

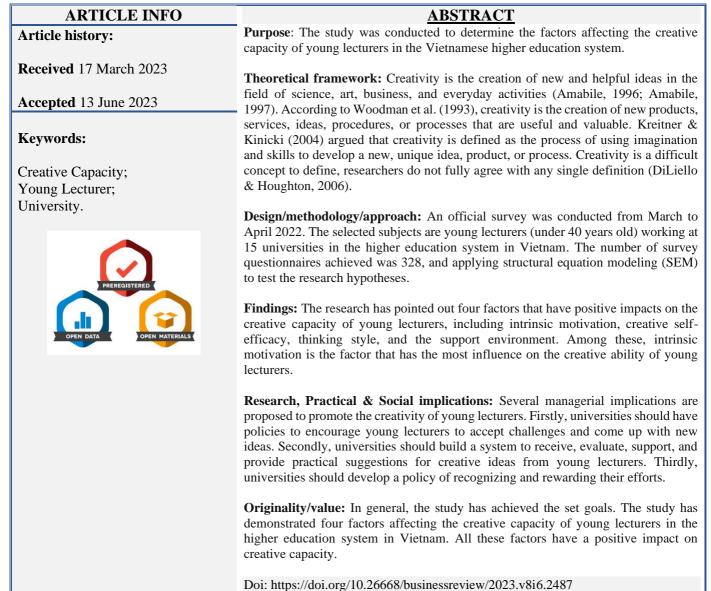
## FACTORS AFFECTING THE CREATIVITY OF YOUNG LECTURERS



ISSN: 2525-3654

ACCESS

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## FATORES QUE AFETAM A CRIATIVIDADE DE JOVENS PROFESSORES

### **RESUMO**

**Objetivo:** O estudo foi realizado para determinar os fatores que afetam a capacidade criativa de jovens professores no sistema de ensino superior do Vietnã.

**Estrutura teórica:** A criatividade é a criação de ideias novas e úteis no campo da ciência, da arte, dos negócios e das atividades cotidianas (Amabile, 1996; Amabile, 1997). De acordo com Woodman et al. (1993), criatividade é

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a criação de novos produtos, serviços, ideias, procedimentos ou processos que sejam úteis e valiosos. Kreitner e Kinicki (2004) argumentaram que a criatividade é definida como o processo de usar a imaginação e as habilidades para desenvolver uma ideia, um produto ou um processo novo e exclusivo. A criatividade é um conceito difícil de definir e os pesquisadores não concordam totalmente com uma única definição (DiLiello & Houghton, 2006).

**Projeto/metodologia/abordagem:** Uma pesquisa oficial foi realizada de março a abril de 2022. Os sujeitos selecionados são jovens professores (com menos de 40 anos) que trabalham em 15 universidades do sistema de ensino superior do Vietnã. O número de questionários de pesquisa obtidos foi de 328 e a aplicação de modelagem de equação estrutural (SEM) para testar as hipóteses de pesquisa.

**Resultados:** A pesquisa apontou quatro fatores que têm impactos positivos sobre a capacidade criativa de jovens professores, incluindo motivação intrínseca, autoeficácia criativa, estilo de pensamento e ambiente de apoio. Entre eles, a motivação intrínseca é o fator que mais influencia a capacidade criativa dos jovens professores.

**Implicações sociais, práticas e de pesquisa:** Várias implicações gerenciais são propostas para promover a criatividade de jovens professores. Em primeiro lugar, as universidades devem ter políticas para incentivar os jovens professores a aceitar desafios e apresentar novas ideias. Em segundo lugar, as universidades devem criar um sistema para receber, avaliar, apoiar e fornecer sugestões práticas para ideias criativas de jovens professores. Em terceiro lugar, as universidades devem desenvolver uma política de reconhecimento e recompensa por seus esforços.

**Originalidade/valor:** Em geral, o estudo atingiu os objetivos estabelecidos. O estudo demonstrou quatro fatores que afetam a capacidade criativa de jovens professores no sistema de ensino superior do Vietnã. Todos esses fatores têm um impacto positivo sobre a capacidade criativa.

Palavras-chave: Capacidade Criativa, Jovem Professor, Universidade.

