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Linking Intrinsic Motivation to Employee Creativity: The Role of Empowering Leadership*

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Abstract

This research aimed to explore the relationship between the challenge and enjoyment dimensions of intrinsic motivation and employee creativity at an individual level. Besides, the study focused on investigating the moderating role of empowering leadership in promoting employee creativity at work. In particular, in the context of Vietnam's electricity industry, the power generation stage faces significant challenges, forcing to innovate and restructure strongly to respond flexibly to the requirements of the electricity market development in Vietnam as well as gradually integrate with other countries in Southeast Asia. The authors used structural equations modeling (SEM) combined with Hayes' moderator variable analysis method (2017) based on primary data. The data included 550 questionnaires from technicians, engineers, and experts directly involved in the operation and production of 36 power generation businesses Vietnam. The results showed the relationship between the enjoyment dimension of intrinsic motivation and employee creativity is not statistically significant, which partly explains the instability of the link between intrinsic motivation and employee creativity. Meanwhile, the challenge dimension is positively associated with employee creativity, but this relationship is more robust in empowering leadership. The study also indicated the challenge dimension of intrinsic motivation is an important predictor of employee creativity.

Keywords: Empowering Leadership, Employee Creativity, Intrinsic Motivation, Challenge Dimension, Enjoyment Dimension

JEL Classification Code: D23, L22, M12

1. Introduction

Amabile (1998) suggests enterprises must continuously innovate and maximize their autonomy and dynamism in production and business, especially increase labor

productivity, as well as encourage workers' dedication and creativity because the creative ability of the employees is one of the most critical factors creating innovation in the organization. Suppose companies want to tap employees' creativity, in addition to active participation and concentration of individuals at work. In that case, there is a particular need for long-term encouragement from working environmental and contextual factors, including leaders and managers' role. In recent years, in terms of theory, the trend of researching about the foundation and nature of intrinsic motivation becomes more prevalent (Linke et al., 2010), especially when intrinsic motivation is considered as an essential predictor of creativity (Amabile, 1996). Intrinsic motivation has traditionally been regarded as a single concept (Deci & Ryan, 1985). In an 8-year study conducted with 1,363 students and 1,055 working people, Amabile, Hill, Hennessey, and Tighe (1994) discovered the existence of two independent dimensions of intrinsic motivation: the challenge and enjoyment dimension. The study's result may provide some additional insight into the link between intrinsic motivation and creativity, but their approach

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requires more empirical evidence and needs to be examined in different contexts and areas to reinforce the arguments.

Most researchers agree that the creative process often occurs when there is a combination of individual factors placed in different situations (Zhou & George, 2001; Gong, Kim, Lee, & Zhu, 2013; Oldham & Cummings, 1996; Shin & Zhou, 2003). Among contextual factors that influence creativity, leadership-related issues are affirmed as one of the leading factors. Many studies have examined the influence of leadership on employee performance. Still, most studies have focused on topics such as leader's support (Amabile, Elizabeth, Giovanni, & Steven, 2004; Pancasila, Haryono, & Sulistyp, 2020; Paais & Pattiruhu, 2020) or leadership styles in general such as democratic, transformational, and transactional leadership (Tierney, 2008), while the basic leadership styles that encourage creativity have not been regularly mentioned.

Research on empowering leadership, which consists of sharing rights and responsibilities with goals, vision toward promoting employee motivation and investment for work, shows it has a positive impact on employee creativity (Amabile, 1988; Amabile, Elizabeth, Giovanni, & Steven, 2004; Thomas & Velthouse, 1990). Thus, it can be seen that the mediating role of empowerment leadership style concerning the dimensions of intrinsic motivation and creativity when the hypotheses of these relationships still lack of empirical evidence.

This study will focus on the relationship of the challenge, enjoyment dimensions of intrinsic motivation and employee creativity, and consider the moderating role of empowering leadership in these relationships to provide evidence and insight on the link between intrinsic motivation and employee creativity, thereby propose some solutions to nurture intrinsic motivation and promote employee creativity.

2. Literature Review and Hypothesis Development

2.1. Intrinsic Motivation

Several studies have shown that the employee motivation comes from within themselves/themselves, including needs, perceptions, and emotions (Reeve, Ryan, Deci, & Jang, 2008). Motivation represents the level, direction and persistence of effort spent at work (Venkatesh & Sharma, 2015). To determine whether intrinsic or extrinsic motivation is, people must base on the person's perception and the reason of the participants performing the task (feeling interesting, challenge or reluctant, etc.). People with intrinsic motivation are always looking for joy, interest and satisfaction of curiosity, and expressing themselves or challenge themselves at work. According to Amabile (1994), intrinsic motivation includes

self-determination (choice and autonomy), competence (mastery and challenge priority), curiosity (love with others complex issues), job-related perceptions (ability to absorb and divide work) and enjoyment with work (feeling happy, satisfied and voluntary when working). Intrinsic motivation is the level of perseverance, enjoyment, or interest in the creation of an individual and participation in that work for each task to do it (Utman, 1997).

