

A Review of Research on Green Supply Chain Practice in Enterprises

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Abstract: This article aims to summarize and summarize the research results of existing scholars on the driving factors and obstacles of enterprise green supply chain behavior, and explore the influencing factors of enterprise green supply chain behavior. This article aims to summarize and summarize the research results of existing scholars on the driving factors and obstacles of enterprise green supply chain behavior, and explore the influencing factors of enterprise green supply chain behavior. Internal factors include the characteristics and resources of the enterprise itself, such as environmental management awareness and culture, green technology and innovation. Internal factors include the characteristics and resources of the enterprise itself, such as environmental management awareness and culture, green technology and innovation, resource investment and economic benefits, and so on. External factors involve stakeholders in various aspects of the supply chain, such as government regulatory pressure, consumer demand, and supplier pressure. In order to take a more comprehensive view of the influencing factors, we will discuss the impact of green supply chain behavior on enterprises, such as environmental impact, environmental impact, and economic impact. In order to take a more comprehensive view of the influencing factors, we will discuss the impact of green supply chain behavior on enterprises, such as environmental performance and economic performance. By conducting in-depth research on the influencing factors of green supply chain behavior in enterprises, guidance can be provided to help them formulate appropriate strategies and measures to achieve sustainable development goals.

Keywords: Green supply chain, Green logistics, Driving factors, Enterprise performance.

1. Introduction

There is a long-term and stable relationship between the development level of modern logistics and economic growth. High economic growth can stimulate the rapid growth of the logistics industry, and the healthy growth of the supply chain industry will also promote the rapid take-off of the regional economy. (Liu, N. & Li, Y., 2007)[1] With the increase of social economy, supply chain activities tend to be more frequent, and the damage to the ecological environment caused by some of the supply chain activities tends to deepen (Li, Y., Li, H. & Xu, G., 2001)[2], the green supply chain management has become one of the most important directions for the sustainable development of enterprises. Green supply chain is defined as the enterprise suppliers, production of the entire process, based on environmental protection and resource control, to enhance the enterprise market competitiveness and economic efficiency of the management mode (Zhu Yufen, 2023)[3]. It can be seen that the green supply chain practice of enterprises has two key words, i.e. environment and resources, which indicates that the green supply chain practice does not mean sacrificing benefits, and its ultimate goal is to improve the economic efficiency of enterprises. Green supply chain requires enterprises to change from the economic efficiency-oriented corporate strategy to a corporate strategy that emphasizes both economic efficiency and environmental protection, which not only reduces the environmental risk of enterprises and improves corporate image, but also creates economic benefits and social value (Ni Rui, 2016)[4]. However, enterprises face many obstacles and influencing factors when implementing green supply chain practices. Understanding the influence of these factors on enterprise green supply chain practice can help improve the theoretical system related to enterprise green supply chain

practice, thus helping enterprises to develop effective management strategies and measures. The influence factors of enterprise green supply chain practice are a complex and diverse issue. Scholars have carried out research from two aspects, summarizing the research about green supply chain practices and can conclude that the influencing factors of enterprise green supply chain practices can be broadly divided into the following two categories: the enterprise's own factors, namely internal factors and external factors (Zhao Qingli, 2019)[5]. Through in-depth research and analysis of these factors, we can better understand the formation mechanism of enterprise green supply chain practice and provide effective management strategies and measures for enterprises to promote the development of green supply chain and realize the sustainable development goals of enterprises.

2. Sample Literature Selection and Analytical Framework

2.1. Description of the sample literature

The author searched the influencing factors, drivers, hindrances and performance evaluation of enterprise green supply chain practice on the Knowledge Network (CNKI), and the number of articles of specific related studies could not be known due to the cross overlap of the screening results, but the total number of articles did not exceed 400. The author screened 170 articles with high relevance to the topic and more core articles for statistics.

2.1.1. Overview of publication years of sample literature

As can be seen from the statistics of the year of issue and number of the literature, the research on corporate green supply chain management practices influencing factors and influencing effects is relatively small, but it is on an upward trend, with the peak appearing from 2019 to the present. This

is due to the fact that China's green logistics was in the initial stage between 2004 and 2017, the domestic logistics industry has developed rapidly, but the laws and regulations related to green logistics are more fragmented, at the same time, the government and corporate green supply chain concept is relatively thin, and its investment in green logistics, research and development funds are seriously insufficient, which results in the relative backwardness of China's green logistics technology, and it is impossible to promote green logistics in the broad sense. (Wu Ai Ping, 2019)[6] And the peak of the development of green supply chain cannot be separated from the support and encouragement of the policy. 2017, the State Post Bureau released the "13th Five-Year Plan" for the development of the express industry, which designated green logistics as the main theme for the future development of the logistics industry. 2018 January, the General Office of the

State Council released the "Green Supply Chain", which is the key to the development of the logistics industry. Opinions on Promoting the Coordinated Development of E-commerce and Express Logistics", encouraging express logistics enterprises and e-commerce enterprises to cooperate with each other to carry out green circulation in the supply chain. In December 2018, according to the "2018 China Green Logistics Development Report" jointly released by the China Environmental Protection Foundation and DT Finance, China's green logistics has been utilizing technology to enhance environmental protection capabilities, and is moving towards a green path. green road. By 2020, a distribution service system with advanced technology, high-quality service, safety and efficiency, green and energy-saving will be basically built. (Li Xiaoxiao & Chen Jian, 2019)[7] .



Figure 1. Yearly overview of the literature in the national sample

2.1.2. Types of resources and disciplinary distribution of sample literature

As can be seen from the resource type and discipline distribution chart of the literature, most of the literature sources are master's degree theses, some of them are from journals, while a few of them are from doctoral dissertations, which reflects that the research related to enterprise green supply chain practice has received wide attention and has

certain research value from one side. At the same time, more than 90% of the literature is in the field of enterprise economy and macroeconomics, which largely indicates that enterprise green supply chain practice has a great impact on the economy, and enterprise green supply chain practice is closely related to economic issues. 6% of the literature involves the field of mathematics, which also indicates that scholars try to explore this issue by mathematical methods.