#### FACTORES QUE AFECTAN A LA CREATIVIDAD DE LOS JÓVENES PROFESORES

#### RESUMEN

**Objetivo:** El estudio se llevó a cabo para determinar los factores que afectan a la capacidad creativa de los jóvenes profesores del sistema de enseñanza superior de Vietnam.

**Marco teórico:** La creatividad es la creación de ideas nuevas y útiles en el campo de la ciencia, el arte, los negocios y las actividades cotidianas (Amabile, 1996; Amabile, 1997). Según Woodman et al. (1993), la creatividad es la creación de nuevos productos, servicios, ideas, procedimientos o procesos que sean útiles y valiosos. Kreitner y Kinicki (2004) sostienen que la creatividad se define como el proceso de utilizar la imaginación y las habilidades para desarrollar una idea, un producto o un proceso nuevos y únicos. La creatividad es un concepto difícil de definir y los investigadores no están totalmente de acuerdo en una definición única (DiLiello y Houghton, 2006). **Diseño/metodología/enfoque:** Se realizó una encuesta oficial entre marzo y abril de 2022. Los sujetos seleccionados son profesores jóvenes (menores de 40 años) que trabajan en 15 universidades del sistema de enseñanza superior de Vietnam. Se obtuvieron 328 cuestionarios de encuesta y se aplicó el modelo de ecuaciones estructurales (SEM) para comprobar las hipótesis de la investigación.

**Resultados:** La investigación señaló cuatro factores que influyen positivamente en la capacidad creativa de los jóvenes profesores, a saber, la motivación intrínseca, la autoeficacia creativa, el estilo de pensamiento y el entorno de apoyo. Entre ellos, la motivación intrínseca es el factor que más influye en la capacidad creativa de los jóvenes profesores.

**Implicaciones sociales, prácticas y de investigación:** Se proponen varias implicaciones de gestión para promover la creatividad de los jóvenes profesores. En primer lugar, las universidades deberían contar con políticas para animar a los jóvenes profesores a aceptar retos y proponer nuevas ideas. En segundo lugar, las universidades deberían crear un sistema para recibir, evaluar, apoyar y proporcionar sugerencias prácticas para las ideas creativas de los jóvenes profesores. En tercer lugar, las universidades deberían desarrollar una política para reconocer y recompensar sus esfuerzos.

**Originalidad/valor:** En general, el estudio ha alcanzado los objetivos fijados. El estudio demostró cuatro factores que afectan a la capacidad creativa de los jóvenes profesores del sistema de enseñanza superior de Vietnam. Todos estos factores tienen un impacto positivo en la capacidad creativa.

Palabras clave: Capacidad Creativa, Joven Profesor, Universidad.

## **INTRODUCTION**

Individual creativity plays a decisive role in the organization's success (Patterson et al., 2009; Hu et al., 2009). Increasing employee creativity is essential for organizational success and competitive advantage (Walton, 2003). Most innovative ideas are born in the individual's workplace (Carmeli et al., 2006). Identifying the motivations and factors that create individual creativity is considered significant for improving individual creativity and organizational creativity and success (Scott & Bruce, 1994; Xerri & Brunetto, 2011).

To develop a comprehensive, high-quality education system, teachers have to regularly improve their professional qualifications and teaching methods (Marks, 2013). Besides, a good education system needs innovation, whereby all innovation starts with creative ideas (Amabile, 1996). In recent years, many studies are proving the factors affecting individual creative ability. Those affecting factors to the creative ability of employees are divided into two groups: personal factors and organizational factors (Ngan & Phuong, 2021). Personal factors include intrinsic motivation, personality, knowledge, thinking style, working style, autonomy, and thinking skills (Woodman et al., 1993; Shalley et al., 2004; Amabile et al., 2005; Amabile, 2012). Factors belonging to the organizational environment include organizational support, leadership style, extrinsic motivation, rewards, organization culture, resources, freedom, and job complexity (Shalley et al., 2004; DiLiello & Houghton, 2006; Eder & Sawyer, 2008; Houghton & DiLiello, 2010). The literature review shows that there are few studies on individual creative capacity in the field of education, especially among young lecturers in universities. Therefore, this study was conducted to demonstrate the factors affecting the creative capacity of young lecturers in the Vietnamese higher education system.

