INFLUENCE OF GREEN SUPPLY CHAIN MANAGEMENT ON THE PERFORMANCE OF CHINA FURNITURE PRODUCTION COMPANY[*]

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Abstract

With the rapid development of economy, green supply chain management has gradually entered the human perspective. Its realization is conducive to enterprise brand building, enterprises reduce costs and enterprises bypass green barriers, help enterprises to occupy the advantage in the fierce market competition, improve the comprehensive competitiveness.

Under the guidance of the theoretical basis related to sustainable development, this study selected 4 Chinese furniture manufacturers already listed in China as the research objects, excavated the root cause of the inefficiency of green supply chain enterprises from the perspective of management and environment, and identified the improvement strategy and the influence mechanism of exogenous environmental variables. Explore the factors affecting enterprise performance change; put forward reasonable and effective suggestions for strengthening green supply chain management, improving enterprise development environment and improving production efficiency of green supply chain.

Keywords: Green supply chain management; enterprise performance; Chinese furniture manufacturer

Introduction

Since the 18th National Congress of China, the economic and social development of developing countries has entered a new routine. Due to the increasingly complex global macroeconomic changes in the environment and the stronger constraints on domestic resources and environment and ecological conditions, domestic industrial development urgently needs to carry out green transformation and achieve green goals. The central government has clearly put forward the policy of "technological innovation-driven" domestic industrial transformation, and developing countries are also paying more and more attention to supply chain construction. In the work report submitted to the 19th National Congress of the Communist Party of China, developed countries took the lead in clearly proposing the establishment of a modern industrial supply chain and raising green to a new strategic level. To enhance their comprehensive competitiveness in the international market, developed countries will conduct environmental governance by encouraging investment practices in some emerging markets. Make policy choices to actively promote national development, and actively shape the national green city image in Chinese enterprises' "going out" and actively participate in the construction of "Belt and Road" project. "Belt and Road" will promote domestic and global economic development, and green will also enable Belt and Road companies to bring green value to economic development at the

environmental level. In order to achieve national green, the company must overcome the difficulties faced in environmental management, the key part of which is supply chain management.

China's furniture manufacturing industry has become one of the pillars of the national economy. However, with the rapid development of the industry, the huge and negligible environmental problems directly affect the company's business. To this end, China's home appliance manufacturing industry urgently needs to establish a sustainable development strategy and promote green production process to improve enterprise performance. In this context, a green supply chain management system has been formed, which can reasonably balance the environmental performance and business performance of Chinese home appliance manufacturers.

In terms of management, Chinese furniture manufacturers cannot effectively implement green supply chain management. Through this research results, we can find a new way to carry out green supply chain management more effectively for Chinese furniture manufacturing enterprise managers. In terms of policy, due to the current government departments and citizens pay more attention to the environment, the introduction of many environmental laws and regulations requires companies to pay attention to environmental protection while creating value and profit, otherwise it will cost a great cost and cost.

Based on such research and development background and motivation, the author looks forward to use green production processes such as green supply chain management to promote green supply chain management of furniture production enterprises in China, so as to achieve the sustainable development of national manufacturing enterprises.

Research Significance

Theoretical Significance

Green supply chain is the product of the integration of green production theory and supply chain logistics management. A scientific evaluation of its value is a major action to respond to the call under the situation of realizing the strategy of strengthening the country with talents and building a resource-saving and environment-friendly new society. First, in this study, the green supply chain management system is divided into three parts: green engineering design, green manufacturing and green marketing, and uses big data envelope analysis technology (DEA) to set green engineering design, green manufacturing and green marketing as investment indicators, and set the business performance and environmental performance as output classification indicators; thus constructing the performance evaluation system of green supply chain management system. At the same time, the research results expand the application scope and analysis Angle of DEA in the three stages, and enrich the new achievements in the field of green supply chain performance research, giving a more comprehensive and credible explanation for the causes of the change of enterprise performance index. Second, this study adopted a three-stage DEA model, using linear planning, with the optimal investment and output as the production frontier, and established a data envelope curve. Not only can clearly evaluate the gap between the company green supply chain control strength, but also can correctly understand the impact of external environment variables on the performance of the green supply chain company, to improve the green supply chain management system, improve the company development environment, improve the green supply chain company performance to provide reasonable and feasible opinions.