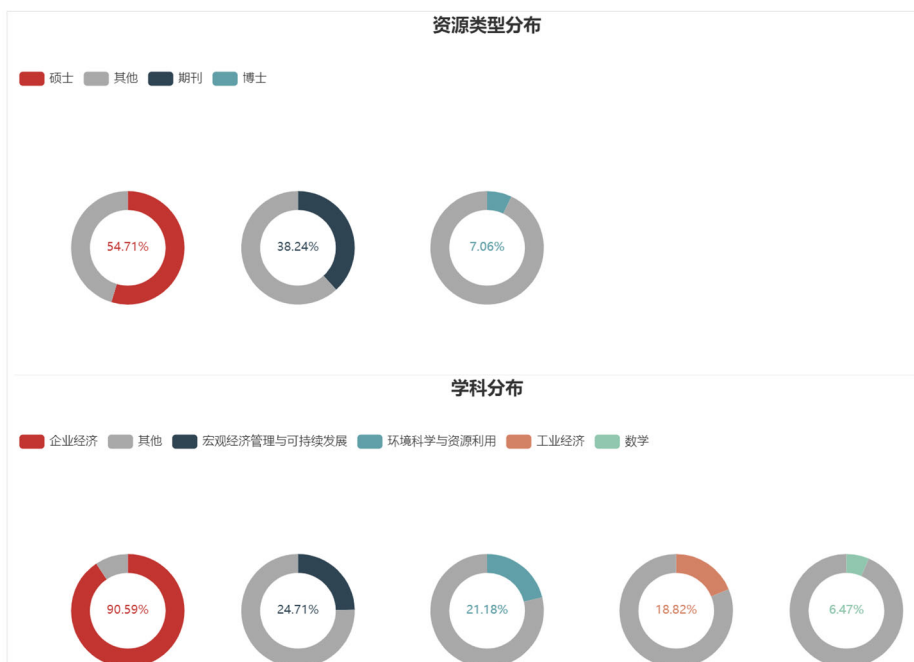


Figure 2. Distribution of resource types and disciplines of sample literature

2.1.3. Literature Intercitation Network Analysis

As can be seen from the literature intercitation network analysis chart, the most cited book is Supply Chain Management published by Ma Shihua and other scholars in 2000, with a total of 11,178 citations, which indicates that it has an important influence in the field, and that this author is at the core of the network, leading the research trend in the field. The green supply chain game model based on government subsidy analysis by Zhu Qinghua and Dou Yijie is the next most cited, with 683 citations, and the research on green supply chain and its architecture by Dan Bin and Liu Fei is cited with 663 citations, and these authors are at the sub-core of the network diagram, with a larger amount of contribution to the knowledge flow. At the same time there are some non-connected isolated points in the network,

indicating that there is no knowledge flow between some articles and other articles.

The network diagram is characterized by a significant difference in the citation frequency between the core cited literature and the rest of the references, and the literature intercitation network diagram is more dispersed indicating that the research topic is newer or less researched, and there are relatively fewer citation relationships between the literature, and the nodes in the network diagram are more sparsely connected. And there are more fragmented studies in the research field, i.e., the researches conducted by researchers in the same field are relatively independent, and there are fewer citation relationships among them, then the literature intercitation network graph will also be more scattered.

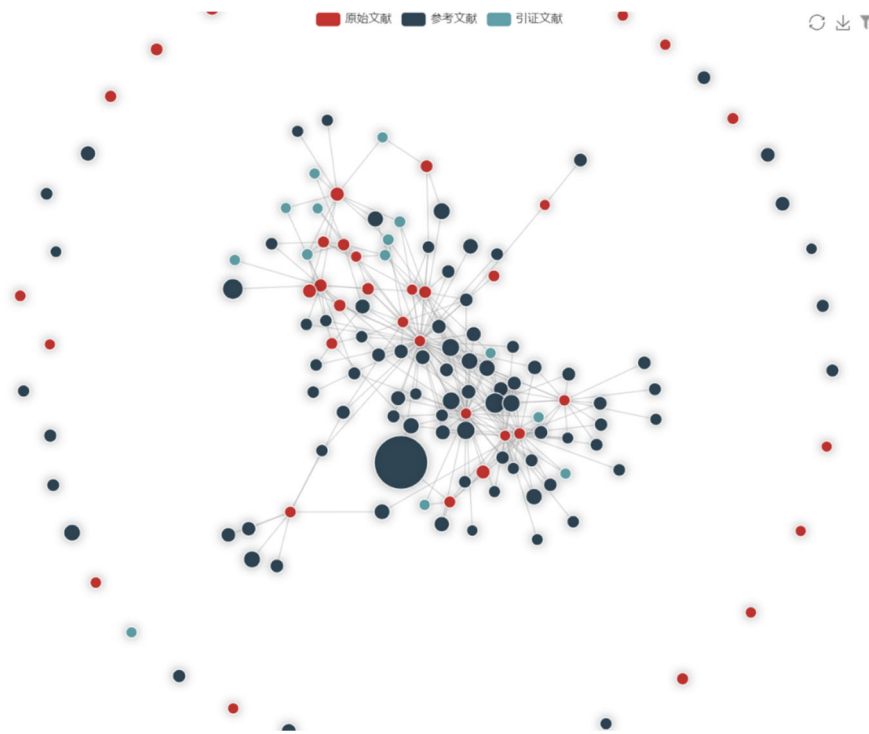


Figure 3. Literature intercitation network analysis chart (citation frequency greater than or equal to 10)

2.2. Framework for Analyzing the Literature Review

In addition, when sorting out the variables other than green supply chain management in the existing literature, this paper adopts the keyword co-occurrence analysis method to draw the keyword co-occurrence network mapping of the green supply chain management driver literature and the influence effect literature, so as to relatively objectively identify the research levels and categories of other core variables. For ease of viewing, the author draws the frequency of keyword occurrence with 7 times as the boundary respectively. As can be seen from the figure, the main direction of research in the sample literature is mainly focused on the field of performance evaluation, followed by drivers and indicator systems and supply chain decision-making. The most researched topic is the impact of government subsidies on enterprises' green logistics practices, and other influencing factors involved in the research are mainly green consumption willingness, supply chain members, node enterprises, enterprise competition, supply chain competition, enterprise

cooperation, consumer preference, etc., and the main areas of green supply chain are green production, green innovation, green procurement, green management, etc., and the green supply chain practices for the enterprises produced the The research on the impact of enterprise green supply chain practice mainly focuses on enterprise economy, operational performance, environmental performance, green image and so on. The most used research methods in the sample literature study are factor analysis and structural equation, and some scholars use game model, supply chain operation reference model and other methods for research. The results show that the core variables can be categorized from four levels as shown in Figure 6, including individual, organizational, inter-organizational, and external environment. Enterprises' green supply chain management is jointly driven by external and internal drivers and their impacts on enterprise performance, and green logistics plays a mediating role between the drivers of green supply chain management and enterprise performance (Sun Yang, 2021)[36], as shown in Fig. 7, therefore, this paper will study the influencing factors of enterprises' green supply chain

practice from the aspects of the drivers and enterprise performance.