### LITERATURE REVIEW

Creativity is the creation of new and helpful ideas in the field of science, art, business, and everyday activities (Amabile, 1996; Amabile, 1997). According to Woodman et al. (1993), creativity is the creation of new products, services, ideas, procedures, or processes that are useful and valuable. Kreitner & Kinicki (2004) argued that creativity is defined as the process of using imagination and skills to develop a new, unique idea, product, or process. Creativity is a difficult concept to define, researchers do not fully agree with any single definition (DiLiello & Houghton, 2006).

The theory of Woodman et al. (1993) is often used by researchers (Amabile, 1996; Tierney et al., 1999; Eder & Sawyer, 2008) to develop research models related to individual creativity. Researchers have pointed out factors affecting individual creative capacity, including intrinsic motivation, creative self-efficacy, thinking style, and the support environment. Based on the theory of Woodman et al. (1993) and the inheritance of relevant empirical research, based on the characteristics and context of universities in Vietnam, the authors propose the below hypotheses.

### The Relationship Between Creative Self-Efficacy and Creative Capacity

According to Tierney & Farmer (2002), work autonomy is considered the belief of employees in their ability to well perform based on their knowledge and skills. Autonomy affects the level of interest in work and the individual's creative activities (Tierney & Farmer, 2004). As presented by Tierney et al. (1999), an employee working with a passion for creativity may have better work results than others. According to Eder & Sawyer (2008), creativity self-efficacy leads individuals to confidence in taking risks and trying to find new ways to get things done. To be able to improve the effectiveness of creative jobs, employees have to control and do things well. Creative self-efficacy has a positive relationship with individual creative capacity (Bateman & Crant, 1993; Giao & Vinh, 2015; Horng et al., 2016; Ngan & Phuong, 2021). Therefore, hypothesis H2 is as follows: *H2: Creative self-efficacy positively affects the creative capacity of young lecturers*.

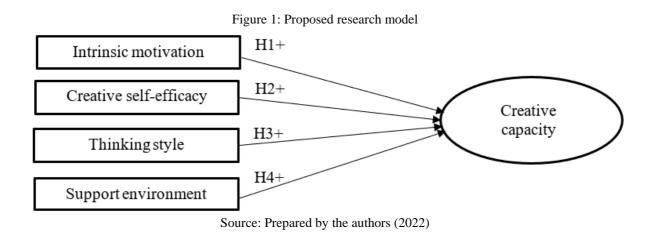
## The Relationship Between Thinking Style and Creative Capacity

According to the Innovation Adaptation Theory, individuals tend to solve problems in adaptive and creative ways (Kirton, 1978). An adaptive thinker may accept and solve problems based on existing solutions, while a person with a creative thinking style is willing to take risks and find out new and more valuable solutions on their own (Zhou & Shalley, 2003). Many studies have shown that thinking style positively affects the creative capacity of individuals in organizations (Piaw, 2014; Giao & Vinh, 2015; Hanh et al., 2021). Thus, hypothesis H3 is stated as follows: *H3: Thinking style positively influences the creative capacity of young lecturers*.

## The Relationship Between the Support Environment and Creative Capacity

According to Amabile (1996), a supportive environment is an essential factor that promotes individual creative capacity in the organization. The attention, encouragement, and support of colleagues and managers enhance the creative capacity of employees in a company (Oldham & Cummings, 1996; Zhou & Shalley, 2003; Sonnentag et al., 2008; Houghton & Diliello, 2010; Atiyeh, 2022; Alzghoul et al., 2023). The environment is a significant factor that positively affects the creative capacity of individuals in the organization (Amabile, 1996; Dul & Ceylan, 2011; Joo et al., 2015; Giao & Vinh, 2015; Horng et al., 2016; Ibrahim et al., 2016; Akgunduz et al., 2018; Hanh et al., 2021; Ngan & Phuong, 2021). Hence, hypothesis H4 is stated as follows: *H4: The support environment positively impacts the creative capacity of young lecturers*.

Based on the literature review and the proposed research hypotheses, the study applied the group discussion method (qualitative research) with nine young lecturers teaching at universities in the higher education system in Vietnam to identify appropriate scales for the research model. The model is set up below.



