

# *Literature Review of Research on the Impact of Green Transformation on Business Resilience*

Ling Yang

Guangxi Normal University, Guilin, Guangxi Zhuang Autonomous Region, 541006, China  
1468311758@qq.com

**Keywords:** Corporate Resilience; Green Transformation; Sustainably; Green Technology Innovation

**Abstract:** Against the backdrop of a complex and changing global economic environment, enhancing corporate resilience has become a focus of attention in both academia and practice. The study of enterprise resilience is mainly carried out from the perspectives of adaptive matching and interactive integration, and explores the influence of internal factors (e.g., employee traits, leadership characteristics, organizational structure) and external factors (e.g., institutional environment, social responsibility) on the resilience of enterprises. Meanwhile, green transformation, as a core path to achieve the “dual-carbon” goal, promotes sustainable development of enterprises through green technological innovation, but there is no consensus on its impact on corporate resilience. Some studies suggest that green transformation may have a negative effect on business resilience due to cost pressure at the initial stage, while others point out that it can enhance long-term resilience through technological upgrading and brand value-adding. At present, there is less literature that directly explores the relationship between green transformation and firm resilience, and the intrinsic mechanism between the two still needs further research. Through the literature review, this paper summarizes the current status and divergence of related studies, and provides theoretical references for the future exploration of how green transformation affects corporate resilience.

## **1. Studies related to business resilience**

Under the current rapid development of globalization and digitalization, the business environment faced by enterprises is undergoing unprecedented and profound changes. At the international level, the restructuring of the global economic landscape, the rise of trade protectionism, and the intensification of geopolitical conflicts have led to a significant increase in economic volatility; from a domestic perspective, the deep restructuring of the industrial structure, the increasingly fierce competition in the marketplace, and the continuous changes in regulatory policies are all continuously reshaping the business ecology. At the same time, the frequent occurrence of extreme weather events triggered by climate change and the threat of natural disasters to business operations are increasing day by day; and the rapid iteration of disruptive technologies such as artificial intelligence and blockchain not only brings new development opportunities, but also poses a serious challenge to the traditional business model of enterprises. The report of the 20th Party Congress clearly pointed out that China's development is in a special period of coexisting strategic opportunities and risks and

challenges, with an increase in uncertain and unpredictable factors, and this judgment accurately grasps the current stage characteristics of economic and social development. In particular, the sudden outbreak of the new crown epidemic and the continued impact of this typical “black swan” event to the global market has brought violent shocks, according to the State Administration for Market Supervision and Administration of statistics show that in 2021 alone, there are 460,000 enterprises in China in the epidemic under the impact of forced to withdraw from the market. In this VUCA era full of volatility, uncertainty, complexity and ambiguity, enterprises, as the basic unit of the national economy, are facing unprecedented pressure on their survival and development. In this context, the concept of enterprise resilience is increasingly highlighting its importance, which is not only a “breakwater” for enterprises to withstand external shocks, but also a key ability for enterprises to turn crisis into opportunity and realize transformation and upgrading in a crisis. From the micro level, enterprises with resilience can better adapt to environmental changes and maintain business continuity; from the meso level, the resilience level of enterprise groups directly affects the security and stability of the industrial chain supply chain; from the macro level, the enhancement of the overall resilience of the enterprise is an important guarantee of national economic security. Because of this, how to systematically enhance the resilience of enterprises to help them maintain their competitive advantage and realize sustainable development in the turbulent environment has become a cutting-edge topic of academic research and a practical focus of attention for the business community. The study of this issue not only has important theoretical value, but also has far-reaching practical significance in promoting high-quality economic development.