Amabile et al. (1994) identified two different dimensions of intrinsic motivation, they are challenge and enjoyment. Specifically, these two dimensions carry the operating mechanism of intrinsic motivation, showing the individual's voluntary and amusing feelings about the reasons for performing the task. The challenge dimension is a person's feeling of pleasure when facing intellectual challenges, curiosity, and fun with complex issues. This dimension focuses primarily on the task, resolving to the end of the problem and the need to perceive and cultivate the knowledge as well as skills of individuals. The enjoyment dimension is a person's feeling of pleasure when satisfied and affirming herself/ himself, meeting individuals' needs of self-expression. This dimension focuses more on the individual's feeling of enjoyment and entertainment with each activity of the task rather than trying to solve the problem. Therefore, intrinsic motivation is due to challenge towards attention and interest in solving complex problems and tasks, while enjoyment dimension towards work.

2.2. Employee Creativity

Creativity is making new and useful ideas in a specific area (Woodman, Sawyer, & Griffin, 1993; Amabile, Conti, Coon, Lazenby, & Herron, 1996; Amabile, 1997; Ford, 2000; Oldham & Cummings, 1996; Shalley, 1991; Zhou, 2015). This opinion is also agreed by many recent empirical studies such as Madjar, Oldham, and Pratt (2002); Shalley, Gilson, and Blum (2000); Zhou and Shalley (2003). Two main components of creativity are novelty and usefulness (Shalley & Zhou, 2008). Specifically, novelty is when combining existing things in a new way or developing completely new things (Oldham & Cummings, 1996). According to Kreitner and Kinicki (2006), novelty is expressed in three forms: Creating new things that are absolutely different from the previous ones in the organization; Combining or synthesizing synthesis to create a unique, unprecedented product in the organization; and Improve or change the existing (modification). However, novelty, uniqueness but unethical or unrealistic will not be considered creativity (Shalley & Perry-Smith, 2001). Usefulness is the direct or indirect value that the idea of creativity brings to the organization in the short term as well as in the long term (Shalley, Zhou, & Oldham, 2004). More specifically, usefulness is reflected in

the practicality and feasibility of implementation, applying that creative idea into practice, and creating value. The value of creativity is expressed firstly in the ability to solve the problem that the organization is facing as well as to help individuals perform their assigned tasks and achieve work goals. Creative ideas after being successfully applied can bring greater and longer-term values to the organization.

In this study, creativity is defined as the ability to propose ideas, products, services or a new, useful process and put those new, valuable ideas into practice to produce new goods, new processes in the organization. The newness can be absolutely different from the previous ones or relative differences in order to improve the existing ones. The usefulness is that the new ideas, products, or processes must be practical and bring value to the organization.

2.3. Empowering Leadership

According to Astuti, Shodikin, and Ud-din (2020), there are many definitions describing leadership, but it is basically and often referred to as “leadership”, which means to affect people. Empowering leadership is a concept that has only been mentioned in researches over the past 15 years. Previously, the concept of empowering leadership was less directly studied but was mainly found indirectly in the studies of behavioral self-control (Thorenson & Mahoney, 1974), social cognitive theory (Bandura, 1986), the study of cognitive-behavioral modification (Meichenbaum, 1977) and the study of goal setting (Erez & Arad, 1986) and closely related to the studies of Quinn et al. (1990) in human resource development orientation (as cited in Humphreys, Bannon, McCosh, Migliarese, & Pomerol, 2013). Based on the aforementioned studies, Pearce and Conger (2003) extended the model of transformational-transaction leadership by developing four types of leadership styles, including directive or aversive leadership, transformational leadership, transactional leadership, and empowering leadership. Accordingly, empowering leadership is defined as a set of methods or methods for developing employees’ self-control and self-leadership skills, with a focus on employee development so that they have to be effective leaders for themselves, capable of being active, creative and able to act according to their own will (Pearce and Conger, 2003). In the same view, Ahearne, Mathieu, and Rapp (2005) have demonstrated that empowering leadership includes the process of implementing conditions that increase employee awareness of the meaning of work and enhance the sense of efficiency and control (for example, engaging in decision making), eliminating conditions that promote feelings of powerlessness (e.g., bureaucracy) and allowing flexibility or autonomy in problem-solving.

2.4. The Impact of Intrinsic Motivation with the Challenge and Enjoyment Dimension in Employee Creativity

According to the componential theory of creativity (Amabile, 1988, 2012), intrinsic motivation has the greatest impact on employees’ creativity or it can be said that intrinsic motivation is a predictive factor for creativity. Most of the research on intrinsic motivation and creativity defines intrinsic motivation as a unique concept (Deci & Ryan, 1985). However, Amabile et al. (1994) discovered the existence of two independent dimensions of intrinsic motivation, they are as challenge intrinsic motivation and enjoyment intrinsic motivation. Amabile et al. (1994) examined and concluded that there is a positive correlation between the two dimensions of the intrinsic motivation and creativity.

