

Analysis of the Impact of Green Innovation and Corporate Green Performance

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Abstract: Green innovation plays a crucial role in contemporary enterprise development, and its impact on enterprise green performance is multifaceted and far-reaching. From policy guidance to technology promotion to intellectual property protection, this series of measures together motivate enterprises to be more active in innovation in the field of environmental protection and improve the level of green performance. First, policy support provides enterprises with clear directions and incentives, and through financial incentives, regulations and other means, it promotes enterprises to better fulfill their social responsibilities and accelerates the pace of green innovation. Secondly, the improvement of technology level and the protection of intellectual property rights have provided the technical basis and legal guarantee for green innovation, accelerated the dissemination and application of environmental protection technology, and improved the core competitiveness of enterprises in the field of environmental protection. Finally, from the perspective of industry chain resilience, green innovation makes the whole industry chain more adaptable and growth potential, provides new market opportunities for enterprises, and promotes the upgrading and sustainable development of the whole industry chain. Overall, green innovation not only provides enterprises with a new impetus for development, but also pushes them to fulfill their social responsibilities more actively, and prompts the whole industry chain to move towards a greener, more innovative and sustainable direction.

Keywords: Green Innovation; Corporate Green Performance.

1. Introduction

Green innovation is an innovation approach that actively pursues environmental protection and sustainable development in products, services, production processes and enterprise management. It emphasizes the introduction of new technologies, the use of environmentally friendly materials, the improvement of production processes and the promotion of the use of clean energy in order to reduce negative impacts on the natural environment and achieve the efficient use of resources, thereby creating more sustainable and eco-friendly solutions in economic activities. Green innovation focuses on reducing environmental impacts at the product and service level. This includes designing and developing greener products, reducing energy and resource consumption, and minimizing the generation of waste and emissions. For example, the manufacturing industry could adopt biodegradable packaging materials, promote electric vehicles, or develop recyclable products to reduce the burden on the environment.

Corporate green performance refers to the contribution to and fulfillment of environmental, social and sustainable development objectives in the course of business, as well as the performance achieved in these areas. It reflects an enterprise's performance in environmental management, social responsibility, resource utilization efficiency and sustainable operation, and emphasizes that while pursuing economic benefits in their economic activities, enterprises actively fulfill their environmental and social responsibilities and are committed to constructing a more sustainable business model. Corporate green performance includes active management of the environment. This includes measures such as reducing the generation of waste and harmful emissions, adopting clean technologies and green energy, and reducing carbon footprints. Through the establishment and implementation of environmental management systems and

operations that comply with relevant regulations and standards, companies strive to reduce the adverse impacts of their production processes on the ecosystem, thereby achieving a higher level of environmental performance (Weng et al., 2015).

The relationship between green innovation and corporate green performance is particularly important in today's society, which is increasingly concerned about environmental protection and sustainable development. As global environmental issues continue to highlight, enterprises not only need to pursue economic benefits, but also need to consider the impact on the environment and society in the operation process. Therefore, green innovation has become one of the key strategies for the sustainable development of enterprises, and its impact on the green performance of enterprises has far-reaching significance. First of all, green innovation provides enterprises with a more sustainable and environmentally friendly development path. By introducing environmentally friendly technologies, improving production processes and adopting clean energy, enterprises are able to reduce the negative impact on the environment, reduce the waste of resources and realize the more effective use of renewable resources. This green innovation not only helps enterprises to reduce environmental pollution and ecological damage, but also lays a solid foundation for their future sustainable development. Secondly, green innovation directly affects the green performance of enterprises. The green performance of enterprises includes environmental management, social responsibility, energy efficiency and other aspects, and green innovation is the power source that drives enterprises to achieve remarkable results in these aspects. By adopting environmentally friendly technologies, enterprises can improve production processes, reduce waste emissions, and increase resource utilization efficiency, thereby realizing positive contributions to the environment. These initiatives are not only in line with the expectations of