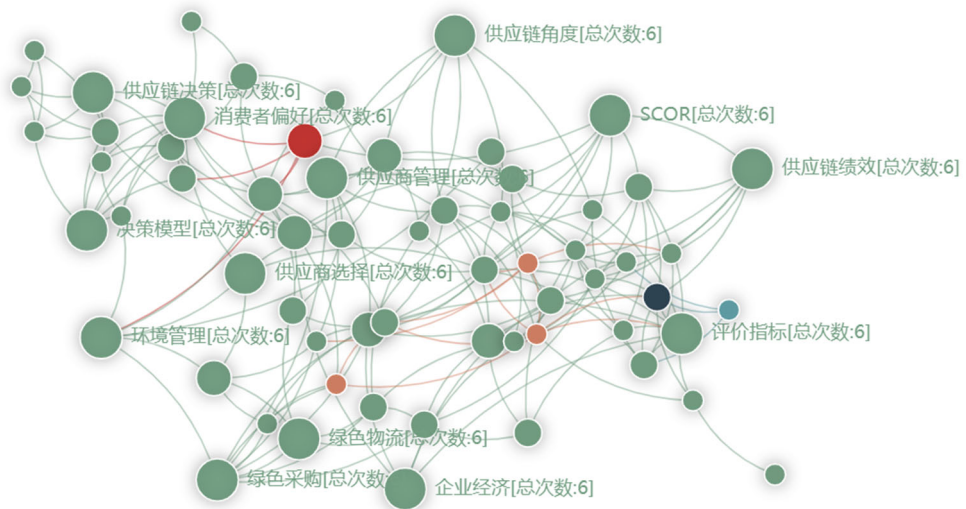


Figure 4. Keyword co-occurrence network analysis of the sample literature (frequency of occurrence less than or equal to 7)

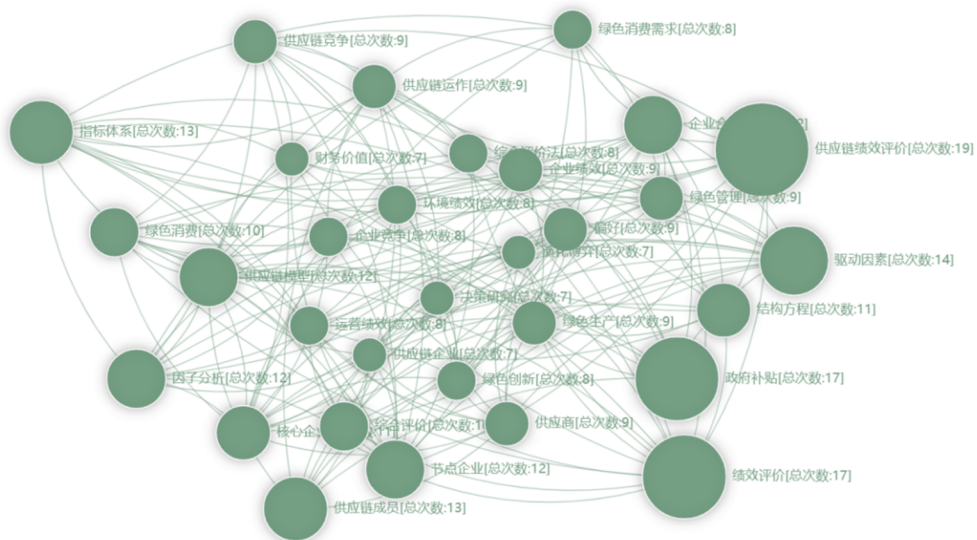


Figure 5. Keyword co-occurrence network analysis of the sample literature (frequency of occurrence greater than or equal to 7)



Figure 6. Sample literature analysis framework based on variable role-variable hierarchy

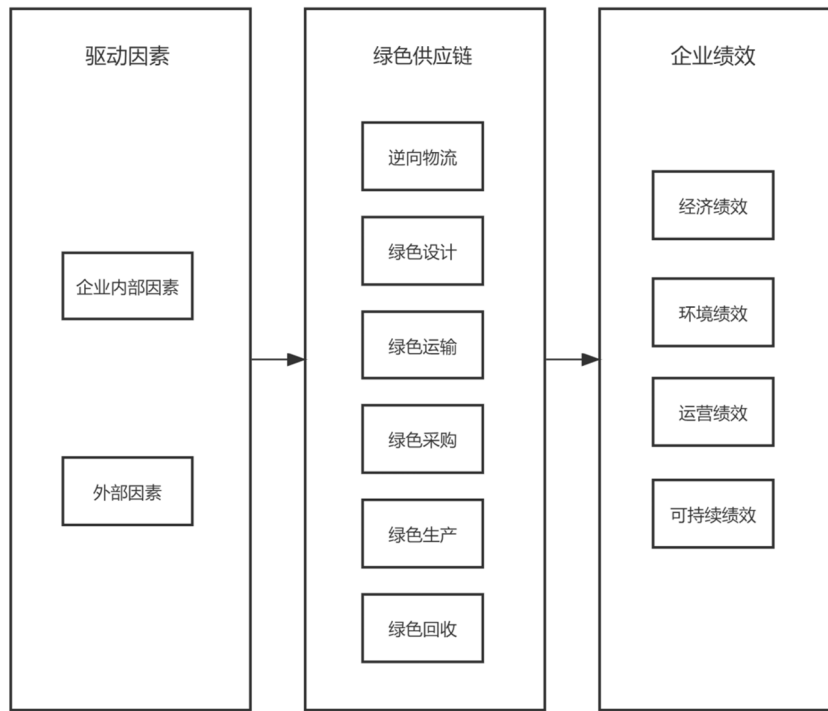


Figure 7. Research framework for influencing factors of green supply chain practices of enterprises

3. Concept of Green Supply Chain Management Practices

Green Supply Chain Management (GSCM) integrates supply chain management and green development objectives through collaboration between companies in the supply chain to manage material, information and financial flows while taking into account economic, environmental and social development (Jörn-Henrik Thun & Andrea Müller, 2010). & Andrea Müller, 2010)[9]. The way of competition in today's market has changed from the traditional pure inter-firm competition to the competition between supply chains, and green supply chain management practices have become one of the ways for enterprises to enhance their competitiveness in a fiercely competitive environment (Chunyou Wu et al., 2001)[10]. Green supply chain management practices have changed from following the traditional 3R (Reduce, Reuse, Recycle) principles to the more comprehensive 6R (Reduce, Reuse, Recycle, Renewable, Replace, Recovery) principles (Jayal, A. D. et al., 2010)[11], which are aimed at reducing negative environmental and social impacts of business operations, including manufacturing (Bhanot, N. et al., 2017)[12]. Shi (2012) [13] divided green supply chain management into intra-organizational environmental management and inter-organizational environmental management, in which intra-organizational environmental management refers to the two categories of in-house environmental management and eco-design, whereas inter-organizational environmental management refers to the green procurement, Green recycling and upstream/downstream cooperation. There are various ways to categorize green supply chain management practices in the academic world, and this study selects four main practices in green supply chain management: green procurement, green design, green logistics and green recycling. The specific definitions of these four main practices are as follows.