Practical Significance

Home furnishing production industry is very dependent on resources because of its

own industrial characteristics, Therefore, we choose the furniture companies listed in China as the research object of the case companies, Consistent with the concept of green production, environmental protection and sustainable development put forward in China, Clear objectives, Clear indicator data, Therefore, the evaluation conclusion has a strong guidance and reference; next, Assess the performance management level of green supply chain companies through scientific methods, While reflecting the problems faced by the company, it can also reflect the development advantages of the company: First, Since the case company is highly dependent on the resources, Therefore, this can be an opportunity to improve and improve the green supplier management level of case companies; next, It establishes standards for supply chain companies in the same area, And provides a platform for its internal management decision-making, green development and innovation, Thus promoting the green reform of various related industries, And to jointly achieve the green and sustainable development Goals.

Research Objective

The research generally aims to explore the influence of Chinese traditional furniture manufacturing enterprises on company performance from the perspective of green supply chain management and also provides a new research object from the perspective of green supply chain management.

Literature Review

1) The research results of scholars at home and abroad, the concept of green ecological supply chain, content and principle are increasingly perfect, laid the foundation for the study of green supply chain management mode, so the researchers pay special attention to the concept and content of green supply chain management mode, including the driving cause of green supply chain management mode and its embedded in modern enterprise path and production mechanism.

2) In terms of the performance evaluation of green supply chain management, although there are many evaluation methods, the evaluation lacks pertinence. Different evaluation systems must be set up according to the different categories of enterprises.

3) Regarding the correlation between the green supply chain and the company's economic performance, the general researchers of the company influence the implementation of the economic performance management, environmental performance management and social performance management, while ignoring the internal adjustment mechanism of the company's economic performance management and environmental performance management.

4) Most studies of domestic and foreign scholars on green supply chain management focus on the manufacturing industry. The in-depth research on the furniture manufacturing industry is very little, and the special attention to the research and development is obviously insufficient. To sum up, the article explores the influence of Chinese traditional furniture manufacturing enterprises on company performance from the perspective of green supply chain management, and also provides a new research object from the perspective of green supply chain management. It can put forward the corresponding theoretical basis for the green supply chain management mode of China's home furnishing manufacturing industry, and can also put forward the corresponding measures and opinions for the government departments to promote the green manufacturing activities of the furniture industry. Material and Method.

Research Methods

This study adheres to the literature data collation and induction of —— proposed questions —— index system to establish —— evaluation mode to establish —— experiment evaluation analysis —— improvement countermeasure research and exogenous environment variable analysis —— countermeasures research suggestions. Methods generally include literature analysis methods and experimental analysis methods.

1) Literature analysis method. By summarizing the relevant papers of foreign green supply chain performance evaluation, analyzing the current results and shortcomings, it lays the necessary theoretical foundation and theoretical guidance for the further in-depth research of the paper, and then further enhances the comprehensiveness of the problem exploration, and lays the foundation for the following empirical research work.

2) Empirical analysis method. First, an analytic method for combining the three-stage DEA technique with linear regression. This paper mainly evaluates the production and operation performance of green supply chain enterprises by using the three-stage DEA technology: first, the simulation calculation of DEA-BCC of the original financial data; the second step is to adjust the original data; the third step is to measure the adjusted financial data again. On this basis, the linear regression index is used to assess the dynamic changes of the overall performance management of green supply chain enterprises, so as to further improve the green supply chain management system for green supply chain enterprises, improve the production performance of green supply chain enterprises, and provide reasonable and feasible ways and suggestions. Second, the stochastic frontier analysis model (SFA) is used. In the third-stage DEA environmental evaluation process 2, exogenous variables for SFA pattern identification will be established to prepare for data remeasurement after excluding environmental variables, and will provide an explanatory basis for the production management level of green supply chain companies and different factors affecting the production environmental management performance of green supply chain companies. Finally, a multiple regression analysis was used. Three links in the green supply chain management, the standardized equation of the company's business performance, operation performance and environmental performance.

DEA analysis of green supply chain enterprises

This paper first uses Deap-xp1 software to analyze the production efficiency of the four listed furniture manufacturers in 2020, The production efficiency and input relaxation of the green supply chain of each enterprise are obtained; Secondly, according to the characteristics of the truncation of the input relaxation quantity, The SFA regression model was used to construct the interpretation equations for environmental variables to eliminate the influence of environmental factors, Obtain the estimation coefficient of the external influence production variables of the enterprise and then adjust the original data; The efficiency measure was then taken again on the adjusted data, Then, to deconstruct the production efficiency of Chinese furniture enterprises, Get the green supply chain enterprise green supply chain management efficiency and the green supply chain enterprise green supply chain environmental efficiency, On this basis, to further explore the efficiency improvement strategy of green supply chain enterprises, Identification of the exogenous variables.

