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Fostering innovation behavior in Vietnamese commercial banks: The impact of transformational leadership, psychological empowerment, and organizational innovation climate

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Abstract

Innovative behavior (IB) in banks plays a crucial role in promoting sustainable development, enhancing competitiveness, and flexibly meeting the increasingly diverse needs of customers in the ever-changing financial market. This study aims to examine the impact of transformational leadership (TL) on innovative behavior through the mediating effect of organizational innovation climate (OIC). Additionally, the study investigates the moderating role of psychological empowerment (PE) in this relationship. A quantitative research method was employed, with data collected from 301 employees at 36 commercial banks in Vietnam. The findings indicate that PE, OIC, and TL directly influence IB. TL also demonstrates an impact on IB through the mediating role of OIC. Regarding moderating effects, PE significantly moderates the relationship between OIC and IB. Based on the research findings, the authors propose several policy implications to help enterprises enhance the IB of employees. Theoretically, the study provides a comprehensive overview and contributes to the theoretical foundation in the field of IB. Practically, it offers actionable recommendations for commercial banks to foster innovation and creativity within their organizations.

Keywords: Innovation behavior, Organizational innovation climate, Psychological empowerment, Transformational leadership.

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1. Introduction

Industry 5.0 requires banks to carry out continuous improvement and innovation. By utilizing dynamic capacity, this activity helps the bank maintain a competitive advantage [1]. Innovation is a critical requirement for a bank's performance

and growth in a rapidly changing and highly uncertain environment [2]. Banks must identify the traits of innovation, and employees play a critical role. Having innovative staff increases the overall level of innovation [3].

Previous studies indicate that potential factors influencing innovation have been explored [4, 5]. However, few studies have examined the relationship between the three hierarchy systems simultaneously, including the organizational level, the leader level, and the employee level. There are currently very few studies that look at the psychological characteristics of employees at the individual level. Several key factors driving innovation have been explored, including TL [6], OIC [7], and PE [8]. There is currently no research that provides a comprehensive understanding of these factors and their causal relationships. Moreover, the theoretical overview also reveals inconsistent results related to TL studies. In particular, the results show that TL does not always lead to positive outcomes and can even harm the organization [9].

Previous research has demonstrated the significance of leadership in employee performance [8]. The results indicate that leaders play a crucial role in fostering an environment that supports innovation within organizations [6]. Therefore, the influence of TL on IB is considered through the mediating role of OIC. This clarifies the relationship between the two research concepts and provides a plausible explanation for the inconsistency in previous studies. Although the direct effect of PE on IB has been examined [10], the understanding of the moderating role of this factor is still limited. This represents an important research gap.

Vietnamese commercial banks not only demonstrate differences in management and structure compared to businesses but also operate in a unique organizational context, influenced by numerous stakeholders [11]. These factors create a differentiated operating environment and influence the promotion of innovation. Vietnamese commercial banks play an important role in shaping the national economy, providing the primary source of capital for the financial market [12]. However, due to the peculiarities of management, the promotion of innovation in commercial banks often faces challenges. Despite its important role and potential for innovation, research on the innovation activities of commercial banks is still quite limited. This lack can create a gap in understanding how bank-specific factors affect innovation and hinder or foster creativity.

The study was conducted to explore the relationship between transformational leadership (TL) and organizational innovation climate (OIC) influencing the innovative behavior (IB) of employees at commercial banks. In addition, this study also examines the moderating role of psychological empowerment (PE) in the relationship between the OIC and the IB. Theoretically, this study provides a comprehensive picture of the theoretical underpinnings of IB. In practical terms, this study has provided several guidelines for employees, managers, and organizations to promote innovative and creative behavior through elements of all three-tier systems in Vietnamese banks. There are five components to the article's remaining structure. The first part presents a literature review, the second part presents research methods, the third part presents research results, the fourth part presents the discussion, and the fifth part presents the implications of governance.

2. Literature Review

2.1. Foundation Theory

This article is analyzed based on two related theories: the leader-member exchange theory and the empowerment theory. The leader-member exchange theory emphasizes the exchange of resources and the building of relationships [13]. According to this theory, employees should be asked to accept an offer after leaders have decided on the best course of action [14]. Leader-member exchanges are expected to create a positive influence on IB [15]. In the context of this research, leaders are expected to create an open work environment and encourage employees to participate in the creative process. This can promote the formation of a culture of freedom that promotes IB in the operations of commercial banks.

Empowerment theory enables employees to access information, resources, learning, and development opportunities [16]. Empowered employees are more committed to the organization, more accountable for their work, and better able to meet the demands of their work effectively. Empowerment is not only about giving power to an individual or a group but also about promoting their holistic development by improving conditions and creating a conducive environment for them to grow [17, 18]. Empowerment occurs when an organization engages people sincerely and responds to this engagement with interest and intent to promote overall growth [19]. Using this theory in the current research to analyze the relationship between PE and employee IB in Vietnamese commercial banks.

2.2. Research Hypothesis

Innovation is the foundation of survival and development [20]. The act of innovation is a deliberate process that aims to implement ideas. These behaviors occur with certain goals, such as finding new ideas, supporting new initiatives, and ensuring planning and funding for the implementation of ideas [21]. IB is recognized as having a specific relationship with PE [8]. PE is a concept associated with positive psychology. It is the feeling of being in control of situations at work. PE involves an individual's proactive orientation towards work, with the desire to shape the organization's context, processes, and work environment [22].

