THE IMPACT OF AMBIDEXTROUS LEADERSHIP AND ORGANIZATIONAL INNOVATION CLIMATE ON INNOVATION PERFORMANCE

ZHOU HONG

AN INDEPENDENT STUDY SUBMITTED IN PARTIAL
FULFILMENT OF THE REQUIREMENTS FOR THE
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FACULTY OF LIBERAL ARTS
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Independent Study	The Impact of Ambidextrous Leadership and Organizational Innovation Climate on Innovation Performance
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Faculty of Liberal Arts, Rajamangala University of Technology Krungthep approved this independent study as partial fulfillment of the requirement for the degree of Master of Arts.

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Abstract

In today's rapidly evolving economy, enterprises, as crucial components of society, are faced with increasingly complex environments. Only through continuous innovation can they seek development. Leadership style plays a pivotal role in guiding all aspects of a business, while employees are the executors of the company's tasks. The combination of both is essential for achieving corporate innovation goals and enhancing innovation performance. This study also explores the impact of organizational innovation climate on innovation performance.

This research has two main objectives: 1) to investigate whether ambidextrous leadership influences employee innovation performance, and 2) to examine the impact of the organizational innovation climate on innovation performance. The findings indicate that ambidextrous leadership has a significant positive effect on innovation performance; similarly, the organizational innovation climate also significantly enhances innovation performance. The results suggest that to improve employee innovation performance, it is first necessary to acknowledge the strengths and weaknesses of different leadership styles and to utilize a situational approach to maximize the benefits of open and conservative leadership styles. Additionally, creating a favorable organizational innovation climate and establishing effective communication channels is crucial. These factors enhance employees' innovative capabilities and, consequently, boost organizational innovation performance.

Keywords: ambidextrous leadership, open leadership, conservative leadership, organizational innovation climate, innovation performance

บทคัดย่อ

ในยุคปัจจุบันเศรษฐกิจที่กำลังพัฒนาอย่างรวดเร็ว ผู้ประกอบการในฐานะองค์ประกอบที่สำคัญของธุรกิจกำลังเผชิญหน้ากับการเพิ่มขึ้นของการเปลี่ยนแปลงสภาพสิ่งแวดล้อมที่ซับซ้อน นวัตกรรมที่พัฒนาอย่างต่อเนื่องที่ธุรกิจสามารถสรรหามาพัฒนาองค์กร รูปแบบของภาวะผู้นำมีบทบาทสำคัญในการชี้แนะแง่มุมทางธุรกิจขณะที่ลูกจ้างเป็นผู้ดำเนินงานของธุรกิจ การผสมผสานของนายจ้างและลูกจ้างเป็นสิ่งสำคัญในการบรรลุเป้าหมายของธุรกิจ

การวิจัยครั้งนี้มีวัตถุประสงค์คือ 1. เพื่อศึกษาผลกระทบของภาวะผู้นำที่ชำนาญทั้งเชิงรุกและเชิงรับที่มีต่อประสิทธิภาพของนวัตกรรม 2. เพื่อศึกษาผลของบรรยากาศแบบองค์กรแห่งนวัตกรรมที่มีต่อประสิทธิภาพของนวัตกรรม ผลการวิจัยชี้ให้เห็นว่าภาวะผู้นำที่ชำนาญทั้งเชิงรุกและเชิงรับมีนัยสำคัญต่อประสิทธิภาพของนวัตกรรม เช่นเดียวกับบรรยากาศองค์กรแห่งนวัตกรรมมีต่อประสิทธิภาพของนวัตกรรม ผลที่ได้นำมาสู่การพัฒนาประสิทธิภาพนวัตกรรมของลูกจ้างโดยที่ต้องตระหนักรู้ถึงข้อดีข้อเสียของภาวะผู้นำในหลากหลายรูปแบบและนำมาใช้ให้เกิดประโยชน์สูงสุด นอกเหนือจากนี้ช่องทางในการสื่อสารองค์กรเป็นเรื่องสำคัญที่จะช่วยให้บรรยากาศในการทำงานแบบองค์กรแห่งนวัตกรรมประสบความสำเร็จ

คำสำคัญ: ambidextrous leadership, open leadership, conservative leadership, organization innovation,innovation performance

Acknowledgment

As I begin this acknowledgment, it also signifies the end of my MA journey and the start of a new chapter in my life. Time flies swiftly; as my two years of graduate studies come to an end, I reflect on the joyous and diligent moments that have distinctly marked my growth, becoming my most treasured assets. At this point of graduation, I extend my sincerest gratitude to all the teachers, classmates, and family members who have supported me.

First and foremost, I would like to thank my thesis advisor, Assist. Prof. Dr. Busarin Detdamrongpreecha, under whose meticulous guidance this research was completed. From selecting the topic, structuring the thesis, and making revisions, to the completion, Dr. Busarin tirelessly devoted precious time out of a busy schedule to communicate with me and offer valuable insights. This has greatly enhanced the quality of my thesis, continuously perfecting it to achieve satisfactory results. I admire their rigorous approach to work and academics. I am deeply grateful for the careful guidance and assistance, which enabled the successful completion of my thesis. I also thank all the teachers who taught various courses during my studies. Their concern and help have made my time at university warm and fulfilling. Their earnest teachings and personal examples have not only helped me complete my academic endeavors but also taught me valuable life lessons.

Secondly, I thank my MA classmates who shared these two years with me. As we each go our separate ways after graduation, I wish everyone a future as splendid as brocade. I am grateful for the companionship of my friends throughout the two years of MA studies. Growing together with them, encountering, and knowing each other has been my good fortune. I wish them all peace and joy! May we continue to thrive and embark on new chapters after graduation!

Lastly, I express my deepest appreciation to my beloved family for their care, help, and support. During my moments of vulnerability and sadness, they provided patient and gentle care, offering strength and warmth in my life, and serving as my role models and motivation. My family is my strongest support system. I wish my family happiness, health, and fulfillment every day! I hope to make them proud in the

days to come.

Zhou Hong

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Chapter 1
Introduction

This chapter has introduced the concepts of ambidextrous leadership, organizational innovation climate, and innovation performance, setting the stage for the study. It has outlined the research objectives and questions this study aims to address. Additionally, the chapter presents the research conceptual framework that will be used to investigate the relationships between ambidextrous leadership, organizational innovation climate, and innovation performance.

1.1 Research Background and Rationale

Since 2022, the global economy has been further exacerbated by systemic risks due to uncertainties in economic policies, energy crises, inflation, demographic trends, macroeconomic policies, climate change, and carbon emissions, individually or in combination. It has become urgent and necessary for enterprises to identify their systemic risks, take effective measures to prevent and manage these risks and enhance their adaptability and resilience to proactively address them.

In 2023, China's economic recovery prospects are optimistic. The growth in consumer demand is expected to be the main driver of China's economic expansion. However, achieving sustainable development remains a complex and daunting challenge against the backdrop of a global focus on sustainability.

In the context of a market economy, industrial competition is becoming increasingly fierce, and product updates are accelerating. Innovation is not only a primary means for enterprises to maintain a competitive edge in the market, but it is also crucial for their survival and development. On one hand, enterprises need the flexibility to adapt to the rapidly changing industrial environment, continuously learn cutting-edge industry knowledge and skills, and explore new markets and products for long-term expansion and development goals. On the other hand, stability is required to consolidate existing knowledge and skills, and deeply explore the potential of existing markets and products to ensure short-term profits. Employee innovation serves as the foundation of corporate innovation, and with time, a certain

amount of employee innovation can bring about high-quality changes, revitalizing the company and infusing it with vitality. The issue of identifying effective factors to stimulate employee innovation and enhance their innovative learning activities has attracted extensive attention from researchers and businesses today.

