

**TRANSFORMATIONAL LEADERSHIP,  
DYNAMIC CAPABILITY AND SUSTAINABLE  
PERFORMANCE: EMPIRICAL EVIDENCE  
FROM LARGE-SCALE MANUFACTURING  
ENTERPRISES IN CHINA**

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**UNIVERSITI SAINS MALAYSIA**

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ENTERPRISES IN CHINA**

**by**

**WEI XUECHENG**

**Thesis submitted in fulfillment of the requirements  
for the degree of  
Doctor of Philosophy**

**February 2025**

All the time...

To my beloved Parents,  
For their endless Love, Motivation and Efforts

The Most Important...

To My Supervisor Prof. Dr. Noor Hazlina Ahmad  
For her unrelenting patience,  
and For the insights and guidance

And Last but not Least...

To Qaisar Iqbal and my friends,  
For their support and encouragement.

----Thanks a Million---

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## LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
CB-SEM	Covariance-based SEM
CMB	Common Method Bias
CMV	Common Method Variance
CR	Composite Reliability
HTMT	Heterotrait-Monotrait Ratio
OLS	Ordinary Least Squares
PLS-SEM	Partial Least Squares Structural Equation Modelling
SEM	Structural Equation Modelling
SPSS	Statistical Package for Social Sciences
SRMR	Standardized Root Mean Square Residual
VIF	Variance Inflation Factor
USM	Universiti Sains Malaysia

**TRANSFORMASI KEPIMPINAN, KEUPAYAAN DINAMIK DAN  
PRESTASI LESTARI: BUKTI EMPIRIKAL DARIPADA ENTERPRIS  
PEMBUATAN SKALA BESAR DI CHINA**

**ABSTRAK**

Kepimpinan yang cemerlang dapat membantu industri pembuatan besar dalam menyesuaikan pengagihan sumber, meningkatkan daya saing, dan mencapai prestasi lestari. Dalam konteks matlamat dwi karbon, pembangunan industri pembuatan di China menghadapi cabaran yang semakin kompleks. Walau bagaimanapun, masih terdapat kekurangan penyelidikan mengenai impak gabungan gaya kepimpinan yang berbeza terhadap prestasi lestari industri pembuatan besar, terutamanya dalam latar belakang sebuah kuasa pembuatan seperti China. Untuk tujuan ini, kajian ini mengembangkan kerangka teori dengan menggabungkan kepimpinan transformasi, kepimpinan lestari, hubungan pengurusan, keupayaan dinamik, dan prestasi lestari berdasarkan pandangan berasaskan sumber, teori keupayaan dinamik, dan teori rangkaian sosial. Model ini dinilai menggunakan kaedah persamaan struktur separa terkecil (PLS-SEM) dengan sampel 606 syarikat pembuatan besar di China. Empat penemuan penting muncul daripada analisis. Pertama, hubungan pengurusan berinteraksi dengan kepimpinan lestari untuk mempengaruhi eco-inovasi, perkongsian pengetahuan, retensi pekerja, dan inovasi murah hati dalam keupayaan dinamik. Selain itu, mereka berinteraksi dengan kepimpinan transformasi untuk mempengaruhi eco-inovasi dan inovasi murah hati dalam keupayaan dinamik. Oleh

itu, hubungan pengurusan memoderatkan asosiasi ini. Kedua, kepemimpinan transformasi dan kepemimpinan lestari juga mempengaruhi secara signifikan eco-inovasi, perkongsian pengetahuan, retensi pekerja, dan inovasi murah hati. Ketiga, kepemimpinan transformasi dan kepemimpinan lestari bertindak sebagai rangsangan untuk prestasi lestari dan eco-inovasi, di mana perkongsian pengetahuan dan retensi pekerja memudahkan proses ini. Keempat, eco-inovasi, perkongsian pengetahuan, retensi pekerja, dan inovasi murah hati mempengaruhi prestasi lestari. Implikasi teori dan praktikal kajian ini dibentangkan dan dibincangkan pada akhirnya.

**TRANSFORMATIONAL LEADERSHIP, DYNAMIC CAPABILITY AND  
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**ABSTRACT**

Excellent leadership can assist large-scale manufacturing industries in adjusting resource allocation, enhancing competitiveness, and achieving sustainable performance. In the context of the double carbon goals, the development of China's manufacturing industry faces increasingly complex challenges. However, there remains a lack of research on the impact of different combinations of leadership styles on the sustainable performance of large-scale manufacturing industries, particularly within the backdrop of a manufacturing powerhouse like China. To this end, this study developed a theoretical framework by integrating transformational leadership, sustainable leadership, managerial tie, dynamic capability and sustainable performance based on resource-based view, theory of dynamic capability, and social network theory. The model underwent evaluation utilizing partial least squares-structural equation modeling (PLS-SEM) with a sample of 606 large-scale manufacturing enterprises in China. Four significant discoveries emerge from the analysis. First, managerial ties interact with sustainable leadership to influence eco-innovation, knowledge sharing, employee retention, and frugal innovation within dynamic capabilities. Additionally, they interact with transformational leadership to affect eco-innovation and frugal innovation within dynamic capabilities. Thus,

managerial ties moderate these associations. Second, transformational leadership and sustainable leadership also influence significantly eco-innovation, knowledge sharing, employee retention, and frugal innovation. Third, transformational leadership and sustainable leadership act as stimulus for sustainable performance and eco-innovation, whereby knowledge sharing, and employee retention mediate this process. Fourth, eco-innovation, knowledge sharing, employee retention, and frugal innovation influence sustainable performance. Theoretical and practical implications of this study are presented and discussed at the end.

