TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE CREATIVITY: A MULTILEVEL STUDY BASED ON INDIVIDUAL AND TEAM PERSPECTIVES

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by

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TABLE OF CONTENTS

LIST OF TABLES

Page

LIST OF FIGURES

Page

LIST OF ABBREVIATIONS

CNKI	China National Knowledge Infrastructure
CRT	Individual Creativity
ED	Environmental Dynamism
GDP	Gross Domestic Product
GEM	Growth Enterprise Market
HLM	Hierarchical Linear Modeling
HO	Hope
IC	Individualized Consideration
IQ	Intelligence Quotient
LC	Charisma
LMX	Leader-Member Exchange
MLM	Multilevel Linear Modeling
MM	Morale Modeling
MNCs	Multinational Corporation
MSEM	Multilevel Structural Equation Modeling
OP	Optimism
PCQ	Psychological Capital (PsyCap)
PCT	Patent Cooperation Treaty
PS	Participative Safety
R&D	Research and Development
RE	Resilience
SBIR	Small Business Innovation Research
SE	Self-Efficacy
SEM	Structural Equation Modeling
SI	Support for Innovation
SMB	Small and Medium Enterprise Board
SMEs	Small and Medium-sized Enterprises
SOEs	State-Owned Enterprise
SPSS	Statistical Package for the Social Sciences
STAR	Sci-Tech Innovation Board
TCI	Team Innovation Climate

TL	Transformational Leadership
TO	Task Orientation
TRQ	Team Reflexivity
VI	Visionary
VIS	Vision

LIST OF APPENDICES

KEPIMPINAN TRANSFORMASIONAL DAN KREATIVITI PEKERJA: KAJIAN MULTI-PERINGKAT BERDASARKAN PERSPEKTIF INDIVIDU DAN PASUKAN

ABSTRAK

Kajian ini bertujuan untuk mengkaji hubungan antara kepimpinan transformasi, iklim inovasi pasukan, reflekstiviti pasukan, modal psikologi, kedinamikan persekitaran dan kreativiti pekerja dalam konteks persekitaran perniagaan bergelora yang disebabkan oleh pandemik COVID-19. Data penyelidikan ini dikumpul daripada 406 individu pada peringkat individu dan 618 individu pada peringkat pasukan dalam perusahaan pembuatan kecil dan sederhana di China. Analisis statistik telah dijalankan menggunakan SPSS 26 dan Mplus 8. Enam belas hipotesis dalam kajian ini menyiasat pengaruh kepimpinan transformasi terhadap kreativiti pekerja. Pertama, kepimpinan transformasi mempunyai hubungan positif yang signifikan dengan kreativiti pekerja. Kedua, iklim inovasi pasukan, reflekstiviti pasukan, dan modal psikologi telah dibuktikan menjadi pengantara dalam hubungan antara kepimpinan transformasi dan kreativiti pekerja. Hasil kajian ini juga menunjukkan bahawa dinamisme persekitaran menyederhanakan hubungan antara kepimpinan transformasi dan modal psikologi, dengan itu mengukuhkan perkaitan positif antara pembolehubah ini. Tambahan pula, kedinamikan persekitaran menyederhanakan kesan pengantaraan refleksitiviti pasukan terhadap hubungan

antara kepimpinan transformasi dan kreativiti pekerja. Hal ini menunjukkan bahawa persekitaran perniagaan yang dinamik mempengaruhi hubungan antara kepimpinan dan refleksitiviti pasukan, akhirnya memberi kesan kepada kreativiti pekerja. Walau bagaimanapun, perlu diperhatikan bahawa kedinamikan persekitaran tidak menyederhanakan hubungan antara kepimpinan transformasi dan iklim inovasi pasukan, dan juga tidak menyederhanakan kesan pengantaraan iklim inovasi pasukan ke atas kreativiti pekerja. Hal ini menunjukkan bahawa pengaruh dinamisme persekitaran terhadap hubungan antara kepimpinan dan iklim inovasi mungkin kurang ketara. Secara keseluruhannya, dapatan kajian ini menunjukkan implikasi praktikal yang signifikan terhadap perusahaan pembuatan kecil dan sederhana. Hasilnya menggariskan kepentingan bagi pemimpin untuk menyesuaikan pendekatan kepimpinan mereka dan memupuk persekitaran pasukan yang kondusif untuk menggalakkan kreativiti, walaupun dalam keadaan yang mencabar.

TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE CREATIVITY: A MULTILEVEL STUDY BASED ON INDIVIDUAL AND TEAM PERSPECTIVES

ABSTRACT

This study aims to examine the relationships between transformational leadership, team innovation climate, team reflexivity, psychological capital, environmental dynamism, and employee creativity within the context of the COVID-19 pandemic-induced turbulent business environment. This study collected data from 406 individuals and 618 team-level individuals in Chinese small and medium-sized manufacturing enterprises. The statistical analysis was conducted using SPSS 26 and Mplus 8. A total of 16 hypotheses in this study investigated the influence of transformational leadership on employee creativity. Firstly, transformational leadership has a significant positive relationship with employee creativity. Secondly, the relationship between transformational leadership and employee creativity is mediated by three factors: team innovation climate, team reflexivity, and psychological capital. The results of this study also indicate that environmental dynamism moderates the relationship between transformational leadership and psychological capital, thereby strengthening the positive association between these variables. Furthermore, environmental dynamism moderates the mediation effect of team reflexivity on the relationship between transformational leadership and

employee creativity. This implies that the dynamic business environment influences the relationship between leadership and team reflexivity, ultimately impacting employee creativity. However, it is worth noting that environmental dynamism does not moderate the relationship between transformational leadership and team innovation climate, nor does it moderate the mediation effect of team innovation climate on employee creativity. This suggests that the influence of environmental dynamism on the relationship between leadership and innovation climate may be less pronounced. Overall, the findings of this study have significant practical implications for small and medium-sized manufacturing enterprises. The results underscore the importance for leaders to adapt their leadership approaches and foster conducive team environments to promote creativity, even in challenging circumstances.

CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 Introduction

Creativity is the key to driving business development (Afsaneh et al., 2020). Companies are continually seeking methods to inspire their staff to work inventively and generate innovative concepts. Corporate innovation needs to be driven by creativity, and many scholarly studies have emphasized the importance of employee creativity for innovation (Ferreira et al., 2020; Jieqiong et al., 2020). Since leadership is regarded as a significant factor influencing employees' creative behavior and organizational innovation (Shafi et al., 2020), an effective leadership style can improve employees' performances, maintain the structure of innovative development and meet the continuous changes in customer needs. The leadership style is a crucial factor for the success of any business. A good leader should be aware of how to increase employee motivation and stimulate creativity in subordinates (Radwan, 2020).

The transformational leadership style has attracted considerable scholarly interest in the field of leadership due to its capacity to cultivate employee creativity, setting it apart from alternative leadership styles (Hasnain et al., 2020; Rahman et al., 2020). Employees are the most important resources of the business, and the relationship between employee creativity and leadership style, personal

psychological state, and team climate is closely linked. In order to foster creativity among employees, it is imperative to establish effective coordination across all hierarchical levels within the organization. Furthermore, it is crucial to recognize the significant correlation between creativity and psychological capital, as well as the team innovation climate and team reflexivity.

The present chapter provides an overview of the study's background and presents the problem statement. It provides an overview of the present condition of team and employee leadership and creativity within Chinese firms. This is followed by an examination of the research objectives and research questions, as well as a discourse on the study's implications, which provides a sound theoretical foundation for this study. Lastly, the study's structure is outlined, with brief chapter summaries provided.

1.2 Background of the Study

Leadership styles in China could be different from the Western and Asian context, giving the political, social and cultural differences. In Chinese culture, where hierarchical structures and collectivist norms are deeply ingrained, traditional leadership styles have often leaned towards authoritarian or paternalistic models (Bedi, 2020; Zhang et al., 2021). The cultural emphasis on Power Distance and Collectivism reinforces the tendency for leaders to adopt a commanding approach, which is marked by top-down decision-making and a clear delineation of authority (Higgins, 2020). In the context of China's high power distance culture, the traditional

leadership approach characterized by command and control in Chinese enterprises has become increasingly difficult to adapt to the requirements of corporate innovation and development driven by environmental changes (Saipeng, 2023). Yet, as China's economy blossoms, transformational leadership, known for its ability to inspire and energize followers, foster a culture of innovation within teams, and bolster the psychological resources of individuals, emerges prominently. Transformational leadership demonstrates less constraint by cultural factors (Li et al., 2021) and has been proven effective across diverse cultural contexts, including China (Pan et al., 2021). This leadership approach is not culture-dependent but rather culture-enabling, suggesting its successful adaptation and application within the unique cultural framework of Chinese organizations.