Comprehensive evaluation of production efficiency of Chinese Furniture production Enterprises

According to the research ideas of this paper, the production efficiency of Chinese furniture production enterprises in 2020 is shown in Table 3.1.

enterprise	production efficiency
Man Wah Holdings Limited	1
Sophia Home Furnishing Co., Ltd	1
Gujia Home Furnishing Co., Ltd	0.884
Qumei Home Furnishing Co., Ltd	0.763
average value	0.91175

Table 3.1 Production efficiency values of Chinese Furniture Enterprises in 2020

Among the four case furniture enterprises, the production efficiency of the green supply chain of Minhua Holdings and Sophia is both effective, while Gujia Home and Qumei Home are in an inefficient state and lower than the overall average efficiency value of 0.912. Minhua and Sophia are above the average, while Gu and Qumei are below the average. From the analysis of the average level of all samples, without the influence of external environmental interference factors, the average production performance of green supply chain of China furniture manufacturing companies is about 0.912, and there is still 9% room for improvement, indicating that Chinese furniture production enterprises still have considerable potential.

The year 2019 is an important year of serious harm by the epidemic. In 2020, China's furniture industry generally showed a trend of "low opening and high walking". On the other hand, due to the impact of the epidemic, the competition pattern of some small and medium-sized household manufacturers, brand stores, building materials cities and home sellers will be optimized in early 2020. Under the influence of the changing properties of rigid products and durable goods, since the epidemic situation at home and abroad improved in the first half of 2020, the supply and demand relationship has recovered rapidly, and the prosperity of household enterprises has increased significantly. Through this industrial reshuffle, the operation capacity of dealers has been significantly improved, and the industrial entry barriers have also been significantly improved compared with the last cycle. Therefore, home furnishing enterprises are expected to enter a new "honeymoon period" of development.

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Deconstruction of production efficiency of green supply chain of Chinese furniture enterprises

Survey results show that the domestic household green supply chain company product efficiency and a significant gap, which shows that the company internal and external environment variables is the main influencing factors of production efficiency, such as table five negative three, test shows that the difference between Chinese furniture enterprise

production efficiency and management efficiency is statistically significant. Therefore, it is of great significance to deconstruct the production benefit of Chinese furniture company into its management level and enterprise environmental benefit.

enterprise	Enterprise efficiency	management	Enterprise efficiency	production
Man Wah Holdings Limited	1		1	
Sophia Home Furnishing Co., Ltd	1		1	
Gujia Home Furnishing Co., Ltd	1		0.884	
Qumei Home Furnishing Co., Ltd	0.981		0.763	

Table 3.2 Difference analysis between production efficiency and management efficiency of Chinese furniture Enterprises in 2020

As can be seen from Table 3.3 that the management efficiency of Chinese furniture enterprises is significantly higher than that of Chinese furniture enterprises. In 2020, the management efficiency of the four Chinese furniture manufacturers was 0.981, and the management efficiency of the other three enterprises was 1, which is effective. This shows that the external environment of the four enterprises has a negative impact on the production efficiency, improving the management efficiency of exogenous environment. At the same time, the production environment of furniture enterprises in China is 1,1,0.884 and 0.777 respectively.

enterprise	Enterprise management efficiency
Man Wah Holdings Limited	1
Sophia Home Furnishing Co., Ltd	1
Gujia Home Furnishing Co., Ltd	0.884
Qumei Home Furnishing Co., Ltd	0.777

Table 3.3 Environmental Efficiency Values of Chinese Furniture Enterprises in 2020

If the influence of external environment variables is not deducted, and the management efficiency of Chinese household companies is evaluated by the product performance value of Chinese household green supply chain company, the management efficiency of the dominant environment will be overestimated, or the management efficiency in the inferior environment will be underestimated, resulting in evaluation error. But by deconstructing the company product performance value for company management efficiency and environmental performance, after deducting the production performance evaluation of the enterprise environment external variables, the company management efficiency reduction or evaluation error will disappear, so the difference between enterprise internal management efficiency will be less than the overall production performance difference. Thus, cause four cases of inefficient production factors are invalid internal management and environmental protection failure can be the result of the effect, so improve China furniture company production benefit not only from the enterprise itself management level, but also focus on the company environment, from the internal and external levels, to escort the healthy development of the company in our country.