3.1. Green Purchasing (GP)

Green procurement belongs to an important node of green supply chain management, the core essence of which is to require suppliers to provide environmentally friendly raw materials at the right price, quality, etc., in order to reduce the cost of the business process from the use of raw materials to the end of the process (Zhu, Q. H., & Geng, Y., 2002)[14]. Green purchasing refers to prioritizing the use of green raw materials, products, services, or combinations of products and services in purchasing, thereby promoting low-carbon recycling and resource conservation, and achieving safety and health, cost savings, and environmental protection. Green purchasing refers to the consideration of environmental factors in the supply chain in purchasing behavior to facilitate the recycling and reuse of resources and materials (Narsimhan, R. & Carter, J. R., 1998)[15].

3.2. Green Design (Eco-Design, ED)

Green design is one of the first aspects of green supply chain management, also known as environmental design, eco-design and so on. With the starting point and ultimate goal of improving the environmental performance of products, green design incorporates environmental factors and pollution prevention measures at the product design stage, and seeks to reduce the negative impacts of products or production processes on the environment (Liu, Z. F. & Liu, G. F., 1999)[16]. Zhu & Sarkis (2006)[17] point out that green design requires manufacturers to consider reducing material use and energy consumption at the design stage, avoiding the use of hazardous, toxic and harmful products, and promoting the reuse, recycling and re-sale of parts and end-of-life products. Green design requires manufacturers to consider reducing material use and energy consumption at the design stage, avoiding the use of hazardous, toxic, and harmful products, and promoting the reuse, recycling, and resale of parts and end-of-life products.

3.3. Green Distribution (GD)

Green logistics refers to the minimization of negative impacts on the environment during any transportation of a product or service from the supplier to the manufacturer to the final customer (Ashfaq M & Qureshi M I., 2020)[18]. Green logistics aims to protect the environment, conserve resources, and promote sustainable development by continuously optimizing the logistics system to improve the efficiency of the logistics system and thus reduce the pressure of the logistics system on the environment (Gong Xue & Jing Linbo, 2017)[19]. In short, green logistics to purify the logistics environment, make full use of logistics resources as the goal, in the logistics process to take green and environmentally friendly transportation methods to minimize the harm of logistics to the environment.

3.4. Green Recovery (GR)

Also known as reverse logistics. End-of-life products do not mean that all their parts and components lose their value, but can be recycled, remanufactured and re-sold to maximize limited resources (Liu Zhifeng, 1996)[20]. Green recycling is the end link of green supply chain management, including the effective recycling of end-of-life products, parts, fixed assets, etc. for reuse and re-sale, which aims to improve the utilization of resources and reduce the pollution of the environment by enterprises through recycling and remanufacturing and other ways (Zhu Q, & Sarkis J, Lai K., 2008)[21].

4. Green Supply Chain Theoretical Foundations of Practical Research

4.1. Stakeholder Theory

The concept of stakeholders was first mentioned in The Theory of Enterprise Growth in 1959, in which Penrose wrote that "the enterprise is a collection of human assets and interpersonal relationships" (Zhao, 2007) [8], and this idea laid the foundation for the proposal of stakeholder theory. At present, scholars have not reached a consensus on the definition of stakeholders, the more widely accepted definition is Freeman (1984)[22] proposed "stakeholders are any group or individual who can affect or be affected by the process of achieving the goals of the organization", in the definition of the definition of the positive role of stakeholders in the organization is limited to the characteristics. Kim (2012)[23] et al. found that in the process of survival and development of enterprises, they have externalities on the environment, and stakeholders often exert pressure on them in order to promote the process of establishing the legitimacy of the enterprise in the hope of enhancing the role of positive externalities. Roome (2006)[24] et al. argued that the pressure of stakeholders is a key factor in facilitating the adaptation of organizations to the environment of survival and the cultivation of learning ability. Deeper and broader stakeholders are important motivators that lead organizations to adopt various environmental practices (Buysse, 2003)[25]. This then shows that one of the characteristics of stakeholders is that they have a positive effect on business practices.

In terms of classification, Wang Zhuquan (2008) [26] from the perspective of collective choice theory, classifies the stakeholders of an enterprise into two categories according to whether they participate in the collective choice of the enterprise or not: internal stakeholders and external

stakeholders. The common interests and goals of internal stakeholders reflect the business value of the enterprise; external stakeholders reflect the social value of the enterprise. Stakeholder theory has been developed to date, and existing research has applied the theory to various fields of study from the impact of different role stakeholders on organizational behavior. According to Eesley and Lenox (2006)[27], organizational stakeholder pressure can motivate organizations to adopt proactive strategies on environment-related issues. Li and Lim (2019)[28] in a study in the direction of logistics, argued that the stakeholders of logistics companies are extremely important in green management, provide pressure and motivation for green manufacturing, and promote practice performance improvement. It can be seen that the stakeholders of an organization can drive the disclosure of environmental policies and practices, thus promoting environmental awareness among managers and other stakeholders of the organization.

4.2. Institutional Theory

The application of institutional factors in economics was firstly by Douglass Cecil North, an American economic historian, and found that institutional factors play a role in long-term economic growth, stagnation and decline, which led to the formulation of the theory of institutionalism based on the context of economics. And established a set of institutional theory analysis framework, that is, the existence of institutions leads actors to choose specific behaviors, and these behaviors lead to a series of economic or social outcomes (Peng Wei, 2021)[30]. Institutional theory argues that the degree of government regulation of enterprises is more profoundly affecting corporate behavior, so following institutions to gain legitimacy is increasingly valued by enterprises, and their production and business behavior is no longer driven by profit and efficiency alone, but also by legitimacy forces from the outside world, such as laws and regulations, social rules and competitors (Chiu, I. H., 2018)[31]. Legitimacy is a core component of institutional theory, when firms are faced with external pressures, they will engage in behaviors that conform to societal expectations and thus gain or increase their legitimacy in order to better survive and thrive in a certain social sphere (Ireland, R. D. et al., 2011)[32]. The core content of institutions includes three main elements of regulation, norms and cognition, which are the cornerstones of the analytical approach of institutional theory (Peng, V., 2021)[30]. Scott (1998) proposes that, according to him, the three main elements of the institutional theory are cultural cognition, normative behaviors and coercive institutions. Accordingly, institutional pressure mainly includes coercive pressure, normative pressure and imitative pressure (Powell, D. M. W., 1983)[33]. Therefore, enterprises face coercive pressure from laws and regulations, normative pressure from industry and social rules, and imitative pressure from the experience and behavior of competing enterprises (Yang, C. S., 2017)[34]. After reviewing previous studies, Foo et al. summarized the evaluation dimensions of the sustainable performance of green supply chain management at home and abroad, i.e., environmental performance, economic performance, and social performance, and pointed out that these three dimensions are measured (Foo, P. Y., 2018)[39]. Therefore, some scholars believe that the theory of sustainable development provides a solid theoretical foundation for exploring the impact of green supply chain management on

