

# Research on the Impact of Green Innovation on New Ventures Performance

Luo Xiaodan

Sichuan Minzu College, Kangding, Sichuan, China, 626001

**Abstract:** *In recent years, more and more startups have chosen to implement green innovation strategies and balance the relationship between their production and business activities and environmental protection in a more proactive manner. Green innovation strategy is seen as an active environmental strategy that can achieve green innovation in products and processes, weaken the adverse impact of enterprise production and operation practices on the environment, and bring unique competitive advantages and profitability to enterprises. Through literature review, it was found that although existing research has gradually increased its attention to green innovation strategies, the understanding of green innovation strategies still lacks systematicity and comprehensiveness, mainly reflected in: firstly, a lack of attention to new startups implementing green innovation strategies. Existing research focuses more on the implementation of green innovation strategies and green transformation issues for large enterprises. However, new startups need to take on more responsibility in achieving sustainable economic and social development, especially in stimulating economic vitality and developing green innovation technologies. However, existing research lacks attention to new startups implementing green innovation strategies. Based on this, this article focuses on green innovation strategies. From the perspectives of "why" and "how", can green innovation strategies have a positive impact on the performance of new startups? How can we achieve the transformation of green innovation strategy into the performance of new startups? In summary, this article has certain reference value for driving new startups in China to choose green innovation strategies, achieve performance improvement, and promote green transformation of the economy and society.*

**Keywords:** *Green innovation; New Ventures Performance; Environmental Strategy*

## 1. Introduction

Since the reform and opening up, in order to achieve rapid economic growth and promote national modernization, China has vigorously implemented the industrial economic development model, that is, continuously increase the investment of capital and assets, take development as the core goal, and to drive the economic development of local enterprises. Under the leadership of the environment, enterprises will also aim at economic benefits. Therefore, China's economic development has taken off and made remarkable achievements. However, the development of high input and high output economy has also caused many problems such as energy shortage, environmental pollution and bad natural ecological environment in China. According to the Environmental Performance Index published in China's economy ranks 120th among 180 developed countries in the world, and the national air quality ranks 177th. Therefore, it is imperative to promote the transformation of China's manufacturing into a knowledge-based economy, balance the contradiction between industrial economic growth and natural environment, and implement green innovation and high-quality sustainable development of enterprises. Green innovation and development is an indispensable key factor for enterprises to shift industrial enterprises to knowledge economy and pursue high efficiency and high performance. In today's increasingly serious deterioration of the ecological environment, putting forward the concept of green innovative development is the core of enterprises to achieve sustainable development of circular economy. Nowadays, people pay more and more attention to environmental protection, the company through green technology innovation, the development of green pollution-free products and other environmental protection strategies to improve their competitiveness, so as to win the love of At the same time, when the signal of green innovation development of enterprises is transmitted the market, it can get more support from investors and other stakeholders. Therefore, China's future economic growth will depend on the green innovation development of enterprises. The successful innovation development strategy of enterprises will help enhance market competitiveness, establish a green and environmental protection corporate image, and ultimately enable enterprises to obtain higher

operating profits and long-term stable growth

## 2. Connotation of Green Innovation Strategy

With the international and domestic society's advocacy of green and sustainable development for enterprises, domestic and foreign scholars

More and more attention has been paid to the green innovation strategy that brings competitive advantage and performance improvement to the industry, but the academic circle has not yet formed a broad consensus on the connotation of green innovation strategy. According to existing research, scholars also refer to green innovation strategy as environmental innovation strategy, sustainable innovation strategy and ecological innovation strategy. It can be concluded that research on green innovation strategies has only begun to flourish in recent years. Different scholars define the connotation of green innovation strategy differently, but they generally believe that green innovation strategy is based on the consideration of environmental protection and sustainable development of enterprises, and managers try to reduce the impact of enterprise production practices on the environment through green production and operation behaviors. The negative impact of strategic choices. Although scholars have defined the connotation of green innovation strategy from different perspectives, at present, green innovation strategy has not yet formed a definition widely recognized by the academic community. Through sorting out and summarizing the existing research content, this study believes that the green innovation strategy emphasizes that enterprises can reduce the negative impact of production practices on the environment through innovative means and methods, and try to integrate new knowledge, new technology or new management. In terms of methods and other aspects, it creates new profit points and differentiated competitive advantages for enterprises. Therefore, this paper integrates the related research on environmental strategy, forward-looking environmental strategy, green innovation and green innovation strategy. From the point of view, the green innovation strategy is defined as a kind of green innovation in products and processes to weaken the adverse impact of enterprise production and operation practices on the environment, bring unique competitive advantages and profitability to enterprises, and realize sustainable development of enterprises active environmental strategy