Factor	Sign	Sign Observable variables		Reference	
				resources	
Intrinsic	IM1	Tend to find solutions to complicated problems	Likert 1-5	Amabile (1996),	
motivation	IM2	Love to find new ideas at work	Likert 1-5	Amabile (1988),	
(IM)	IM3	Enjoy creating new processes to get things done	Likert 1-5	Shalley et al.	
	IM4	Enjoy improving existing processes, products, and	Likert 1-5	(2004), Hanh et al.	
		services		(2021)	
Creativity	CS1	Confidence in the ability to solve problems in	ways	Tierney & Farmer	
self-efficacy		creative ways		(2002), Tierney &	
(CS)	CS2	Have talents and skills to do a good job	Likert 1-5	Farmer (2004),	
	CS3	Have the ability to develop ideas beyond others	Likert 1-5	Hanh et al. (2021)	
	CS4	Confidence in the ability to generate new ideas	Likert 1-5		
	TS1	Have lots of creative ideas	Likert 1-5		

#### Table 1: Interpretation of observed variables in the research model

Thinking style TS2 (TS)		Love the job that requires innovation, creativity, and positive changes	Likert 1-5	Tierney & Farmer (2004), Hanh et al.
	TS3	Love to do work in new ways and methods	Likert 1-5	(2021)
Support	SE1	Have favorable conditions to promote creativity	Likert 1-5	George & Zhou
environment	SE2	All ideas are recognized and evaluated	Likert 1-5	(2001), Eder &
(SE)	SE3	Be encouraged to solve problems creatively	Likert 1-5	Sawyer (2008),
	SE4	The organization has a good mechanism to encourage and promote creative ideas	Likert 1-5	Houghton & Diliello (2010), Atiyeh (2022)
Creative capacity	CC1	Always suggest creative ideas and convince others to accept	Likert 1-5	Amabile (1997), Shalley et al.
(CC)	CC2	Always look for new ways to achieve goals	Likert 1-5	(2004), Houghton
	CC3	Actively seek out new ideas for tough and complicated problems	Likert 1-5	& DiLiello (2010), Hanh et al. (2021)
	CC4	Actively carry out creative ideas to bring useful values	Likert 1-5	

Source: Prepared by the authors (2022)

### MATERIAL AND METHODOLOGY

In this study, the analytical methods include testing the reliability of the scale by Cronbach Alpha (Nguyen, 2011, 2014); exploratory factor analysis (EFA) to evaluate the convergent and discriminant validity of the scale (Hair et al., 2010); confirmatory factor analysis (CFA) to test the appropriateness of the research data (Anderson & Gerbing, 1988); and structural equation modeling (SEM) to test the research hypotheses (Baumgartner & Homburg, 1996; Hair et al., 2006; Kline, 2011). The 5-level Likert scale was used to evaluate the observed variables, with 1 meaning strongly disagree and 5 meaning strongly agree.

To ensure the reliability of the SEM test, the sample size needs to be large because it is based on the theory of sample distribution (Raykov & Widaman, 1995). The reasonable sample size must be at least 200 observations to meet the SEM reliability requirement (Hoelter, 1983; Hoyle, 1995; Kline, 2011). Therefore, this study aims to collect at least 200 observations.

An official survey was conducted from March to April 2022. The selected subjects are young lecturers (under 40 years old) working at 15 universities in the higher education system in Vietnam. The study applied quota sampling to collect data. The grouping criteria include university classification, gender, age, and field of expertise. E-mail interviews were used to collect detailed information. The number of survey questionnaires achieved was 332, after removing inappropriate ones (incomplete answers, unreliable answers), a total of 328 valid questionnaires were selected for the hypothesis test.

### **RESULTS AND DISCUSSION**

## **Evaluate the Reliability of Scales**

The study conducted the scale reliability test by Cronbach's alpha. Based on the test result in table 2, all research scales have Cronbach's alpha value from 0.759 to 0.820. Besides, all the observed variables belonging to the scales have an item-total correlation value greater than 0.3 (Nunnally & Bernstein, 1994). Therefore, all research scales meet the reliability requirements (Nunnally, 1978; Peterson, 1994; Slater, 1995) and are included in the next step of exploratory factor analysis.