PE has been identified as an important predictor of attitude, performance, and turnover intention. [23]. It is expressed through the aspects of human relationships, the work of meaning, capacity, impact, and agency. Empowerment theory holds that empowered employees demonstrate a higher level of commitment to the organization, greater responsibility for their work, and improved efficiency in meeting work needs [24]. PE tends to motivate. Psychologically empowered employees perceive higher self-efficacy when performing tasks, have sufficient autonomy in their work, and their behavior brings about positive change in the organization [25]. Previous research has shown that empowering employees is important because it drives the generation of ideas, which in turn facilitates the creation of innovations [26]. In addition, previous research has shown that empowerment initiatives lead to improved employee performance, well-being, and positive attitudes [24]. It creates a positive impact on innovation efforts.

By being empowered, employees can learn to be proactive and respond creatively to the challenges of their work [27]. This is especially necessary in the context of Vietnam's banking industry, which is facing challenges from digital transformation, increased competition, and the need to improve customer experience. Bank managers can implement PE by building an open work environment, encouraging employees to participate in the decision-making process, and recognizing their innovative contributions [28, 29]. As a result, banks not only improve their operational efficiency but also increase their ability to adapt to change and lead the way in developing advanced financial services [19]. However, research on this relationship in Vietnamese commercial banks has not yet been established. Therefore, the following hypothesis is proposed:

OIC refers to employees' perception of the organization's innovation [7]. It addresses management practices, policies related to innovation, and certain social rules that assist in the creation, promotion, and realization of new ideas [30]. OIC can help achieve competitiveness effectively by stimulating employee innovation [10]. When employees feel the atmosphere of innovation within the business, they tend to adapt and strive to pursue innovative ideas.

According to empowerment theory, individuals who satisfy their needs for autonomy, competence, and relationships can increase self-awareness and a high sense of well-being [31]. They tend to perform more proactive behaviors. OIC has a positive effect on IB. However, the role of OIC cannot be maximized if employees lack PE [8]. Based on this theory, the evidence suggests that OIC is positively related to IB. In an OIC, employees are motivated to experiment and implement new ideas, as they are encouraged and allowed to come up with their ideas without fear of opposition or accountability [32]. Therefore, the creative environment is regarded as a crucial factor in the growth and competitiveness of organizations.

In the context of Vietnamese banks, the relationship between an OIC and an IB is reflected in the interaction between the creative working environment and the ability of employees to promote innovative thinking. An OIC, with elements such as encouragement for experimentation, support from leadership, and a risk-taking policy, creates conditions for employees to feel secure when proposing new ideas [33]. Conversely, when employees perceive that the work environment is not supportive of innovation or does not appreciate creative efforts, they tend to be passive and do not actively participate in innovation activities. The banking industry has high requirements for innovation in products, services, and technology to maintain a competitive advantage. OIC is not only a driving force for IB but also a vital factor in meeting the rapid changes of the market and the increasing needs of customers [34].

The impact of the OIC on IB can be enhanced by empowering employees and providing adequate resources [35]. When organizations consistently communicate the value of innovation in problem-solving, employees will be more willing to take care to come up with new and useful ideas in their daily work [36]. Therefore, they will devote themselves to innovative thinking and strive to achieve progress through innovative methods or processes. In the context of Vietnamese commercial banks, the relationship between an OIC and an IB is reflected in the interaction between the creative working environment and the ability of employees to promote innovative thinking. An OIC, with elements such as encouragement for experimentation, support from leadership, and a risk-taking policy, creates conditions for employees to feel secure when coming up with new ideas [37]. Conversely, when employees perceive that the work environment is unsupportive of innovation or does not appreciate creative efforts, they tend to be passive and do not actively participate in innovation activities [38]. In the banking industry, innovation in products, services, and technology plays a decisive role in maintaining a competitive advantage. OIC is not only a driving force for IB but also a vital factor in meeting the rapid changes of the market and the increasing needs of customers [39]. However, research on these relationships remains limited. Based on the arguments presented, the hypotheses are as follows:

Hypothesis H_2 : OIC has a positive relationship with IB.

Hypothesis H_1 : PE has a positive effect on IB.

Hypothesis H_3 : PE positively moderates the relationship from OIC to IB.

Leaders are agents of change [40]. Different types of leadership have different influences on innovation. TL refers to leaders who focus on advancing the high-level intrinsic needs of their followers, prioritizing short-term needs [8]. TL has four dimensions: charisma, inspirational stimulation, intellectual stimulation, and personalized consideration [31]. Based on the leader-member exchange theory, the relationship between superiors and subordinates mainly develops due to workplace interactions between them. Transformational leaders who exhibit the trait of personal consideration can create strong relationships with their subordinates [41]. Furthermore, employees tend to be close to leaders who share similar personal traits such as openness, optimism, extroversion, introversion, dedication, and self-esteem. They then tend to shape themselves to be more compatible with the organization [42]. Besides, leader-member exchanges increase employees' ability to receive knowledge and require leaders to share professional knowledge and understanding of work-related issues. TL, in turn, also contributes to fostering an open work environment and encouraging creativity [43]. This can promote a culture of freedom and innovation in the organization, creating an OIC in the business.

The relationship TL and OIC is an important topic in modern leadership and management. Previous studies have shown the impact of TL on OIC. Research by Phong and LE [44] found that TL has a positive relationship with the ability to find new solutions and the ability to focus on goals. They also found that TL impacts the ability to improve and innovate by encouraging creativity and contributing new ideas. Similarly, another study by Younis and Hussain [45] determined that TL impacts OIC by encouraging creativity, motivating employees to contribute ideas, and implementing innovation projects.