This study focuses on examining the mechanisms through which transformational leadership influences individual creativity within the context of small and medium-sized companies (SMEs) in the manufacturing industry. Research has shown that creativity has an important contribution to organizational innovation (Acar et al., 2019), in the form of individual creativity that influences team members' innovative interactions. Transformational leaders promote change and innovation and influence employees through themselves, which can impact employee behavior, especially in terms of employee creativity (Hui et al., 2019; Shafi et al., 2020). Compared to leadership and creativity research in the West, there is less research in Asia. To provide a context for identifying research gaps, this study describes the research context from three perspectives, namely the emergence of leadership and

creativity at global context， the rise of leadership and creativity research in China and SMEs Development in China.

1.2.1 The Emergence of Leadership and Creativity at Global Context

With the advent of the digital economy era and the impact of the COVID-19 pandemic, organizations are facing increasingly complex, volatile, unpredictable, and ambiguous business competitive environments. In a rapidly changing business world, new markets are growing as the economy fluctuates (Dawson & Andriopoulos, 2021). To effectively navigate the complexities of these markets and avoid succumbing to the harsh laws of the 'cruel jungle,' enterprises are compelled to cultivate a perpetual capacity for innovation (Hughes et al., 2018; Lunwen, 2023). In the global context, the need for creativity has become increasingly important as organizations across various industries and countries strive to maintain a competitive edge and adapt to the rapidly changing business environment (Nguyen et al., 2023). The capacity to cultivate innovation and creativity among employees is a crucial factor in determining the success of a business, as it facilitates the generation of novel goods, services, and processes (Mokhber et al., 2018; Sania & Mohamed, 2020; Wang Zhining et al., 2021).

With the trend of economic globalization, innovation has emerged as a crucial element for companies to secure a competitive edge over others in a progressively intricate and unpredictable economic climate and a highly competitive epoch (Adeel et al., 2022; Bing et al., 2020). Positive innovation responses are key

for organizations to address the challenges of the new era in business (Lyu et al., 2020; Sinha & Sinha, 2020). However, innovation and creativity overlap with each other (Dawson & Andriopoulos, 2021). Laurie and Ramsey (2020) argue that every form of innovation originates from creative concepts, and they view innovation as the procedure of implementing these valuable creative notions into action. Creativity is the source and starting point for achieving innovative growth. Creativity has emerged as a potential competitive edge as it boosts the performance of a company and encourages success and sustainability through its capability to develop innovative knowledge and innovation (Arsawan et al., 2020; Yushan et al., 2018). In the business world, firms are the main body of innovation, and individual and team innovation in firms are the foundation and root of innovation in firms, as well as the initial starting point and origin of innovation in firms (Nonaka & Takeuchi, 2019). The United States is a global leader in innovation. In order to maintain sustainable economic growth, companies need to continue to innovative in developing products and finding solutions. Innovation relies on the presence of innovators and entrepreneurs, and programs like the Small Business Innovation Research (SBIR) provide funding and support to foster such innovation in small businesses.

The significance of effective leadership has grown in prominence as businesses strive to achieve success and maintain resilience within the dynamic and fiercely competitive global business landscape of the present era. The emergence of leadership in the global context can be understood as a response to the evolving challenges and opportunities presented by various trends (Franziska et al., 2018;

Lacerenza et al., 2017). Organizations across various industries and countries are continuously striving to maintain a competitive edge, and a pivotal determinant of triumph is the capability to cultivate innovation and creativity amongst their personnel (Boris et al., 2018; Thierry & Liudmila, 2021). As a result, the role of effective leadership, particularly transformational leadership, in stimulating and supporting employee creativity has become an increasingly important topic of research in various global contexts (Al Harbi et al., 2019; Kyootai et al., 2018).

Organizations must prioritize continuous innovation and disruption to effectively address the ever-changing demands of the market and to secure a competitive advantage through differentiation. As highlighted by research (Ahsan et al., 2021; Kukenberger & Lauren, 2020), fostering innovation and creativity among employees is paramount for sustained success and maintaining a competitive edge. This necessity becomes even more pronounced with emerging trends such as digitalization, remote work, and increased workforce diversity, reshaping the organizational landscape (Mouhamadou & Solomon, 2018; Wenwen & Wenxing, 2019). Thus, the role of transformational leadership in cultivating employee creativity and driving innovation is indispensable in navigating these dynamic challenges. In this context, transformational leaders need to adapt their approaches and strategies to harness the potential of these trends and promote creativity and innovation effectively (Gajendran et al., 2015). The emergence of the research field focused on the function of effective leadership in promoting and nurturing employee creativity has garnered considerable attention in various industries and countries,

including China and its swiftly ascending small and medium-sized enterprises (SMEs) (SMEs) (Wang-Yanfei et al., 2018; Wengang et al., 2020a).