## CHAPTER 1 INTRODUCTION

### 1.1 Introduction

Due to the rapid development of globalization and digitization, the environment faced by enterprises has become increasingly complex and volatile. In this context, pursuing sustainable performance has become a crucial objective for enterprises. This goal not only emphasizes the economic performance of enterprises but also prioritizes concerns related to environmental protection, social justice, and other factors.

The advent of the Industry 4.0 era brings new opportunities and challenges. Informatization, digitization, and intelligentization are fundamentally changing the previous production mode, marketing mode, competition, and cooperation relationships between organizations and performance objectives of manufacturing firms. Industry 4.0 technologies include but are not limited to big data analytics, artificial intelligence, cloud computing, additive manufacturing, simulation, blockchain, industrial Internet of Things, etc. (Bai & Sarkis, 2017; Dalenogare et al., 2018). These Industry 4.0 technologies can provide tremendous innovation drivers, increase competitiveness, and they may also improve the sustainability of current manufacturing developments (Stock & Seliger, 2016).

Traditional production techniques and methods have caused serious environmental problems, including the urgent need to address issues such as the consumption of non-renewable resources, environmental pollution, environmental

damage, and global warming; Social problems, such as food safety, extreme poverty, and geopolitical conflicts, are also becoming increasingly serious. The new technological features of Industry 4.0 help solve the aforementioned problems and make a significant contribution to sustainable development. In contrast, the pursuit of social, economic, environmental, and economic growth objectives often conflicts with one another in the traditional industry's development process. With the official came into force on January 1, 2016, the United Nations formally initiated the 2030 Agenda for Sustainable Development, underscoring the imperative of concerted efforts to mitigate climate change and its ramifications (Jahanger et al., 2022). Against the backdrop of Industry 4.0 and in consonance with the Sustainable Development Goals, China unambiguously delineated its aims to reach a "carbon peak" by 2030 and attain "carbon neutrality" by 2060 in September 2020, a strategy termed the Double Carbon Plan (DCP).

Firms are not only facing new development opportunities but also unprecedented challenges. Using Industry 4.0 technology to achieve the Double Carbon Goals (DCGs) is not just a policy requirement but also a novel aspect of sustainable development for manufacturing enterprises. Prior studies have indicated suboptimal assimilation and application of Industry 4.0 technology within Chinese manufacturing enterprises (Bai et al., 2020).

In accordance with a McKinsey survey involving respondents from 130 companies spanning diverse industries in China, it is evident that Chinese manufacturing enterprises exhibit substantial interest in, as well as hold elevated

expectations for Industry 4.0. Nonetheless, the preparedness of Chinese enterprises for Industry 4.0 stands at a mere 57%, a figure that lags considerably behind that of the United States (71%) and Germany (68%). Following the introduction of the DCP (Double Carbon Plan) by the Chinese government, the Chinese manufacturing industry has higher expectations for Industry 4.0 technology. This is because the adoption of new technologies has become a mainstream trend. The transformation and development of the Chinese economy cannot be realized without the adoption and implementation of new technologies. To maintain a competitive advantage during economic transformation, manufacturing enterprises must comprehend and implement Industry 4.0, thereby gaining a first-mover advantage and competitive edge, and ultimately achieving sustainable development.

In previous studies, scholars have studied the positive effect of industry 4.0 on the sustainable development of manufacturing enterprises from the specific DCGs (Double Carbon Goals). To sum up, previous studies focused more on analyzing the performance of Chinese manufacturing enterprises after adopting Industry 4.0 technology through secondary data. Upon extensive review of pertinent literature, it is evident that research from the standpoint of sustainable performance places significant emphasis on fostering the sustainable evolution of enterprises. This trajectory resonates closely with the prevailing research orientation of contemporary Chinese manufacturing enterprises.

Sustainable performance, as a relatively new research field, vividly portrays the predicament and hope of present-day Chinese economic. As a large manufacturing

country, China has rapidly developed for 40 years in the past, relying on the advantages of labor force and resources. However, due to prominent environmental issues and the decline in population advantages, the past development path is no longer suitable for the present. The Chinese economy must undergo transformation, and Chinese manufacturing enterprises are the pillars of economic transformation. While the notion of sustainable performance delineates the trajectory for advancement in Chinese manufacturing enterprises, it concurrently presents a novel challenge: the attainment of competitive advantage and the realization of enduring performance.

Regardless of the type of new technology that emerges, if it cannot be understood, accepted, and applied by enterprises, it is challenging to transform it into tangible productivity. However, the understanding, acceptance, and application of new technologies depend more on the choices made by leadership. As posited by the situational leadership theory (Hersey & Blanchard, 1996; Hersey & Blanchard, 1979), a universal leadership style applicable to all scenarios does not exist. Effective leaders, instead, tailor their approach to the demands posed by diverse situations and the intricacies of the tasks at hand (Hersey & Blanchard, 1996).

Sustainable leadership is a leadership model that emphasizes promoting sustainability in organizations and taking environmental, social, and economic benefits into account in decision-making processes. This leadership model is designed to promote long-term, sustainable success while ensuring that the organization meets current needs without negatively impacting future generations.