An important element of transformational leadership is the ability to create a clear and persuasive vision that helps employees understand and agree with the organization's goals and values [10]. Research by Østergaard, et al. [46] recognizes that the clear and inspiring vision of transformational leadership (TL) has a positive influence on organizational innovation climate (OIC) by encouraging the contribution of ideas and participation in innovation projects. Some studies have also found that TL can affect an organization's competitiveness [8, 23]. In the banking industry, the relationship between transformational leadership (TL) and organizational innovation climate (OIC) is a key factor driving sustainable development

and innovation. TL, with its strategic vision and ability to inspire, plays a critical role in building and sustaining an OIC by encouraging creative thinking, supporting experimentation, and fostering a culture of collaboration [41]. They are not only strategically oriented but also create trust and motivation among employees by listening, empowering, and recognizing innovative ideas [43]. However, the results at Vietnamese banks have not been clearly defined. Based on the theoretical basis and results of previous studies, the article proposes the following research hypotheses:

Hypothesis H_4 : TL has a positive effect on OIC.

Hypothesis H_5 : OIC mediates the relationship between TL and IB.

This article aims to explore the relationship between TL, OIC, and IB of employees at Vietnamese commercial banks. In addition, the article also examines the role of PE in the relationship between OIC and IB. Based on the content argued above, the proposed research model is shown in Figure 1.

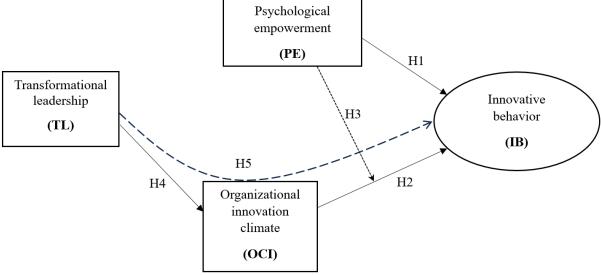


Figure 1. Research model.

3. Research Method

3.1. Research Data

The authors surveyed workers at Vietnamese commercial banks to test the model and research assumptions. There are 36 commercial banks participating in the survey. To ensure that participants are responding to the appropriate target audience, the questionnaire employs filtered questions. Therefore, even if the survey participants are employees, the individuals who are contacted are familiar with IB in banks and can attest to the suitability and representativeness of the survey form.

The first step in preliminary research is to propose a research model. It is necessary to modify and create questionnaires that are appropriate for the Vietnamese context because the suggested research model includes scales that were adapted from studies conducted overseas. Both qualitative and quantitative methodologies are employed to complete the preliminary study. In-depth interviews were utilized as part of the qualitative research approach to explore the proposed measurements in the draft questionnaire. The goal of the qualitative technique, which is based on individuals' experiences and beliefs, is to understand what people think and feel about the topics being discussed [47]. Understanding the viewpoint and investigating the range and adaptability of the responses are the benefits of this approach. In this study, managers and specialists from five commercial banks in Ho Chi Minh City participated in in-depth interviews. This approach aims to modify the research model, add to the scale [48], and find discoveries by comparing theoretical research models and differences in Vietnam.

Data collection period from September 1, 2024, to October 1, 2024. The study's methodology and questionnaire were approved by the University of Economics Ho Chi Minh City Human Research Ethics Committee. The authors surveyed participants by creating questions on Google Forms and sending links via media such as Zalo, messages, and emails. Participants in the research provided their informed consent. Because the study examines the multifaceted interaction between the variables in the model using the Structural Equation Modeling (SEM) approach, the authors relied on the recommendations of Comrey and Lee [49]. The SEM model does not work well with a sample size of 50–100; 200 is adequate, and 300 is acceptable. The study's sample size of 301 is within the necessary range. Table 1 provides specifics on the sample description of the sociodemographic characteristics.

Table 1. Characteristics of sample respondents.

Characteristics	Frequency	Percent	
Gender			
Female	154	51.2	
Male	147	49.8	
Age			
Under 30	121	40.2	
31-35	127	42.2	
36-40	42	14.0	
Over 40	11	3.6	
Work experience			
Less than 2 years	27	8.6	
2-5 years	108	35.8	
5-10 years	96	32	
Over 10 years	71	23.6	
N = 301			

3.2. Data Processing Methods

Evaluation of the measurement model and evaluation of the structural model are the two procedures that must be completed to assess the model. The authors assess Cronbach's Alpha and Composite Reliability (CR) in the first stage. Additionally, the authors examine the Fornell-Larcker, Outer Loading, and AVE (Average Variance Extracted) criteria. Assessing the structural model to evaluate the study hypotheses is the second phase.

3.3. Scale Measurement

To achieve the research objectives, the scale selection is based on previous studies. In particular, the TL scale is based on the research of Imran, et al. [37], the PE scale is based on the research of Oliveira, et al. [50], the OIC is based on the research of Xu, et al. [30], and the IB is based on the research of Bagheri, et al. [51]. Details of the scales are presented in Table 2.

3.4. Empirical Findings

3.4.1. Measurement Model Analysis

The authors used SmartPLS 4.0 software to assess the measurement prior to testing the model and hypothesis. Table 2 findings demonstrate that every item satisfies the reliability standards (≥ 0.7). In particular, Cronbach's Alpha showed a response range for reliability and aggregate reliability (rho_a), with values ranging from 0.771 to 0.946. Because all coefficients exceeded the acceptable value (≥ 0.7), this result guarantees the upper limit. Specifically, the values have reached and fall within the range of 0.792 to 0.950 [52]. All items obtain convergence levels; the AVE is over 50%, and the values vary from 0.590 to 0.738, according to the AVE analysis results. Furthermore, every item has outer loading values between 0.706 and 0.938.

Table 2. Constructs and their responding measures.