Observable variables	Mean	Standard	Factor loading	<b>Cronbach's</b>		
		deviation		alpha 0.802		
Intrinsic motivation (IM)						
IM1	4.229	0.797	0.808			
IM2	3.866	0.758	0.725			
IM3	3.652	0.763	0.603			
IM4	4.085	0.762	0.614			
<b>Creative self-efficacy (CE)</b>				0.797		
CE1	3.405	0.760	0.692			
CE2	3.485	0.704	0.721			
CE3	3.494	0.673	0.770			
CE4	3.796	0.741	0.542			
Thinking style (TS)	0.759					
TS1	4.140	0.658	0.653			
TS2	3.951	0.624	0.699			
TS3	4.030	0.654	0.841			
Support environment (SE)	0.818					
SE1	3.689	0.775	0.612			
SE2	3.768	0.735	0.729			
SE3	3.848	0.726	0.865			
SE4	3.723	0.712	0.666			
Creative capacity (CC)	0.820					
CC1	3.503	0.766	0.651			
CC2	3.573	0.755	0.788			
CC3	3.954	0.581	0.642			
CC4	3.915	0.589	0.751			

Table 2.	Evaluate	the sca	le reliability

Source: Prepared by the authors (2022)

The exploratory factor analysis result shows that the statistical values are guaranteed. (1) The reliability of observed variables is satisfactory (Factor loading > 0.5); (2) Testing the appropriateness of the model is guaranteed (0.5 < KMO = 0.876 < 1); (3) Bartlett's test of the variable correlation meets the requirement (Sig. = 0.000 < 0.05). The cumulative variance test reaches 65.97%, higher than the level of 50% (Anderson & Gerbing, 1988), this shows that the observed variables included in the model have a suitable explanatory capacity (Hair et al.,

1998). Thereby, 5 factors are created from 19 observed variables and there is no variable disturbance, so the names of the factors remain the same.

Criteria	CFA	SEM	Comparative index	Reference resources
$\chi^2$	225.149	216.454		
Df	139	139		
$\chi^2/df$	1.620	1.557	$\leq 2$	Anderson &
P-value	0.000	0.000	< 0.05	Gerbing (1988),
TLI	0.955	0.960	$\geq 0.9$	Hair et al. (2014)
CFI	0.964	0.967	$\geq 0.9$	
RMSEA	0.044	0.041	$\leq 0.08$	

Table 3: CFA and SEM analysis result

Source: Prepared by the authors (2022)

Based on the above table, the statistical analysis values are guaranteed as follows: Chisquare/df = 1.620 < 2; The TLI and CFI values reach 0.9 55 and 0.9 64, respectively, they are all higher than 0.9; RMSEA = 0.044 < 0.08 (Anderson & Gerbing, 1988; Hair et al., 2014). This proves the model fits the market data. The standardized regression weights of the scale are all higher than 0.5 and the unstandardized regression weights are all statistically significant, so the scales reach convergent validity. Besides, the correlation among factors is all less than 1 and the standard deviation is less than 0.05. Therefore, the research model achieves discriminant validity (Hair et al., 2014).

Table 4 shows that the composite reliability ( $P_c$ ) of the scales is satisfactory with a minimum value of 0.60. While the average variance extracted values of some scales are a bit low ( $0.4 < P_{vc} < 0.5$ ), the  $P_c$  values are greater than 0.6. So all scales meet the requirement of reliability (Fornell & Larcker, 1981).

Table 4: Scale testing result							
Scale	Number of observed variables	Composite Reliability (Pc)	Average Variance Extracted (Pvc)	Resources			
Intrinsic motivation (IM)	4	0.76	0.44				
Creative self-efficacy (CS)	4	0.80	0.50	Fornell &			
Thinking style (TS)	3	0.67	0.41	Larcker			
Support environment (SE)	4	0.82	0.54	(1981)			
Creativity capacity (CC)	4	0.83	0.56				

Source: Prepared by the authors (2022)

### **Testing of Research Hypotheses**

After the confirmatory factor analysis (CFA), structural equation modeling (SEM) was used to test the research hypotheses. The analytical result is presented in table