The study of Loo (2001) (as cited in Catania and Randall, 2013) about re-evaluating the intrinsic motivation measurement scale of Amabile et al. (1994), Stuhlfaut’s (2010) research about the relationship between the dimensions of intrinsic motivation and creativity in the advertising industry, the study of Janus (2014) about corporate culture and intrinsic motivation in the medical environment, as well as the view of Leung, Chen, and Chen (2014) when examining directly the mediating role of the challenge and enjoyment dimensions in the relationship between learning goal orientation and creative performance are in agreement with the research results of Amabile et al. (1994). This shows that the structural model of motivations can be more complex than the simple two-factor model of intrinsic-extrinsic motivation as theorized so far (Amabile et al., 1994).

The challenge dimension of intrinsic motivation reflects the motivation driven by a conscious focus on challenges and the enjoyment of complex tasks. Individuals who show this kind of motivation are more motivated to solve problems encountered during the creative process. At the same time, in the process of problem-solving, efforts to think and find solutions can cause stress and anxiety (Cacioppo, Petty, Feinstein, and Jarvis, 1996). Still, those who have intrinsic motivation (in terms of challenge dimension) are often less stressed by difficult tasks. Because they really like to solve the problem, the proposed solution is likely to be both new, useful, and creative. Thus, it can be seen that the focus of the challenge dimension is towards awareness and efforts to overcome challenges and the desire to solve complex problems, which shows that this intrinsic motivation has a very positive relationship with creative ability. Therefore, the study proposes the first hypothesis:

H1: *The challenge dimension of intrinsic motivation positively affects employee creativity.*

In contrast, the enjoyment dimension of intrinsic motivation reflects the motivation driven by the conscious focus on the sense of enjoyment when performing the activities of the task, preferring to experience the problem rather than participating in finding how to solve problems or find lucid and appropriate solutions, emphasizing on the individual, promoting emotion and personal impression. Individuals affected by this motivational dimension often tend to feel that “doing this task is fun”. However, some studies show that although the enjoyment dimension rarely focuses on achieving the task objectives, it positively influences the novelty of innovative products (Hirt, Melton, McDonald, & Harackiewicz, 1996). The study correspondingly proposed a second hypothesis:

H2: *The enjoyment dimension of intrinsic motivation positively affects employee creativity.*

2.5. The Moderating Role of Empowering Leadership in the Relationship Between the Challenge with Enjoyment Dimension of Intrinsic Motivation and Employee Creativity

The creative process usually occurs when a combination of personal and environmental factors (Zhou & George, 2001; Gong et al., 2013; Oldham & Cummings, 1996; Shin & Zhou, 2003). Moreover, Amabile (1988) also points out creativity is the most critical factor that makes innovation in the organization and vice versa. The characteristics of the organization can also be a deciding factor for creativity. Therefore, to understand the relationship between intrinsic motivation and employee creativity, it is necessary to consider environmental factors’ impact on this relationship.

In a study examining the coordination between intrinsic and extrinsic motivation to promote employee creativity, Amabile (1996) proposed that, in the creative process, as the novelty diminishes, ideas and solutions are usefulness when it is necessary to have the participation and support of external factors so that the individual can make appropriate choices to complete the task. This important conclusion indicates that the deeper awareness of the task’s meaningfulness and responsibility will direct the individual’s focus to the usefulness of the idea instead of the initial novelty.

Creativity always needs the leaders’ support and encouragement because they are the ones who know the jobs that require creativity. They are also the ones who have a significant impact on the environment in which creativity can take place (Gilson & Shalley, 2004).

Among leadership-related factors, empowering leadership plays a significant role, in line with the trend of giving employees autonomy and increased autonomy (Townsend & Bennis, 1997). There is ample evidence to show the positive impact of empowering leadership on employee creativity (Kirkman & Rosen, 1999; Amabile et al., 1996 & 2004, Zhang & Bartol, 2010). Because empowering leadership is a process of fulfilling the conditions that allow employees to share their agency by outlining the importance of their work, giving them more autonomy in decision making, showing confidence in their capabilities and removing barriers to implementation (Ahearne, Mathieu, & Rapp, 2015). Like creativity, such empowerment helps to establish a work environment where workers are encouraged and empowered to explore diverse creative options before choosing an innovative feasible option to solve the problem (Amabile et al., 1996).

It is believed that, at work, we often encounter complex, ambiguous problems, while it is not easy to find really useful solutions to those problems (Ford, 2000; Mumford & Kozloski, 2002; Reiter-Palmon & Illies, 2004). As a result, leaders cannot rely on predetermined patterns to come up with a precise solution or predict the outcome. Instead, they must encourage employees to be motivated to solve the problem themselves and allow employees to take control of the situation to learn and discover new solutions. At that time, leaders and managers can play an active role in the incentive process by making employees understand what is needed for their work and what is valuable to the organization.