### **1.1 The Connotation of Business Resilience**

The term “resilience” was first applied to the field of ecology by Holling<sup>[1]</sup>, and it was not until the 1980s that it was introduced to management by Meyer<sup>[2]</sup>, and since then the research on enterprise resilience has been launched. Current research at home and abroad defines the connotation of enterprise resilience from two core perspectives: the adaptive matching perspective and the interactive integration perspective<sup>[3]</sup>. The adaptive matching perspective focuses on how enterprises build their own capabilities to resist and absorb the impact of external unfavorable factors from the perspective of a single enterprise. The interactive integration perspective, on the other hand, considers the environment and the enterprise as two interacting subjects and focuses on analyzing how the two evolve synergistically and how the relationship changes in this dynamic process. Domestic and foreign scholars' research in the field of enterprise resilience differs in terms of research content and research background. In terms of research content, foreign scholars focus on outcome research, focusing on the impact of corporate resilience on employee psychology, corporate social responsibility and corporate innovation. Domestic scholars focus on the study of motives, mechanisms and realization paths, paying attention to how enterprises use organizational learning and dynamic capabilities to enhance corporate resilience in a certain situation, as well as its mechanism of action. In terms of research background, foreign scholars have conducted research on enterprise resilience based on the special background of financial crisis, while domestic scholars have paid more attention to the formation mechanism of enterprise resilience in many different contexts, such as the special institutional background of socialist market economy with Chinese characteristics, the background of the new coronary epidemic, and the background of the development of digital economy.

### **1.2 Factors influencing business resilience**

Some scholars believe that internal factors determine the level of corporate resilience, and have conducted in-depth studies at the individual and organizational levels respectively. At the individual

level, focusing mainly on employee traits and leadership characteristics, when employees' Adversity Quotient (the ability to cope with setbacks and unfavorable situations) is enhanced, they are more inclined to choose rational and effective ways to cope with various crises. This positive coping attitude not only helps individuals to overcome difficulties, but also further enhances the organization's resilience, making it more robust and flexible in the face of challenges (Tian et al., 2014). In addition, leadership characteristics also have an impact on business resilience, and leaders with high leadership skills can lead employees and businesses to quickly recover and rebound to normal working conditions in times of distress and stress<sup>[4]</sup>. Organizational level is mainly focused on organizational structure and organizational relationships, good internal organizational relationships can enhance the trust between members, improve the degree of coordination of intra-organizational relationships and the degree of information sharing, the formation of psychological and social stability in adverse situations, thus enhancing corporate resilience. Different organizational structures have different impacts on corporate resilience, with decentralized and de-centralized structures significantly enhancing corporate flexibility and ability to cope with external risks.

Another group of scholars believe that the influencing factors of corporate resilience are mainly derived from external social factors, such as institutional environment, social responsibility and external stakeholders. Some scholars argue that the investor protection system significantly improves firms' ability to cope with risks<sup>[5]</sup>. Some scholars also suggest that firms that are socially responsible tend to be more resilient in a crisis. Other studies have shown that building a dependency relationship with external stakeholders can expand the scope of resource utilization of an enterprise, enabling it to utilize its rich social capital and social network relationships to quickly recover to its original state when facing operational difficulties<sup>[6]</sup>.

## 2. Studies related to the green transition

Green transformation of enterprises means that enterprises take green development as the core concept and drive the greening of production processes through green technological innovation, aiming to achieve the double enhancement of environmental protection and economic benefits<sup>[7]</sup>. During the “14th Five-Year Plan” period, the plan explicitly proposes to accelerate the green transformation of the economic development mode, and to promote the synergy between high-quality economic development and high-level protection of the ecological environment. With the goal of achieving “carbon peak and carbon neutrality”, the adoption of a resource-saving and environmentally friendly green development model has become a core strategy for enterprises to pursue high-quality growth, and an important safeguard to enhance corporate resilience<sup>[8]</sup>. Therefore, the implementation of green transformation is an indispensable path for enterprises to realize the goal of green development. Realizing green development not only helps enterprises to cope with environmental challenges, but is also a strategic choice to enhance their comprehensive competitiveness and long-term survival and development capabilities, which is crucial to building corporate resilience.