Identification of Strategies for Improving Production Efficiency of Chinese Furniture Enterprises

In the evaluation of the production efficiency of furniture enterprises, Minhua Holdings and Sophia Home furnishing enterprises are always located at the frontier boundary. In the evaluation of the management efficiency of Chinese furniture enterprises, in addition to the enterprise management efficiency of Minhua Holdings and Sophia Household Enterprises, which is still maintained at 1, Gujia Household has also become an effective furniture manufacturer.

enterprise	Enterprise management efficiency	Enterprise environmental efficiency	Improve management capabilities	Improve the external environment
Gujia Home Furnishing Co., Ltd	1	0.884		◯
Qumei Home Furnishing Co., Ltd	0.981	0.777	◯	◯

Table 3.4 Identification of the Strategies for Improving the Production Efficiency of Chinese Furniture Enterprises

Note: The ◯ indicates the strategy that each green supply chain enterprise should choose.

In contrast, Minhua Holdings and Sophia Furniture are also in the forefront interface of furniture companies in terms of manufacturing efficiency and enterprise management level, which also shows that both companies have excellent green supply chain operation and control. After removing the environmental impact of internal and external factors of the enterprise, jia household products also transform the supply chain management efficiency of the enterprise into an effective state, indicating that the company has good enterprise control ability, and the environmental benefits caused by the internal and external disadvantages of the company also has a great negative impact on the product effect. And beauty household enterprise management efficiency value and the company environmental benefit value are equal to one, means that the management benefit and environmental protection benefit, at the same time shows different degrees of no benefit, the company will according to their

respective characteristics at the same time to improve supply chain control ability and external environment management level of two strategy, internal and external levels need both, so as to improve the company production efficiency.

Identification of external environment variables

As mentioned above, there is an obvious gap between the product management efficiency of Chinese furniture companies and the production environmental performance of domestic furniture manufacturing companies, because the effective internal and external conditions in the region of the company are significantly different. By clearly determining the key external environmental conditions that produce such a gap, the improvement direction of ineffective environmental protection can be clarified and suggestions for the construction of the effective external conditions of the company, so as to effectively promote the production efficiency of green supply chain enterprises. This chapter will comprehensively consider the effective internal and external conditions of China furniture manufacturing company from the two aspects of the GDP of the company area and the population at the end of the year. In the third stage DEA model, the total investment amount, raw materials procurement and sales expenses of the first phase are the explanatory variables, and the GDP of the company and the population at the end of the year are taken as the independent variables. Due to the truncation characteristics of the relaxation variables, the effect of environmental factors on the input release can be predicted by the SFA regression model, and the regression results are shown in Tables 3.6.

variable	Total r & d investment slack	Purchase the relaxation amount of raw materials	Sales expense relaxation amount
absolute term	31.997***	17.746***	23.35***
GDP of the enterprise location region	—1.363*	—1.087*	—1.048*
The population of the enterprise area at the end of the year	—1.465	—0.46	—0.975
One ateral likelihood ratio LR	21.89***	12.57***	21.60***

Table 3.5 Regression results of the S F A model
Note: * * *, * * and * indicate significant levels at 1%, 5% and 10%, respectively

The resulting likelihood ratio LR of both SFA regression patterns underwent more than one percent of significance tests, indicating that the amount of relaxation between the three input variables and the internal and external environmental variables of the enterprise. Standardized regression coefficient is negative value, increased environmental variables can reduce investment waste, while standardized regression coefficient is positive value, increasing environmental variables will lead to more investment redundancy.

1) The GDP in the company's region has an obvious negative correlation with the development investment amount, raw materials purchased and sales expenses. The level of regional economic development reflects the maturity of the region and its great attraction of external human resources, science, technology, knowledge and personnel, which is also the best external condition for the survival and development of small and medium-sized enterprises to rely on. From the standardized regression coefficient, it can be found that the regional GDP level of the company plays an important role in promoting the production

benefits of furniture companies, that is, the higher the regional development level, the better the peripheral conditions that the company relies on, and the higher and more beneficial to the production efficiency of green supply chain enterprises.