Relationship		Unstandardized			Standardized		
		Estimated value	Standard deviation S.E.	Critical ratio C.R.	estimated value	P-value	
CC	<	IM	0.288	0.079	3.648	0.285	***
CC	<	CS	0.270	0.085	3.180	0.261	***
CC	<	TS	0.167	0.061	2.739	0.188	***
CC	<	SE	0.219	0.063	3.470	0.244	***

Table 5: Testing the relationship between factors

Source: Prepared by the authors (2022)

The estimated value indicates the degree of impact of each factor on the creative capacity of young lecturers, the higher the absolute value, the more the impact. Based on table 5, the estimated values of the variables are statistically significant, proving that the factors in the model have an impact on the creative capacity of young lecturers. The influence of these factors is explained below.

Hypothesis H1: *Intrinsic motivation has a positive influence on the creative capacity of young lecturers*. Intrinsic motivation has a standardized estimated value of 0.285 with a significance level of 1% which shows that intrinsic motivation has a positive influence on creativity ability. This study has proven that young lecturers who like to find new solutions and ideas to improve working processes will create a premise to promote creativity in their job. The research result is consistent with studies proposed by Bateman & Crant (1993), Amabile (1996), Eder & Sawyer (2008), Coelho et al. (2011), Giao & Vinh (2015), Horng et al. (2016), Hanh et al. (2021), Ngan & Phuong (2021).

Hypothesis H2: *Creative self-efficacy positively affects the creative capacity of young lecturers*. Creative self-efficacy and creative capacity of young lecturers have a positive relationship with the standardized estimated value reaching 0.261 and 1% significance level. This further confirms that autonomy in creativity motivates individuals to feel confident in taking risks and trying to find new ways to get things done (Eder & Sawyer, 2008). If young lecturers have adequate knowledge and skills to do a job, and confidence in their ability to solve problems, it enhances their creativity. This result is similar to some studies proposed by Bateman & Crant (1993), Giao & Vinh (2015), Horng et al. (2016), and Ngan & Phuong (2021).

Hypothesis H3: *Thinking style positively affects the creative capacity of young lecturers*. Table 5 shows that there is a positive relationship between the thinking style and the creative capacity with the standardized estimated value of 0.188 and 1% significance level. The result indicates that if young lecturers have a creative thinking style, they will be ready to face risks. They may not follow the existing way of doing things, but develop new

methods and solutions themselves. Young lecturers who always have ideas may promote higher creative capacity. The finding is consistent with studies proposed by Zhou & Shalley (2003), Piaw (2014), Giao & Vinh (2015), and Hanh et al. (2021).

Hypothesis H4: *The support environment positively affects the creative capacity of young lecturers*. The support environment of the organization influences the creative capacity of young lecturers with a standardized estimated value of 0.244 and a 1% significance level of 1%. The environment that supports creativity is an important factor in promoting individual creative capacity in the organization (Amabile, 1996). The interest, encouragement, and support of colleagues and managers enhance the creative capacity of young lecturers. If the organization has a good policy to support creativity, and build up a dynamic and fair working environment, it creates a foundation to promote the creativity of young lecturers. The research result is consistent with studies of Amabile (1996), Dul & Ceylan (2011), Horng et al. (2016), Ibrahim et al. (2016), Joo et al. (2015), Giao & Vinh (2015), Akgunduz et al. (2018), Hanh et al. (2021), Ngan & Phuong (2021).

## CONCLUSION

In general, the study has achieved the set goals. The study has demonstrated four factors affecting the creative capacity of young lecturers in the higher education system in Vietnam, which are intrinsic motivation, creative self-efficacy, thinking style, and environment. All these factors have a positive impact on creative capacity. In particular, intrinsic motivation is the factor that has the most impact on the creative ability of young lecturers. Based on the research results, several managerial implications are proposed to promote the creativity of young lecturers. Firstly, universities should have policies to encourage young lecturers to accept challenges and come up with new ideas. Secondly, universities should build a system to receive, evaluate, support, and provide practical suggestions for creative ideas from young lecturers. Thirdly, universities should develop a policy of recognizing and rewarding their efforts.

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