Transformational leadership, as a leadership paradigm, underscores the pivotal role of leaders in propelling organizations towards the attainment of their articulated objectives and surmounting obstacles through the means of inspiring, empowering, and mentoring their subordinates. This leadership style aims to change the way organizations and employees behave and think, in order to achieve higher performance and long-term success. It can help organizations achieve long-term success and stability. These two types of leadership are related to sustainable performance and align with the strategic needs of current Chinese manufacturing enterprises. Therefore, in this study, the author aims to explore how Chinese manufacturing enterprises enhance their dynamic capabilities through high-level decision-making influenced by transformational leadership and sustainable leadership, aiming to achieve sustainable performance in the new economic environment characterized by rapid technological updates and complex organizational relationships.

Considering the new challenges brought by the globalization and the importance of manufacturing enterprises in the Chinese economic transformation. The sustainable performance of manufacturing enterprises will contribute greatly to China's future GDP; Without sustainable performance in manufacturing, China's GDP will be seriously affected in the future, and ultimately social stability. The author has extensively reviewed pertinent literature, ultimately directing attention towards the ramifications of transformational leadership and sustainable leadership on the enduring performance of manufacturing enterprises. The principal objective of

this research is to examine the selection process of transformational leadership and sustainable leadership by Large-scale manufacturing enterprises (LSMs) at the organizational level, with the aim of enhancing their sustainable performance via the intermediary role of dynamic capabilities. Furthermore, the present study endeavors to explore the potential augmentation of the influence wielded by transformational leadership and sustainable leadership on dynamic capabilities through the lens of managerial ties. This chapter provides an in-depth exposition of various facets, including the contextual backdrop, delineation of the research quandary, formulation of research inquiries and objectives, elucidation of the study's significance, specification of its scope, and, finally, an overview of the subsequent chapters' organization.

## **1.2 Research Background**

### **1.2.1 The importance of sustainable performance for large manufacturing enterprises in China**

As an important foundation for the real economy, the manufacturing industry has long held a pivotal position in the Chinese economy, which plays a major driving force in the high-speed economic development of China. Following decades of evolution, China has ascended to the status of a prominent manufacturing powerhouse, firmly establishing itself within the global industrial network.

In the year 2022, the cumulative industrial added value of China surpassed 5.51

trillion USD, constituting approximately 33.2% of the Gross Domestic Product (GDP). Specifically, the manufacturing sector's added value contributed to 27.7% of the GDP, maintaining its top global ranking for 13 consecutive years.

The nation stands unique globally, housing within its borders every industrial category outlined by the United Nations Industrial Classification system. As of 2022, the global echelon of top 500 enterprises included a tally of 65 manufacturing entities hailing from this nation. Furthermore, bolstering this industrial landscape, are upwards of 70,000 small and medium-sized enterprises distinguished for their commitment to professionalism, sophistication, specialty, and innovation.

Advanced technology industries contributed to 15.5% of the value addition in industrial enterprises surpassing a specified scale, while machinery manufacturing constituted 31.8% of the value addition in industrial enterprises surpassing a specified scale. New energy vehicles and photovoltaic output have been the world's first for many years. The rapid advancement and upgrading of conventional sectors have led to the establishment of 45 national hubs for advanced manufacturing. The manufacturing industry has made great contributions to promoting domestic economic growth and employment as the mainstay of Chinese industry. It is also the foundation of people's livelihood consumption in China.

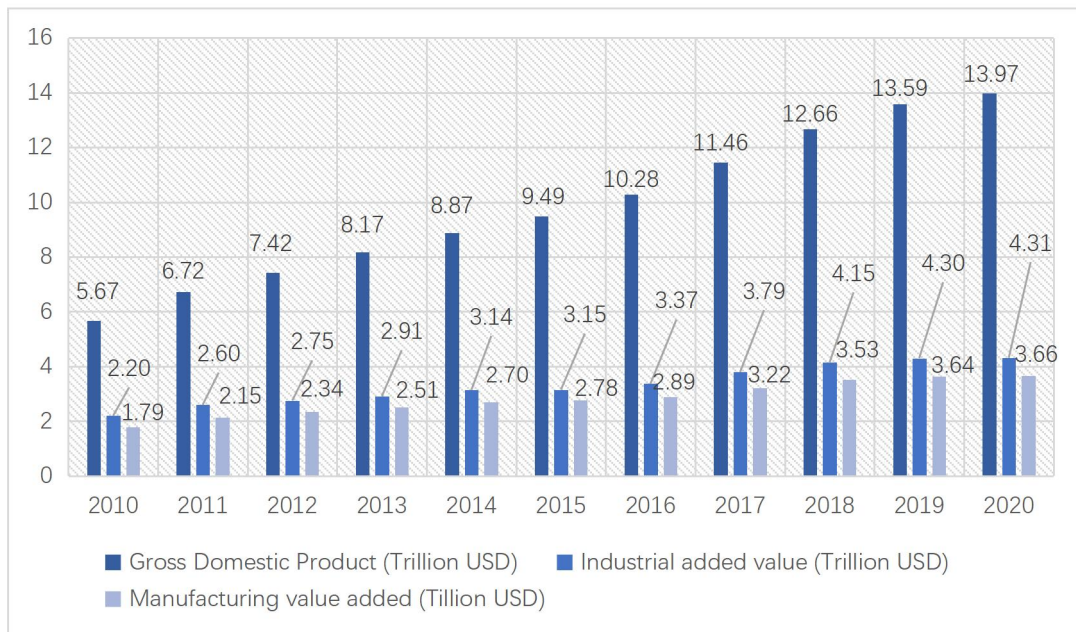
According to the latest statistics released by the National Bureau of Statistics, there has been a 2.1% year-on-year increase in the value added to the Chinese manufacturing sector from January to February 2023. Particularly noteworthy is the significant expansion in the production of chemical raw materials and chemical

products, which saw a growth rate of 7.8%. Similarly, the manufacturing of transportation equipment including railways, ships, and aerospace vehicles exhibited a robust growth of 9.7%. Additionally, there was remarkable growth in the production of electrical machinery and equipment, which surged by 13.9%.