society, but also help enterprises establish a good corporate image and enhance market competitiveness. Finally, green innovation also has a positive impact on the economic performance of enterprises. Although the initial investment may be large, in the long run, green innovation helps to improve the operational efficiency of enterprises, reduce energy consumption and waste of raw materials, and lower environmental fines and governance costs. At the same time, as consumer demand for environmentally friendly products and services increases, products and services introduced by companies through green innovation are more likely to be favored by the market and achieve better sales and profitability. In addition, green innovation can also prompt enterprises to make continuous innovations in technology development and management systems. Faced with the challenges of environmental protection and sustainable development, enterprises need to constantly seek new solutions and promote technological progress. This not only helps enterprises remain competitive in the market, but also provides them with a more flexible and sustainable ability to cope with more complex environmental issues in the future. Overall, the relationship between green innovation and corporate green performance reflects the organic combination of environmental protection and economic efficiency. Through green innovation, enterprises are able to better fulfill their social responsibilities and actively participate in environmental protection while achieving economic growth. This not only helps enterprises to achieve competitive advantages in the market, but also makes an important contribution to the realization of global sustainable development goals. Therefore, incorporating green innovation into corporate strategic planning is not only environmentally responsible, but also a wise choice for the long-term development of enterprises themselves (Le, 2022).

2. Theoretical Analysis

2.1. Innovative Theory

Innovation theory provides an important perspective for an in-depth understanding of the relationship between green innovation and green performance of enterprises. Innovation is not only the updating of technology and products, but also the comprehensive consideration of economy, society and environment in the process of adapting to environmental changes and improving competitiveness of enterprises. In this context, there is a close relationship between green innovation of production and green performance of enterprises, which can be understood more comprehensively through the analysis of innovation theory. First, from the perspective of innovation theory, green innovation can be regarded as a kind of technological innovation and process innovation. Technological innovation emphasizes the innovative capacity embodied in the introduction of new technologies and methods by an enterprise. In green innovation, by adopting environmentally friendly technologies and promoting the use of clean energy, enterprises not only improve the quality of their products and services, but also reduce their adverse impact on the environment. Such technological innovation helps enterprises improve productivity and reduce resource waste, thus positively affecting their green performance. Secondly, green innovation also involves process innovation, i.e. the redesign and improvement of production and management processes. By introducing environmental management systems, optimizing supply chains, and reducing

carbon footprints, companies can achieve higher levels of green performance in their operations. Successful implementation of process innovation not only improves the resource utilization efficiency of enterprises, but also helps to reduce waste emissions, thus conforming to the goal of sustainable development and making enterprises more competitive in terms of environmental protection. Under the framework of innovation theory, the promotion of green innovation cannot be separated from the cultivation of innovation culture and the enhancement of innovation capability within the enterprise. Enterprises need to encourage their employees to come up with ideas for environmental innovation, establish an organizational culture that supports environmental innovation, and provide corresponding resource support. Innovation theory emphasizes that innovation is a systematic process that requires enterprises to innovate at multiple levels, such as organizational structure, management style, etc., and the implementation of these innovations has a far-reaching impact on the green performance of enterprises. In addition, innovation theory emphasizes the external drivers of innovation, including market demand, competitive pressure and social expectations. In today's society, consumers are increasingly concerned about environmental protection, and the government's formulation and enforcement of environmental regulations are also being strengthened. This change in the external environment has prompted companies to be more proactive in green innovation to meet market demand and compliance requirements. By responding to the demand for innovation in the external environment, firms can win consumer trust, increase market share, and thus improve green performance. In terms of firms' green performance, innovation theory also provides an explanatory framework. Innovation theory suggests that innovation is critical to the competitiveness and long-term development of a firm. In green innovation, firms can not only improve productivity and product quality, but also reduce environmental risks and improve corporate image. These aspects have a positive impact on the economic performance and social responsibility fulfillment of enterprises. From the perspective of economic performance, green innovation helps enterprises improve efficiency, reduce costs and gain higher competitiveness in the market. By launching environmentally friendly products, enterprises can meet consumer demand for sustainable development, gain green market share, and achieve product differentiation and premium pricing. This improved economic performance contributes to long-term sustainable business operations and is in line with the requirements of innovation theory for firms to continuously evolve and adapt to change. Social responsibility is another aspect of firms' green performance. Innovation theory suggests that firms should respond positively to social expectations and improve social and environmental issues through innovation. In green innovation, enterprises not only improve their social reputation but also fulfill their social responsibility by reducing pollution to the environment, improving the working conditions of employees, and supporting community development. This fulfillment of social responsibility helps to establish a good relationship between the enterprise, society and consumers, and lays the foundation for the long-term sustainable development of the enterprise. Overall, the analysis based on innovation theory reveals the profound connection between green innovation and green performance of enterprises. Green innovation is not only a kind of

technology and process renewal, but also an enterprise's positive response to the society and the environment, and an embodiment of an all-round innovation capability. Through green innovation, enterprises can not only improve their economic performance, but also make positive achievements in society and the environment, contributing to the goal of sustainable development (Song & Yu, 2018).