The development of the social economy and the enhancement of productivity cannot be separated from the drive for innovation, which also provides an engine for the enhancement of comprehensive national power and corporate competitiveness. Luo et al. (2016) pointed out that as a crucial driving force of national operations, enterprises' innovative capabilities lead to social progress and development. Wang (2018) argued that employees, as the main force of enterprise development, are the source and foundation of corporate innovation, and a certain level of employee innovation can bring transformative development to the company. The stimulation and enhancement of employee innovative behaviors have become a focal point of interest for both the academic community and businesses.

Yating et al. (2024) indicated that different leadership styles are positively correlated with employees' innovation performance, suggesting that leadership style is an important research variable that directly impacts employee innovation. For instance, Wang and Zhou (2013) confirmed in previous studies the impact of a single leadership style on employee innovative behavior. Moreover, Rosing et al. (2011) argued that a singular leadership approach lacks theoretical guidance for innovation and fails to meet the complex and uncertain requirements of innovation. Ambidextrous leadership, on the other hand, compensates for the limitations of singular leadership by balancing contradictory yet complementary leadership styles. Alghamdi (2018) pointed out that open-conservative ambidextrous leadership combines openness and conservatism, promoting innovation and change while maintaining existing operational efficiency. This ambidextrous leadership style fosters employees' exploratory and exploitative behaviors, thereby enhancing their innovative performance.

Meanwhile, Zhao (2013) noted that an organizational innovation climate fosters a culture and environment that encourages innovation, tolerates failure, and promotes open communication and knowledge sharing. Such a climate stimulates employees'

willingness and ability to innovate, thereby enhancing their innovation performance. Therefore, when studying employees' innovation performance, the organizational innovation climate is also an important research variable.

Therefore, the author's interest in this research stems from the belief that it contributes to a deeper understanding of the relationship between leadership style, organizational innovation climate, and employee innovation performance at both organizational and individual levels. Furthermore, it provides insights into how organizations can enhance employee innovative performance through leadership and cultural interventions.

1.2 Statement of the Problem

Based on the background and theoretical foundations outlined above, the problem statement for this study is as follows:

1. Does ambidextrous leadership have an impact on employee innovation performance? If so, is the impact facilitative or inhibitive? Does this impact vary among different types and regions of enterprises? This question seeks to explore the role of ambidextrous leadership, which combines explorative and exploitative activities, in shaping innovation performance within corporations.

2. Does the organizational innovation climate affect employee innovation performance? If so, is the effect positive or negative? This question aims to determine the influence of the organizational innovation climate, defined as the collective perception of innovation-related phenomena within a company, on its innovation outcomes. It also addresses the nature of this influence, whether fostering or hindering innovation, providing insights into how the internal environment of an organization facilitates or obstructs creative and innovative processes.

1.3 Research Objectives

Objective 1: To investigate the impact of ambidextrous leadership on innovation performance.

Objective 2: To study the impact of organizational innovation climate on innovation performance.

1.4 Research Questions and Hypotheses

1.4.1 Research Questions

1. Is there an influence of ambidextrous leadership on employee innovation performance?

2. Is there an influence of organizational innovation climate on employee innovation performance?

1.4.2 Research Hypotheses

H1: Ambidextrous leadership has a significant positive effect on innovation performance.

H1a: Open leadership has a significant positive effect on innovation performance.

H1b: Conservative leadership has a significant positive effect on innovation performance.

H2: Organizational innovation climate has a significant positive effect on innovation performance.

1.5 Research Contribution

The contribution of this study lies in two main aspects. First, by constructing a theoretical framework involving open-conservative ambidextrous leadership, organizational innovation climate, and employee innovation performance, it provides a more systematic understanding of how open-conservative ambidextrous leadership and organizational innovation climate influence employees' innovative behavior. Second, understanding the impact of open-conservative ambidextrous leadership and organizational innovation climate on employee innovation performance can help organizations develop effective leadership strategies and foster a positive organizational culture, thereby promoting employees' innovative behavior and enhancing the organization's competitiveness and adaptability.

1.6 Scope and Delimitations

1.6.1 Scope of Contents

In this study, the independent variables are ambidextrous leadership and organizational innovation climate, while the dependent variable is innovation performance. The primary focus of the research is to investigate the impact of ambidextrous leadership and organizational innovation climate on the innovation performance of employees in the new energy automobile sector in Xi'an. This study aims to explore how these factors influence the innovative outputs within this specific industrial context, potentially offering insights for enhancing innovation strategies in this rapidly evolving field.

1.6.2 Research Area

Xi'an, China

1.6.3 Time Frame

The research is expected to be conducted during May – June 2024.

1.6.4 Delimitations

Geographical and Contextual Limits

Firstly, this study focuses solely on the impact of ambidextrous leadership and organizational innovation climate on employee innovation performance. Future research could incorporate additional variables to broaden the understanding of what influences employee innovation. Secondly, the current study is limited to employees of new energy automobile companies in Xi'an. Future studies could expand the scope to include employees from similar sectors in other cities, enhancing the generalizability and relevance of the findings across different regional contexts.

1.7 Definition of Key Terms

Ambidextrous Leadership

Ambidextrous leadership refers to the ability to flexibly switch between explorative and exploitative activities, constituted by open and conservative leadership behaviors. The key lies in using paradoxical thinking to manage internal contradictions within the organization (Rosing et al., 2011; Rosing & Zacher, 2017).

Organizational Innovation Climate

Organizational innovation climate refers to the perception of organizational members in innovative-capable organizations towards systemic processes, managerial styles, and other environmental factors (Amabile, 1996).

Innovation Performance

Innovation performance refers to the proficiency of employee behaviors designed to achieve innovative outcomes, including the generation and implementation of novel and useful ideas (Rosing & Zacher, 2017).

1.8 Summary

1.8.1 Recapitulation of Key Points

This study, in the context of China, begins by investigating how to improve the innovation performance of corporate employees through the relationship between "openness-conservativeness" ambidextrous leadership and innovation performance. This approach enriches and refines the research on the relationship between "openness-conservativeness" ambidextrous leadership and innovation performance.

Additionally, this study explores the impact of organizational innovation climate on innovation performance, examining the topic from both cultural and institutional perspectives. The aim is to fully leverage the role of organizational culture and promote the improvement of institutional structures. This approach provides a new perspective for the study of employee innovation performance, suggesting ways in which the nuanced interplay of culture and formal systems can be harnessed to foster an environment conducive to innovation.

1.8.2 Transition to the Literature Review

This chapter provides a statement on the theoretical background of the three variables: ambidextrous leadership, organizational innovation climate, and innovation performance. The subsequent chapter will involve a literature review and synthesis concerning these three variables. This will include defining each variable, discussing methods to measure them, and exploring the relationships among them. This process will lead to the formulation of research hypotheses relevant to this study.

Chapter 2
Literature Review

This chapter conducts a literature review of the variables relevant to the study, providing definitions for each, discussing how they are measured, and examining the relationships between them.