## 3. The connotation and measurement of green innovation strategy

The academic research on green innovation strategy originated from people's concern about environmental issues. In the 21st century, all walks of life have increasingly strong appeals for environmental protection, and corporate activities that have a negative impact on the environment are restricted. Therefore, companies have to take corresponding measures to meet increasingly stringent environmental requirements. However, scholars have found that in actual business operations, different companies have different ways of dealing with environmental issues, which has triggered further thinking, and then scholars have classified and defined the environmental strategies adopted by companies. With the continuous development of research, the concept of green innovation strategy was proposed by scholars. It is regarded as a positive environmental strategy and a strategic choice made by enterprises trying to achieve sustainable development by means of green innovation<sup>[1]</sup>. Therefore, in order to deepen the understanding of green innovation strategy, it is necessary to first elaborate the three related concepts of environmental strategy, forward-looking environmental strategy and green innovation.

### 3.1. Environmental strategy

The rapid economic development has caused a variety of environmental problems, such as resource depletion, biodiversity loss, and global warming<sup>[2]</sup>. The natural environment imposes more and more restrictions on enterprises. Sustainability requirements are also getting higher and higher, so companies need to pay more attention to the environmental impact of their economic activities. Some scholars believe that if enterprises want to form a unique competitive advantage, they need to consider incorporating green environmental protection into their strategic planning<sup>[3]</sup>. As a result, research on corporate environmental strategies began to flourish. Environmental strategy is regarded as the degree to which an enterprise adopts environmental protection measures in the strategic planning process<sup>[4]</sup>, such as whether it chooses to conduct product life cycle analysis, reduce waste emissions, establish a closed-loop system, and conduct employee training, etc. It reflects that management has

different degrees of initiative in environmental orientation. Henriques and Sadorsky<sup>[5]</sup> divided the strategies of enterprises to deal with environmental issues into four types, namely reactive strategies, defensive strategies, adaptive strategies and forward-looking strategies. Different enterprises have very different strategic attitudes towards adopting environmental practices. For example, companies adopting reactive environmental strategies only comply with environmental regulations, usually focusing on pollution control or passive use of end-of-life treatment methods, while companies adopting forward-looking environmental strategies often have comprehensive quality-based environmental management, strategic planning and organization that exceed legal requirements. Learning from proactive pollution prevention initiatives<sup>[6]</sup>. Active environmental strategy is often considered to be a kind of innovative measures and activities beyond the prescribed tasks, including technological innovation to prevent pollution and the creation of environmental protection knowledge, reflecting the voluntary efforts of enterprises to manage the impact of their economic activities on the environment<sup>[7]</sup>.

### **3.2. Forward-looking environmental strategy**

Due to the positive impact of active environmental strategies on the natural environment and the positive effect on the shaping of corporate competitive advantages, forward-looking environmental strategies have been given more research and attention. Sharma and Vredenburg (1998)<sup>[8]</sup> first defined the forward-looking environmental strategy as the strategy of greening the production and operation process that enterprises actively choose to implement in order to improve comprehensive benefits. With the deepening of research, more scholars have defined this concept in more detail and defined the research content it contains. Berry and Rondinelli (1998)<sup>[9]</sup> incorporated environmental design, environmental accounting, waste discharge, and product management into the research content of forward-looking environmental strategies. Klassen and Mclaughlin (1996)<sup>[10]</sup> also included the content of product life cycle management into the scope of forward-looking environmental strategy. Anton et al. (2004)<sup>[11]</sup> regard forward-looking environmental strategy as the sum of positive environmental practices of enterprises. Aragón-Correa and Rubio-López (2007)<sup>[12]</sup> believe that forward-looking environmental strategy is a systematic pattern of proactive behavior of enterprises beyond regulatory requirements, such as reducing pollution and preventing pollution from the front end. Qin also conducted research on the content involved in the forward-looking environmental strategy, and believed that it includes green accounting, green auditing and green accounting, and many other aspects related to enterprise management. Pan defined the forward-looking environmental strategy as an environmental protection plan that enterprises actively formulate and implement beyond the specified scope in order to reduce the negative impact of economic activities on the environment. It includes the establishment of corporate environmental strategic goals, pollution prevention and control, clean production, green supply chain management, green product service and design, green marketing, and the creation of corporate environmental protection culture.