2.2. Resource Curse Theory

Resource dependence theory provides an insightful perspective for understanding the relationship between firms in producing green innovation and green performance. The theory emphasizes the interdependence between firms and the external environment, arguing that firms need to rely on external resources in order to survive and develop, and that the impact of these resources is critical in terms of green innovation and green performance. First, from the perspective of resource dependence theory, enterprises rely on external technological and knowledge resources when engaging in green innovation. Green innovation requires enterprises to introduce new environmental technologies, clean energy, etc., which may need to be acquired through cooperation with external partners, research institutes or professional organizations. Therefore, the dependence of enterprises on external technology and knowledge in the process of green innovation determines the degree of success of the innovation. Second, resource dependence theory also highlights the dependence of firms on raw materials and energy. In the process of producing green innovations, firms may need to adopt new, environmentally friendly raw materials or shift to cleaner and renewable energy sources. Such changes can have a direct impact on a firm's production processes and resource efficiency. By reducing their dependence on limited resources, firms can increase the sustainability of their green innovations and reduce their negative impact on the environment. In addition, resource dependence theory suggests that firms are equally dependent in the market and social environment. Consumer demand for green products and services is gradually increasing, and the government's formulation and enforcement of environmental regulations are being strengthened. Enterprises need to meet market demand by producing green innovations, while adapting to and complying with changing regulations and standards. Enterprises respond positively to the market and society by gaining consumer recognition through green innovation, which not only meets market demand but also reduces uncertainty in the market environment. In terms of enterprise green performance, resource dependence theory provides a theoretical basis for analyzing the relationship between enterprises and the external environment. The survival and development of enterprises do not only depend on internal resources, but are also limited by the availability and mastery of external resources. In terms of green performance, enterprises need to rely on the recognition and support of the external environment for environmental protection and sustainable development. From the perspective of market dependence, the improvement of green performance of enterprises may affect their position and reputation in the market. Consumers' concern for environmental protection and social responsibility is gradually increasing, and their preference for green products and environmentally friendly companies is also rising. Therefore, enterprises improve their green performance by producing green innovations, which can help to win consumers' trust and improve their brand

image, thus gaining a better position in the market. In terms of social dependence, enterprises need to respond positively to the environmental calls of the society in order to maintain their reputation in the society. Government regulations on corporate environmental responsibility are also a form of social dependence, and companies need to comply with the regulations while actively participating in social and environmental activities. By producing green innovations, enterprises can improve their sense of social responsibility, realize positive contributions in the social environment, and enhance green performance. In terms of green performance, resource dependence theory also highlights the dependence relationship between enterprises and stakeholders. Relationships with employees, suppliers, investors and other stakeholders have a direct impact on the green performance of enterprises. By formulating green policies and participating in social responsibility programs, companies can improve their relationships with stakeholders and enhance their green performance. In summary, the analysis based on the resource dependence theory reveals the close connection between green innovation and enterprise green performance. Enterprises rely on external resources such as technology, raw materials, and market demand when conducting green innovation, and these dependencies directly affect the success of green innovation. Meanwhile, in terms of green performance, enterprises also rely on external market recognition, social support and collaboration with stakeholders. Through in-depth understanding and application of resource dependence theory, enterprises can more effectively formulate green innovation strategies, enhance green performance and realize sustainable development (Manzano & Gutiérrez, 2019).

2.3. Social Responsibility Theory

The theory of social responsibility provides an insightful perspective to understand the relationship between firms in producing green innovation and green performance. The theory asserts that firms should not only focus on the interests of shareholders, but also fulfill their responsibilities to employees, society and the environment. In this context, green innovation becomes one of the ways for enterprises to realize their social responsibility, while corporate green performance is a direct manifestation of social responsibility fulfillment. First of all, from the perspective of social responsibility theory, enterprises embody positive concern for the environment and society when producing green innovations. The theory of social responsibility believes that enterprises are not only economic entities, but also part of society, and should have a positive impact on society in their economic activities. By producing green innovations, enterprises focus on areas such as environmentally friendly technologies and clean energy, and seek to minimize negative impacts on the environment in order to realize positive contributions to the social environment. Secondly, social responsibility theory emphasizes the responsibility of enterprises to employees, society and community. In the process of producing green innovations, companies need to consider the working environment, safety and welfare of their employees, as well as their relationship with the community. By introducing green innovations, enterprises improve the working conditions of their employees and actively participate in community development, realizing the fulfillment of their responsibilities to employees and communities. These positive behaviors not only help to