sustainable performance (Peng, V., 2021)[30] .

4.3. Theory of Sustainable Development

In 1987, the definition of sustainable development was first put forward by the World Commission on Environment and Development in the Brundtland Report, which stated that sustainable development is "meeting the needs of the present without jeopardizing the ability of future generations to meet their own needs"; in 1992, leaders from 178 countries and regions gathered at the United Nations Conference on Environment and Development, which adopted Agenda 21, the Framework Convention on Climate Change and other important documents. In 1992, leaders from 178 countries and regions gathered at the United Nations Conference on Environment and Development, which adopted Agenda 21, the Framework Convention on Climate Change and other important documents. This conference for the first time linked economic development with environmental protection and proposed a strategy for sustainable economic development. This shows that the theory of sustainable development is beginning to move from theory to practice. When the concept of sustainable development is applied to organizational practice, sustainable development means a trade-off between the economic interests of the organization and the well-being of society and the protection of the natural environment (Slaper, T. F., & Hall, T. J., 2011)[37] . Triple Bottom Line (TBL) is one of the important basic theories in the field of sustainable development, Elkington (1998)[38] believes that sustainable development should take into account the three aspects of economy, society and environment at the same time, and can not only pursue the maximization of the economic interests of the organization or the individual to the detriment of the environment and social interests, but also to give equal importance to the three dimensions of economy, society and environment. The three dimensions of economy, society and environment should be given equal importance. Traditional logistics management model is due to the development of the online economy has caused more and more damage to the environment and pollution, these resources waste or pollution in all aspects of logistics, such as green logistics operations mainly include green packaging, green transportation, green warehousing, etc. (Sun Yang, 2021)[36] . Modern green logistics management is based on the theory of sustainable development, forming a mutually reinforcing promotion and constraint relationship between logistics and the environment, which in turn promotes the development of modern logistics and achieves the symbiosis between the environment and logistics (Jian Li & Chengliang Wang, 2008)[35] .

4.4. Circular Economy Theory

Circular economy is the short name of material closed-loop flow type economy, with the concept of sustainable development gradually recognized by the world, the concept of circular economy came into being (Hu Wanzhen, 2015)[40] . Circular economy is centered on the efficient use of resources and recycling, and takes "3R" as the principle, i.e., follow the principles of Reduce, Reuse and Recycle to realize the efficient use of resources and the sustainable development of the economy and the nature (Feng Zhijun, 2004)[41] , in order to help enterprises to achieve economic growth and reduce the environmental impacts of nature at the same time. economic growth while minimizing the damage to the natural environment. Circular economy is characterized by low consumption, low emission and high efficiency, so

circular economy is essentially a "green economy", which requires that all economic activities be formed into a "resource utilization - green industry (products) - resource regeneration" cycle. --It requires all economic activities to form a closed-loop material flow of "resource utilization - green industry (products) - resource regeneration", and all materials and energy are reasonably utilized in the economic cycle (Hu Wanzhen, 2015)[40] . Green logistics involves two major systems, the economy and the ecological environment, guided by the general principles of economics, based on ecology, seeking ecological balance, economic rationality, the best combination of ecology and economy under advanced technology and coordinated development. Therefore, the development of green logistics based on circular economy can save a lot of resources, improve the utilization rate of resources, alleviate the pressure of the earth's resource tension; effectively prevent and control environmental pollution, and protect the environment (Ren Yongmei & Hu Shijie, 2013)[42] . Accordingly, the implementation of green supply chain flow also occupies a very important position in the theory of circular economy, with the rapid development of online economy, logistics occupies an increasingly important position in people's daily life, based on the gradual expansion of the domestic supply chain and transnational supply chain trade activities, so that logistics has become the lifeblood of the socio-economic activities (Sun Yang, 2021)[36] .

5. Impacts of Corporate Green Supply Chain Practices Factors

5.1. Internal Drivers

5.1.1. Individuals

As the most important individuals within the enterprise, employees and managers within the enterprise, their personal awareness, traits, and behaviors have a certain degree of influence on the implementation of green supply chain practices in the enterprise. Tian Li (2008)[43] based on the supply chain theory, confirmed that the environmental awareness of employees within the enterprise has a certain role in promoting the greening of the supply chain. Dai et al. (2014)[44] based on the stakeholder theory, pointed out that the environmental awareness of enterprise managers can affect the strategic decisions and economic profits of the enterprise, and it is a key factor for the enterprise to develop green supply chain management. Tian Dan (2017)[45] Taking the heavy polluting enterprises listed on the Shanghai Stock Exchange in 2011-2014 as the research object, the study found that corporate managers have a significant influence on the implementation of green supply chain management in enterprises. Jiang Yufeng (2015)[46] believes that the personality traits of enterprise managers inclined to green environmental protection can to a certain extent alleviate the limitations and constraints of the institutional environment and stakeholders on the implementation of green supply chain, which can not only ensure the basic interests of stakeholders' needs, but also demonstrate to the outside world the enterprise's commitment to green environmental protection and form a good corporate image and reputation; in addition, the commitment of enterprise managers also has an important impact on the implementation of green supply chain, which is the key factor for the implementation of green supply chain management. In addition, the commitment of enterprise managers also has an important impact on the implementation of green supply chain. The greater the commitment of

enterprise managers to green environmental protection, the greater the enterprise's determination and willingness to implement the green supply chain will also have sufficient motivation.