2.1 Overview of Ambidextrous Leadership: Open and Conservative Leadership

2.1.1 Concept of Ambidextrous Leadership

Most scholars define ambidextrous leadership from the perspectives of capability and behavior. Rosing et al. (2011) and Rosing and Zacher (2017) describe ambidextrous leadership as the ability to flexibly switch between exploratory and exploitative activities, comprising both open and conservative leadership behaviors. The essence lies in using paradoxical thinking to manage internal organizational conflicts. Martin et al. (2013) view ambidextrous leadership as a combination of "leader control" and "employee participation," formed by empowering and directive leadership dimensions, emphasizing both autonomous management by employees and the setting of frameworks by leaders. Similarly, Zhang et al. (2015) from a behavioral perspective, see ambidextrous leadership as exhibiting contradictory yet interrelated leadership behaviors to meet competitive organizational needs and foster dynamic and synergistic development of conflicts, measuring this with a paradoxical leadership behavior scale. Kauppila and Tempelaar (2016) believe that ambidextrous leadership involves expressing high performance expectations while providing ample managerial support to employees.

2.1.2 Open and Conservative Ambidextrous Leadership

Generally, any pair of contradictory leadership styles can constitute "ambidextrous leadership." For instance, Luo et al. (2016) discuss transformative and

transactional styles, Rosing and Zacher (2017) consider open and conservative styles, Mai et al. (2017) discuss humble and narcissistic styles, and Hou et al. (2019) consider benevolent and authoritarian styles. However, in real organizational or business contexts, the open and conservative leadership styles are the most common and characteristic forms of ambidextrous leadership. Thus, this study focuses on this typical combination for research.

Open leadership style typically refers to leaders who possess traits that allow mutual enhancement of work maturity and motivation with employees, comprising elements of personal influence, motivation triggering, intellectual stimulation, and personalized care. Open leaders often enhance employee work morale and initiative through their charismatic influence, fostering an organizational vision and empowering work environment, thereby significantly unlocking employee potential and creating a mutually respectful and caring atmosphere that aligns with strategic business objectives.

Conservative leadership style typically refers to a form of "exchange" between leaders and employees that constructs their workplace relationship. Leaders use rewards or punishments based on employees' creative contributions to the organization, aiming to motivate employees primarily by focusing on task performance and neglecting the impact of innovation on the business. They tend to use a "carrot and stick" approach to improve organizational performance targets and anticipate employee feedback behaviors, essentially forming a transactional exchange between leader and employee.

2.1.3 Related Research on Ambidextrous Leadership

Luo et al. (2016) argues that the combination of open and conservative leadership positively impacts team innovation capabilities. Open leadership encourages employees to break away from old systems and "try new things," enhancing their pioneering abilities and willingness to provide ample thinking space and flexible learning opportunities. This approach effectively stimulates creativity, offering a safe space for error with encouragement to learn from failures and setbacks, thus significantly enhancing the organization's innovation capacity.

Conversely, conservative leadership tends to adhere to established plans and rely on fixed rules, focusing on ensuring the achievement of team objectives. This style demands that employees deepen their understanding of existing technologies and market dynamics, focusing on the effectiveness of innovative behaviors and the efficiency of innovation activities. Conservative leaders correct employees' errors in a timely manner according to standards, aiming to ensure the effectiveness and predictability of team innovation.

This study focuses on the typical "open-conservative" ambidextrous leadership style to explore its mechanisms affecting innovation performance, thereby enriching the research perspectives in the "ambidextrous" field, specifically through empirical research on the relationship between open and conservative ambidextrous leadership and innovation performance.

2.2 Overview of Organizational Innovation Climate

2.2.1 Concept of Organizational Innovation Climate

The concept of organizational innovation climate has long been studied, with various scholars contributing to its definition. Anderson and West (1996), from a behavioral perspective, defines organizational innovation climate as members' perceptions of their organizational environment that influence their efficiency in innovation. Amabile (1996) view it from the perspective of organizational members' subjective perceptions, defining it as the recognition by members within innovative-capable organizations of systemic processes and managerial styles, among other environmental factors. Gu et al. (2014) consider it a measurable trait within the organizational environment that can influence employee innovative behavior, which can be directly or indirectly perceived by organizational members through teamwork cooperation and environmental freedom. Yuan et al. (2015) proposes that organizational innovation climate is a special relationship established through the interaction and impact between employees and their environment.

Based on the research of many scholars, this study defines organizational innovation climate as the perception of a series of phenomena related to organizational innovation characteristics within a company, influencing members'

motivation to advance the overall learning process and innovative behaviors, ultimately positively impacting corporate performance.

2.2.2 Measurement of Organizational Innovation Climate

As research has evolved, more scholars are adopting a multifactorial research paradigm for measuring organizational innovation climate. Widely used scales include KEYS, TCI, and SOQ. The TCI scale, designed by Anderson and West in 1996, is the most utilized, followed by Amabile's KEYS scale developed in 1996, which has been repeatedly used in business environments. In China, where research started later, Chinese scholars have developed their scales based on existing ones. Representative scholars like Zheng et al. (2009) have revised scales that are widely used and have good reliability and validity. Ran et al. (2017) developed a specific scale for measuring the innovation climate in SMEs using grounded theory analysis, including dimensions such as entrepreneurial support for innovation, innovation systems, organizational learning, cohesion, and vision.

2.2.3 Related Research on Organizational Innovation Climate

To gain a competitive advantage in fierce market competition, enterprises have embarked on the path of innovation, highlighting the importance of innovation for businesses. In recent years, there has been a surge in research on organizational innovation climate worldwide. Research literature primarily focuses on the impact of organizational innovation climate on employee innovation from both individual and organizational levels, where it plays a significant role:

Individual Level:

On one hand, the organizational innovation climate affects employee psychology. Research by Chen (2006) shows that organizational innovation climate impacts employee psychology. The study of Lian (2013) indicates a positive correlation between organizational innovation climate and employees' internal motivation. Liu (2018) explored the relationship between organizational innovation climate and psychological safety.

On the other hand, the organizational innovation climate also influences whether employees in a company are creative. Zhou and George (2001) argued that equating employee creativity merely with individual creativity is clearly biased; if creative ideas cannot ultimately be transformed into innovative behaviors, they are in vain. Scott and Bruce (1994) considered the organizational innovation climate a "direct inducement" that can stimulate employees' creative behaviors. In an organizational environment rich in innovation climate, employees unconsciously generate innovative ideas and engage in innovative actions. Conversely, if an environment lacks an encouraging atmosphere for innovation, employees will not be motivated to innovate, nor will they produce any creative outputs. The innovative behaviors of employees that businesses focus on mostly occur in organizational environments with an innovative atmosphere (Zheng et al., 2009).

Organizational Level:

Sui et al. (2012) found through empirical research that organizational innovation climate is significantly positively correlated with team innovation. Moreover, the results of most scholars' studies indicate that organizational performance can be scientifically predicted through the organizational innovation climate. Amabile (1988) considers the work environment a crucial antecedent variable that significantly affects organizational innovation performance. This demonstrates that the organizational innovation climate not only functions at the individual level but also promotes the generation of organizational innovation behaviors from a broader perspective, making it a key factor in achieving organizational innovation performance.

Therefore, studying the organizational innovation climate is a critical and challenging task for businesses. It influences employee creativity at the individual level and further impacts the entire enterprise's creative output, helping businesses enhance their innovation performance and secure a favorable position in the competitive market.

2.3 Innovation Performance

2.3.1 Concept of Innovation Performance

As technological advancements, market globalization, and increased business competition become more pronounced, organizational dynamics and the nature of work have evolved to emphasize autonomy and creativity, leading to the concept of employee innovation performance. Amabile (1993) defines employee innovation performance as the quantification of creative ideas into tangible, valuable outcomes and solutions. Janssen and Van Yperen (2004) consider it as the employee's conscious efforts to generate, promote, and realize ideas that are novel and beneficial to role performance, work teams, or the organization. Han (2011) views employee innovation performance as a process that goes beyond performance outcomes themselves, characterized by continuously enhancing one's competitiveness through knowledge sharing. Rosing and Zacher (2017) describe it as the behavior intentionally designed by employees to achieve innovative outcomes, improving the skill of generating and implementing innovative ideas through ongoing optimization.