In addition, empowerment can make employees feel more in control and more confident in their work, especially the more they feel that decisions come from their wishes instead of being asked by others. This can increase the excitement of satisfying oneself, the need to assert and express yourself of the enjoyment dimension when it comes to creativity or when faced with difficult, complex, unexpected and unusual work situations. Empowerment will give employees a sense of control over the work and proactively propose solutions within a certain authority, promoting employees’ effort and enjoyment to create different work outcomes, thereby increasing the impact of the challenge dimension on creativity.

Empowering leadership will create a conducive and appropriate environment to enhance motivation for creativity by developing a strong sense of efficiency and individual self-leadership, thereby helping individuals interested, persistent, and focused on mission thinking, discovering and connecting many different problem-solving ideas to lead to creative solutions.

From there, the study proposed the third and fourth hypotheses as follows:

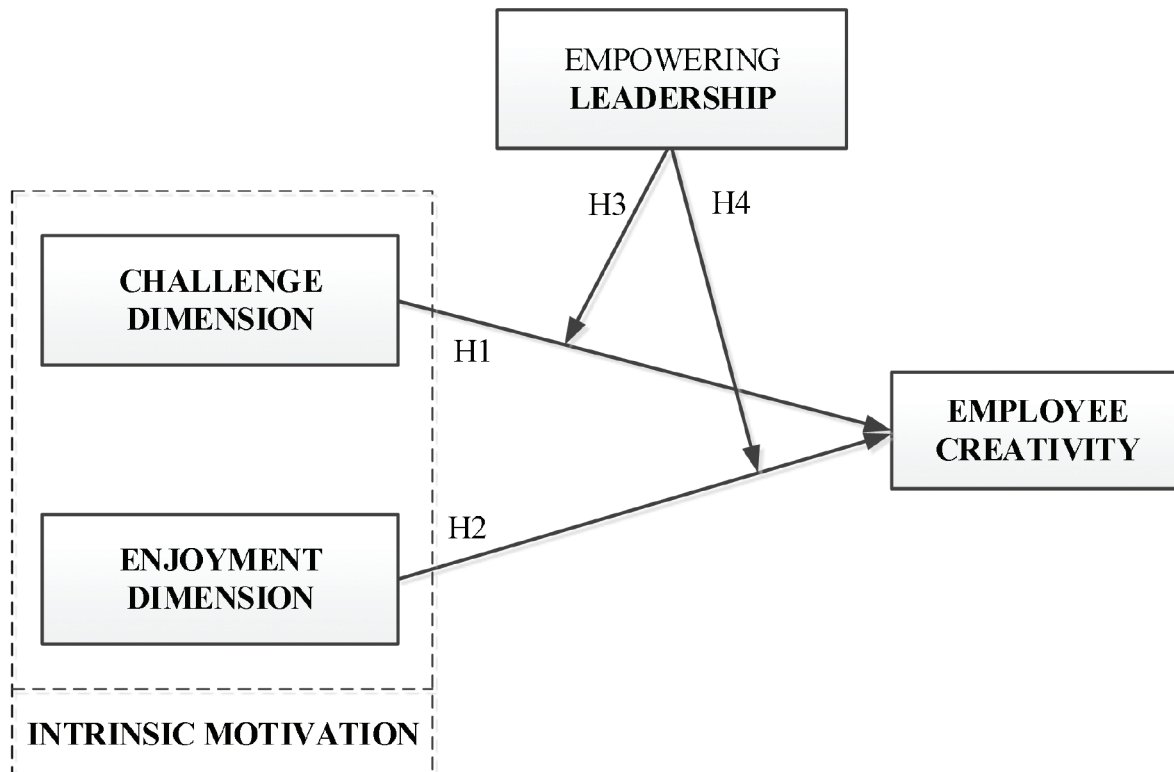


Figure 1: Proposed Framework

H3: Empowering leadership moderates the relationship between the challenge dimension of intrinsic motivation and employee creativity, which is stronger when strengthening empowerment.

H4: Empowering leadership moderates the relationship between the enjoyment dimension of intrinsic motivation and employee creativity, which is stronger when strengthening empowerment.

From the hypotheses built above, we propose our research model:

3. Methodology

3.1. Method/ Instrument

The research was conducted with the two main steps: (i) preliminary research and (ii) official research. Preliminary research was conducted by qualitative semi-structural in-depth interviews with 15 employees whose technical innovation initiatives are recognized by their organization. Official research was conducted by quantitative methods, surveyed by questionnaires with a sample size of

550 employees to assess the scale as well as re-test the theoretical model and hypotheses in the model. The collected data is processed by SPSS 20 software, analyzed using the following steps: Assessing the reliability of the scale through Cronbach's Alpha reliability coefficient; Exploratory factor analysis (EFA); Regression analysis to examine the impact of challenge and enjoyment dimensions of intrinsic motivation with employee creativity; Finally, analyze the moderator factor using Hayes's Process tool (2017).