Coding	Item	Cronbach's alpha)	rho_a	AVE	Outer loading
Transforma	tional leadership (TL)				
TL1	My leadership conveys a clear and positive vision for the future.				0.938
TL2	My leaders treat employees as individuals, supporting and encouraging their development.				0.752
TL3	My leadership fosters trust, engagement, and collaboration among team members.				0.897
TL4	My leaders encourage thinking about problems in new ways.				0.938
TL5	My leader instills pride and respect in others and inspires me	0.910	0.926	0.738	0.750
Psychologic	by being highly competent. cal empowerment (PE)	0.710	0.720	0.730	
PE1	The work I do is extremely important to me.				0.843
PE2	My work activities hold personal significance for me.	1	0.950	0.621	0.830
PE3	The work I do is meaningful to me.	0.046			0.763
PE4	I am confident in my ability to perform my job.	0.946			0.752
PE5	I am confident in my ability to carry out my work activities.	1			0.748
PE6	I have mastered the skills required for my job.				0.791

Coding	Item	Cronbach's alpha)	rho_a	AVE	Outer loading
PE7	I have considerable autonomy in determining how I perform my job.				0.783
PE8	I can decide for myself how I do my job.				0.754
PE9	I have a great opportunity to manage my work independently and freely.				0.842
PE10	I have a significant influence on what happens in my department.				0.810
PE11	The events that occur in my department are mostly within my control.			0.719	
PE12	I have a significant impact on what occurs in my department.				0.811
Organizatio	onal innovation climate (OCI)				
OCI1	My bank provides time and resources for employees to create, share, exchange, and test innovative ideas and solutions.				0.776
OCI2	I am working in diverse skill groups where there is open and free communication among team members.	0.771	0.792	0.590	0.706
OCI3	I frequently encounter tasks that are not repetitive and are challenging, stimulating creativity.				0.829
OCI4	I am recognized and rewarded for my creativity and innovative ideas.				0.756
Innovative 1	behavior (IB)				
IB1	I promote and share ideas for others to develop creative concepts.				0.812
IB2	I can explore new methods to resolve issues within my authority.	0.965	0.006	0.645	0.806
IB3	I generate new ideas for challenging problems.	0.865	0.886	0.645	0.850
IB4	I developed a comprehensive plan and schedule to implement new ideas.				0.754
IB5	I strive to implement new ideas in the workplace.				0.789

Table 3. Discriminant validity.

	IB	OCI	PE	TL
IB	0.803			
OCI	0.487	0.768		
PE	0.624	0.586	0.788	
TL	0.536	0.528	0.706	0.859

3.5. Discriminant Validity Analysis

Fornell Larcker is used to evaluate discriminant validity. Table 3 indicates that all latent variables or constructs have sufficient discriminant validity.[53].

Table 4. Hypothesis testing of the structural model.

Hypothesis	Relationship	Proposed effects	Standardized regression weight	Results
H1	Psychological empowerment → Innovative behavior	Positive	0.505***	Supported
H2	Organizational innovation climate → Innovative behavior	Positive	0.199 ***	Supported
НЗ	Psychological empowerment \mathbf{x} Organizational innovation climate \rightarrow Innovative behavior	Positive	0.070***	Supported
H4	Transformational leadership → Organizational innovation climate	Positive	0.528***	Supported
H5	Transformational leadership → Organizational innovation climate → Innovative behavior	Positive	0.105***	Supported

Note: ***p < 0.001.

3.6. Structural Model Analysis

Under the moderating influence of PE and the mediating role of the OIC, the aim of this study is to examine the effect of TL on the IB employees in Vietnamese commercial banks. This study thus focuses on the target variable, IB, and investigates the relationship between variables in the model. PLS-SEM is therefore the most appropriate technique [54]. With n = 5,000, the authors conducted a bootstrap analysis. The initial estimate and the bootstrap findings demonstrated that every path was stable. This model does an excellent job of illustrating how concepts relate to one another. The H1, H2, and H4 hypotheses were accepted based on the direct effects results, which were statistically significant. It has also been established that PE has a moderating effect on the link between OIC and IB. Furthermore, the findings indicate that OIC mediates the relationship between TL and IB. The H3 and H5 hypotheses are therefore accepted (Table 4).

4. Discussion

The results show that most of the research hypotheses are strengthened, in line with expectations. Specifically, TL has a direct positive impact on OIC (p = 0.528; p = 0.000). This result shows the importance of TL in creating an atmosphere that encourages and promotes the spirit of innovation. The results of this study are similar to the results of previous studies, such as the study of Malibari and Bajaba [31], which show that TL influences OIC by creating a positive work environment, encouraging creativity, contributing ideas, and the ability to find new solutions.

IB has also been experimentally proven to be directly influenced by PE (p = 0.505; p = 0.000) and OIC (p = 0.199; p = 0.000). These figures indicate that PE has the strongest impact on IB. The results have also been corroborated, consistent with previous studies such as the study of Nazir, et al. [13] and Xu, et al. [30]. This indicates that when employees are empowered, they tend to be more creative. In addition, the results of examining the relationship between OIC and IB are also consistent with the research of Imran, et al. [55] and Saira, et al. [23]. OIC increases employee creativity.

When considering the mediating role of OIC, TL demonstrates an impact on IB through OIC (p = 0.105; p = 0.000). TL not only positively influences IB but also does so through OIC. OIC can easily be influenced by TL, which in turn contributes to the IB of employees. In addition, the experiment also proves that OIC can be considered a strong source of encouragement for IB (p = 0.105), as it creates a positive space and promotes creative thinking.

In terms of moderating impact, PE significantly regulates the relationship from OIC to IB (p = 0.070; p = 0.000). This result highlights the importance of this factor in fostering creativity and innovation. Specifically, when employees feel empowered, they tend to make the most of the innovation opportunities created by the work environment. OIC provides a favorable foundation, but to translate that into concrete IB, the role of PE is indispensable. In the context that the banking industry is under pressure from digitalization and global competition, focusing on empowerment not only helps to improve the efficiency of OIC but also motivates employees to contribute creative ideas, thereby improving the bank's competitiveness and adaptation to new challenges.