For fifteen consecutive years, Chinese manufacturing exports have consistently held the top position globally. Over the past decade, the contribution of value added by manufacturing enterprises of significant scale to the Gross Domestic Product (GDP) has maintained an average of 28.8%. According to the manufacturing export data released by the World Bank, the proportion of Chinese manufacturing exports in commodity exports has exceeded that of the world and the United States since 1992, it surpassed that of Germany in 1998, and reached the same level as Japan in 2005. Since 2006, China has maintained the No. 1 position in manufacturing exports, making it a well-deserved manufacturing and export powerhouse.

As per the statistical data unveiled by the National Bureau of Statistics, the augmented worth of China's expansive manufacturing sector surged from 2.15 trillion USD in 2011 to 3.66 trillion USD by 2020, manifesting a compounded growth rate of 5.5%. Notably, the mean added value stood at 2.89 trillion USD. Figure 1.1 vividly illustrates a consistent upward trajectory in both GDP and the augmented value within the industrial and manufacturing domains over successive years.

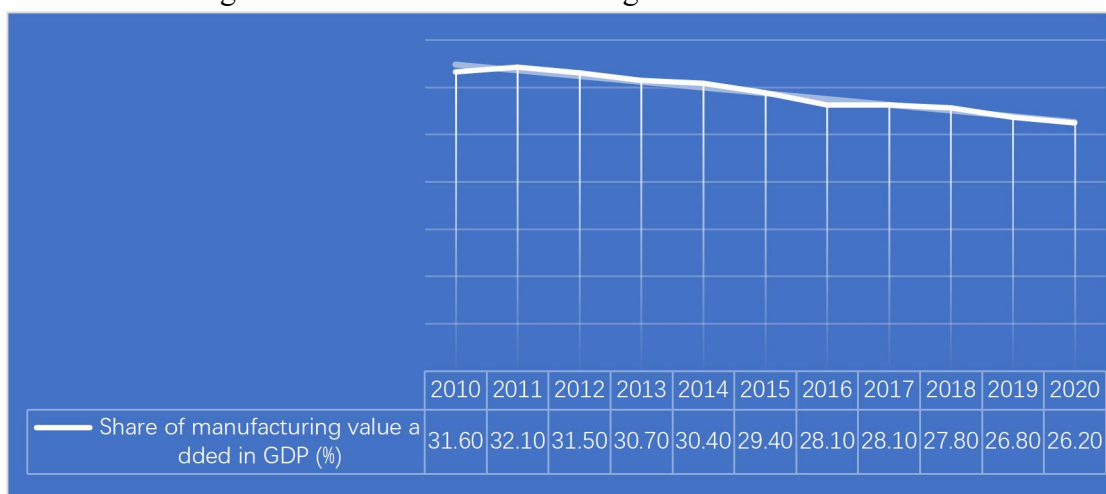
Figure 1.1 2010-2020 Value Added of Manufacturing Enterprises Above Designated Size in China



Source: (Inc., 2022)

As illustrated in Figures 1.2 below, when considering the share of the large-scale manufacturing sector within the GDP, there has been a general decline over the preceding decade. However, the mean proportion has sustained at 28.8%, implying the enduring significance of the manufacturing sector's contribution to the economic landscape.

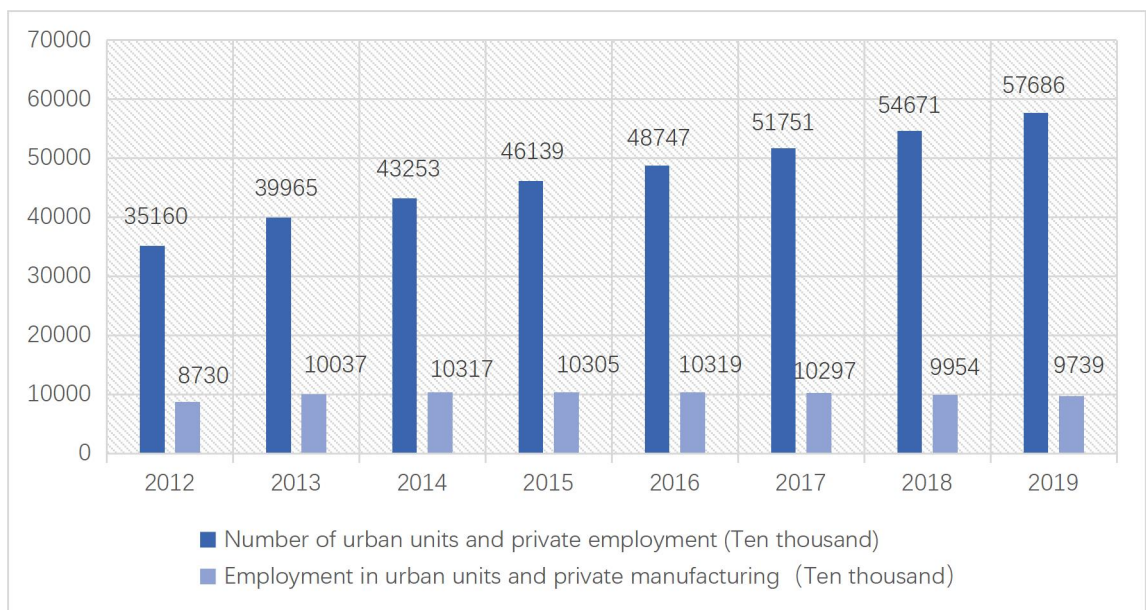
Figure 1.2 Share of Manufacturing Value Added in GDP