3.2. Sampling

The research was conducted at 36 power enterprises in all types of generation (hydroelectricity, thermal power, renewable energy) to ensure the typical criteria of the field of electricity production, the main characteristics of Vietnam electricity generation enterprises include: (i) Type of electricity generation power plants include hydropower, thermal power, coal-oil thermal power and renewable energy; (ii) Type of enterprise (in the sense of the right to govern the enterprise), including the State, domestic investors and foreign investors; (iii) Enterprises participating in the Vietnam electricity market and enterprises do not

participate in the Vietnam electricity market. The structural change in these types has an influence and meaning to the management mechanism, policies, work motivation and creativity of employees in these enterprises. In particular, the main survey subjects of the research are employees, especially the technical staff, engineers, and experts who directly participate in the system's moderation and operation management or in other words human resources team directly. According to Vietnam Electricity's report (2019), more than 98% of recognized innovations and technical innovations at the company level are directly in the block.

According to Groves et al. (2011):

$$n = \left[\frac{1}{N} + \frac{N-1}{N} \frac{1}{p(1-p)} \left(\frac{e}{z_{1-\frac{\alpha}{2}}} \right)^2 \right]^{-1}$$

In which, n is the sample size, N is the overall size, z is the distribution value of the two sides corresponding to the selected reliability. In this research, the reliability is 95% and the z value is 1.96, e is the tolerant sampling error. In the study, the error is $\pm 5\%$, p is the proportion in the overall variable (the maximum ratio is 0.5).

With a total of about 12,500 employees, the error is $\pm 5\%$, the sample size is about 372 employees when this study used structural equations modeling (SEM). Therefore, to ensure the reliability of the research results, 550 questionnaires were issued and reached the whole representativeness. The number of questionnaires given was 550, the number collected was 503 (91.4%), of which 479/503 could be used (95.2%).

4. Results

4.1. Evaluation of Scales

Cronbach's Alpha reliability coefficient

After collecting enough votes as required, the research team conducted a clean-up of the questionnaires, with 503 collected, 479 could be used in the analysis to determine the reliability of Cronbach's Alpha. The results show that there are some relative adjustments to the measures, namely:

Measures: TQ6 (*My manager believes in my ability to improve even when I make mistakes*); DL14 (*I enjoy relatively simple, straightforward tasks*), DL21 (*I want to find out how good I really can be at my work*); DL26 (*I enjoy doing work that is so absorbing that I forget about*

everything else); ST10 (*Suggests new ways of performing work tasks*) with a total variable correlation coefficient < 0.3 . When running Cronbach's Alpha for the remaining scales, Cronbach's Alpha coefficient of the study factors is greater than 0.7 and the correlation coefficient is greater than 0.3. Therefore the scale is reliable.

Exploratory factor analysis (EFA)

After the first EFA run, ST9 (*Often has new and innovative ideas*) has the factor loading < 0.5 , then was removed. After removing the ST9, the result after processing SPSS data is as follows: Factor loading of the variables are > 0.5 , so they are satisfactory; KMO coefficient reaches 0.907, so EFA is suitable for data. Chi-Square statistics of Bartlett's test has Sig. = 0,000, so the observed variables are correlated in terms of the overall scope. The results of factor analysis also showed that the explained variance is 62.61% (greater than 50%), which indicates that these three factors can explain 62.61% of the variation data, this is a good result. The stop when extracting the factors at the third factor with the eigenvalue is 1,535. The results of factor analysis are appropriate. Thus, the results show 27 observed variables after analyzing the factor that satisfies all conditions.

Confirmation factor analysis (CFA)

Testing the appropriateness of the model: critical measurement model has 318 degrees of freedom. CFA results show that the model achieves relative compatibility with the overall: P -value = 0,000 < 0.05 ; Chi-square / $df = 2,963 (< 3 - \text{Good})$; TLI = 0.947 (> 0.9); CFI = 0.954 (> 0.9); GFI = 0.904 ($> 0.9 - \text{good}$); RMSEA = 0.064 (< 0.08).

Convergence value: the standardized weights of the measure are high (> 0.5), and the non-standardized weights are statistically significant (P -value < 0.05). The scales meet the requirement for general reliability (CR > 0.7). In terms of extract variance, the measures have the required basic variance (EVA > 0.5). Consequently, concepts achieve convergent value (Gerbring & Anderson, 1988).

Distinguishing value: it is possible to verify the discriminant value of concepts in the critical model by performing correlation coefficient tests on the overall scale between concepts that are really different from 1 or not. If it is really different, then the measures achieve discriminant value. We test hypothesis H0: the correlation coefficient between concepts is 1. From the data obtained, all correlations have P -value < 0.05 . Thus, the correlation coefficients of each pair differ from 1 at a 95% confidence level. Therefore, these concepts achieve differentiated values.

Uniqueness: the model achieves a relative level of compatibility, and there is no correlation between measurement errors, so the model achieves identity.