improve the social reputation of enterprises, but also enhance the sense of belonging of employees and promote the green performance of enterprises. In addition, social responsibility theory also focuses on the social responsibility of enterprises in the global context. In the era of globalization, enterprises need to fully consider environmental and social factors in their international business. By producing green innovations, enterprises are more likely to be recognized in the international market, meet the expectations of the international community, and enhance their international social responsibility image. This has a positive effect on enterprises to maintain competitiveness in international competition and promote green performance. In terms of corporate green performance, social responsibility theory provides a powerful standard for evaluating corporate performance. Enterprise green performance is not only the contribution to the environment, but also the fulfillment of responsibility to society. By adopting environmentally friendly technologies and improving production processes, enterprises are able to reduce their carbon footprints, reduce waste emissions, and improve the effective utilization of resources, all of which are positive contributions to the social environment. Within the framework of social responsibility theory, corporate green performance also needs to consider interactions with stakeholders. This includes cooperation and communication with closely related groups such as consumers, suppliers and investors. By producing green innovations, firms can not only meet consumer demand for environmentally friendly products and services, but also attract more investors and suppliers, building stronger stakeholder relationships and contributing to firms' green performance. In addition, social responsibility theory suggests that enterprises need to transparently report their social responsibility performance to society and stakeholders. By developing green reports, companies can communicate information about their green innovations and performance to the outside world, increasing transparency and enhancing trust in society. This transparency helps to establish a good relationship between the enterprise and society and promotes the improvement of the enterprise's green performance. In terms of green performance, social responsibility theory also emphasizes that enterprises should actively participate in social and environmental protection projects. By investing resources, supporting environmental organizations and participating in community building, enterprises can achieve a more direct impact on society and further improve their green performance. This active participation in social responsibility activities not only helps to solve social problems, but also helps to build a good reputation for the enterprise and increase its influence in the society. In summary, the analysis based on the social responsibility theory reveals the profound connection between green innovation and green performance of enterprises. Enterprises can not only realize the goals of environmental protection and sustainable development through green innovation, but also fulfill their social responsibility and improve their interaction and integration with the society. In this way, enterprises can create a positive social image, realize sustainable development, and ultimately enhance their green performance. Social responsibility theory provides a comprehensive framework for companies to consider their social and environmental responsibilities and impacts in a more holistic manner in terms of green innovation and green performance. In the long run, social responsibility theory emphasizes the

sustainable development of enterprises. By producing green innovations, companies not only focus on current social and environmental issues, but also aim to ensure future sustainability. Social responsibility theory suggests that companies can achieve longer-term success while fulfilling their social responsibilities. In the process of green innovation, enterprises are more likely to remain competitive in the future society and achieve longer-term economic benefits by focusing on environmental protection and social benefits and pursuing sustainable operations. On the other hand, social responsibility theory also focuses on the cooperative relationship between enterprises and society. By establishing cooperative relationships with social organizations, non-governmental organizations (NGOs), and governments, enterprises can better understand and meet the needs of society and achieve social harmony. In the process of producing green innovation, this partnership helps enterprises to obtain more resources and support, jointly promote the realization of green innovation, and achieve more significant results in terms of green performance. Social responsibility theory also highlights the interaction and win-win situation between enterprises and stakeholders. Through green innovation, enterprises can satisfy consumer demand for environmentally friendly products and increase market share, as well as attract more investors and increase their market capitalization. At the same time, green cooperation with suppliers can ensure the sustainability of the supply chain and reduce the environmental risk of the enterprise. This mutually beneficial and win-win partnership can help improve the overall performance of the enterprise and realize more comprehensive sustainable development. In terms of corporate green performance, social responsibility theory also emphasizes corporate transparency towards society and the environment. By publishing regular green and social responsibility reports, enterprises can demonstrate to society and stakeholders the concrete results of their green innovation and performance. Increased transparency helps to build trust between the enterprise and society, which further promotes the enterprise's green performance. Finally, social responsibility theory emphasizes the positive impact of enterprises on the social environment. By producing green innovations, enterprises can not only reduce their own environmental risks, but also guide the market in a more environmentally friendly and sustainable direction through product and service innovation. Through this positive impact, enterprises can not only improve their own green performance, but also help guide the sustainable development of the whole industrial chain. In summary, social responsibility theory provides a comprehensive perspective to help analyze the relationship between green innovation and enterprise green performance. Enterprises realize positive impacts on the environment and society through green innovation, which in turn improves their green performance. The concept of social responsibility theory emphasizes that enterprises should pay attention to social and environmental issues in their economic activities, and through green innovation, enterprises can better fulfill their social responsibilities and achieve longer-term success(Chu et al., 2018).