Source: (Inc., 2022)

Data released by the National Bureau of Statistics indicates that 750 million people were employed nationwide in 2019. As shown in Figures 1.3, including 576.86 million in urban units and the private sector, and 97.39 million in urban units and the private manufacturing sector, accounting for 16.9%. Looking at the employment situation of manufacturing industry in the past 10 years, the employment level of manufacturing enterprises has remained relatively stable at around 20%, which has significantly contributed to the stability of domestic employment.

Figure 1.3 2012-2019 Employment in Chinese Manufacturing Sector

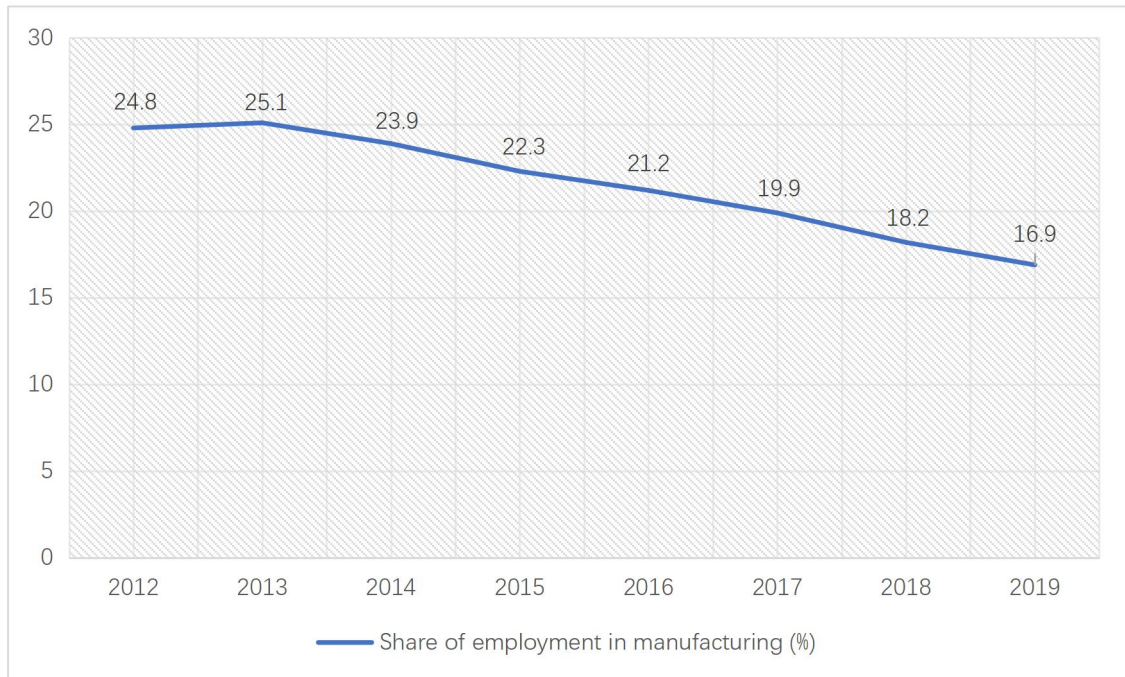


Source: (Inc., 2022)

Referring to Figure 1.4 below, When looking at the employment situation in the manufacturing industry over the past 10 years, it is evident that although the employment levels in manufacturing enterprises have generally been on a downward trend, they have still been maintained at around 20%, contributing significantly to the stability of domestic employment.

It is evident that large-scale manufacturing has significantly contributed to employment stability. This also underscores the critical strategic importance of the sustainable performance of the large-scale manufacturing sector for China's economic and social development.

Figure 1.4 Share of Employment in Manufacturing (%)



Source: (Inc., 2022)

Under the double carbon targets, the electrical and mechanical industries, related to new energy have strong demand, and production and investment have been running at high levels since 2022. The foundational documents, namely the "1+N" blueprint outlining strategies for achieving carbon peaking and carbon neutrality, the "Guidelines for Fully, Accurately, and Comprehensively Implementing the New Development Paradigm for Carbon Peaking and Neutrality by 2030," and the "Carbon Peaking Action Plan by 2030," emphasize the trajectory of non-fossil energy utilization in China. It is projected that by 2025, non-fossil energy consumption will

constitute approximately 20% of the total energy mix, a figure set to rise to 25% by 2030 and surpass 80% by 2060. However, as of the conclusion of 2020, the attainment stands at a modest 15.9%. In tandem, a substantial reduction in carbon dioxide emissions per unit of GDP is outlined. Comparatively, by 2025, a targeted reduction of 18% from the 2020 baseline is envisioned, with a more ambitious target of over 65% reduction by 2030 relative to 2005 levels.