5. Implications

5.1. Theoretical Implications

First, this study contributes to organizational behavior theory by simultaneously examining the relationship between three hierarchical systems in a company, including the organizational level, the leader level, and the employee level for IB. It complements the theoretical underpinnings of relatively few studies that look at the psychological characteristics of employees at the individual level. Scholars have pointed out the importance of defining the role of leadership in employee performance [56, 57] and that leaders are a fundamental element in creating an environment that supports innovation in the workplace. The influence of TP on IB is also examined through OIC to clarify the mediating mechanism between these two concepts and to provide a plausible explanation for the inconsistency of previous studies.

Overall, this study examined the relationship between the factors surrounding IB and evaluated the mediating role as well as the moderating role of OIC and PE. This has contributed to providing an overview and a comprehensive picture of the theoretical foundation of IB, especially in research for the banking industry, a field that always requires timely improvement to increase competitiveness.

5.2. Practical Implications

According to the experimental results, building an OIC and PE for employees is of great significance to ensure the sustainable development of the organization. Building processes to encourage innovative banking behavior is important for regulators and banks to thrive in a competitive business environment. Therefore, banks should create their OIC by providing time and resources to employees, promoting open and free communication between team members, designing non-repetitive and challenging work, and rewarding innovative ideas. An important aspect of OIC is that banks can create space, time, and resources for employees to create, share, exchange, and experiment with innovative ideas and solutions. Banks ought to organize events and initiatives aimed at fostering the generation of innovative ideas, such as concept contests, workshops, and training courses. To facilitate communication and collaboration, banks ought to encourage the exchange of ideas via internal internet platforms or knowledge management systems. Additionally, banks can support the development of staff with a range of backgrounds, experiences, and skill sets to foster creativity from multiple perspectives. Banks should create policies, such as diversity awareness training and equity laws, that promote and support diversity in the workforce. To guarantee that innovative efforts are appreciated, banks must also implement an evaluation and recognition system focused on innovation. To recognize individuals and organizations that have succeeded in the realm of creativity and innovation, banks should concentrate on planning award ceremonies and commendation events. Therefore, establishing an OIC can improve work satisfaction and employee engagement, which will benefit the organization's overall performance.

The direct influence of TL on OIC is also confirmed. This result means that when managers and leaders are people with a TL mindset, employees tend to feel that the environment they are working in is an OIC. However, TL also indirectly influences IB through OIC. In other words, when employees feel that leaders have the mindset of TL, they feel that they are working in an OIC, and they tend to perform innovative and creative behaviors higher than other individuals. As a result, managers can use the essence of TL to improve IB. Transformational leaders are based on a foundation of optimism and enthusiasm, provide the intellectual components, are willing to support their subordinates, and encourage them to work differently to accomplish the task. Managers need to have a clear understanding of the theoretical and practical relationship that exists between TL styles and IB. Managers should provide autonomy, development opportunities, and a diversity of skills in the workplace to motivate employees to learn new things in the workplace, which will increase their participation in the pursuit of creativity and innovation. Managers should practice TL by communicating a clear and positive vision of the future to their employees. When employees have a clearer view of the vision, their compatibility with the organization can also increase, and they will also feel a more creative working atmosphere, which ultimately impacts the morale and creativity of employees. Treating employees as individuals and supporting and encouraging their development plays a very important role in encouraging and motivating employees to help them grow higher. In particular, to practice TL, managers need to foster trust in employees, as well as encourage them to think about problems in new ways and question assumptions.

According to the results, PE exhibits its moderating role. OIC has a stronger impact on IB when PE is high. Due to its importance, banks should boost PE to unleash IB. PE is a general structure that includes meaning, autonomy, capacity, and impact. Therefore, banks should empower employees by giving them greater responsibility and autonomy to take actions. For example, leaders may consider giving employees autonomy in determining how they do their jobs. In addition, leaders can also create opportunities for employees to be independent and free in the way they do their jobs. By providing employees with greater responsibility and autonomy, they can gain a sense of control over their work environment, which can reduce feelings of alienation and therefore be more creative. Furthermore, if employees are aware of the meaning of their work as well as the compatibility between their talents and aspirations, they can feel more valued and invest their mental energy in the work, which can further encourage positive mental energy and creativity. Therefore, managers should recognize the strengths of employees and assign them the right positions. By prioritizing a sense of competence, trust, choice, control, meaning, and a fearless environment for employees' creativity, organizations can drive their IB.

The results on PE in commercial banks in Vietnam provide a view of the current situation and emphasize the need to strengthen this level. To improve the situation, banks need to take measures such as training and developing psychological management skills for leaders and middle managers. Banks also need to build an organizational culture where encouragement and support are valued and create reward and praise mechanisms to honor and encourage individual contributions. Bank leaders need to be well aware of the importance of creating a work environment that encourages confidence and creativity from employees. Only through continuous commitment and effort from all parties can banks overcome challenges and truly become a working environment where employees feel united and committed to the organization's goals and values.

6. Limitations of the Study

Despite being thoroughly conducted, this research still has some limitations, providing opportunities for future research. First, the data is based on questionnaires. Although questionnaires are often used to represent future behavior, they may limit the conclusions drawn from the results. Therefore, future research should use other means to explore causal relationships between hypothesized variables. Second, the scope of the study is limited because it only focuses on innovation in Vietnamese commercial banks. Future research conducted in other countries will likely be valuable in validating these findings and generalizing the application of the proposed framework. Third, the study only looked at IB's relation to TL, OIC, and PE. Meanwhile, IB in reality is also affected by many other factors. Therefore, considering those variables can expand knowledge related to this field.