2.4. Institutional Theory

Institutional theory provides a profound understanding of the relationship between firms in producing green innovation and green performance. The theory emphasizes the interaction between firms and the external institutional

environment, including government regulations, industry standards, and social norms. By producing green innovations, firms are not only adapting to the external institutional environments, but also have the potential to shape and lead these institutions to a certain extent, which in turn affects firms' green performance. First, from the perspective of institutional theory, government regulations are an important driving force for enterprises' green innovation and green performance. Government regulations on environmental protection and sustainable development are becoming increasingly stringent, and firms need to meet the requirements of these regulations through green innovation. Green innovation is not only the compliance with regulations, but also the adjustment and improvement of business behavior. By proactively adopting environmentally friendly technologies and improving production processes, firms can reduce the risk of non-compliance and improve green performance. Second, institutional theory suggests that industry standards have a guiding and regulating influence on enterprise behavior. By producing green innovation, enterprises can lead the development and improvement of green standards in the industry. The green innovation behavior of enterprises can be regarded as a successful example by the industry, thus promoting the development of the whole industry in a more environmentally friendly and sustainable direction. By leading the improvement of industry standards, companies can improve their own green performance as well as shape the overall image of the industry. In addition, social norms are also part of the institutional environment and have an impact on corporate green innovation and green performance. By producing green innovations, companies can better meet social expectations for environmental protection, conform to social norms, and improve their reputation in society. Consumer demand for green products is gradually increasing, and enterprises can better adapt to this change in social norms and improve market competitiveness through green innovation. In terms of corporate green performance, institutional theory highlights the adaptation and response of enterprises to the external institutional environment. Through green innovation, enterprises can better adapt to changes in government regulations, industry standards and social norms, thus improving green performance. In the process, firms can not only reduce the risk of non-compliance, but also better meet the expectations of consumers and stakeholders for environmental protection, and establish a more favorable corporate image. Within the framework of institutional theory, companies also need to consider their interactions with stakeholders. Stakeholders may include government, consumers, investors, etc. Through cooperation and communication with stakeholders, enterprises can better understand the changes in the external institutional environment and better meet the expectations of external stakeholders, thus improving their green performance. In the process of producing green innovation, enterprises not only have to adapt to the external institutional environment, but also can influence and lead the development of these systems through innovative behavior. Enterprises can actively participate in the process of system development, and promote the updating and improvement of the system through cooperation with the government, industry associations and so on. This active participation in institutional development not only enhances the social reputation of enterprises, but also contributes to their better adaptation and competition in the

institutional environment. From the perspective of green performance of enterprises, institutional theory also provides a theoretical basis to explain the performance of enterprises in the institutional environment. Enterprises can achieve better green performance by producing green innovations while complying with external institutions. This combination of compliance and innovation not only helps to improve the image of corporate social responsibility, but also wins more support and recognition in the market. Overall, the analysis based on institutional theory reveals the close connection between output green innovation and corporate green performance. Enterprises are not only conforming to the external institutional environment when they carry out green innovation, but also actively shaping and leading the development of these institutions. Through green innovation, enterprises can better adapt to changes in external regulations, industry standards and social norms, improve their green performance and realize sustainable development. Institutional theory provides important theoretical guidance for enterprises to develop strategies and improve green performance in the green field(Weng, 2022).