5.1.2. Within the Organization

Many studies have found that strategies, tactics, and capabilities within the organization are the most critical drivers for companies to implement green supply chain practices. Zhu Qinghua (2009)[47] within the organization empirically concluded that corporate awareness and capability have the greatest influence on green supply chain management constraints. Sun Yang (2021)[36] Starting from three aspects related to market competition, policies and regulations, and enterprise capability, the study found that the most significant influence on green logistics is in the aspect of enterprise capability, which explains the fact that enterprises with additional liquidity, high-quality professionals, and R&D capabilities, in order to enhance the core competitiveness of the enterprise, and thus increase the enterprise's environmental and economic benefits, will independently research and develop green technology and green strategies so that they can still be in the leading position in the industry force, therefore, the enterprise ability becomes one of the strong drivers of green logistics. Zhu and Sarkis (2007)[48] Based on the Chinese automobile industry, the study shows that the influence of driving the implementation of green supply chain management in Chinese automobile enterprises is not only government regulation and market competition, but also the internal drivers of the enterprise will also account for a large part of it. Zhang Ronglan (2015)[49] et al. based on iron and steel enterprises, divided enterprise performance into environmental, economic and social performance, the benefits of implementing green supply chain management as a direct influence factor, the internal constraints and the internal promotion of the enterprise as an indirect influence factor, and utilized the basic method of empirical evidence to study the role of green supply chain drivers, the study shows that the government's support and promotion will directly affect the performance of the enterprise, and the other three factors will significantly influence the performance of the enterprise, and the government's support and promotion will directly affect the performance of the enterprise. The study shows that government support and promotion will directly affect enterprise performance, and the other three factors will significantly affect enterprise performance and promote the implementation of green supply chain management.

With regard to the internal activities of enterprises, Zhu Qinghua et al. (2009)[50] discuss the intrinsic motivation of green supply chain management from the aspects of enterprises' environmental strategies and environmental activity costs, and argue that green supply chain management is firstly emphasized by the leading enterprises during the introduction period, and then the influence scope is gradually expanded to all enterprises, and each enterprise chooses to implement green supply chain management to improve the environmental protection image in order to avoid elimination, and the motivation of the enterprises for green supply chain management is influenced by the cost of environmental activities. At the same time, the enthusiasm of enterprises to implement green supply chain management is affected by the cost of environmental activities, green design as the first link of supply chain management, scientific green design can effectively reduce the use of hazardous materials in the

enterprise, and then reduce its environmental activity costs, reduce the burden of environmental protection. Qu, Y. (2007)[51], however, found that although the cost of environmentally friendly packaging, the cost of disposal of hazardous materials, the cost of environmentally friendly products, exporting, and selling products to foreign/joint ventures in China have a contributing effect on the implementation of green supply chain management, most Chinese enterprises have not yet realized its importance. Ye Fei (2010)[52] The empirical results basically agree with the phenomenon that executives do not realize the importance of green design. However, along with the sharp environmental conflicts, increased social awareness of environmental protection, and increasing attention to corporate social responsibility, corporate executives have begun to actively implement green design in order to create a good image of corporate social responsibility. The results show that most scholars agree that intrinsic factors have the greatest influence on the implementation of green supply chain and even green design by enterprises, and although enterprises are awakening to the awareness of green design, their behavioral capacity is still relatively weak, thus forming a certain degree of constraint. Ding Rui (2020)[53] et al. conducted a study by using the FAHP method and found that the cognition and willingness of senior leaders have an important influence on the green innovation behavior of enterprises, and that senior leaders formulate enterprise strategic planning, expect to form the recycling of resources through the research and development or the use of green logistics technology, the use of green logistics equipment and recycling systems, and the related initiatives produce green environmental performance, economic performance and social performance. The related initiatives generate green environmental performance, economic performance and social performance.

5.2. External Drivers

5.2.1. Markets

Market factors mainly include the influence of customers and consumers upstream and downstream of the supply chain. By using a fuzzy set qualitative comparative analysis approach, Huang Chao-mei (2021)[54] found that when firms face greater industry green competitive pressures with a larger sustainable consumption market share, then they will implement high levels of green supply chain management practice-driven models. Zhu (2007)[48] found that market pressures drive organizations to adopt eco-designs to have a better environmental performance because in order to export their products or to become a Chinese manufacturers have initiated eco-design in order to export their products or become suppliers to foreign customers in China, which also resulted in better environmental image and performance, but economic performance tended to deteriorate in the short term, an outcome that could be attributed to the short-term investment in transferring this technology from customers and partners in more developed countries to Chinese manufacturers.

In the research on the role of consumers, some scholars believe that consumers are one of the driving forces for enterprises to implement green design (Xuan Zhang, 2017)[55], but by the limitations of the level of understanding and other aspects, relative to green design, consumers have a more intuitive influence on whether the environment of products and services meets the demand for green, and the influence of consumers on the behavior of green design is not

significant (Ye Fei, 2010)[52] .

5.2.2. System

From the perspective of institutional theory, the impact of legalistic pressures, policies and regulations on enterprises' green supply chain practices is a more extensive research area. Huang Chaomei (2021)[54] found that in driving leading manufacturing enterprises to implement a high-level green supply chain management practice model, the national economic and environmental policy is a necessary condition, and the country in which the enterprise is headquartered gives it a certain amount of economic and environmental policy support. Implementing green design of industrial products is an important element in building a green manufacturing system, and the Industrial Green Development Plan (2016 - 2020) will comprehensively promote industrial green design. One of the external pressures for the implementation of green supply chain management in China's manufacturing industry is laws and regulations (Zhu, Q. H., 2006)[56] . Cai Ying (2021)[60] Through empirical research, from the perspectives of mandatory and non-mandatory pressures, it was found that mandatory pressures have the strongest positive influence on the green management behavior of logistics companies. In the coal industry, Li Aibin (2012)[57] used the game method to find that: the response of the government, the market and the public to the resource and environmental problems and its degree; the response of the coal green logistics to the government's policy and institutional thrust, the market's gravitational force and the public pressure and its degree are two of the four important aspects that affect the formation and functioning of the greening of coal logistics. Chen Qiujuan (2020)[58] Based on the institutional theory and resource base view, the institutional pressure is divided into social environmental protection pressure and commercial environmental protection pressure to conduct an empirical study, and the study found that both pressures have a significant impact on the practice of green supply chain management. When comparing the two, it is found that social environmental pressure is more effective in promoting the greening of supply chains, and when the two pressures work together, they have a greater effect on the promotion of green supply chain management practices than a single pressure.