Table 1: Sample Description

No.	Details		The number of employees	%
1	Gender	Male	417	87,1%
2		Female	62	12,9%
3	Age	< 30	79	16,5%
4		From 31 to 45	244	50,9%
5		From 45 to 60	156	32,6%
9	Working time in the industry	< 5 years	17	3,5%
10		5 – 10 years	46	9,6%
11		11 – 20 years	245	51,2%
12		> 20 years	171	35,7%
17	Qualification	Intermediate	64	13,4%
18		Undergraduate	309	64,5%
19		Graduate	106	22,1%
20	Type of power generation plant	Hydroelectric	279	58,2%
21		Coal thermoelectricity	106	22,1%
22		Thermal electricity	66	13,8%
23		Recycled energy	28	5,8%
24	Type of business	Government	292	61,0%
25		Domestic investor	132	27,6%
26		Foreign investor	55	11,5%
27	Join the Vietnam electricity market	Yes	281	58,7%
28		No	198	41,3%
	Total		479	100%

Table 2: Unstandardized Coefficients

Factor			Estimate	P
Employee creativity	<---	Challenge Dimension	0,351	0,000
Employee creativity	<---	Enjoyment Dimension	0,026	0,587

Table 3: The Impact of Factors (Challenge Dimension) on Employee Creativity

Factor	coeff	SE	t	p	LLCI	ULCI
Challenge Dimension	0.3515	0,0923	3,8104	0,0002	0,1702	0,5328
Empowering Leadership	0,6973	0,1077	6,4733	0,0000	0,4856	0,9090
Challenge Dimension x Empowering Leadership	0,1164	0,0277	4,1984	0,0000	0,0619	0,1708

4.2. Regression analysis

Regression model

The non-standardized estimation of the main parameters in the theoretical model indicates whether the relationship between the independent variables and the dependent variables is statistically significant and the standardization coefficients indicate the degree of impact between independent variables and dependent variables.

H1: *The challenge dimension of intrinsic motivation positively affects employee creativity is demonstrated, the results show that this hypothesis is accepted at the 95% confidence level because $P\text{-value} = 0,000 < 0.05$.*

H2: *The enjoyment dimension of intrinsic motivation affects employee creativity is not demonstrated, the results show that this hypothesis has $P\text{-value} = 0.587 > 0.05$, so the relationship between the enjoyment dimension of intrinsic motivation and employee creativity is not statistically significant.*

Moderating factor analysis

To analyze the moderating factor of empowerment leadership, the authors used Hayes' model (2017). After using the Process tool of Hayes (2017) on SPSS software version 20.0, the result of the moderating role of empowering leadership for the relationship between the challenge and enjoyment dimensions of intrinsic motivation and employee creativity as follows:

Determining the relationship among empowering leadership, the challenge dimension of intrinsic motivation and employee creativity:

The results show that the relationship between the challenge dimension of intrinsic motivation and employee creativity is statistically significant ($p\text{-value} < 0.05$). The relationship between empowering leadership and employee creativity is statistically significant ($p\text{-value} < 0.05$).

The relationship between the interaction of the challenge dimension of intrinsic motivation with empowering leadership and employee creativity is statistically significant ($p\text{-value} = 0.005 < 0.05$).

In low, medium, and high empowerment leadership levels, the relationship between the challenge dimension of intrinsic motivation and employee creativity is statistically significant ($p\text{-value} < 0.05$) and this effect gradually increases. Thus, the results show that the H3 hypothesis is accepted: Empowering leadership moderates the relationship between the challenge dimension of intrinsic motivation and employee creativity, this link is stronger when enhancing empowering.

Determining the relationship among empowering leadership, the enjoyment dimension of intrinsic motivation and employee creativity:

The results show the relationship between the enjoyment dimension of intrinsic motivation and employee creativity is not statistically significant ($p\text{-value} > 0.05$). The relationship between the enjoyment dimension of intrinsic motivation and empowering leadership and employee creativity is not statistically significant ($p\text{-value} > 0.05$).

Thus, the results show that hypothesis 4 is not accepted.

5. Discussion and Conclusion

Based on a sample of 550 employees of 36 power generation firms in 2019, using Hayes' moderator variable analysis tool (2017), the results show that intrinsic motivation is not a single concept, but includes two independent dimensions, which are challenge and enjoyment. This result reinforces the theoretical viewpoint of Amabile (1994), Mark (2010), Janus et al. (2014), and Leung et al. (2014) that intrinsic motivation consists of two independent components, including challenge and enjoyment dimensions, other than being a unique concept.