2.3.2 Measurement of Innovation Performance

In the history of researching innovation performance, scholars have proposed different perspectives and varied methods for measuring it. Some scholars believe that the measurement of innovation performance should be result-oriented, focusing on the outcomes of innovation. Others argue that innovation performance should not only consider outcomes but also the value created by employees in the process of producing innovative results. This reflects the complexity of measuring innovation performance and indicates that there is no widely accepted standard for its measurement within the academic community.

From an organizational perspective, many scholars believe that the measurement of innovation performance should revolve around the process of new product development. This includes metrics such as the number of new products, the speed of product upgrades, success rates, and the proportion of patent applications (Cetindamar & Ulusoy, 2008; Zhu, 2008; Zhang & Duan, 2010).

On the individual level, innovation performance measurement is mainly based on self-reporting methods. For example, Scott and Bruce (1994) measure employee innovation behavior through nine questions covering three aspects: generation of

innovative ideas, enhancement of innovative ideas, and realization of innovative ideas. Zhou and George (2001) created a questionnaire consisting of 13 items to measure creativity in employees' work. Janssen and Van Yperen (2004) developed a 9-item scale based on the theory of innovation levels to measure employee innovation performance, which has been widely recognized and applied due to its good reliability and validity. Chinese scholars have also conducted extensive research on measuring innovation performance; for instance, Han et al. (2007) adapted Janssen and Van Yperen's scale to include three dimensions—innovation willingness, innovation action, and innovation results—comprising eight items in total. This scale has also been widely used by scholars.

However, studies have found that there is a high correlation among the various dimensions of innovation performance. As a result, many scholars recognize innovation performance as a unidimensional variable. In specific research, they use only the items without distinguishing between dimensions.

2.3.3 Related Research on Innovation Performance

A review of existing literature reveals that academic studies often treat employee innovation performance as an outcome variable, with numerous studies exploring its antecedents and relatively fewer examining its consequences. Antecedents include both organizational and individual-level factors. At the organizational level, researchers have focused on aspects such as leadership style, team relationships, and organizational culture. For instance, Tu and Yang (2020) discovered that different types of team conflicts have varying impacts on the innovation performance of knowledge workers. He (2017) noted that differences in organizational culture affect employee innovation performance differently; vibrant and market-oriented cultures enhance it, while hierarchical cultures may have a negative impact.

From an individual perspective, factors such as self-perception, personality traits, and motivational behaviors can impact innovation performance. Pan (2020) argues that an employee's sense of innovation self-efficacy is a key factor in achieving innovation performance. Li (2020) found that employees' sense of job flourishing positively influences their innovation performance.

2.4 Conceptual Framework

Figure 2.1 below shows that both ambidextrous leadership (through open and conservative styles) and a positive organizational innovation climate contribute to improved innovation performance. The hypotheses (H1a, H1b, and H2) indicate positive relationships between these constructs.

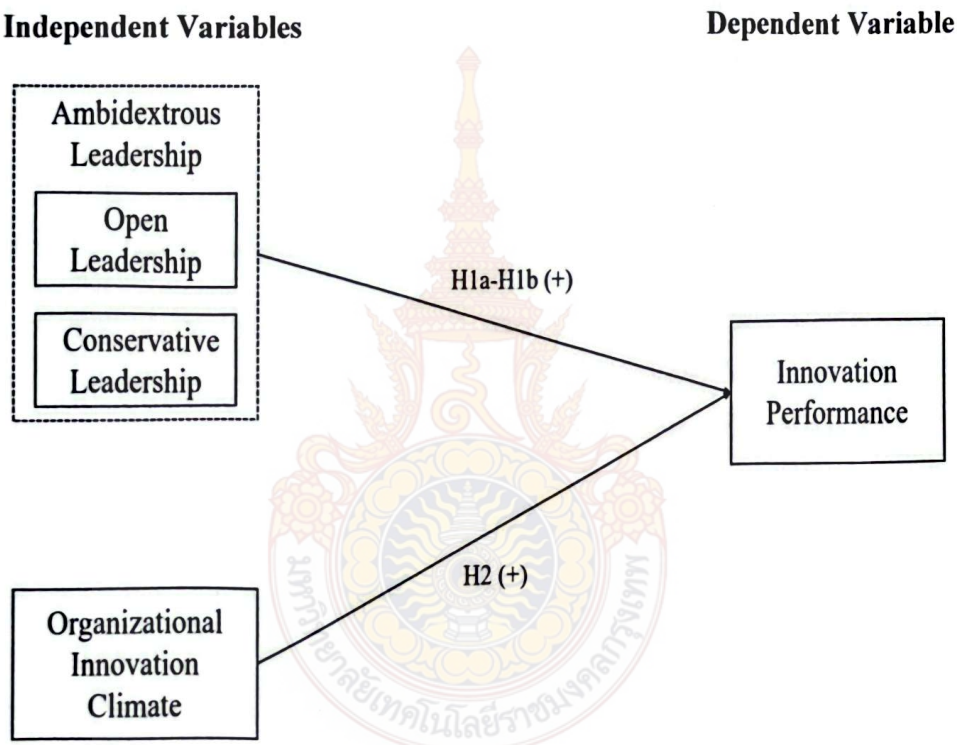

Figure 2.1 Conceptual Framework of Research

Chapter 3
Research Methodology

To address the two research questions posed in this study: 1. Was there an influence of ambidextrous leadership on employee innovation performance? 2. Was there an influence of organizational innovation climate on employee innovation performance? A quantitative research approach was adopted, utilizing a survey questionnaire for data collection. This chapter provided a detailed explanation of the selection of research subjects and the methods used for data collection. It concluded by describing the data analysis techniques that were employed in this study. The structure of this chapter was as follows:

3.1 Population and Sample

The population of this study was employees in the new energy vehicle enterprises in Xi'an, the total number was 490,000 employees. So, the sample of this study was selected from employees in the new energy vehicle enterprises in Xi'an.

3.2 Sample Size Determination

Because the total number of the population of employees in the new energy vehicle enterprises in Xi'an was 490,000 employees, the sample size required in this study could be calculated by formula. To calculate the minimum sample size for the study, the following formula could be used for a proportion-based sample size calculation, as suggested by Israel (1992):

$$n = \frac{N \times Z^2 \times p \times (1-p)}{e^2 \times (N-1) + Z^2 \times p \times (1-p)}$$

Where: n = required sample size, N = population size (490,000 in this case), Z = Z-score corresponding to the desired confidence level ((typically 1.96 for a 95% confidence level), p = estimated proportion of the population (commonly used value is 0.5 for maximum variability), e = margin of error (precision level, typically 0.05 for ±5%).

Now, calculated the value of the study:

$$n = \frac{490{,}000 \times 1.96^2 \times 0.5 \times (1 - 0.5)}{0.05^2 \times (490{,}000 - 1) + 1.96^2 \times 0.5 \times (1 - 0.5)}$$

Therefore, utilizing this formula, the minimum sample size required for the study was 384 employees. This sample size ensures a ±5% margin of error at a 95% confidence level.