Some scholars have found that institutional pressure affects firm performance by influencing eco-design (i.e., green design) in green supply chain management (GSCM). Zhu, Q. et al. (2013)[59] found that institutional pressure for environmental protection motivates Chinese manufacturers to implement internal GSCM practices first, followed by external GSCM practices, and that coercive pressure is associated with manufacturers' implementation of eco-design practices by The mandatory pressure is related to the implementation of eco-design practices by manufacturers. Although eco-design may require increased investment and lead to a significant negative correlation with economic performance at this stage, it can be a valuable resource for manufacturers to gain strategic economic benefits. In addition, eco-design leads to collaboration with suppliers, which can indirectly improve economic performance through environmental and operational performance. Xuan Zhang (2017)[55] argues that the restrictions of government laws and regulations motivate companies to focus on green design in their manufacturing operations in order to produce products that meet government requirements. Ye Fei (2010)[52] argues that policies and regulations regulate enterprises to adopt green design behaviors to a certain extent, forcing enterprises

to pay attention to and carry out eco-design as early as possible, which shows that policies and regulations are another strong driver of green design behaviors.

5.2.3. Competition

From the perspective of corporate competition, the impact given by competitors is much greater than management, legal or regulatory pressure (Bergh, 2002), once competitors adopt any green behaviors, in order to retain the competitive advantage, enterprises will imitate and learn from their competitors to implement green activities, which will promote the implementation of green supply chain management (Xuan Zhang, 2017)[55] , Considering the market share grabbing, when competitors carries out green design behaviors, enterprises will inevitably follow competitors to carry out green design actions, therefore, competitors are also not less than one of the strong drivers of enterprises' green design behaviors (Ye Fei, 2010)[52] . Gardas, B. et al. (2019)[65] Scholars also found that the competitive pressure is one of the indicators with a high driving force by interpreting structural equations. Peng, W. (2021)[30] found through structural equation analysis that competitive pressure can motivate enterprises to adopt green design, green procurement and green recycling behaviors. If a company acts as a leader in the industry, it will innovatively and spontaneously implement green supply chain management practices. If a company is a follower in the industry, it will implement green supply chain management practices based on its own characteristics after observing the green strategies of competitors and verifying that the green practices of the leader can enhance its own advantages. Zhu, Q. H. and Dou, Y. J. (2011)[66] By constructing a game model, it is found that firms adopting passive green supply chain management strategies tend to focus on measures that are both economical and environmentally friendly, and then the price difference between low-green and high-green products is getting bigger and bigger, with the result that the two producers are focusing on their respective market segments: winning by being cheap and winning customers by being environmentally friendly with their higher level of products. Huang, Jingchi and Liao, Jilin (2021)[92] also used a game model and found that regardless of whether competitors implement a green supply chain or not, firms are incentivized to make a green transition by gaining more benefits from choosing a green supply chain.

6. The Relationship Between Corporate Green Supply Chain Practices and Corporate Performance

6.1. Economic Performance

Combing through previous studies, some scholars have found diametrically opposed conclusions about the relationship between green supply chain management and firms' economic performance (Peng Wei, 2021)[30] . The external environmental protection requirements are getting higher and higher, and these expectations make manufacturing enterprises have to bear more environmental protection costs, and these green practices may not be related to the core business of the enterprise, resulting in an increase in the production and operation costs of the enterprise, and a decrease in the competitiveness of the enterprise and the overall benefits of the society (Ambec S & Lanoie P,

2001)[67]. Zhu QH, Geng Y (2004)[68] Using factor analysis based on the four green supply chain management practice factors of internal environmental management, supply chain management, eco-design and investment recovery, the study found that the impact of green supply chain management practices on the economic performance of enterprises is not obvious. Singh et al. (2019)[69] Scholars believe that the introduction or research and development of green technologies, the production of green products and the establishment of recycling channels for used products green supply chain management behaviors themselves contain high costs. The improvement in economic performance brought about by the implementation of green supply chain behaviors cannot work in the short term and has a certain lag effect (Yina Li, & Xu Li, 2017)[70]. Similarly, Zhu Q et al. (2013)[59] scholars found that green supply chain practices do not have a significant effect on economic performance through statistical analysis method, but improving environmental and operational performance can bring long-term economic performance. Some more scholars argued that since corporate resources and attention are limited, when companies focus heavily on green supply chain management, it will inevitably jeopardize the competitiveness of their core business areas (Esfahbodi A et al, 2017)[71].

However, some scholars believe that corporate green supply chain practices can play an indirect positive impact by improving environmental performance, corporate image, reducing costs, gaining competitive advantage, etc. Porter (1999)[72] argues that low resource utilization leads to environmental pollution, and the existence of pollution implies that there are problems in corporate product design, raw material procurement, or production and manufacturing processes, and that green supply chain management can be achieved by Improving the utilization of raw materials, energy and labor to reduce costs. Vanalle et al. (2017)[73] scholars research that enterprises can find new sources of profit through green design, green procurement, green recycling and other supply chain behaviors, these behaviors increase profits can partially or even completely offset the costs invested in order to reduce pollution, and at the same time can lead to the enterprise to obtain additional competitive advantage in its industry. The results of this research have been very promising. Some studies have also shown that successfully addressing environmental issues may provide new opportunities for firms and avenues for opening up new markets. Carter (2015)[74] et al. found that 80% of consumers were willing to pay a higher price for environmentally friendly products through a survey of consumers in the United States. It can be seen that the green products produced by enterprises may bring additional economic income to enterprises. At the same time, green supply chain management behaviors such as designing and producing green products or adopting clean and efficient production processes can bring about an increase in sales, return on assets, and pre-tax profits. Foo (2018)[75] et al. studied 178 large manufacturers certified by ISO14001, and the results showed that corporate green supply chain management has a significant positive organizational economic performance relationship, and enterprises can improve corporate reputation and customer satisfaction through environmental management, thus improving economic performance. Geng et al. (2017)[76] believe that the implementation of green supply chain management can improve the economic performance of enterprises through the

following two ways. First, adopting green supply chain management can effectively reduce the consumption of raw materials and the cost of pollution control in the production and operation process, and avoid fines due to the violation of relevant national laws and regulations. Secondly, adopting green design, green procurement and other green behaviors is conducive to the establishment of a good social image of the enterprise, to meet the demand of consumers for green environmental protection, so as to occupy the market share of green environmental protection, and to achieve the growth of sales profits. Xie Zhiming, Xie Qingqing et al. (2015)[77] From the point of view of manufacturing enterprises, the enterprise performance is divided into environmental performance and financial performance, and the study shows that: if public participation and social responsibility and other factors are incorporated into the chain management system of green supply chain management can realize the win-win situation of environmental performance and financial performance.