In conclusion, the current global landscape has underscored the significance of creativity and transformational leadership plays a crucial role in facilitating organizations' ability to maintain their competitive edge and efficiently adapt to the ever-changing business environment. The significance of transformational leadership in promoting employee creativity, a critical factor for fostering creativity and achieving organizational success, is underscored by research. The main objective of this study is to offer a comprehensive comprehension of the various aspects that exert influence on creativity, with particular emphasis on the role played by transformational leadership.

1.2.2 The Rise of Leadership and Creativity Research in China

In recent years, China has experienced a shift in its population dependency ratio from a decline to an increase, signaling the impending end of the demographic dividend—a critical factor that has played a significant role in the country's economic progress following the implementation of reform and opening up. The demographic dividend arises when a nation's population age structure undergoes a transformation, resulting in a higher proportion of working-age individuals relative to dependents (Muhammad et al., 2020; Turbat, 2017), and this shift has historically been a catalyst for economic growth and development in China. The disappearance of the demographic dividend leads to a shift in the demographic structure, posing

new challenges to the economic development model. The competitive advantage based on cheap labor costs will slowly disappear (Jun & Huafeng, 2022). The original competitive advantage of labor in China's manufacturing industry is gradually weakening. New competitiveness has not yet been formed. When presiding over the second meeting of the Central Finance and Economics Commission in July 2018, General Secretary Xi Jinping emphasized the need to give full play to the creative energy of talents to achieve breakthroughs in the fields of scientific and technological competition, business competition, and national comprehensive power competition (Jinping, 2018). Thus, it is clear that talent resources have been regarded as a key advantage in driving sustainable economic development, and talent creativity is the core element of talent resources.

The 20th National Congress of China report proposed that "innovation is the first driving force," innovation-driven development strategy, opening up new areas of development and new tracks, constantly shaping new dynamics and advantages of development, and stimulating the whole nation's cultural innovation and creative vitality. As the mainstay of the market economy, SMEs are a fundamental force for social stability. However, while the new technological and industrial revolution has increased the innovation capacity of enterprises, it has also brought more intense competition and an unstable market environment. How SMEs can carry out innovation activities in the changing external environment to obtain better innovation performance has become an issue of concern. The source of innovation is human creativity, and the requirements for human quality in a knowledge-based economy

are focused on human creativity, which is not for a few people but for most people and even for every member of society.

China has adopted various measures to enhance the country's strategic policies and measures of innovation capacity. The Outline of China's medium and long-term science and technology development plan states that, in the face of the new international situation, we are obligated to augment our perception of responsibility and urgency and more deliberately and resolutely position scientific and technological advancement as the paramount catalyst for economic and societal evolution. The essential factor in altering the economic structure, changing the method of economic growth, and improving national competitiveness is enhancing the ability for autonomous innovation. The construction of an innovative nation is deemed a significant strategic decision for the forthcoming era. On March 15, 2021, the magazine "Qiu Shi" published an important article by General Secretary (Jinping, 2021), "Striving to become the world's major scientific center and innovation highland," pointing out that "we should be determined to innovate independently, firm up our confidence in innovation, and make efforts to enhance our independent innovation capability." General Secretary Xi Jinping reiterated at the Central Economic Work Conference held in December 2020 that innovation is the first driving force leading the development and placed "strengthening national strategic scientific and technological forces" at the top of the key tasks, with a focus on improving the endogenous power of enterprise science and technology innovation and strengthening its primary role in the economy (Zhongjun, 2021). According to

the data publicly released by the Ministry of Science and Technology, in 2022, China's social investment in R&D reached USD468 billion, an increase of 10.1% over the previous year, and the intensity of R&D investment (i.e., the proportion of R&D investment to GDP) reached 2.54%. The level of R&D investment intensity ranks thirteenth in the world, between the average level of the European Union (2.2 per cent) and that of the Organisation for Economic Cooperation and Development (OECD) countries (2.7 per cent), and there is still a certain gap with the OECD countries. Creativity is the basis of national development, and for the enterprise level, creativity is an important guarantee for long-term development.