References

- [1] L. Kim, K. Wichianrat, and S. F. Yeo, "An integrative framework enhancing perceived e-banking service value: A moderating impact of e-banking experience," *Journal of Open Innovation: Technology, Market, and Complexity,* vol. 10, no. 3, p. 100336, 2024. https://doi.org/10.1016/j.joitmc.2024.100336
- [2] A. Verma *et al.*, "Blockchain for industry 5.0: Vision, opportunities, key enablers, and future directions," *IEEE Access*, vol. 10, pp. 69160-69199, 2022. https://doi.org/10.1109/ACCESS.2022.3186892
- [3] P. Dwivedi, J. I. Alabdooli, and R. Dwivedi, "Role of FinTech adoption for competitiveness and performance of the bank: A study of banking industry in UAE," *International Journal of Global Business and Competitiveness*, vol. 16, no. 2, pp. 130-138, 2021.
- [4] A. Sharma, C. Sousa, and R. Woodward, "Determinants of innovation outcomes: The role of institutional quality," *Technovation*, vol. 118, p. 102562, 2022. https://doi.org/10.1016/j.technovation.2022.102562
- [5] G. W. Zheng, A. B. Siddik, M. Masukujjaman, N. Fatema, and S. S. Alam, "Green finance development in Bangladesh: The role of private commercial banks (PCBs)," *Sustainability* vol. 13, no. 2, pp. 1–17, 2021.
- [6] L. Becker, K. Coussement, M. Büttgen, and E. Weber, "Leadership in innovation communities: The impact of transformational leadership language on member participation," *Journal of Product Innovation Management*, vol. 39, no. 3, pp. 371-393, 2022. https://doi.org/10.1111/jpim.12588
- [7] I. S. Chaudhry, R. Y. Paquibut, and M. N. Tunio, "Do workforce diversity, inclusion practices, & organizational characteristics contribute to organizational innovation? Evidence from the UAE," *Cogent Business & Management*, vol. 8, no. 1, p. 1947549, 2021. https://doi.org/10.1080/23311975.2021.1947549