Table 4: The Relationship between Challenge Dimension and Employee Creativity Under the Impact of Empowering Leadership

Effect	SE	t	p	LLCI	ULCI
0,6230	0,0339	18,3772	0,0000	0,5564	0,6896
0,7394	0,0236	31,3882	0,0000	0,6931	0,7857
0,7808	0,0267	29,2243	0,0000	0,7283	0,8332

Table 5: The Impact of Factors (Enjoyment Dimension) on Employee Creativity

Factor	coeff	SE	t	p	LLCI	ULCI
Enjoyment Dimension	0.0340	0.1850	0.1839	0.8542	-0.3294	0.3975
Empowering Leadership	0.3952	0.1874	2.1082	0.0355	0.0269	0.7635
Enjoyment Dimension x Empowering Leadership	0.0566	0.0578	0.9794	0.3279	-0.0569	0.1701

The study indicates the relationship between enjoyment dimension and employee creativity is not statistically significant. This reason may be due to the tendency to use the enjoyment dimension to measure or represent intrinsic motivation in considering the relationship with employee creativity. On the contrary, the challenge dimension of intrinsic motivation, which addresses complex problems and tasks, promotes the creation of innovative and novel ideas and solutions that are both novel and useful. This intrinsic motivation component has a strong effect and is closely linked to creativity than intrinsic motivation as a single concept.

The research also finds empowering leadership acts as a moderator variable and positively influences the relationship between the challenge dimension and employee creativity. Simultaneously, it raises several issues related to the level of empowerment, the object to be granted, and the type of work to be empowered in power generation enterprises in Vietnam. Moreover, the model and the hypotheses of the study have achieved positively empirical results, creating a stepping stone for future studies to understand the empowering leadership that can increase the outcome how the creativity of individuals in organizations based on an empowerment mechanism to create a work environment that encourages confidence in the competence of the employees, promotes a sense of the meaning of the work and gives employees more autonomy.

In addition to the results obtained, the study has some limitations due to the data slice design's characteristics. Based on a representative sample and in a given time, explaining the results needs to be implemented on time cautiously, and some arguments will require more empirical evidence with the longitudinal dataset to evaluate further the causality shown in the theoretical model of this study. Data collected from managers, technicians, engineers and experts directly involved in the moderation and system operation management can create errors from perspective magnification due to one-way surveys. Therefore, further studies can consider the higher level of evaluation of the lower levels' creative activities to have a more comprehensive view.

References

- Ahearne, M., Mathieu, J., & Rapp, A. (2005). To empower or not to empower your sales force? An empirical examination of the influence of leadership empowerment behavior on customer satisfaction and performance. *Journal of Applied psychology*, 90(5), 945–955.
- Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, 10(1), 123–167.
- Amabile, T. M., Hill, K. G., Hennessey, B. A., & Tighe, E. M. (1994). The Work Preference Inventory: assessing intrinsic and extrinsic motivational orientations. *Journal of Personality and Social Psychology*, 66(5), 950–967.
- Amabile, T. M. (1996). *Creativity and innovation in organizations* (no. 9-396-239). Boston, MA: Harvard Business School Publishing.
- Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, 40(1), 39–58.
- Amabile, T. M. (1998). *How to kill creativity* (Vol. 87). Boston, MA: Harvard Business School Publishing.
- Amabile, T. M., Schatzel, E. A., Moneta, G. B., & Kramer, S. J. (2004). Leader behaviors and the work environment for creativity: Perceived leader support. *The Leadership Quarterly*, 15(1), 5–32.
- Amabile, T. M. (2012). Componential theory of creativity. *Harvard Business School*, 12(96), 1–10.
- Astuti, S. D., Shodikin, A., & Ud-Din, M. (2020). Islamic Leadership, Islamic Work Culture, and Employee Performance: The Mediating Role of Work Motivation and Job Satisfaction. *Journal of Asian Finance, Economics, and Business*, 7(11), 1059–1068. <https://doi.org/10.13106/jafeb.2020.vol7.no11.1059>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Cacioppo, J. T., Petty, R. E., Feinstein, J. A., & Jarvis, W. B. G. (1996). Dispositional differences in cognitive motivation: The life and times of individuals varying in need for cognition. *Psychological Bulletin*, 119(2), 197–253.
- Catania, G., & Randall, R. (2013). The relationship between age and intrinsic and extrinsic motivation in workers in a Maltese cultural context. *International Journal of Arts & Sciences*, 6(2), 31.
- Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19(2), 109–134.
- Ford, C. M. (2000). Creative developments in creativity theory. *Academy of Management. The Academy of Management Review*, 25(2), 284–285.
- Gilson, L. L., & Shalley, C. E. (2004). A little creativity goes a long way: An examination of teams' engagement in creative processes. *Journal of Management*, 30(4), 453–470.
- Gong, Y., Kim, T. Y., Lee, D. R., & Zhu, J. (2013). A multilevel model of team goal orientation, information exchange, and creativity. *Academy of Management Journal*, 56(3), 827–851.
- Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). *Survey methodology* (Vol. 561). London, UK: John Wiley & Sons.
- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York: NY: Guilford Publications.
- Hirt, E. R., Melton, R. J., McDonald, H. E., & Harackiewicz, J. M. (1996). Processing goals, task interest, and the mood–performance relationship: A mediational analysis. *Journal of Personality and Social Psychology*, 71(2), 245–261.