China has not yet formed a mutually synergistic, linked, and mutually beneficial manufacturing innovation ecosystem and lacks a joint innovation synergy mechanism of "industry-university-research-use." Despite China's notable advancements in scientific and technical endeavors, there is a lack of seamless integration between the industrial and innovation chains. The innovation chain does not provide enough support for the upgrading of the industrial chain, there is a disconnection between basic research and industrialization application, and the current state of affairs is characterized by a dearth of dedicated technology transfer institutions and pilot maturation service platforms, leading to a limited level of industrialization and widespread implementation of emerging technologies. A significant proportion of research and development (R&D) outcomes remain confined to the laboratory setting, failing to progress into fully developed products capable of entering the market (Hailin & Tiansheng, 2021).

At present, China's market-driven innovation capability is still relatively weak. According to the Global Innovation Index Report 2023 and National Innovation Index Report 2022-2023, China ranks 12th, Switzerland, Sweden, the US, the UK and Singapore were the world's most innovative economies in 2023. Although China became the largest source of international patent applications submitted through WIPO in 2019 and continues to lead the global patent filings in 2023, China ranks 16th in PCT international patent applications per 10,000 corporate researchers. On the one hand, enterprises, the main body of market innovation, are not yet fully the main force of commercialization of scientific and technological achievements, and most of them lack technological innovation capability. For example, although Chinese high-tech enterprises such as Lenovo and Huawei attract attention in the international market, less than 1% of Chinese enterprises have applied for one or more patents. Only 0.03% of them have independent intellectual property rights; On the other hand, especially SMEs lack comprehensive and effective support services for technological innovation (Weiwei, 2021).

For companies, the best way to cope with the complex and changing business environment is to respond to the changing times and trends through continuous innovation practices and value creation. Companies' continuous innovation relies on employees' creativity (Giang et al., 2022). Creativity, as the driving force and the cornerstone of continuous innovation among employees, is the key to helping companies continuously reinvent themselves, keep up with the times, and embrace change (Lanxia et al., 2019). Within organizations, the behavioral traits of leaders

can influence employee performance in various ways, and it is vital to delve deeply into the correlation between leadership approach and creativity.

1.2.3 SME Development in China

In China, the classification of small and medium-sized enterprises (SMEs) includes medium-sized enterprises, small enterprises, and micro-enterprises, with the specific classification details provided in APPENDIX E. Small and medium-sized enterprises (SMEs) play a significant role in fostering economic growth and are of paramount importance to the majority of global economies, particularly those in developing and rising nations (James et al., 2018; Ndeye et al., 2018). SMEs constitute the economic spine of Europe. They represent 99% of all businesses in the EU. They employ around 100 million people, accounting for over half of Europe's GDP (European Commission, 2022). The development of SMEs is a matter of high priority for governments worldwide, and research has highlighted innovation as an important driver for maintaining a unique competitive position and improving organizational performance (Abdul-Nasser & Kumar, 2019), especially for SMEs (Hillary, 2017).

In recent decades, Small and medium-sized enterprises (SMEs) have played a pivotal role in the economic development and growth of China. These enterprises contribute significantly to the country's employment, innovation, and regional development (Lixia et al., 2020; Philipp et al., 2022). As China transitions from a manufacturing-based economy to one that is more focused on innovation and

services, SMEs have become a driving force for the nation's economic transformation (National Development and Reform Commission, 2021; Ying et al., 2020).

According to the Ministry of Industry and Information Technology, by the end of 2022, the number of SMEs in China exceeded 52 million. More than 50% of the national tax revenue, 60% of GDP, and 80% of labor force employment are contributed by SMEs. SMEs have excelled in technological innovation since reform and opening up, accounting for 65% of invention patents, 75% of technological innovation, and 80% of new products. SMEs are the most dynamic and promising businesses in China's market economy, and they have emerged as a significant economic force in the current day, symbolizing the path of social and economic development as the standard industrial organization (Chen et al., 2017; Qingsong, 2019).