- [8] M. Grošelj, M. Černe, S. Penger, and B. Grah, "Authentic and transformational leadership and innovative work behaviour: The moderating role of psychological empowerment," *European Journal of Innovation Management*, vol. 24, no. 3, pp. 677-706, 2021. https://doi.org/10.1108/EJIM-10-2019-0294
- [9] H. M. Gelaidan, G. Houtgraaf, and O. S. Al-kwifi, "Creativity and innovation in rapidly developing Qatar: the impact of leadership and the mediation of psychological empowerment amidst rapid growth," *International Journal of Public Sector Management*, vol. 35, no. 3, pp. 257-275, 2022. https://doi.org/10.1108/IJPSM-01-2021-0016
- [10] N. Sudibjo and R. K. Prameswari, "The effects of knowledge sharing and person—organization fit on the relationship between transformational leadership on innovative work behavior," *Heliyon*, vol. 7, no. 6, p. e07334, 2021. https://doi.org/10.1016/j.heliyon.2021.e07334
- [11] P. A. Nguyen and T. T. T. Nguyen, "The effect of mergers and acquisitions on the efficiency of Vietnam banking system during the restructuring period," *Cogent Economics & Finance*, vol. 10, no. 1, p. 2127221, 2022. https://doi.org/10.1080/23322039.2022.2127221
- [12] A. H. Nguyen, M. H. T. Do, T. G. Hoang, and L. Q. T. Nguyen, "Green financing for sustainable development: Insights from multiple cases of Vietnamese commercial banks," *Business Strategy and the Environment*, vol. 32, no. 1, pp. 321-335, 2023. https://doi.org/10.1002/bse.3132
- [13] S. Nazir, A. Shafi, M. A. Asadullah, W. Qun, and S. Khadim, "Linking paternalistic leadership to follower's innovative work behavior: The influence of leader–member exchange and employee voice," *European Journal of Innovation Management*, vol. 24, no. 4, pp. 1354-1378, 2021. https://doi.org/10.1108/EJIM-01-2020-0005
- [14] N. Li, S. Bao, S. Naseem, M. Sarfraz, and M. Mohsin, "Extending the association between leader-member exchange differentiation and safety performance: A moderated mediation model," *Psychology Research and Behavior Management*, vol. 14, pp. 1603-1613, 2021. https://doi.org/10.2147/PRBM.S335199
- [15] S. Bani-Melhem, M. A. Al-Hawari, and S. Quratulain, "Leader-member exchange and frontline employees' innovative behaviors: the roles of employee happiness and service climate," *International Journal of Productivity and Performance Management*, vol. 71, no. 2, pp. 540-557, 2022. https://doi.org/10.1108/IJPPM-03-2020-0092
- J. F. East, N. Coady, and P. Lehmann, "Empowerment theory. In Theoretical perspectives for direct social work practice: A generalist-eclectic approach," Retrieved: https://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2016-11099-020&site=ehost-live. [Accessed 2016.
- [17] S. Richard and S. Hennekam, "When can a disability quota system empower disabled individuals in the workplace? The case of France," *Work, Employment and Society*, vol. 35, no. 5, pp. 837-855, 2021. https://doi.org/10.1177/0950017020946672
- J. M. Coun, P. Peters, R. J. Blomme, and J. Schaveling, "'To empower or not to empower, that's the question'. Using an empowerment process approach to explain employees' workplace proactivity," *The International Journal of Human Resource Management*, vol. 33, no. 14, pp. 2829-2855, 2022. https://doi.org/10.1080/09585192.2021.1879204
- [19] M. Llorente-Alonso, C. García-Ael, and G. Topa, "A meta-analysis of psychological empowerment: Antecedents, organizational outcomes, and moderating variables," *Current Psychology*, vol. 43, no. 2, pp. 1759-1784, 2024. https://doi.org/10.1007/s12144-023-04369-8
- [20] S. K. Singh, A. Mazzucchelli, S. R. Vessal, and A. Solidoro, "Knowledge-based HRM practices and innovation performance: Role of social capital and knowledge sharing," *Journal of International Management*, vol. 27, no. 1, p. 100830, 2021. https://doi.org/10.1016/j.intman.2021.100830
- [21] I. Farida and D. Setiawan, "Business strategies and competitive advantage: The role of performance and innovation," *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 8, no. 3, p. 163, 2022. https://doi.org/10.3390/joitmc8030163
- [22] P. O. Pacheco and D. Coello-Montecel, "Does psychological empowerment mediate the relationship between digital competencies and job performance?," *Computers in Human Behavior*, vol. 140, p. 107575, 2023. https://doi.org/10.1016/j.chb.2022.107575
- [23] S. Saira, S. Mansoor, and M. Ali, "Transformational leadership and employee outcomes: the mediating role of psychological empowerment," *Leadership & Organization Development Journal*, vol. 42, no. 1, pp. 130-143, 2021. https://doi.org/10.1108/LODJ-05-2020-0189
- [24] A. Panda and C. K. Sahoo, "Work-life balance, retention of professionals and psychological empowerment: an empirical validation," *European Journal of Management Studies*, vol. 26, no. 2/3, pp. 103-123, 2021. https://doi.org/10.1108/ejms-12-2020-0003
- [25] S. Siyal *et al.*, "Does inclusive leadership influence task performance of hospitality industry employees? Role of psychological empowerment and trust in leader," *Heliyon*, vol. 9, no. 5, p. e15507, 2023. https://doi.org/10.1016/j.heliyon.2023.e15507
- [26] J. Wen, S. S. Huang, and S. Teo, "Effect of empowering leadership on work engagement via psychological empowerment: Moderation of cultural orientation," *Journal of Hospitality and Tourism Management*, vol. 54, pp. 88-97, 2023. https://doi.org/10.1016/j.jhtm.2022.12.012
- [27] A. Khatoon, S. U. Rehman, T. Islam, and Y. Ashraf, "Knowledge sharing through empowering leadership: the roles of psychological empowerment and learning goal orientation," *Global Knowledge, Memory and Communication*, vol. 73, no. 4/5, pp. 682-697, 2024. https://doi.org/10.1108/GKMC-08-2022-0194
- [28] C. Arathy and A. Biju, "Are bank employees psychologically and structurally empowered? An assessment from the Indian banking sector," *Employee Responsibilities and Rights Journal*, vol. 34, no. 4, pp. 463-485, 2022. https://doi.org/10.1007/s10672-021-09393-z
- [29] S. T. Khan, M. A. Bhat, and M.-U.-D. Sangmi, "Impact of microfinance on economic, social, political and psychological empowerment: Evidence from women's self-help groups in Kashmir Valley, India," *FIIB Business Review*, vol. 12, no. 1, pp. 58-73, 2023. https://doi.org/10.1177/2319714520972905
- [30] Z. Xu, H. Wang, and S. Suntrayuth, "Organizational climate, innovation orientation, and innovative work behavior: the mediating role of psychological safety and intrinsic motivation," *Discrete Dynamics in Nature and Society*, vol. 2022, no. 1, p. 9067136, 2022. https://doi.org/10.1155/2022/9067136
- [31] M. A. Malibari and S. Bajaba, "Entrepreneurial leadership and employees' innovative behavior: A sequential mediation analysis of innovation climate and employees' intellectual agility," *Journal of Innovation & Knowledge*, vol. 7, no. 4, p. 100255, 2022. https://doi.org/10.1016/j.jik.2022.100255