3.3 Research Instruments

This study utilized four measurement tools: an Open Leadership Scale, a Conservative Leadership Scale, an Organizational Innovation Climate Scale, and an Innovation Performance Scale. The Open Leadership Scale was adapted from a scale by Xu (2013) and includes 7 items; the Conservative Leadership Scale was revised based on a scale provided by Doll and Torkzadeh (1988), also including 7 items; the Organizational Innovation Climate Scale was adapted from a scale by Tangney and Boone (2004), containing 10 items; and the Innovation Performance Scale was adapted from a scale by Cheng (2015), including 10 items. All these scales employ a Likert five-point scoring method, where the degree of agreement for each item increases from 1 (strongly disagree) to 5 (strongly agree), scoring from 1 to 5 points accordingly.

Construction of Research Instruments

In this study, data will be collected using the simple random sampling method. Simple random sampling, also known as pure random sampling, is the most basic form of probability sampling. It involves randomly selecting n elements from a population containing N elements ($N > n$), based on the principle of equal probability. The core principle is to ensure that every member of the sample has an equal chance of being selected. This means that the probability of any member being chosen is equally likely, which helps the sample to better represent the entire population. Consequently, the conclusions and inferences drawn from the sample are more reliable and generalizable.

Research Instruments Measurements: Validity and Reliability

Reliability Analysis

In this study, SPSS 27.0 and Mplus 7 were used to verify the reliability of the questionnaire. Reliability is used to measure whether the data are consistent, stable, and reliable. This is assessed using Cronbach's Alpha coefficient; generally, a coefficient value greater than 0.7 indicates good reliability for the sample.

Validity Analysis

Validity analysis tests the degree to which a scale measures the theoretical concept or trait it purports to measure. Construct validity is assessed through convergent validity and discriminant validity:

Convergent Validity: This is verified by three indicators: the standardized factor loadings of the items, the average variance extracted (AVE), and the composite reliability (CR) of the variables. According to Lam's research, factor loadings greater than 0.5, AVE values greater than 0.36, and CR values greater than 0.7 indicate that the research model's convergent validity is acceptable.

Discriminant Validity: Although not detailed here, it typically involves comparing the AVE of each construct with the square of the correlation coefficients between the constructs. Discriminant validity is established when the AVE of each construct is greater than the square of the correlation between that construct and any other construct.

These statistical measures ensure that the instrument not only measures what it intends to measure with consistency but also that it does so distinctively from other variables in the study.

3.4 Data Collection

This research utilized a questionnaire survey technique, employing Wenjuanxing, a popular online crowdsourcing platform in mainland China, to pose questions to participants and gather the final data. The distribution and collection of this survey will be conducted online. The target demographic for this study includes employees from new energy vehicle companies located in Xi'an, China. The questionnaire will be distributed to these employees, with specific screening criteria in place to enhance the validity of the responses.

The study focuses on three primary variables: ambidextrous leadership, organizational innovation climate, and innovation performance, which will all be reported by the employees. This direct approach simplifies the distribution of the questionnaire. To maintain the consistency and reliability of the data, responses will be collected anonymously, and participants will be assured of the strict confidentiality of their information.

The questionnaire is divided into three sections. The initial section provides an introduction that outlines the survey's objectives and reassures participants of the anonymous nature of the study. The second section gathers demographic details such as gender, marital status, education, age, job level, type of company, and years of employment. The final section assesses the core research variables, examining the levels of ambidextrous leadership, feelings of organizational innovation climate, and innovation performance among the employees.

3.5 Data Analysis

Statistical Analysis Techniques: This research will employ SPSS 27.0 and Mplus 7 software for data analysis, covering two critical dimensions:

1) Correlation Analysis: This method will be used to explore the relationships among the key variables: ambidextrous leadership, organizational innovation climate, and innovation performance. And to determine the strength of these relationships. Pearson correlation will be the technique of choice for this analysis.

2) Path Analysis: This study will use Mplus7.0 to conduct structural equation analysis. Path analysis of latent variables will be used to evaluate and verify the hypothesis.

These analytical methods will provide a comprehensive view of the data and support the conclusions drawn from this research.

3.6 Pilot Survey

Although the questionnaire for this study was developed through a literature review and by referencing established scales from previous research, the reliability and validity of the modified questionnaire could not be fully ensured. Consequently,

after initially finalizing all the questionnaire content, a pilot survey was conducted. To ensure the content and face validity of the measurement items, this study invited three experts and scholars in related fields to evaluate the questionnaire's item consistency index (IOC). They evaluated all items in the questionnaire and gave item ratings of 1 (conform to the measurement), -1 (do not conform to the measurement), or 0 (questionable). The IOC index of the questionnaire in this study was 1.00 in each aspect. As shown in Table 3.1.

Table 3.1 IOC Evaluation Form for Questionnaire Items

		Ambidextrous Leadership	Item score
Open Leadership	1	My leader supports subordinates in using different methods to complete work.	1
	2	My leader encourages subordinates to experiment with different ideas.	1
	3	My leader is willing to take risks.	1
	4	My leader provides subordinates with opportunities for independent thinking and action.	1
	5	My leader allows subordinates to express their own opinions.	1
	6	My leader permits subordinates to make mistakes.	1
	7	My leader encourages subordinates to learn from their mistakes.	1
Conservative Leadership	8	My leader often monitors and controls the achievement of goals.	1
	9	My leader adheres to established standard procedures or routines.	1
	10	My leader frequently corrects subordinates' ideas or practices.	1
	11	My leader monitors subordinates' compliance with regulations.	1

1 2	My leader emphasizes completing tasks according to uniform standards.	1
1 3	My leader punishes subordinates' incorrect behaviors or propositions.	1
1 4	My leader insists on executing tasks according to the plan.	1

	Organizational Innovation Climate	Item score
1	The work environment fosters a culture that encourages innovation.	1
2	The work environment is conducive to inspiring innovation and creativity.	1
3	There is good interpersonal communication and relationships among colleagues in the company.	1
4	I frequently receive support and recognition from other colleagues.	1
5	Team leaders encourage me to be creative and to adopt new, more effective methods.	1
6	Team leaders possess strong communication and coordination skills.	1
7	Team leaders respect different opinions and suggestions.	1
8	Team leaders trust the work abilities of subordinates and delegate appropriately.	1
9	Team leaders respect and support my creativity in the workplace.	1
10	There is room for me to freely express my ideas in my work.	1

	Innovation Performance	Item score
1	Employees provide new ideas to improve the current situation.	1
2	Employees actively support innovative ideas.	1
3	Employees seek new work methods through learning.	1
4	Employees acquire new skills or tools through learning.	1

5	Employees propose innovative solutions through learning.	1
6	Employees enhance work efficiency through innovative learning.	1
7	Employees transform innovative ideas into practical actions.	1
8	Employees systematically incorporate innovative concepts into their work.	1
9	Employees' innovative achievements receive recognition from their superiors.	1
10	Employees influence other members of the organization to prioritize enhancing innovative thinking.	1

3.7 Demographic Details of Samples

Table 3.2 Basic Demographic Information of Survey Participants

Variable	Group	Frequency	Percentage
Gender	Male	214	52.8
	Female	191	47.2
Age	Below 25	36	8.9
	26-30	85	21.0
	31-35	128	31.6
	36-44	116	28.6
	Above 45	40	9.9
Education	High School or Below	31	7.6
	Associate Degree	75	18.5
	Bachelor's Degree	124	30.6
	Master's Degree	132	32.7
	Doctoral Degree	43	10.6
Work Experience	1 Year or Less	42	10.4
	1-3 Years	89	22.0
	3-5 Years	189	46.6

	5-10 Years	60	14.8
	Over 10 Years	25	6.2
Company Type	State-owned Enterprise	121	29.9
	Private Enterprise	185	45.6
	Foreign-owned Enterprise	65	16.1
	Other	34	8.4
Job Level	Senior Management	116	28.8
	Middle Management	176	43.5
	Junior Management	64	15.6
	Staff	49	12.1

From the table 3.2 above, it can be observed that males constitute 52.8% and females 47.2% of the participants, suggesting a balanced gender distribution in the sample. In terms of age, the 31-35 age group is predominant, which aligns with the typical career stage of enterprise management staff, thus justifying its proportion in the study. Education-wise, the largest group holds a master's degree followed by bachelor's degree holders. Regarding work experience, the 3-5 year group dominates, reflecting the typical educational and experiential background of Chinese enterprise managers. In terms of company type, private companies form the largest group followed by state-owned enterprises. Regarding job levels, middle management is the most common, followed by senior management positions.