However, the number of SMEs registered in 2022 was over 8 million, while the number of annual cancellations was 3.49 million. The main reasons for the termination of business are financial problems, declining demand for products/services from downstream companies/markets, poor business performance, low profits, and rising production and operating costs (Han et al., 2020), and the new coronavirus pneumonia outbreak in 2020 has led to a large number of SMEs facing survival challenges. According to the statistics of the Ministry of Industry and Information Technology in 2023, the average R&D intensity (R&D expenditure/operating income) of "small giants" enterprises is about 6.3 %, and the

average proportion of R&D personnel reaches 28%. According to the "2021" specialized and sophisticated enterprises that produce new and unique products "Small Giant Enterprise Patent Ability and Science and Technology Innovation Power Report," the average R&D/revenue ratios of Specialized and New companies in 2020 are 6.44%, 6.91%, 4.77%, and 2.58% respectively in the Sci-Tech Innovation Board, the Growth Enterprises Market Board, the Small and Medium-sized Enterprise Board, and the Main Board, which are still far from the average of 10% or more in large companies. The term "Small Giant Enterprise" refers to the leading entities among specialized, sophisticated, and innovative small and medium-sized enterprises. There is still a gap in the R&D intensity of large companies. In studying the unique innovation paths of Chinese SMEs, it was found that most SMEs in China, in terms of product innovation, lack sufficient technical capacity and financial support (Chung & Tan, 2017). Due to factors such as inferior welfare benefits, job stability, and relatively smaller company sizes, current university graduates have insufficient recognition for small and medium-sized enterprises (SMEs). The talent turnover rate is typically thought to be between 10% and 15%, but according to Xiaoming and Yuxue (2021), it was as high as 28% for Chinese businesses and as high as 50% for some SMEs. 73.8% of the businesses felt that there was a "lack of technical talents." Therefore, Chinese companies are also facing transformation, and the matter of how they can support small and medium-sized enterprises to thrive and expand in this sluggish economic climate is a significant concern that warrants attention. SMEs tend to be less capitalized,

innovative, and risk-resistant than SOEs, MNCs, and large enterprises. Due to the introduction of new policies, unexpected occurrences, trend-following without careful consideration, overexpansion, inadequate business models, and fierce industry competition, SMEs are frequently driven out of the market at any time (Tiandong, 2020).

The Chinese government has implemented various supportive policies, such as tax incentives, funding programs, and streamlined regulatory processes, to promote the growth of SMEs and encourage entrepreneurship (Wenqi & Zuogong, 2023; Zhengwei et al., 2021). In January 2021, the Ministry of Finance and the Ministry of Industry and Information Technology jointly issued the "Notice on Supporting the High-Quality Development of "Specialized and New" SMEs." The main content of the circular is to support the "small giant" enterprises through the central financial fund guidance, focusing on increasing innovation investment, synergy with industry leaders and upstream and downstream collaboration, digital networking, and intelligent transformation, accelerating the listing of enterprises, and strengthening international cooperation.

Due to the lack of capital, limited scale, and experience, SMEs are in a pessimistic state in terms of innovation (Chen et al., 2017), and innovation provides opportunities for the development of SMEs. Improving the innovation capacity of enterprises has become the primary goal of SMEs. With the nationwide promotion of entrepreneurship and innovation as well as better development policies for medium and small-sized businesses available, the national plans of The Made in China 2025

and Internet Plus have been implemented. Thus, both the inner driving force and vigor of medium and small-sized businesses are released. However, the progression of small and medium-sized enterprises encounters challenges, such as decelerating economic expansion, and SMEs grapple with prohibitive and challenging financing, with the majority situated within traditional sectors exhibiting insufficient dynamism and innovation. To overcome these challenges and continue their growth trajectory, it is crucial for SMEs to focus on innovation, creativity, and effective leadership, particularly transformational leadership, which has been shown to foster employee creativity and drive organizational success (Hui et al., 2020; Nasir et al., 2022).

In conclusion, the emergence of leadership and creativity in the global context has become increasingly vital for organizations to maintain competitiveness and adapt to the swiftly evolving commercial climate. Within the Chinese milieu, the emergence of leadership and innovation is notably crucial as the country experiences an economic metamorphosis centered on ingenuity and service provision. SMEs play a pivotal role in this process.