- [32] A. Hassi, S. Rohlfer, and S. Jebsen, "Empowering leadership and innovative work behavior: The mediating effects of climate for initiative and job autonomy in Moroccan SMEs," *EuroMed Journal of Business*, vol. 17, no. 4, pp. 503-518, 2022. https://doi.org/10.1108/EMJB-01-2021-0010
- [33] S. Naseer, K. F. Khawaja, S. Qazi, F. Syed, and F. Shamim, "How and when information proactiveness leads to operational firm performance in the banking sector of Pakistan? The roles of open innovation, creative cognitive style, and climate for innovation," *International Journal of Information Management*, vol. 56, p. 102260, 2021. https://doi.org/10.1016/j.ijinfomgt.2020.102260
- [34] E. B. Gyau, M. Appiah, B. A. Gyamfi, T. Achie, and M. A. Naeem, "Transforming banking: Examining the role of AI technology innovation in boosting banks financial performance," *International Review of Financial Analysis*, vol. 96, p. 103700, 2024. https://doi.org/10.1016/j.irfa.2024.103700
- [35] R. T. Naveed, H. Alhaidan, H. Al Halbusi, and A. K. Al-Swidi, "Do organizations really evolve? The critical link between organizational culture and organizational innovation toward organizational effectiveness: Pivotal role of organizational resistance," *Journal of Innovation & Knowledge*, vol. 7, no. 2, p. 100178, 2022. https://doi.org/10.1016/j.jik.2022.100178
- [36] M. Azeem, M. Ahmed, S. Haider, and M. Sajjad, "Expanding competitive advantage through organizational culture, knowledge sharing and organizational innovation," *Technology in Society*, vol. 66, p. 101635, 2021. https://doi.org/10.1016/j.techsoc.2021.101635
- [37] M. K. Imran, M. Ilyas, and U. Aslam, "Organizational learning through transformational leadership," *The Learning Organization*, vol. 23, no. 4, pp. 232-248, 2016. https://doi.org/10.1108/TLO-09-2015-0053
- [38] V. Stefanelli and F. Manta, "Digital Financial Services and Open Banking Innovation: Are Banks Becoming 'invisible'?," *Global Business Review*, pp. 1-18, 2023. https://doi.org/10.1177/09721509231151491
- [39] B. Kör, I. Wakkee, and P. van der Sijde, "How to promote managers' innovative behavior at work: Individual factors and perceptions," *Technovation*, vol. 99, p. 102127, 2021. https://doi.org/10.1016/j.technovation.2020.102127
- [40] S. Siyal, C. Xin, W. A. Umrani, S. Fatima, and D. Pal, "How do leaders influence innovation and creativity in employees? The mediating role of intrinsic motivation," *Administration & Society*, vol. 53, no. 9, pp. 1337-1361, 2021. https://doi.org/10.1177/0095399721997427
- [41] V. Nguon, "Effect of transformational leadership on job satisfaction, innovative behavior, and work performance: A conceptual review," *International Journal of Business and Management*, vol. 17, no. 12, pp. 75-89, 2022. https://doi.org/10.5539/ijbm.v17n12p75
- [42] S. Begum, M. Ashfaq, E. Xia, and U. Awan, "Does green transformational leadership lead to green innovation? The role of green thinking and creative process engagement," *Business Strategy and the Environment*, vol. 31, no. 1, pp. 580-597, 2022. https://doi.org/10.1002/bse.2911
- [43] U. I. Niazi, Q. A. Nisar, N. Nasir, S. Naz, S. Haider, and W. Khan, "Green HRM, green innovation and environmental performance: The role of green transformational leadership and green corporate social responsibility," *Environmental Science and Pollution Research*, vol. 30, no. 15, pp. 45353-45368, 2023. https://doi.org/10.1007/s11356-023-25442-6
- [44] L. B. Phong and T. T. LE, "Transformational leadership and innovation capability: roles of knowledge-centered culture and knowledge sharing," *The Journal of Asian Finance, Economics and Business*, vol. 10, no. 1, pp. 111-121, 2023. https://doi.org/10.13106/jafeb.2023.vol10.no1.0111
- [45] Z. Younis and S. Hussain, "Green transformational leadership: bridging the gap between green HRM practices and environmental performance through green psychological climate," *Sustainable Futures*, vol. 6, p. 100140, 2023. https://doi.org/10.1016/j.sftr.2023.100140
- [46] P. M. Østergaard, D. S. Gregersen, and H. H. Salomonsen, "Does transformational leadership and reputation management relate to employee mission valence: A two-wave study of mission valence in public agencies," *International Public Management Journal*, pp. 1-15, 2024. https://doi.org/10.1080/10967494.2024.2369107
- [47] J. K. Lê and T. Schmid, "The practice of innovating research methods," *Organizational Research Methods*, vol. 25, no. 2, pp. 308-336, 2022. https://doi.org/10.1177/1094428120935498
- [48] S. B. Mishra and S. Alok, *Handbook of research methodology*. India: Educreation Publishing, 2022.
- [49] A. L. Comrey and H. B. Lee, "A first course in factor analysis," 2013.
- [50] M. Oliveira, J. R. Andrade, V. Ratten, and E. Santos, "Psychological empowerment for the future of work: Evidence from Portugal," *Global Business and Organizational Excellence*, vol. 42, no. 5, pp. 65-78, 2023. https://doi.org/10.1002/joe.22194
- [51] A. Bagheri, A. Newman, and N. Eva, "Entrepreneurial leadership of CEOs and employees' innovative behavior in high-technology new ventures," *Journal of Small Business Management*, vol. 60, no. 4, pp. 805-827, 2022. https://doi.org/10.1080/00472778.2020.1737094
- [52] J. Henseler, Partial least squares path modeling. In H. L. J. J. Bijmolt, R. T. Rust, & P. Verhoef (Eds.), Advanced methods for modeling markets Cham, Switzerland: Springer. https://doi.org/10.1007/978-3-319-53469-5_12, 2017.
- [53] C. Fornell and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error " *Journal of Marketing Research*, vol. 18, no. 1, pp. 39-50, 1981. https://doi.org/10.1177/002224378101800104
- [54] J. F. Hair, G. T. M. Hult, C. M. Ringle, M. Sarstedt, N. P. Danks, and S. Ray, *Partial least squares structural equation modeling (PLS-SEM) using R.* Cham, Switzerland: Springer Nature. https://doi.org/10.1007/978-3-030-80519-7, 2021.
- [55] M. Imran, F. Ismail, I. Arshad, F. Zeb, and H. Zahid, "The mediating role of innovation in the relationship between organizational culture and organizational performance in Pakistan's banking sector," *Journal of Public Affairs*, vol. 22, no. S1, p. e2717, 2022. https://doi.org/10.1002/pa.2717
- [56] C. Nasirin and H. Asrina, "Quality of nursing services and inpatient satisfaction," *Management Science Letters*, vol. 10, no. 10, pp. 2169-2174, 2020. https://doi.org/10.5267/j.msl.2020.3.019
- [57] R. Bauwens, M. Audenaert, and A. Decramer, "Performance management systems, innovative work behavior and the role of transformational leadership: An experimental approach," *Journal of Organizational Effectiveness: People and Performance*, vol. 11, no. 1, pp. 178-195, 2024. https://doi.org/10.1108/JOEPP-03-2022-0066