6.2. Environmental Performance

By combing the literature, corporate green supply chain practices can positively affect environmental performance through green design, green procurement, green sourcing, and green innovation. A large number of studies in recent years have shown that green supply chain management can significantly improve corporate environmental performance by reducing environmental pollution in the processes of material sourcing, product design, production, goods delivery, and recycling (Chien, M. K. , & Shih, L. H. , 2007)[78]. Eltayeb (2011)[79] and others argue that green supply chain management can improve corporate environmental performance by reducing corporate behavioral negative impacts on the environment, such as reducing the consumption of toxic/hazardous materials in the production process, reducing the frequency of environmental accidents, and reducing the emission of three wastes, can significantly and positively improve environmental performance. Diabat (2013)[80] and Jabbour et al. (2017)[81] scholars have found that there is a positive correlation between green purchasing, cooperating with customers in terms of greening and environmental performance, and that these behaviors will lead firms to get along with their suppliers and customers in a desirable ecological way and reduce unsustainable behaviors, thus improving firms' environmental performance. Yina Li and Li Xu (2017)[82] From different countries and different industries, using the basic method of empirical evidence, the research shows that green practice is to avoid or reduce the harm to the environment through the improvement of products, technologies, processes and services, so both internal green practice and supplier green collaboration can reduce energy consumption, reduce the discharge of wastewater, waste and the harm to the environment, and improve the environmental image of enterprises, which in turn improves the environmental performance of enterprises. Therefore, both internal green practices and supplier green collaboration can reduce energy consumption, wastewater and waste emissions and environmental hazards, enhance the environmental image of enterprises, and improve their environmental performance. Fang, Chen-Cheng, and Zhang, Jian-Tong (2017)[83] Using meta-analysis to categorize corporate performance into environmental performance, economic performance, and operational performance, the study shows that internal green management and eco-design

have the strongest correlation with environmental performance.

Due to the different characteristics of different industry sectors, many scholars have studied the impact of corporate green supply chain on environmental performance from different industries. Wen Lingyu and Chen Minghui (2010)[84] took the environmental protection industry supervisors as the object, and found that the commitment of enterprises in environmental protection and environmental protection innovation technology had a significant positive impact on the environmental performance of enterprises, and the environmental protection innovation technology mediated between the commitment of enterprises in environmental protection and environmental performance. Gu Lei et al. selected the middle and senior managers of three major coastal port groups as the survey respondents and used two-stage structural equation modeling to explore the relationship between green supply chain management and green performance. The results show that there is a significant positive feedback between external green cooperation and internal green practices in ports for port green performance. The two key questions of which type of environmental practices (internal or external) contribute the most to improving firm performance. The results of the study show that both internal and external environmental management lead to improvements in corporate environmental performance (Giovanni P D & Vinzi V E . , 2012) [86]. Chiou (2011)[87] et al. surveyed 124 firms in eight industries in Taiwan to measure green supply chain management innovations in terms of product innovation, process innovation, and management innovation, and the results of the study found that these three practices can bring good environmental performance to firms.

6.3. Operational Performance

In the conventional view, since green supply chain behaviors of firms have a negative impact on operational performance, they also have a negative impact on economic performance. Increased environmental protection requirements will only result in manufacturers having to bear more prevention and treatment costs, increasing their production and operation costs and product prices, and distracting them from their key strengths and costs, thus hurting their interests, reducing their competitiveness in the industry, and lowering the overall social benefits (Yi-Na Li, & Yeh-Fei, 2011)[88] . However, with the continuous development and improvement of related research, the positive impact of corporate green supply chain practices on operational performance is gradually recognized (Ambec S, Lanoie P., 2008)[89] . Adoption of GSCM practices can increase the waste disposal rate and recycling rate, and avoid penalties from governmental environmental authorities (Sang M. Lee et al., 2012)[90] . Sang et al. (2013)[91] Scholars have found that GSCM practices can improve operational efficiency by enabling companies to improve operational performance by lowering the scrap rate, saving delivery time, and lowering the level of inventories, among other things. Utilizing its own advanced logistics technology, integrating group resources, optimizing resource allocation, through efficient planning and implementation of logistics activities such as transportation, warehousing, loading and unloading, distribution and packaging, and at the same time, applying logistics technology such as mechanization, pallet pooling, unitized stacking, automated sorting machinery, barcode

identification, electronic scanning, automated packaging operations to improve efficiency; using GPS (Global Positioning System), the overall layout of the logistics program, comprehensive design, avoiding or reducing the need to reduce inventory levels, and thus improve operational performance. Layout, comprehensive design, to avoid or reduce duplication of construction and artificial waste. This greatly reduces the operation cost and improves the operation performance of the enterprise. Therefore, the practice of green logistics has a significant positive impact on the operational performance of enterprises (Sun Yang, 2021)[36] . Fang Chencheng and Zhang Jiantong (2017)[83] found that green procurement has the most significant positive impact on operational performance compared to customer collaboration, eco-design, and investment recovery.

7. Conclusion

Based on the above literature combing, this paper analyzes the influencing factors of enterprise green supply chain management practices from two aspects: the driving factors of enterprise green supply chain management practices and the impact of enterprise green supply chain management practices on enterprise performance. From the view of internal driving factors, employees and managers within the enterprise, as the most important individuals within the enterprise, have a certain degree of influence on the enterprise's implementation of green supply chain practices in terms of their personal awareness, traits, and behaviors. Many studies have found that strategies, tactics, and capabilities within the organization are the most critical drivers for the implementation of green supply chain practices. Meanwhile, strategies, tactics, capabilities, etc. within the organization are the most critical drivers for companies to implement green supply chain practices. In terms of external drivers, from the perspective of institutional theory, the impact of legal pressure, policies and regulations on enterprises' green supply chain practices is a broader research area, and the research conclusions on their positive impact on enterprises' green supply chain practices are more consistent. Market factors mainly include the influence of two major stakeholders, customers and consumers upstream and downstream of the supply chain, and competitors are undeniably one of the strong driving factors by influencing market share.

From the perspective of enterprise performance, contemporary scholars mainly categorize it into three aspects: economic performance, environmental performance, and operational performance. Research on green supply chain management mostly focuses on discussing the direct impact of green supply chain management on enterprise performance, and few further analyze the indirect effect between the two. The positive effect of enterprise green supply chain practice on economic performance is not significant in the short term and may even be opposite, but the long-term practice can play an indirect positive effect by improving environmental performance, corporate image, reducing costs, and gaining competitive advantages. Enterprise green supply chain practices will positively affect environmental performance through green design, green procurement, green sourcing, and green innovation. The practice of green logistics has a significant positive impact on the operational performance of enterprises. It is also seen that the implementation of green supply chain management has different degrees of influence on the economic performance, environmental performance and operational performance of enterprises.

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