Over the years, a series of studies on green transformation have been carried out at home and abroad, but the views of scholars at home and abroad differ in terms of practical paths and policy orientation. In terms of the implementation path of green transformation, the international community mainly adopts two typical models: the ecological modernization model emphasizes the coordinated development of economy and environment through technological innovation, while the eco-administrativeism model focuses on the use of policies and regulations to promote the transformation. In contrast, the green transformation path with Chinese characteristics shows significant localization characteristics, the core of which is to promote the green transformation of the traditional industrial system, while vigorously developing new energy industries. This path not only reflects the actual

situation of China as a developing country, but also gives full play to the government's leading role in industrial transformation and upgrading. China has also particularly emphasized the role of the advantages of the socialist system and the latecomer advantages of developing countries in green development in promoting green transformation. In terms of policy orientation, international studies have emphasized the comprehensive goals of government promotion, policy orientation and technological support, while domestic studies have focused more on exploring how to promote the green transformation of the economy through mechanisms such as environmental regulation and fiscal decentralization.

Previous academic research on green transitions has focused mainly on the drivers, transition paths and economic consequences.

In terms of motivation, in the face of greater environmental regulatory pressure, enterprises will choose green transformation and upgrading as a way to alleviate this pressure<sup>[9]</sup>. In addition, as green technology is the core element to ensure the sustainability of enterprises, enterprises tend to increase R&D investment to enhance their sustainable development capability, which in turn will promote the green transformation process. At the same time, a number of external drivers provide additional motivation for green transformation, such as stakeholder expectations, growing demand for green consumption, and the formation of a green culture.

In terms of the transformation path, some scholars have discussed how to realize the green transformation and upgrading of traditional industries through industrial upgrading, industrial extension and industrial integration<sup>[11]</sup>. From the perspective of enterprises, other scholars believe that the green transformation of enterprises is achieved by promoting scientific and technological innovation and green technology development<sup>[12]</sup>. In addition, some scholars from the supply chain point of view discussed that manufacturing enterprises should use green supply chain and other means as the upgrading impetus of green transformation, promote product upgrading and industrial chain renewal, and successfully complete green transformation and upgrading<sup>[13]</sup>.

In terms of economic consequences, some scholars believe that green transformation can bring about improvements in technology, reputation, and value for enterprises, which contributes to sustainable development and value enhancement of enterprises<sup>[14]</sup>, thus significantly improving their profitability and hence their financial performance<sup>[15]</sup>. In addition, green transformation of enterprises can help improve environmental performance. For example, the green transformation of Mountain Eagle Paper has achieved significant results in reducing wastewater and exhaust emissions<sup>[16]</sup>. In addition, the green industrial policy has a significant inhibiting effect on the pollution emission of traditional manufacturing enterprises<sup>[17]</sup>.

### **3. Research related to the relationship between green transition and business resilience**

Current academic research on the impact of green transformation on enterprise resilience is still in its infancy, and the relevant literature is relatively limited and obviously divergent. Some scholars point out that based on the short-term benefit perspective, green transformation often requires enterprises to invest a lot of money in technology research and development, equipment renewal and process transformation, but the transformation cycle is longer, and it is difficult to realize the simultaneous improvement of business performance in the short term<sup>[18]</sup>. This high investment and slow return characteristics may lead to tight cash flow, financial pressure, especially in the early stage of transformation, but will weaken the ability of enterprises to cope with external shocks, the resilience of enterprises have a negative impact<sup>[19]</sup>. For example, some traditional manufacturing enterprises in the implementation of environmental protection reform, due to the surge in costs and fell into business difficulties cases are common<sup>[20]</sup>.

However, another group of scholars provides different insights from the dimension of long-term value creation. They argue that green transformation, despite the large upfront investment, can significantly enhance the core competitiveness of enterprises through green technological innovation<sup>[21]</sup>. From the resource base perspective, such a transition not only enables firms to master more sustainable production technologies, but also creates differentiated competitive advantages by building a green brand image that is recognized by consumers<sup>[22]</sup>, which is a key buffer mechanism for firms to cope with crises. Empirical studies have shown that firms that have successfully realized a green transition tend to exhibit greater risk tolerance and crisis resilience, which supports the view that a green transition increases the resilience of firms<sup>[23]</sup>.