## **4. The Connotation of New Venture Performance**

In order to better define the connotation of the performance of new ventures, this section first new ventures. At present, the academic circle has not yet unified the way of defining new ventures, but through combing the literature, it is found that new ventures are usually considered to be enterprises in the early stages of establishment or development. Compared with mature enterprises, they have lack of knowledge and information resources, organization The structure is not perfect, but its lies in its strong flexibility and abundant innovation spirit. Scholars generally define new ventures from two aspects: enterprise life cycle and enterprise establishment years. Based on the research perspective the enterprise life cycle, new ventures are still in the early stages of the growth process and have not yet reached a mature state of development<sup>[13]</sup>. Some scholars also divide the development stages of enterprises into start-up stage, adolescence stage and mature stage, and enterprises established within 4 years are considered to be in the stage of start-up stage of development. However, more scholars believe that new ventures can be more clearly and intuitively defined by the age of establishment. The Global Entrepreneurship Monitor (Global Entrepreneurship Monitor) defines a company that has been established for 42 months, that is, within 3 and a half years, as a new venture. Weiss (1981)<sup>[14]</sup> analyzed individual entrepreneurial enterprises in different industries and found that it takes about 7 years for enterprises to realize their first profit. But more scholars believe that 8 years is the best time to define new ventures. Su et al. (2015), Wang et al. (2017)<sup>[15]</sup>, all adopted this definition standard, taking 8 years as the division of new innovations. corporate standards. Some scholars also believe that a longer

period of time is required to define new ventures. For example, Yu Hongjian (2007)<sup>[16]</sup> extended the division criteria for defining new ventures to 10 years, and the studies of Covin and Slevin (1989)<sup>[17]</sup> used 12 years as the criterion for dividing new ventures. The boundary between start-ups and established companies. Based on the classification criteria of most studies on new ventures, as well as the consideration of the research object and research purpose of this paper, this study defines new ventures as those that have been established for 8 years or less. Profit growth and performance improvement are considered to be important goals that all enterprises continue to pursue. The performance of new ventures is a specific way to reflect the operating results of new ventures, and it is also an effective evaluation of the degree of realization of the development goals of new ventures<sup>[18]</sup>. It is also called New Venture Performance, which can be specifically reflected in many aspects, such as the increase of corporate profits, the expansion of market share, and the favor of more customers. The research of regards the performance of new ventures as an explicit indicator that can reflect the survival and development status of new ventures. Yi Zhaohui (2012)<sup>[19]</sup> believes that the performance of new ventures reflects the efficiency and effectiveness of new ventures' business activities. Chen Biao (2017)<sup>[20]</sup> regards the performance of new ventures as the result of strategic choices of new ventures. Xu Xuejiao (2018) believes that the performance of new ventures is a collective term for the business activities and results achieved by new ventures, which can effectively reflect the company's revenue, profit and operating capabilities. Zhang Kun (2019)<sup>[21]</sup> pointed out that the performance of new ventures can be regarded as the final result of new ventures in many aspects, and it well reflects the efficiency and ability of enterprises to use resources. To sum up, this study believes that the performance of new ventures is the response to the strategic choice of new ventures, and it is also the final result of the business activities of new ventures. It reflects the survival and operation status of new ventures and the level of resource utilization. A key indicator of the growth potential of new ventures.

## 5. The relationship model between green innovation strategy and new ventures

The traditional view is that the resource and capacity constraints of new ventures will affect the innovation and daily operation of enterprises, but some studies have also found that the resource constraints faced by new ventures will actually promote. To enable them to innovate and grow. Especially in emerging economies, where resource constraints have a more pronounced impact on firms, new ventures must strategically find a niche market to improve their chances of success. Based on the resource-based view, heterogeneous resources and capabilities that are difficult to imitate or transfer help organizations achieve superior performance levels<sup>[22]</sup>, while environmental strategies are considered to be able to reduce costs or provide differentiated products. It is an important means to achieve performance growth. Existing studies have found that the strategic actions of enterprises determine the performance of enterprises. As an active environmental strategy, the green innovation strategy can effectively promote the use of tangible and intangible resources of the enterprise itself, realize the green innovation of the enterprise in terms of products or processes, reduce the environmental burden, enhance the competitive advantage of the enterprise and improve the performance of the enterprise purpose<sup>[23]</sup>. Although the resource reserves and production scale of new enterprises are difficult to match with large enterprises, their flexibility, market responsiveness and agility are more prominent than large enterprises, and they are more conducive to the occurrence of green innovation activities<sup>[24]</sup>.