3. Policy Recommendations

3.1. Fiscal Incentives

Fiscal incentives play a key role in promoting green innovation and improving green performance. First of all, the government can set up a green innovation tax relief mechanism to provide tax incentives for enterprises investing in green technology and environmental protection projects, so as to reduce the financial burden of green innovation, thus stimulating enterprises to increase their investment in environmental protection. This policy not only reduces the cost of innovation, but also creates a favorable investment environment and encourages enterprises to carry out green innovation more actively. Second, establish a subsidy policy for the development of the environmental protection industry to encourage enterprises to adopt green technologies and environmental protection solutions in their production and operation by providing a certain percentage of financial support to enterprises that meet environmental protection requirements. This not only helps enterprises gain a larger market share in the field of green innovation, but also provides them with financial support and reduces the risk of green innovation. In practice, the government can set clear criteria for subsidies to ensure rational allocation of resources and encourage more enterprises to devote themselves to environmental protection. In addition, the environmental industry reward mechanism is also an important part of the financial incentive policy. The government can set up awards to recognize and reward enterprises that have made remarkable achievements in the field of green innovation. This incentive mechanism will help shape a positive competitive atmosphere and encourage enterprises to continuously improve their level of green innovation, further promoting the development of the industry as a whole. By rewarding enterprises with outstanding green performance, the government sends a clear signal to enterprises to actively move towards green innovation. On the other hand, supporting banks to set up environmental credit loans is an innovative measure in the fiscal incentive policy. In this way, the government encourages financial institutions to provide favorable credit loan conditions for enterprises that carry out green innovation. This will not only help enterprises to raise

funds, but also promote more active participation of financial institutions in environmental protection. The government can set up a corresponding policy framework to regulate and guide banks to carry out environmental credit loans to ensure that this financial instrument can play a positive role in practice. Overall, financial incentives play an irreplaceable role in promoting green innovation and improving green performance of enterprises. Through explicit tax relief, financial subsidies and incentive mechanisms, the government is able to directly stimulate the enthusiasm of enterprises in the environmental protection field and accelerate the promotion of green technology innovation and application. These policies not only help enterprises to reduce the financial burden of green innovation, but also give them a sustainable advantage in market competition, which in turn promotes society as a whole towards the goal of green and sustainable development.

3.2. R&D Financial Support

R&D financial support policy plays a key role in promoting enterprises to carry out green innovation and improve green performance. First, the government can increase financial allocations for environmental technology R&D and set up special funds to support green innovation projects. This will encourage enterprises to increase their investment in the field of environmental protection technology, reduce the risk of innovation, and promote the application of more technologies with environmental characteristics in enterprises, thus improving their green performance. Secondly, the government can set up a green innovation fund in cooperation with universities and research institutions to strengthen the combination of industry, academia and research. By supporting enterprises to cooperate with universities and research institutions in green innovation and encouraging the transformation and application of scientific research results, it can improve the technological level of enterprises, accelerate the promotion and landing of green innovation, and then improve the green performance of the whole industry. In addition, the government can establish an innovation voucher system to provide innovative R&D support to enterprises and reduce their financial burden on environmental technology innovation. This approach can make it easier for enterprises to access innovation resources through the issuance of innovation vouchers and increase their enthusiasm in green innovation, thus realizing the improvement of green performance. The government can also set up a green innovation loan scheme to provide low-interest or interest-free loan support to enterprises with green innovation plans. Such a loan program will help enterprises solve the problem of capital shortage and promote more enterprises to carry out projects in the field of green innovation and improve green performance. On the other hand, the government can encourage enterprises to participate in international green innovation cooperation programs through financial support. This can not only prompt enterprises to introduce advanced green technologies from abroad, but also expand their influence in the international market and improve their overall green performance level. The government can also encourage enterprises to pursue excellence in technological innovation and improve the level of green performance benchmarking by setting up green technology innovation awards for enterprises that have made remarkable achievements in the field of green technology. Finally, in terms of R&D financial support, the government should emphasize the establishment of a

transparent project evaluation mechanism to ensure the rational allocation and use of funds, improve the efficiency of policy implementation, and ensure that the support measures can truly and effectively promote enterprises to carry out green innovation and ultimately improve the level of green performance. Overall, the policy recommendations based on R&D funding support aim to incentivize enterprises to be more proactive in green innovation through financial means and to promote enterprises to improve their green performance. This series of policies will help to reduce the economic risk of enterprises in the field of green innovation, improve the innovation drive of enterprises, prompt more enterprises to devote themselves to the wave of environmental protection technology innovation, and jointly promote the society to move forward in the direction of sustainable development.