1.3 Problem Statement

The continuous investigation into the correlation between leadership and creativity has incited scholars to pinpoint pivotal elements and mechanisms propelling creativity. Yirong et al. (2018) proposed seven future research directions for leadership and creativity, including transformational leadership, workforce alignment with the leader, and the innovation climate. These factors, in conjunction

with situational variables like team atmosphere and collective-level exchange relationships, are instrumental in the creativity development process (Guo et al., 2019). Creativity in organizations has been one of the focal points of many studies in organizational science (Shahid et al., 2021; Thompson, 2018; Wenjing et al., 2020), and from an applied perspective, increased attention to creativity is right and important (Yuqan et al., 2018). Creativity has been seen as the foundation and source of organizational innovation, with environmental and individual factors impacting innovation and the creative intentions and actions of employees are intimately connected to their supervisors' leadership approaches (Alheet et al., 2021; Jing et al., 2017). Scholars mostly agree that transformational leadership plays a pivotal role in fostering employee creativity generation, but the precise methods through which transformational leadership influences employee innovation, along with the fundamental processes and mechanisms, merit additional exploration (Xiaoting et al., 2018). Hughes et al. (2018) advocate for a more methodical and exhaustive model to investigate leadership and creativity, underscoring the necessity to delve into the association between leadership traits, behaviors, and relationships with subordinates to enhance comprehension of the dynamics of creativity (Lee et al., 2019; Wang et al., 2016).

In organizational settings, where individuals work interdependently in teams to enhance creativity, some scholars have suggested that both individual and team creativity should be given adequate attention (Dina et al., 2021; Shenjiang et al., 2019). The majority of research on the influence of transformational leadership on

creativity, however, has concentrated on a single individual level, team level, or a single pathway. Few studies have systematically incorporated team-level and individual-level mediating mechanisms into a holistic theoretical model for an in-depth exploration of multiple pathway mechanisms. Additionally, factors influencing creativity have stimulated increasing interest from researchers (Lee et al., 2019). From an applied perspective, Yuqan et al. (2018) state that increased research on creativity is right and necessary. The model of leadership and creativity emphasizes the connection between leadership traits, behaviors, and relationships with team members in relation to creativity and innovation (Chuqin, 2019). The association between transformational leadership, team innovation climate (Zuraik & Kelly, 2019), team reflexivity, psychological capital (Yogesh & Dharmendra, 2020), and Various researchers have independently discovered creativity, laying a theoretical groundwork for the exploration of transformational leadership and creativity. However, since these factors have not been combined into a model, additional study is still needed to fully understand how leadership affects creativity on both the collective team level and the individual worker level.

The bulk of research examining the association between transformational leadership and creativity has been conducted in industrialized Western countries, while relatively fewer studies have been conducted in non-Western and developing countries. The aforementioned discrepancy underscores the need to comprehend the influence of cultural contexts on the efficacy of leadership styles and their effects on creativity. Management theories and procedures that apply to one country's culture

may not make sense in another culture (Erdman, 2018), and leadership behavior as a social behavior will vary depending on the culture they live in, with these differences affecting the effectiveness of leadership behavior (Guochun et al., 2017). For instance, the Chinese cultural background is characterized by collectivist tendencies, large power distance, and a focus on relationships, which will influence leadership and organizational climate (Zixuan et al., 2019). Future studies should take into account the influence of cultural contexts when investigating the connection between transformational leadership and creativity. It is important to explore how these dynamics may vary across different cultural environments.

Transformational leadership can also improve creativity through intrinsic motivation, self-efficacy, psychological empowerment, team climate, and so on (Khurosani, 2017; Minh-Duc & Huu-Lam, 2019; Top et al., 2020). Despite the expanding corpus of research on team innovation climate (Newman et al., 2020), scant literature in the field of creativity has explored the influence of team innovation climate and self-efficacy in augmenting individual creativity (Jin et al., 2017; Shen et al., 2021). The innovation climate plays a crucial role in connecting transformational leadership with innovative initiatives. Team reflexivity makes members' thinking more divergent and critical (Xing & Hao, 2019), and therefore, the impact of team reflexivity on individual creativity remains understudied, and the mechanism of its realization is unclear. Therefore, this study endeavors to investigate the cross-level function of team reflexivity in relation to employee creativity and its foundational mechanisms (Zhining & Lijun, 2019). Research supports many situational and

personal factors contributing to employee creativity (Rentao & Yi, 2019). This study develops this idea by exploring PsyCap, which fosters individual creativity (Xiaofen et al., 2019). Wenjing et al. (2019) argue that the PsyCap structure as a whole is associated with positive employee creativity rather than its four distinct aspects. According to Pérez-Luño et al. (2014b), environmental dynamism emerges as the most significant external factor when compared to other environmental characteristics such as inclusiveness, complexity, and competitiveness. This is primarily due to the fact that in environmental dynamism, the market and consumer demands undergo continuous fluctuations, thereby compelling firms to engage in constant innovation of their products and services. In this study, the behavioral traits of transformational leaders are broken down by team, environmental, and individual factors to clarify further the main factors and key aspects that influence employees' creativity.