Following the return of the questionnaires, a common method bias test was conducted initially. All items of the questionnaire were subjected to an exploratory factor analysis to observe the contribution of the first factor's variance. A high percentage would indicate a common method bias. The results showed the first factor's variance contribution was 38.326%, which is below 40%, indicating no significant common method bias in the study's results.

Chapter 4
Research Results

This chapter of the research involves data analysis using statistical software SPSS 27.0 and Mplus 7 to analyze the collected data from 405 respondents. To answer research questions, the analyses conducted include reliability and validity analysis, confirmatory factor analysis, correlation analysis, and path analysis to test the theoretical hypotheses and model.

4.1 Reliability Analysis

In this study, the statistical software Mplus 7.0 was used to analyze the measurement model. The measurement model evaluates whether each item sufficiently reflects its construct. The study examined the reliability and validity of the scales through Confirmatory Factor Analysis (CFA).

For reliability, the study employed Cronbach's alpha and Composite Reliability (CR) measures. A higher Cronbach's alpha indicates a higher reliability of the scale. Composite Reliability (CR) is an indicator of the inter-item correlation and can be considered a measure of internal consistency. Generally, it is accepted that Cronbach's alpha and Composite Reliability values above 0.7 are considered acceptable (Nunnally & Bernstein, 1994). According to the results shown in Table 4.2, the Cronbach's alpha values for each variable range between 0.79 and 0.99, and the Composite Reliability (CR) values range between 0.89 and 0.93, indicating good reliability of the study variables and good internal consistency among the measurement items.

Table 4.1 The Reliability Analysis of Each Measurable Variable

Dim.	Item	CR	Cronbach's α
OL	OL1	0.91	0.86
	OL2		0.91
	OL3		0.86
	OL4		0.88

	OL5		0.92
	OL6		0.94
	OL7		0.94
CL	CL1	0.93	0.91
	CL2		0.94
	CL3		0.92
	CL4		0.82
	CL5		0.94
	CL6		0.88
	CL7		0.96
OIC	OIC1	0.89	0.99
	OIC2		0.79
	OIC3		0.86
	OIC4		0.91
	OIC5		0.86
	OIC6		0.88
	OIC7		0.91
	OIC8		0.92
	OIC9		0.87
	OIC10		0.93
IP	IP1	0.91	0.92
	IP2		0.89
	IP3		0.91
	IP4		0.89
	IP5		0.96
	IP6		0.95
	IP7		0.89
	IP8		0.87

	IP9	0.94
	IP10	0.96

4.2 Validity Analysis

In this study, validity was assessed through convergent and discriminant validity. According to Anderson & Gerbing (1988), all items' standardized factor loadings should exceed 0.5 and be statistically significant to indicate good convergent validity. Table 4.3 shows that all items' standardized factor loadings range between 0.68 and 0.98, with each measurable variable achieving significance, demonstrating good convergent validity for the research variables.

For discriminant validity, Fornell & Larcker (1981) suggested that the square root of the Average Variance Extracted (AVE) for each latent variable should be greater than its correlation coefficient with any other construct. According to the results in Table 4.3, the square roots of the AVEs for the variables in this study range from 0.73 to 0.86, indicating good discriminant validity among the constructs. This meant that each construct was adequately distinguished from others, supporting the specificity of the measures used in this study.

Table 4.2 The Convergent Validity Analysis of Each Measurable Variable

Dim.	Item	Mean	Factor loading	*P*-Value	AVE
OL	OL1	3.91	0.86	***	0.73
	OL2	3.83	0.91	***	
	OL3	3.90	0.86	***	
	OL4	3.93	0.77	***	
	OL5	4.20	0.92	***	
	OL6	4.18	0.94	***	
	OL7	4.21	0.93	***	
CL	CL1	4.22	0.91	***	0.86
	CL2	4.27	0.71	***	

	CL3	4.21	0.70	***	
	CL4	4.18	0.69	***	
	CL5	4.21	0.74	***	
	CL6	4.13	0.68	***	
	CL7	4.13	0.96	***	
OIC	OIC1	4.10	0.98	***	0.75
	OIC2	3.97	0.79	***	
	OIC3	4.08	0.77	***	
	OIC4	4.05	0.84	***	
	OIC5	4.06	0.77	***	
	OIC6	4.05	0.74	***	
	OIC7	4.09	0.75	***	
	OIC8	4.16	0.68	***	
	OIC9	4.04	0.75	***	
	OIC10	4.10	0.71	***	
IP	IP1	4.04	0.73	***	0.73
	IP2	4.15	0.87	***	
	IP3	4.21	0.83	***	
	IP4	4.24	0.75	***	
	IP5	4.10	0.69	***	
	IP6	3.96	0.79	***	
	IP7	4.00	0.81	***	
	IP8	4.03	0.78	***	
	IP9	4.21	0.92	***	
	IP10	4.32	0.91	***	

***p=<0.001

4.3 Correlation Analysis

As shown in Table 4.4, the correlation coefficients among the four latent variables discussed in this study, under the control of controlled variables, are all below 0.7. This indicated that while there is a certain degree of association among the variables, there was no issue of multicollinearity. This finding suggested that while the variables were related, each retained sufficient statistical independence to be distinguished from one another in analyses, avoiding potential issues in interpretation that multicollinearity could cause. This allowed for more reliable testing of the hypotheses and theoretical models presented in the study.

Table 4.3 Correlation Analysis

	OL	CL	OIC	IP
OL	1			
CL	0.639	1		
OIC	0.622	0.643	1	
IP	0.631	0.637	0.635	1

4.4 Hypothesis Testing

There were two research questions in the study: 1) Was there an influence of ambidextrous leadership on employee innovation performance? 2) Was there an influence of organizational innovation climate on employee innovation performance? After analyzing the data, the results of these two research questions are as follows:

Following the path analysis between observed variables and latent variables using Mplus, the results of two research questions as shown in this study were displayed in Table 4.4. The results indicated that the unstandardized regression estimates for the variables were significant. For instance, the impact of open leadership on innovation performance ($\beta = 0.61$, $t = 15.25$, $p < 0.01$) supported Hypothesis H1a, demonstrating a significant positive effect of open leadership on innovation performance. Similarly, conservative leadership on innovation performance ($\beta = 0.67$, $t = 13.4$, $p < 0.01$) supported Hypothesis H1b, indicating a

significant positive effect of conservative leadership on innovation performance. Hence, Hypothesis H1 is confirmed.

Moreover, organizational innovation climate significantly influenced innovation performance ($\beta = 0.75$, $t = 10.71$, $p < 0.01$), supporting Hypothesis H2. The results shown that the variables' contribution to the overall model's explained variance (R^2) were as follows: open leadership ($R^2 = 0.72$), conservative leadership ($R^2 = 0.69$), and innovation performance ($R^2 = 0.64$). The explained variances for these three latent dependent variables were all above 0.34, indicating that the research model has strong explanatory power.