Behind this academic disagreement, it actually reflects the complexity of the mechanism by which green transformation affects corporate resilience. Driven by multiple drivers, including increasingly stringent environmental regulations, growing environmental demands from stakeholders, and the rapid expansion of the green consumer market, enterprises are forced to accelerate the pace of green technological innovation and transformation and upgrading. However, it is worth noting that existing research on corporate resilience has mostly focused on traditional factors such as organizational learning and dynamic capabilities, and there is still a lack of systematic research specifically exploring the relationship between green transformation and corporate resilience. Although the correlation between technological innovation and enterprise resilience has been more verified, the special characteristics of green technological innovation, such as stronger externality and longer payback cycle, may make the mechanism of its impact on enterprise resilience significantly different from that of traditional technological innovation.

Therefore, it is of great theoretical and practical significance to deeply analyze the internal mechanism of green transformation affecting enterprise resilience. Future research needs to further clarify the following key questions: what are the differentiated impacts of different stages of green transformation on enterprise resilience, what organizational characteristics or external environmental factors can moderate such impacts, and whether there is an optimal green transformation path to maximize enterprise resilience. Exploration of these issues can not only enrich the connotation of enterprise resilience theory, but also provide practical guidance for enterprises to enhance risk resistance in the context of sustainable development. This research topic is particularly urgent and important in the current context of intensifying global economic uncertainty and increasingly severe environmental challenges.

#### 4. Conclusion

By systematically combing the relevant literature at home and abroad, this paper thoroughly explores the complex relationship between green transformation and corporate resilience. It is found that the formation mechanism of corporate resilience, as a key ability to meet the challenges of the VUCA era, is affected by both internal factors (e.g., leadership characteristics, employee attributes, organizational structure) and external environmental factors (e.g., institutional environment, social responsibility). Green transformation, as an important path to achieve the “dual-carbon” goal, may put pressure on the financial performance of enterprises in the short term due to the characteristics of high investment and slow return, but in the long term, it can significantly enhance the core competitiveness and sustainable development ability of enterprises through green technological innovation, brand value enhancement and other ways.

The main divergence in current research is that the direction and mechanism of the impact of green transformation on business resilience have not yet reached a consensus. This reflects the differences in research perspectives on the one hand, and highlights the complexity and multidimensionality of research in this field on the other. It is worth noting that the existing literature mostly focuses on the



impact of traditional factors on business resilience, while systematic research specifically exploring the relationship between green transformation and business resilience is still insufficient, especially in the differentiated impacts at different stages of the transformation, and the role of moderating factors and other aspects of the obvious research gaps.

Future research should focus on the following directions: first, a more systematic theoretical framework needs to be constructed to analyze the internal mechanism of green transformation affecting enterprise resilience; second, empirical research should be strengthened to reveal the changing law of resilience of enterprises of different industries and sizes in the process of green transformation through longitudinal tracking and case comparisons; and lastly, the optimal path of green transformation needs to be explored to provide practical guidance to enterprises in balancing short-term benefits and long-term resilience. Finally, it is necessary to explore the optimal green transformation path to provide practical guidance for enterprises to balance short-term benefits and long-term resilience. These studies not only help to enrich the theory of enterprise resilience and sustainable development, but also provide scientific basis for enterprises to realize the dual goals of green transformation and resilience enhancement in the complex environment.

## Fund project

Funding organization: Postgraduate Innovation Project of Guangxi Normal University.

Object name: Can green transformation enhance corporate resilience?