Although behavioral traits are not extensively broken down in literature, they play a crucial role within organizations. The organization is a multi-level system structure characterized by the interplay and influence of multiple characteristics, including those of individuals, teams (groups), organizations (departments), industries, and cultures (Xueping & Qi, 2020). Mengxi et al. (2019) used Citespace visualization software to analyze articles on contextual leadership in China from 1949-2018 in authoritative domestic and top international journals. "Performance" is a popular and important topic in current research. In terms of research levels, previous studies involve multiple single levels, and the number of studies, research

methods, and data sources are relatively single. Most existing studies use questionnaires to collect data, and the questionnaires are mostly self-reported scales. Therefore, this study pivots the attention from "performance" to "employee creativity", scrutinizing the role of transformational leadership and creativity, suggesting team innovation climate, team reflexivity, and psychological capital as intermediate variables, and positing environmental dynamics as moderating variables. A multi-level, multi-method, multi-source research design is used to enhance the breadth and depth of the study, improve the explanatory power and robustness of the findings, and strengthen the creativity of SMEs in developing countries.

1.4 Objective of the Study

The objective of this study is to examine the mediating effects of team innovation climate, team reflexivity, and psychological capital on the relationships between transformational leadership and employee creativity in Chinese small and medium-sized enterprises (SMEs), as well as the moderating role of environmental dynamism.

This study utilizes two methodologies to investigate the impact of transformational leadership on employee creativity. One approach involves the use of structural equation modeling, while the other involves the implementation of multi-level structural equation modeling analysis. Explore the impact of transformational leadership on creativity through team and individual levels.

This study has envisaged the following research objectives:

1. To examine the relationship between transformational leadership and employee creativity.
2. To examine the relationship between transformational leadership and team innovation climate.
3. To examine the relationship between team innovation climate and employee creativity.
4. To examine the mediating role of team innovation climate on the relationship between transformational leadership and employee creativity.
5. To examine the relationship between transformational leadership and team reflexivity.
6. To examine the relationship between team reflexivity and employee creativity.
7. To examine the mediating role of team reflexivity on the relationship between transformational leadership and employee creativity.
8. To examine the relationship between transformational leadership and psychological capital.
9. To examine the relationship between psychological capital and employee creativity.
10. To examine the mediating role of psychological capital on the relationship between transformational leadership and employee creativity.
11. To examine whether environmental dynamism moderates the relationship between transformational leadership and team innovation climate.
12. To examine whether environmental dynamism moderates the mediation effect of

team innovation climate between transformational leadership and employee creativity.

13. To examine whether environmental dynamism moderates the relationship between transformational leadership and team reflexivity.
14. To examine whether environmental dynamism moderates the mediation effect of team reflexivity between transformational leadership and employee creativity.
15. To examine whether environmental dynamism moderates the relationship between transformational leadership and psychological capital.
16. To examine whether environmental dynamism moderates the mediation effect of psychological capital between transformational leadership and employee creativity.

1.5 Research Questions

The following are the research questions for this study in order to fulfil the aforementioned research objectives:

1. What is the relationship between transformational leadership and employee creativity?
2. What is the relationship between transformational leadership and team innovation climate?
3. What is the relationship between team innovation climate and employee creativity?
4. Does team innovation climate mediate the relationship between transformational

leadership and employee creativity?

5. What is the relationship between transformational leadership and team innovation climate?
6. What is the relationship between team innovation climate and employee creativity?
7. Does team reflexivity mediate the relationship between transformational leadership and employee creativity?
8. What is the relationship between transformational leadership and team reflexivity?
9. What is the relationship between team reflexivity and employee creativity?
10. Does psychological capital mediate the relationship between transformational leadership and employee creativity?
11. Does environmental dynamism moderate the relationship between transformational leadership and team innovation climate?
12. Does environmental dynamism moderate the mediation effect of team innovation climate in the relationship between transformational leadership and employee creativity?
13. Does environmental dynamism moderate the relationship between transformational leadership and team reflexivity?
14. Does environmental dynamism moderate the mediation effect of team reflexivity in the relationship between transformational leadership and employee creativity?
15. Does environmental dynamism moderate the relationship between transformational leadership and psychological capital?