- Humphreys, P., Bannon, L., McCosh, A., Migliarese, P., & Pomerol, J. C. (Eds.). (2013). *Implementing systems for supporting management decisions: concepts, methods and experiences*. Berlin, Germany: Springer.
- Kinicki, A., & Kreitner, R. (2006). *Organizational behavior: Key concepts, skills & best practices*. New York, NY: McGraw-Hill/Irwin.
- Kirkman, B. L., & Rosen, B. (1999). Beyond self-management: Antecedents and consequences of team empowerment. *Academy of Management Journal*, 42(1), 58–74.
- Leung, K., Chen, T., & Chen, G. (2014). Learning goal orientation and creative performance: The differential mediating roles of challenge and enjoyment intrinsic motivations. *Asia Pacific Journal of Management*, 31(3), 811–834.
- Linke, J., Kirsch, P., King, A. V., Gass, A., Hennerici, M. G., Bongers, A., & Wessa, M. (2010). 'Motivational orientation modulates the neural response to reward', *Neuro Image*, 49, 2618–2625.
- Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *Academy of Management Journal*, 45(4), 757–767.
- Meichenbaum, D. (1977). Cognitive behaviour modification. *Cognitive Behaviour Therapy*, 6(4), 185–192.
- Mumford, R. B., & Kozloski, R. E. (2002). *U.S. Patent No. 6,407,675*. Washington, DC: U.S. Patent and Trademark Office.
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39(3), 607–634.
- Paais, M., & Pattiruhu, J. R., (2020). Effect of motivation, leadership, and organizational culture on satisfaction and employee performance. *The Journal of Asian Finance, Economics and Business*, 7(8), 577–588. <https://doi.org/10.13106/jafeb.2020.vol7.no8.577>
- Pancasila, I., Haryono, S., & Sulisty, B. A. (2020). Effects of work motivation and leadership toward work satisfaction and employee performance: Evidence from Indonesia. *Journal of Asian Finance, Economics and Business*, 7(6), 387–397. <https://doi.org/10.13106/jafeb.2020.vol7.no6.387>
- Pearce, C. L., & Conger, J. A. (Eds.). (2003). *Shared leadership: Reframing the Hows and Whys of leadership*. Thousand Oaks, CA: Sage Publications
- Reeve, J., Ryan, R. M., Deci, E. L., & Jang, H. (2008). Understanding and promoting autonomous self-regulation: A self-determination theory perspective. *Motivation and self-regulated learning: Theory, Research, and Applications*, 223–244.
- Reiter-Palmon, R., & Illies, J. J. (2004). Leadership and creativity: Understanding leadership from a creative problem-solving perspective. *The Leadership Quarterly*, 15(1), 55–77.
- Shalley, C. E. (1991). Effects of productivity goals, creativity goals, and personal discretion on individual creativity. *Journal of Applied Psychology*, 76(2), 179–185.
- Shalley, C. E., Gilson, L. L., & Blum, T. C. (2000). Matching creativity requirements and the work environment: Effects on satisfaction and intentions to leave. *Academy of Management Journal*, 43(2), 215–223.
- Shalley, C. E., & Perry-Smith, J. E. (2001). Effects of social-psychological factors on creative performance: The role of informational and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes*, 84(1), 1–22.
- Shalley, C. E., & Zhou, J. (2008). Organizational creativity research: A historical overview. *Handbook of Organizational Creativity*, 331.
- Shin, S. and Zhou, J. (2003). 'Transformational leadership, conservation, and creativity: Evidence from Korea', *Academy of Management Journal*, 46, 703–714.
- Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here? *Journal of Management*, 30(6), 933–958.
- Thomas, K. W., & Velthouse, B. A. (1990). Cognitive elements of empowerment: An "interpretive" model of intrinsic task motivation. *Academy of Management Review*, 15(4), 666–681.
- Thoresen, C. E., & Mahoney, M. J. (1974). *Behavioral self-control*. New York, NY: Holt McDougal.
- Townsend, R., & Bennis, W. (1997). *Reinventing Leadership: Strategies to Empower the Organization*. New York, NY: William Morrow & Company.
- Utman, C. H. (1997). Performance effects of motivational state: A meta-analysis. *Personality and Social Psychology Review*, 1(2), 170–182.
- Venkatesh, B., & Sharma, A. K. (2015). Interactive motivational concept: a study of motivation among corporate of Bhopal region in India. *Journal of Asian Finance, Economics and Business*, 2(2), 35–38. <https://doi.org/10.13106/jafeb.2015.vol2.no2.35>
- Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of Management Review*, 18(2), 293–321.
- Zhang, X., & Bartol, K. M. (2010). Linking empowering leadership and employee creativity: The influence of psychological empowerment, intrinsic motivation, and creative process engagement. *Academy of Management Journal*, 53(1), 107–128.
- Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management Journal*, 44(4), 682–696.
- Zhou, J. (2015). Creativity and entrepreneurship. *Wiley Encyclopedia of Management*, 1–3.
- Zhou, J., & Shalley, C. E. (2003). Research on employee creativity: A critical review and directions for future research. In: *Research in personnel and human resources management* (pp. 165–217). Bingley, UK: Emerald Group Publishing Limited.