Project number: JGYJSXM202518

## References

- [1] Holling C S. Resilience and stability of ecological systems[EB/OL].(1973-11-1)
- [2] A. D. Meyer, *Adapting to Environmental Jolts*, *Administrative Science*,1982,27(4),pp.515-537.
- [3] Qiang Zhang, Fuli Ge, Lu Zhang, et al. Review and Prospect of Domestic and International Research on Corporate Resilience[J]. *Science and Technology Progress and Countermeasures*,2024,41(16):37-48.
- [4] Hillmann J, Guenther E. Organizational resilience: a valuable construct for management research?[J]. *International journal of management reviews*, 2021, 23(1): 7-44.
- [5] Buyl T, Boone C, Wade J B. CEO narcissism, risk-taking, and resilience: An empirical analysis in US commercial banks[J]. *Journal of Management*, 2019, 45(4): 1372-1400.
- [6] Waldman D A, Ramirez G G, House R J, et al. Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty[J]. *Academy of management journal*, 2001, 44(1): 134-143.
- [7] YU Lianchao, ZHANG Weiguo, BI Xi. organization embedding and enterprise green transformation[J]. *Journal of Zhongnan University of Economics and Law*,2019,(03):128-137+160.
- [8] Li Junfu,Li Xiaoyun. Antecedents, Paths and Strategies of Green Transformation of Manufacturing Enterprises-An Analysis Based on Carbon Neutral Perspective[J]. *Modern Management Science*,2023,(05):124-132.
- [9] Petroni G, Bigliardi B, Galati F. Rethinking the Porter hypothesis: The underappreciated importance of value appropriation and pollution intensity[J]. *Review of policy Research*, 2019, 36(1): 121-140.
- [10] Cao Yu. Research on enterprise green innovation and green financial support strategy [ D ].University of International Business and Economics, 2022.
- [11] ZHU Bin, TANG Qingchan, SONG Yuequn. Research on the path selection of green transformation and upgrading of traditional industries[J]. *Environmental Science and Management*,2015,40(12):42-48.
- [12] Lan Qingxin,Han Jing. Research on China's industrial green transformation strategy[J]. *Economic System Reform*,2012,(01):24-28.
- [13] Poulsen T, Lema R. Is the supply chain ready for the green transformation? The case of offshore wind logistics[J]. *Renewable and sustainable energy reviews*, 2017,73:758-771.
- [14] Li Yanjia. Analysis of the current situation of green transformation of coal enterprises--Taking Huating Coal Company in Gansu Province as an example[J]. *Economic and Trade Practice*,2016,(08):21-22.
- [15] XU Feng, PAN Qi, WANG Yannan. Research on the impact of green low-carbon transition on corporate profitability under the “dual-carbon” goal[J]. *Macroeconomic Research*,2022,(01):161-175.
- [16] Yao Jiawei. Research on the path and consequences of green transformation of Mountain Eagle Paper [D]. Nanjing Forestry University, 2023.

- [17] Hu Xinmiao. *Research on the impact of green industrial policy on the transformation and upgrading of traditional manufacturing industry* [D]. Jilin University, 2022.
- [18] Chen J, Li Q, Wang X. Does the government's environmental attention improve enterprise green innovation?—Evidence from China[J]. *Frontiers in Environmental Science*, 2022, 10: 999492.
- [19] Guo X, Ma J, Feng Y, et al. Green Credit Policy and Short-Term Financing for Long-Term Investment: Evidence from China's Heavily Polluting Enterprises[J]. *Sustainability*, 2023, 15(24): 16804.
- [20] Zhong Jianhao. *Research on the impact of green transformation on corporate performance of Guangzhou Development Group* [D]. Guangxi University of Finance and Economics, 2023.
- [21] Dai D, Xue Y. The impact of green innovation on a firm's value from the perspective of enterprise life cycles[J]. *Sustainability*, 2022, 14(3): 1226.
- [22] Chen Zewen, Cao Hongjun. How green innovation strategy enhances corporate performance-the mediating role of green image and core competence[J]. *East China Economic Management*, 2019, 33(02): 34-43.
- [23] Liao Y, Qiu X, Wu A, et al. Assessing the impact of green innovation on corporate sustainable development[J]. *Frontiers in Energy Research*, 2022, 9: 800848.