The initiative known as "Made in China 2025," introduced in 2015, delineates a comprehensive blueprint for the digital transformation of the manufacturing sector and establishes ambitious developmental objectives for the ensuing two decades. A thorough examination of Figures 1.5 underscores the forthcoming emphasis of nearly two decades on rectifying industry shortcomings, nurturing flagship enterprises, and propelling advancements in novel technologies alongside the seamless integration of innovation within manufacturing processes.

The initiative represents a comprehensive strategic plan and policy framework introduced by the Chinese government to promote the sustainable development of the manufacturing sector. Achieving sustained performance in manufacturing enterprises is essential for realizing the goals of "Made in China 2025". Consequently, from a policy perspective, the sustainable performance of large-scale manufacturing industries is critical to China's overall economic development.

Given the historical background and policy constraints, the importance of the manufacturing industry in achieving sustainable performance is more urgent and prominent.

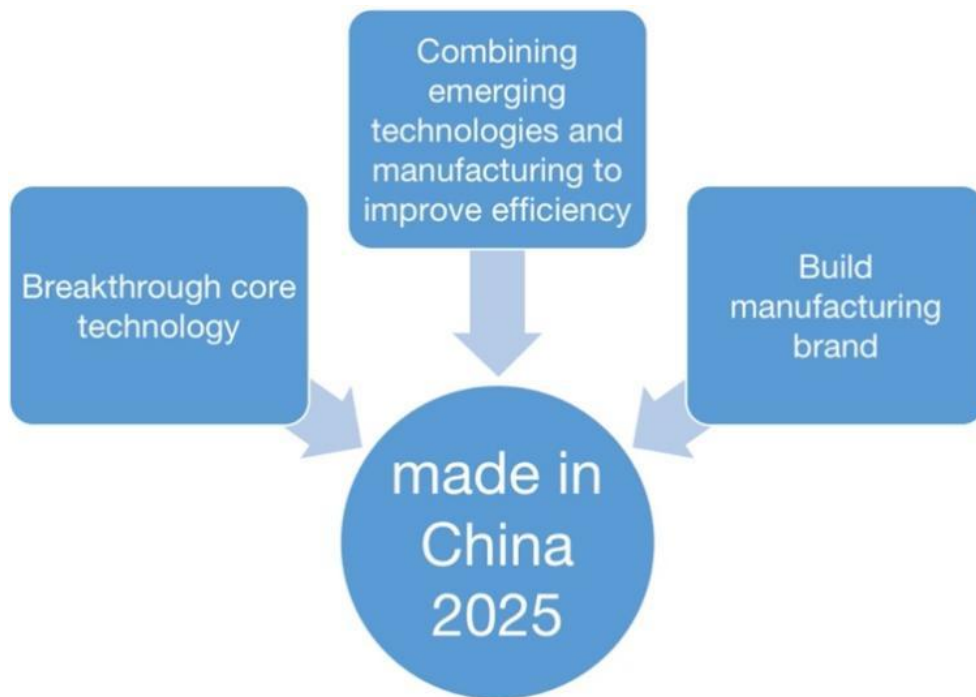


Figure 1.5 The Main Goals of Made in China 2025

Considering the large proportion of the manufacturing industry in the Chinese economy and cannot be ignored for stabilizing employment, the positive role of large-scale manufacturing in economic development and stable employment cannot be ignored, especially in the double carbon context, large-scale manufacturing has extremely important for economic and social. Sustainable development in the large-scale manufacturing, to a significant extent, can help the Chinese economy achieve a smooth transformation and develop capabilities. Pursuing sustainable performance can effectively help the Chinese large-scale manufacturing industry reduce risks, cultivate innovative development capabilities, and achieve sustainable development. Hence, the sustainable performance of China's large-scale manufacturing sector holds paramount significance.

### **1.2.2 Challenges faced by LSM to achieve sustainable performance.**

Due to the development of new technologies, such as information technology, digitalization, and intellectualization, as well as the impact of emergent events such as the global COVID-19 pandemic and the Russia-Ukraine conflict, Large-scale manufacturing (LSM) in China is facing challenges from both routine and emergent aspects, which place higher demands on the dynamic capability of LSM.

Given the substantial scarcity of per capita resources in the country, the Chinese manufacturing industry requires a significant influx of imported raw materials, with a particular emphasis on oil. On the one hand, affected by the global financial crisis and regional conflicts, oil prices have risen, resulting in rising costs for Chinese manufacturing industry. On the other hand, affected by the cheap labor market in Southeast Asia, Chinese manufacturing investment has shrunk, and its products have lost their competitive advantages. The aforementioned factors pose formidable challenges to the attainment of sustainable performance within the Chinese manufacturing domain.

In March of 2023, the Manufacturing Purchasing Managers' Index (PMI) experienced a slight decline of 0.7 percentage points, settling at 51.9 percent, remaining comfortably above the pivotal threshold, thus signaling sustained expansion within the manufacturing sector. Delving into its components, it becomes apparent that amidst the quintet of sub-indices comprising the Manufacturing PMI, both the production index and new orders index exhibit levels surpassing the critical threshold. Similarly, the supplier delivery time index also registers above this

threshold. Conversely, the raw material inventory index and employment index fall below the critical point, delineating areas of concern within the manufacturing landscape. The statement suggests that the Chinese manufacturing industry is currently exhibiting an overall trend of recovery and expansion. However, it is imperative to note that this recovery remains fragile and subject to uncertainties.