Table 4.4 Research Model Hypothesis Analysis

DV	IV	Std. Est.	S.E.	Est./S.E.	*P*-Value	R^2	Hypo
IP	OL	0.61	0.04	15.25	***	0.72	Supported
	CL	0.67	0.05	13.4	***	0.69	Supported
	OIC	0.75	0.07	10.71	***	0.64	Supported

***=p<0.001

This table summarized the significant positive impacts of open leadership, conservative leadership and organizational innovation climate on innovation performance, affirming the theoretical framework and the effectiveness of the ambidextrous leadership and innovation climate in enhancing innovation performance within organizations.

Chapter 5
Conclusion, Discussions and Recommendations

This chapter first concludes the research findings of this study, then discusses the research findings with previous studies, and finally presents the limitations and implications of this study along with recommendations for future research prospects.

5.1 Conclusion of Finding

This study tested two hypotheses, both of which were supported. Below is a systematic analysis of the test results for each hypothesis in this study:

1. Ambidextrous leadership has a significant positive impact on innovation performance.

According to the data analysis, the standardized path coefficient for the open leadership on innovation performance is 0.61, with a *P*-value of less than 0.001, indicating a significant path coefficient. Therefore, the open leadership has a significant positive impact on innovation performance, verifying hypothesis H1a. This result is consistent with previous literature (Luo et al., 2016). The findings suggest that open leadership encourages employees to try new things, enhances their pioneering capabilities, and is willing to provide ample thinking space and flexible learning opportunities. This approach effectively stimulates creativity by providing a safe space for mistakes, encouraging employees to learn from failures and setbacks, thereby significantly enhancing the organization's innovative capacity.

The standardized path coefficient for the conservative leadership on innovation performance is 0.67, with a *P*-value of less than 0.01, indicating a significant path coefficient. Therefore, the conservative leadership has a significant positive impact on innovation performance, validating hypothesis H1b. This result is also consistent with previous literature (Luo et al., 2016), suggesting that conservative leadership tends to follow established plans and focuses on ensuring the achievement of team goals. This leadership requires employees to deepen their understanding of existing technologies

and market dynamics, focusing on the effectiveness of innovative behaviors and the efficiency of innovation activities. Therefore, conservative leadership promptly corrects employees' mistakes according to standards, ensuring the effectiveness and predictability of team innovation.

2. Organizational innovation climate has a significant positive impact on innovation performance.

According to the data analysis, the standardized path coefficient for the organizational innovation climate on innovation performance is 0.75, with a *P*-value of less than 0.001, indicating a significant path coefficient. Therefore, the organizational innovation climate has a significant positive impact on innovation performance, confirming hypothesis H2. This result is consistent with previous literature (Amabile, 1989; Sui, 2012). Research indicates that the organizational innovation climate affects individual employees' creativity, thereby impacting the entire enterprise's creative output and helping the enterprise enhance its innovation performance.

5.2 Discussions

The present study examined the impact of ambidextrous leadership and organizational innovation climate on innovation performance. The findings confirmed that both open and conservative leadership positively influence innovation performance. Additionally, a supportive organizational innovation climate enhances innovation outcomes. These results align with previous studies.

Firstly, the positive impact of open leadership on innovation performance aligns with recent research emphasizing the role of leaders in fostering a creative and exploratory environment. Open leadership, characterized by encouraging new ideas, granting autonomy, and supporting risk-taking, has been shown to stimulate employees' innovative capabilities (Zheng et al., 2023; Li et al., 2014). For instance, Zheng et al. (2023) found that leaders who promote openness and flexibility facilitate higher levels of creativity among employees, leading to improved innovation performance.

Secondly, the significant positive effect of conservative leadership on innovation performance supports the notion that structure and focus are essential in the implementation phase of innovation. Conservative leadership involve setting clear goals, monitoring progress, and providing corrective feedback, which ensure that innovative ideas are effectively developed and executed (Luu, 2019; Duan et al., 2023). Recent studies highlight that while exploration is important, exploitation of ideas through disciplined processes is crucial for achieving innovation outcomes. Duan et al. (2023) demonstrated that conservative behaviors help in refining and implementing ideas, contributing positively to innovation performance.

The concept of ambidextrous leadership—where leaders flexibly switch between open and conservative leadership as needed—has gained increasing attention in recent years. Our findings contribute to this growing body of literature by empirically demonstrating that both leadership behaviors positively affect innovation performance when appropriately balanced. This duality allows organizations to adapt to dynamic environments while maintaining operational efficiency (Guerrero, 2021; Zeng et al., 2017). For example, Guerrero (2021) suggested that ambidextrous leadership enhanced employee innovative performance by promoting both exploration and exploitation behaviors.

Furthermore, the study confirms that a supportive organizational innovation climate significantly enhances innovation performance. This finding aligns with recent studies emphasizing the importance of an environment that encourages innovation through support for creativity, availability of resources, and a culture that values innovation (He et al., 2024; Nazir et al., 2016). He et al. (2024) found that an organizational climate conducive to innovation positively impacts employees' innovative behavior, leading to improved organizational innovation performance.

Comparatively, while previous studies have often examined the effects of leadership styles and organizational climate separately, this study integrates these factors to provide a more comprehensive understanding of their combined impact on innovation performance. The results suggest that the interplay between ambidextrous leadership and organizational innovation climate is crucial. Even in a supportive

innovation climate, the absence of ambidextrous leadership may hinder the full realization of innovation potential (Jiang & Chen, 2018).

However, the study's findings differ from some earlier research suggesting that conservative leadership behaviors may negatively impact innovation due to an overemphasis on control and routine (Gong et al., 2012). Results of the study indicate that when balanced with open leadership within a supportive climate, conservative leadership can positively contribute to innovation by ensuring that creative ideas are effectively developed and implemented.

5.3 Limitations

While this research offers valuable insights into how ambidextrous leadership and organizational innovation climate positively impact innovation performance, several limitations should be noted. Firstly, the sample size and demographic scope may limit the generalizability of the findings. If the participants were primarily from a specific industry, sector, or geographic region, the results might not be applicable to other contexts or cultures.

Secondly, the study's cross-sectional design restricts the ability to infer causality between the variables. Longitudinal studies would be more effective in examining how ambidextrous leadership and innovation climate influence performance over time. Thirdly, reliance on self-reported data introduces the possibility of common method bias and social desirability bias, as participants may have unintentionally exaggerated their responses.

Additionally, the study may not have accounted for other factors that could influence innovation performance, such as organizational resources, employee motivation, or external market dynamics. These unmeasured variables might confound the results. Lastly, cultural and organizational contexts were not deeply explored, which could affect the perceptions of leadership and innovation differently across various settings.

5.4 Implications

Theoretical Contributions

This study fills the gap in the contradictory content research in the fields of leadership style and employee innovation. Pierce and Aguinis (2013) consider the concept of "ambidexterity" as a meta-theory with foundational ideas, while Andriopoulos and Lewis (2009) propose that ambidextrous leadership can help enterprises address management issues in real-world scenarios of conflict and contradiction. As "ambidexterity" research continues to gain attention, many psychologists have also begun to focus on it as a hot topic in the field of psychology.

By exploring innovation performance at the individual level, this study not only addresses the current limitations of research predominantly focused on the organizational level but also enriches the theoretical framework related to innovation performance. Previous studies on innovation performance were largely concentrated at the organizational level, achieving a compatible balance through structural diversity or situational diversity. However, both theoretical and empirical studies related to innovation performance are relatively scarce. This research fills this gap and enriches the theories concerning innovation performance, providing insights for future studies on the antecedents, outcomes, and empirical investigations of innovation performance.