4. Conclusion

Under the banner of "Intelligent Drive, Transformation and Soaring", Yutong Bus Company Limited has demonstrated its keen insight and active response to environmental protection and sustainable transportation through profound transformation. Originally a representative of traditional commercial vehicle manufacturing with internal combustion engines, the company has transformed into a leader in the field of new energy vehicles. Behind this transformation, focusing on the global trend of environmental protection, Yutong Bus Company is actively engaged in the in-depth research and development of electric buses, electric logistics vehicles and other fields to provide more environmentally friendly and efficient solutions for urban transportation. The company's strategic transformation focuses on two major directions: intelligent drive and electrification transformation. In terms of intelligent drive, Yutong Bus Company is driven by technological innovation, integrating intelligent driving technology into the field of commercial vehicles, improving the level of vehicle intelligence, enhancing safety and providing customers with intelligent transportation solutions. Electrification transformation is an important strategy of the company, through in-depth research and development of new energy vehicle products, the company is not only in line with the trend of the global automotive industry, but also in the field of sustainable development to obtain a broader market space. Theoretically, the company's strategic transformation can be interpreted from the perspectives of technological innovation, life cycle theory and sustainable development. In terms of technological innovation, the company introduces intelligent technology and electrification transformation, which is in line with the market trend. Under the life cycle theory, Yutong Bus Company has realized the sustainable development of the whole life cycle of products from design, production to disposal. In the perspective of sustainable development theory, the Company actively fulfills its corporate social responsibility through green manufacturing and sustainable development of the whole industry chain. To sum up, through strategic transformation, Yutong Bus Company has not only successfully captured the opportunities of industry change, but also demonstrated its leading position in the field of new energy vehicles by using intelligent drive and electrification as the engine to provide intelligent, efficient and sustainable solutions for future travel.

4.1. Technology Transfer and Intellectual Property Protection

In the process of promoting green innovation and improving green performance of enterprises, technology transfer and intellectual property protection policies are particularly important. First, the government can establish a more complete technology transfer platform and provide transparent and efficient channels to promote the flow of green technologies at home and abroad. By reducing the information asymmetry and transaction costs of technology transfer, enterprises can more easily access the latest environmental technologies, thus promoting the widespread application of green innovation and improving their green performance. Second, the government can introduce policies to encourage enterprises to participate in technology transfer transactions. By giving incentives such as tax incentives and financial rewards to enterprises involved in technology transfer, the government can promote more enterprises to take the initiative to share and introduce environmental protection technologies, forming a cooperative situation of technology sharing. This will help break down technical barriers, accelerate the dissemination and promotion of environmental technologies among industries, and enhance the green performance of the entire industry. In addition, the government should strengthen the protection of intellectual property rights and formulate clearer regulations and policies to ensure that the intellectual property rights of enterprises in green innovation are effectively protected. The establishment of a sound intellectual property protection mechanism will enhance the innovation enthusiasm of enterprises and encourage them to invest more resources in green technological innovation and improve green performance. The government can provide enterprises with convenient IPR protection services by building an IPR service platform to increase their confidence in green innovation. The government can also set up a green technology innovation incentive program to reward enterprises that have made significant technological breakthroughs in the field of environmental protection. This reward system will provide positive incentives for enterprises to carry out green technological innovation, and at the same time, through the selection and publicity of the awards, it can form a model of green innovation, which will inspire the whole industry to invest more in environmental protection technological innovation, and thus improve the green performance of the whole industry. On the other hand, the government can also strengthen the management and cooperation of transnational technology transfer, and promote the sharing and exchange of environmental protection technologies on a global scale by

promoting international cooperation programs on green technology innovation. This will not only help domestic enterprises introduce more advanced green technologies, but also promote the development of international green innovation and improve the green performance level of the entire global industrial chain. Finally, the government should emphasize the synergistic promotion of intellectual property protection and technology transfer, and formulate comprehensive policies to ensure that enterprises find a balance between technological innovation and intellectual property protection. This not only helps to strengthen the impetus for technological innovation, but also ensures that enterprises receive due returns in the process of innovation, and promotes more active participation in the innovation of environmental protection technologies to improve the green performance level of the whole industry. Overall, through the policy recommendations on technology transfer and intellectual property protection, the government can provide a better environment for enterprises to more actively engage in green innovation and improve green performance. This series of policies will help accelerate the diffusion and application of environmental technologies, promote industrial upgrading and realize the goal of green and sustainable development.

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