Figure 1.6 PMI for March 2023



Source: (Statistics, 2023)

Faced with the dual pressures of a complex global economic environment and structural adjustment in Chinese economy, Chinese large-scale manufacturing still faces multiple challenges. The first is the rise in labor costs due to aging. As Chinese population structure changes and the labor market tightens, the cost of labor in the manufacturing industry continues to rise. This may lead to some companies facing declining profits or decreased competitiveness.

The second challenge is resource scarcity and environmental issues. The

development of the Chinese manufacturing industry has placed tremendous pressure on the environment and resources. With the strengthening of environmental regulations and increasing resource scarcity, manufacturing companies need to adopt more sustainable production methods, such as reducing energy consumption and minimizing waste emissions. This fundamentally requires the Chinese large-scale manufacturing industry to improve its innovation capabilities, invest more in technological innovation, and conduct research and development on products to maintain its competitiveness.

Thirdly, Chinese large-scale manufacturing industry typically relies on global supply chains. However, supply chain management faces many challenges, such as quality control, logistics issues, and address exchange rate fluctuations. To achieve sustainable performance, companies need to enhance their management and control of supply chains. Finally, the market competition in Chinese manufacturing industry is fierce, and companies need to continuously improve product quality, reduce costs, and increase efficiency to respond to market competition. Simultaneously, corporations must bolster their investigations into market trends and consumer demands to innovate novel products and cultivate offerings aligned with prevailing market exigencies.

In summary, China's large-scale manufacturing industry needs to improve and enhance multiple aspects to achieve sustainable performance. These aspects include labor costs, resource and environmental issues, supply chain management, innovation capabilities, and market competition.

### 1.3 Problem Statement

China's LSM still faces many problems (Awasthi et al., 2022). These problems can be summarized as potential labor shortage, industrial transfers and refluxes, imbalances in industrial structure, numerous enterprises but few renowned ones and a lack of core technology (Gonne & Defraigne). Previous research literature shows that how to explore the sustainable performance of China's LSM under the context of leadership choice is a relatively underexplored research area. Specifically, the concept of dynamic capability functions as an intermediate variable for examining the impact of leadership decisions on the sustainable performance of an organization.

There have not been enough empirical studies to provide sufficient reference data for the development of enterprises (Pangriya & Pandey, 2024). Due to the traditional labor-intensive and resource-intensive production mode, China's manufacturing enterprises have formed an industrial structure with high resource consumption and high pollution (Liu et al., 2019). This kind of industrial structure is often accompanied by the characteristics of a bureaucratic organization and low innovation ability. The onset of the 21st century has witnessed a surge in economic expansion, catalyzing the swift evolution of China's manufacturing sector (Liu et al., 2019). Under the rapid development, the lack of effective management has led to a blind pursuit of short-term economic benefits while ignoring long-term development planning.

After China joined the WTO, the market regulation gradually standardized, and the disadvantages of a backward industrial structure began to appear. Resource

constraints hinder the expansive growth of the manufacturing sector, while the imperative for environmental preservation escalates penalties for polluting activities (Sherazi et al., 2023). The escalating expenses within manufacturing enterprises coincide with an obsolete industrial structure layout characterized by its inflexibility. This rigidity poses significant challenges for upgrades or adjustments, particularly evident in the ossification of managerial frameworks and the dearth of talent reserves. Consequently, the process of restructuring China's manufacturing enterprises encounters heightened difficulty.

The industrial restructuring of Chinese manufacturing industry is fundamentally a strategic issue (Deberdt et al., 2024). The correlation between leadership and strategy is profound, with leadership emerging as a pivotal factor in organizational triumph. Leadership refers to the management and guidance within an organization, while strategy is long-term planning for the organization to address external environments. Leadership can influence the direction, implementation, and actual outcomes of strategy (Obuba, 2022). When developing strategy, companies should consider their existing leadership talent pool and provide opportunities for leaders to leverage their comprehensive abilities and leadership styles (O'Reilly et al., 2010) . This will enable leadership to become a powerful driving force for strategy.

Henceforth, an intimate nexus exists between leadership and strategy, necessitating their harmonious coordination to propel organizational success and advancement. In the industrial restructuring in the manufacturing industry, leadership factors should be integrated into strategic discussions to better achieve the strategic

goal of industrial restructuring.

One important aspect of sustainable leadership is setting clear and measurable goals. When establishing sustainable development goals for a business or organization, the leadership team should consider how to integrate environmental, social, and economic benefits to ensure long-term success of the organization (Azhar et al., 2013; Xuecheng et al., 2022). Transformational leadership can contribute to sustainable performance in the organization by motivating and unleashing the employees' potential, promoting the team collaboration and cooperation, developing employees' skills development and career advancement, fostering an open and learning-oriented culture, adapting to changes and uncertainties, and establishing a positive organizational image and fostering social responsibility. This study selects these two leadership styles and aims to find empirical evidence for their impact on achieving sustainable performance.

Leading theorists of dynamic capability believed that performance and competitive advantage came from resource reallocation consistent with the environment, and the source of such resource reallocation was its organizational process(Teece, 2014, 2016). In the face of more and more complex competitive environment, the theoretical circle has sparked many relevant discussions on the development mode of enterprises, in which dynamic capability has become a focus of attention. However, there have not been many theoretical studies on this aspect, and its practical utility needs to be verified. As a comprehensive ability to address environmental challenges through resource integration and resource innovation,

dynamic capability is fundamentally derived from the choice of organizational strategies(Teece, 2016). Its purpose is to realize the organizational sustainability. Meanwhile, sustainability strengthens the dynamic capability of the organization, thus forming a virtuous circle.