Early studies believed that, unlike reactive environmental strategies, proactive environmental strategies would increase corporate operating costs and R&D investment at least in the short term, thereby weakening corporate performance gains. However, some scholars believe that the green behavior of enterprises can bring "innovation compensation effect", which can create unique competitive advantages for enterprises different from competitors, and then realize the improvement of organizational performance. With the deepening of research, more and more scholars believe that an active green strategy is conducive to improving the quality of production and operation of enterprises, and can improve the profitability and efficiency of enterprises. Enterprises can further reduce production and operating costs and improve economic efficiency through innovations related to green and environmental protection, such as reducing energy consumption, reusing production materials, and re-improving production processes, so that enterprises can obtain substantial benefits through green innovation strategies. Improved economic performance<sup>[25]</sup>. In addition, the green innovation strategy can help enterprises reduce the negative impact of production and operation activities on the environment, reduce the compliance and responsibility costs of enterprises, improve the brand image of enterprises and the reputation of environmental leadership of enterprises, and then enhance the market advantages of enterprises and increase the value of enterprises. Cash flow and improved operating

performance. Studies have found that corporate attitudes and initiatives towards environmental responsibility are seen as a source of better or more valuable opportunities<sup>[26]</sup>, and companies with higher levels of environmental commitment tend to be able to obtain a good ecological image<sup>[27]</sup>, thereby gaining higher social acceptance<sup>[28]</sup>, which further satisfies the needs of environmentally sensitive customers for products, thus enabling enterprises to benefit from a premium price and obtain higher income. This kind of social recognition also helps companies to distinguish their products and services from other competitors in the industry, form a differentiated competitive advantage, further increase brand value and customer loyalty, and a good corporate reputation and corporate image. It also helps to enhance the green innovation performance of enterprises. Some studies have also found that new start-ups that take green innovation strategy as their corporate strategy can gain better social support from their internal and external stakeholders and obtain valuable resources. Tomomi's (2010)<sup>[29]</sup> research focused on small and medium-sized enterprises in Japan and found that environmental strategies provide better opportunities for the improvement of business activities of these enterprises and provide them with a competitive advantage. The research of found that in the research background of high-tech enterprises, environmental innovation can significantly improve the financial performance of the organization. The implementation of the green innovation strategy and the ecological innovation activities of enterprises will not only have a positive impact on the competitiveness and financial performance of enterprises, it will also help enterprises to improve their environmental performance<sup>[30]</sup>. The green innovation behavior of enterprises can reduce environmental pollution through green product design, cleaning equipment, recycling and reusing production materials, promote the sustainability of enterprises in achieving environmental performance, and increase environmental value. In addition, product innovation and process improvement in the process of realizing green innovation can also achieve performance growth by meeting customers' green needs, and achieve a balance between environmental performance and financial performance<sup>[31]</sup>. Ates explained the role of forward-looking environmental strategies from the perspective of strategic implementation, and pointed out that forward-looking environmental strategies improved environmental performance through environmental investment. The study by Zhang et al. (2019)<sup>[32]</sup> examined the impact of forward-looking environmental strategies on environmental performance, and the results also showed that green operating practices fully mediated the positive impact of green human resource management on environmental performance. To sum up, this study believes that the green innovation strategy can effectively promote the performance of new ventures. Based on the above analysis, this study proposes the following hypotheses:

H1: Green innovation strategy has a positive impact on enterprise performance .

In this study, SPSS24.0 software was used to test the hypothesis by hierarchical regression method, in which the nature of enterprises is class

Specific variables need to be virtualized. In this study, "other" in the nature of the enterprise is selected as a reference and assigned a value of 0. The results show that green innovation strategy can effectively explain 27.5% of the performance variation of new startups,  $R^2$  changes significantly, and the regression coefficient  $\beta=0.498$  ( $p<0.001$ ), indicating that green innovation strategy can significantly positively affect the performance of new startups, that is, H1 is established

## 6. Conclusion

In the study of the influence mechanism of green innovation strategy on the performance of new ventures, the following conclusions are drawn: Green innovation strategy has a significant positive impact on the performance of new ventures.

## About the author

Luo Xiaodan (1992—), lecturer at the School of Economics and Management, Sichuan Minzu College, member of the Northwest Sichuan Ecological Economic Development Research Center, PhD candidate, email: 2905696972@qq.com.

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