Practical Implications

As time progresses, the influence of leadership on employees shows that traditional singular leadership styles are often insufficient to maximize employee engagement. Under a singular leadership approach, employees develop a fixed perception of their leader's consistent style over time. This perception can significantly impact their work behavior as they adjust their performance based on this stable understanding.

5.5 Future Research Directions

While this study has yielded several important conclusions and provided management insights for organizations, there are still areas that are lacking. Here specify these shortcomings and hope that future research will address and improve upon these imperfections.

First, the variable data in this study were all sourced from employee reports.

Although statistical software results indicate no severe common method bias, this cannot be entirely ruled out. Future studies could adopt a multi-source research design to collect data, such as having supervisors evaluate employee innovative performance, to further verify the accuracy of the research. Additionally, the data in this study were collected online, which may lead to some respondents having doubts or misunderstandings about the meaning of survey items during the questionnaire filling process, potentially leading to errors in the research results. Therefore, future data collection should, as much as possible, be conducted on-site to reduce errors. Face-to-face explanations of the questionnaire details at the actual location can help minimize these inaccuracies.

Second, employee performance is not only influenced by different leadership styles but also indirectly affected by human resource management practices. Future research could include these as key situational variables affecting employee work performance and examine the combined impact mechanism of organizational human resource management practices and these factors on employee performance. Regarding the theme of this research, ambidextrous leadership is a soft approach to enhancing employee innovation performance, while innovation-oriented human resource management practices are a hard measure. Whether there is a synergistic effect between the two that jointly influences employee innovation performance could be a direction for future research. This would allow for a more comprehensive and systematic exploration of the factors that induce employee innovation performance.

Third, the relationship and influence process between ambidextrous leadership and innovation performance is complex and variable. This study did not introduce any mediating variables or conduct further expansions. Future research could incorporate more mediating variables to enrich the theoretical model and explore a more in-depth and refined mechanism of action. The relationship between leaders and employees is always in a dynamic and changing environment, and the creative performance of employees is also influenced by various factors. Future researchers could also explore the impact mechanisms of leadership style on innovation performance from multiple levels and perspectives, including individual, team, and organizational.

Fourth, the measurement of variables in this study primarily referenced

established scales from scholars outside of China, with some modifications based on research by Chinese scholars. Although these established scales have good reliability and validity, due to cultural differences, scales developed by scholars outside of China may not be entirely applicable within China. This could lead to potential biases in the research results. Future studies should consider the differences in cultural backgrounds and employee values between China and Western countries. Designing more "localized" measurement scales that better align with the national conditions and corporate culture characteristics of China would help in obtaining more accurate and culturally relevant insights.

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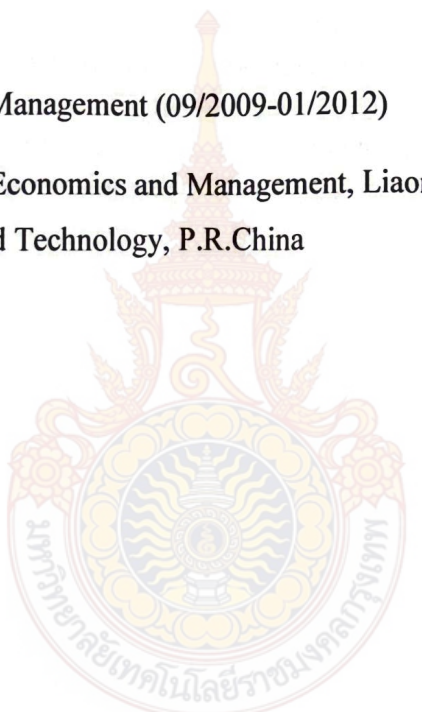

Questionnaire

Dear Sir/Madam,

Thank you very much for participating in this survey. This questionnaire is part of an academic research study aimed at understanding the impact of ambidextrous leadership styles on employee innovation activities. There are no right or wrong answers to any of the questions; please feel free to respond based on your actual experiences and feelings. The survey results will be used solely for research purposes and will be presented only in the form of statistical data, with no personal information being disclosed. To ensure the reliability and quality of the questionnaire, please read each question carefully and answer sincerely. Thank you for your cooperation and assistance.

Part I: Demographics

1. Your Gender

☐[1] Male ☐[2] Female

2. Your Age

☐[1] Below 25 years old ☐[2] 26-30 years old ☐[3] 31-35 years old ☐[4] 36-44 years old

☐[5] 45 years old and above

3. Your Academic Degree

☐[1] High school or below ☐[2] Associate's degree ☐[3] Bachelor's degree ☐[4] Master's degree ☐[5] Doctoral degree

4. Your Years of Work Experience

☐[1] 1 year or less ☐[2] 1-3 years ☐[3] 3-5 years ☐[4] 5-10 years ☐[5] Over 10 years

5. The Nature of Your Enterprise

☐[1] State-owned enterprise ☐[2] Private enterprise ☐[3] Foreign-owned enterprise (including joint ventures) ☐[4] Other

6. Your position level within the enterprise

☐[1] Senior management ☐[2] Middle management ☐[3] Junior management ☐[4] Staff member

Part II: Relevant Scales

Please, based on your understanding and experience, evaluate and judge your direct supervisor and your own subjective consciousness with the following questions. Mark a "√" under the number that best corresponds to your view. The scale is as follows: 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree, 5 for strongly agree.

(1) Question for Ambidextrous Leadership

Variable	No.	Items	1	2	3	4	5
Open Leadership	1	My leader supports subordinates in using different methods to complete work.					
	2	My leader encourages subordinates to experiment with different ideas.					
	3	My leader is willing to take risks.					
	4	My leader provides subordinates with opportunities for independent thinking and action.					
	5	My leader allows subordinates to express their own opinions.					
	6	My leader permits subordinates to make mistakes.					

	7	My leader encourages subordinates to learn from their mistakes.					
Conservative Leadership	8	My leader often monitors and controls the achievement of goals.					
	9	My leader adheres to established standard procedures or routines.					
	10	My leader frequently corrects subordinates' ideas or practices.					
	11	My leader monitors subordinates' compliance with regulations.					
	12	My leader emphasizes completing tasks according to uniform standards.					
	13	My leader punishes subordinates' incorrect behaviors or propositions.					
	14	My leader insists on executing tasks according to the plan.					

(2) Question for Organizational Innovation Climate

No.	Items	1	2	3	4	5
1	The work environment fosters a culture that encourages innovation.					
2	The work environment is conducive to inspiring innovation and creativity.					
3	There is good interpersonal communication and relationships among colleagues in the company.					
4	I frequently receive support and recognition from other colleagues.					
5	Team leaders encourage me to be creative and to adopt new, more effective methods.					

6	Team leaders possess strong communication and coordination skills.					
7	Team leaders respect different opinions and suggestions.					
8	Team leaders trust the work abilities of subordinates and delegate appropriately.					
9	Team leaders respect and support my creativity in the workplace.					
10	There is room for me to freely express my ideas in my work.					

(3) Question for Innovation Performance

No.	Items	1	2	3	4	5
1	Employees provide new ideas to improve the current situation.					
2	Employees actively support innovative ideas.					
3	Employees seek new work methods through learning.					
4	Employees acquire new skills or tools through learning.					
5	Employees propose innovative solutions through learning.					
6	Employees enhance work efficiency through innovative learning.					
7	Employees transform innovative ideas into practical actions.					
8	Employees systematically incorporate innovative concepts into their work.					
9	Employees' innovative achievements receive recognition from their superiors.