The objective of this study is to investigate the influence of transformational leadership and sustainable leadership on the dynamic capability of large-scale manufacturing enterprises, thereby affecting their sustainable performance. Moreover, managerial ties will be considered as a moderating factor, hypothesized to enhance the connections between transformational leadership, sustainable leadership, and dynamic capability.

Transformational leadership and sustainable leadership, despite their differences, both play integral roles in organizational processes. They can influence the dynamic capability within the organization from the organizational strategy. Although they may be obviously influenced by the management network, they will eventually form a non-negligible influence on sustainable performance.

Current thesis investigates several inquiries within China's large-scale manufacturing firms. Firstly, it explores the impact of transformational leadership on dynamic capability. Secondly, it delves into the influence of sustainable leadership on dynamic capability. Thirdly, it examines the mediating function of dynamic capability in the relationship between transformational leadership and sustainable performance. Furthermore, it analyzes the mediating role of dynamic capability in connecting sustainable leadership with sustainable performance. Lastly, it

investigates the moderating effect of managerial tie on the associations between transformational leadership and dynamic capability, as well as between sustainable leadership and dynamic capability.

#### **1.4 Research Objectives**

Drawing from the preceding discourse regarding pertinent challenges encountered by Chinese manufacturing firms amid the double carbon context, this paper aims to elucidate methods for enhancing the dynamic capabilities of such enterprises and attaining enduring performance. The objectives of this study are as follows:

- (1) to investigate the effect of transformational leadership on dynamic capability.
- (2) to investigate the effect of sustainable leadership on dynamic capability.
- (3) to examine the effect of dynamic capability on sustainable performance.
- (4) to examine the moderating effect of managerial tie on the relationship between transformational leadership and dynamic capability.
- (5) to examine the moderating effect of managerial tie on the relationship between sustainable leadership and dynamic capability.
- (6) to examine the mediating role of dynamic capability between transformational leadership and sustainable performance.
- (7) to examine the mediating role of dynamic capability between sustainable leadership and sustainable performance.

## **1.5 Research Questions**

According to the research objectives, the following questions are raised:

- (1) does transformational leadership influence dynamic capability?
- (2) does sustainable leadership influence dynamic capability?
- (3) does dynamic capability influence sustainable performance?
- (4) does managerial tie moderate the relationship between transformational leadership and dynamic capability?
- (5) does managerial tie moderate the relationship between sustainable leadership and dynamic capability?
- (6) does dynamic capability mediate the relationship between transformational leadership and sustainable performance?
- (7) does dynamic capability mediate the relationship between sustainable leadership and sustainable performance?

## **1.6 Scope of Study**

The present research will utilize a cross-sectional empirical analysis to explore the correlation between transformational leadership and sustainable leadership, along with dynamic capabilities (specifically, eco-innovation, knowledge sharing, employee retention, and frugal innovation), and sustainable performance within China's manufacturing industry. The choice to investigate the large-scale manufacturing sector in this research is rooted in its pivotal significance within the Chinese economic landscape. Moreover, due to unique national circumstances, the

large manufacturing industry frequently exhibits intricate networks of high-level administrative relationships. However, it is worth noting that there is a noticeable absence of precise empirical research concerning the realization of sustainable performance through the enhancement of dynamic capabilities via strategic decision-making. Nonetheless, within the realm of large-scale manufacturing, a discernible correlation emerges among leadership styles, dynamic capabilities, and the sustainability of performance. Investigating this issue serves not only to bridge existing research lacunae but also to furnish empirical insights vital for the metamorphosis and advancement of China's large-scale manufacturing sector.

Based on the aforementioned analysis, this research will additionally emphasize the moderating influence of management ties within this investigatory framework. Specifically, this study will concentrate on large-scale manufacturing enterprises operating within the Chinese manufacturing industry, primarily those falling within the category of industries above designated size. Data will be gathered via a structured questionnaire survey targeting managerial personnel within these enterprises, including individuals holding positions such as directors, senior executives, general managers, and departmental managers.

## **1.7 Significance of Study**

The objective of this study is to enhance existing understanding in the realm of management and organizational research by providing a thorough examination of the intricate relationship among leadership, dynamic capability, and sustainable

performance within the distinctive environment of Chinese large-scale manufacturing firms. This research seeks to offer valuable insights to scholars and practitioners by amalgamating and expanding upon the Resource-Based View, Social Network Theory, and Dynamic Capability Theory. It delves into the interplay among leadership styles, the cultivation of dynamic capabilities, and managerial ties within the Chinese manufacturing sector, aiming to enhance comprehension of the factors influencing sustainable performance.

The aim is to enhance comprehension regarding the impact of transformational leadership and sustainable leadership on the sustainable performance of large-scale manufacturing enterprises, a domain lacking empirical substantiation, particularly within the Chinese setting. Additionally, present research hopes to offer important practical contributions to policy makers and practitioners who are interested in formulating appropriate strategies and policies to enhance the sustainability of large manufacturing firms.

### **1.7.1 Theoretical Contributions**

Numerous advancements in both theory and practical application have been made through the augmentation of literature concerning sustainable performance. This study elucidates the manner in which a particular leadership style can engender frameworks and mechanisms conducive to enhancing sustainable performance. Prior research has advocated for further exploration into the correlation between distinct leadership paradigms and sustainable performance within the Chinese context