service teaching requirements in Taiwan. *International Journal of Educational Development, 28*.
- Korthagen, F. A. J. (2004). In search of the essence of a good teacher: towards a more holistic approach in teacher education. *Teaching and Teacher Education, 20*.
- Lam, N. H. (2017). Developing lecturer competence to improve the quality of education and training in universities and colleges in the context of globalization and knowledge explosion.
- McClelland, D. C. (1973). Testing for Competence Rather Than Intelligence. *American Psychologist*.
- Richards, J. C. (2006). *Communicative Language Teaching Today*. Singapore: Cambridge University Press.
- Spencer, L. M., & Spencer, S. M. (1993). *Competence at Work: Models for Superior Performance*: John Wiley & Sons, Inc.
- Stephenson, J., & Yorke, M. (1998). *The Concept of Capability and its Importance in Higher Education*. London: Kogan Page.
- Sumar, W. T., & Lamatenggo, N. (2019). *The Strategy of Teachers in Developing Curriculum for Learning Process in Facing Challenges in Era of Industrial Revolution 4.0*. Paper presented at the Proceedings of the 5th International Conference on Education and Technology (ICET 2019).
- Tho, N. Đ. (2012). *Scientific research methods in business*. Labor and Social Publishing House
- Thuc, K. X., Thien, N. V., Nam, N. G., Khoa, V. D., Thao, N. P., Hung, D. T., . . . Haa, Đ. T. (2020). *Assessing the competence of lecturers at Hanoi University of Industry according to professional standards. (Project), Hanoi University of Industry*
- Trong, H., & Ngoc, C. N. M. (2008). *Analysis of research data with SPSS*. Hong Duc Publishing House.
- Yamane, T. (1967). *Statistics: An Introductory Analysis*. New York: Harper and Row.