2) The total population of the company at the end of the year and the amount of R & D investment, raw materials procurement, sales expenses, but it is not clear. This shows that the level of human capital management in a place also plays a role in promoting the development and growth of green supply companies. The higher the level of human capital management will help the improvement of the manufacturing efficiency of home furnishing companies. However, it is necessary to deeply explore the contribution rate of different human capital to the efficiency improvement of Chinese home furnishing companies, which also helps the company to grasp the direction of market changes and develop harmoniously with other characteristic and advantageous industries.

Multiple regression analysis of green supply chain enterprises

In order to analyze the three links of green supply chain, the influence on business performance, marketing performance and environmental performance of Chinese furniture manufacturing companies, this paper uses multiple regression analysis using SPSS software, green design, green manufacturing and green marketing, and environmental disclosure performance and economic performance, operating performance and environmental performance.

Green Supply Chain Management — Environmental performance

According to table 3.6 analysis, three different independent variables of green supply chain management, green product design, green production, green marketing and Chinese furniture enterprise environmental performance related standardized regression coefficient (R) is 0.733, adjusted determination coefficient (Adjusted R^2) is zero 525, illustrates the green supply chain management of three different independent variables, can reasonably explain the environmental performance of Chinese furniture enterprises 52.5 percent variable change rate. The normalized regression equation is:

Environmental performance $=0.327 *$ green set $+ 0.476 *$ green manufacturing $+ 0.177 *$ green marketing

independent variable	Beta(β)
Green design	0.327
green manufacturing	0.476
Green marketing	0.177
R=0.733, R²=0.537, Adjusted R²=0.525	

Table 3.6 Multiple Regression Analysis Table of Green Supply Chain Management Variables and Environmental Performance of Chinese Furniture Enterprises

In the equation, all three standardized regression coefficient values () of independent and dependent variables are positive, indicating that green design, green manufacturing and green marketing have a positive impact on the environmental performance of Chinese furniture enterprises. In addition, due to the green design and green marketing are significant relationship with environmental performance, and standardized regression coefficient value () the absolute value is very big, illustrates the two variables of the dependent variable strength is very big, Chinese furniture companies if you want to improve their own environmental performance should focus on the green design and green marketing these two links.

Green supply chain Management —— economic performance

According to table 3.7 analysis, green supply chain management of three different

independent variables, green engineering design, green products, green marketing and related to furniture enterprise operating performance variables, standardized regression coefficient (R) for zero 557, adjusted coefficient of determination (Adjusted R²) is 0.293, illustrates the green supply chain management of three different independent variables, can reasonably explain my country business performance rate of change. The normalized regression equation is:

Economic Performance = -0.218 * Green Design-0.352 * Green Manufacturing-0.214 * Green marketing

independent variable	Beta(β)
Green design	-0.218
green manufacturing	-0.352
Green marketing	-0.214
R=0.557, R²=0.310, Adjusted R²=0.293	

Table 3.7 Multiple Regression Analysis Table of the Green Supply Chain Management Variables and the Economic Performance of Chinese Furniture Enterprises

Among the standardized regression coefficient values () of green design, green marketing and green manufacturing are all negative, It shows that these three independent variables have a negative impact on the economic performance of Chinese furniture enterprises, This is because companies are in the green supply chain management, First of all, Chinese furniture enterprises need to invest more r & d costs when designing environmentally friendly products, Secondly, the environmentally friendly raw materials purchased for production activities will increase the procurement cost of enterprises, Finally, when enterprises carry out sales activities, Products will also need to be packaged using biodegradable and recyclable packaging, Therefore, these three green supply chain management independent variables have a negative effect on the economic performance dependent variables of Chinese furniture enterprises.

Green supply chain Management —— Operation performance

From table 3.8 analysis, three different independent variables of green supply chain management, green engineering design, green products, green marketing and my country enterprise performance management work related standardized regression coefficient (R) is zero 59, the adjusted coefficient of determination (Adjusted R²) is 0.340, illustrates the three different independent variables of green supply chain management, can reasonably explain my country enterprise economic performance management rate of change. The normalized regression equation is:

Operating performance =0.249 * Green design + 0.482 * green manufacturing + 0.188 * green marketing

independent variable	Beta(β)
Green design	0.249
green manufacturing	0.482
Green marketing	0.188
R=0.591，R²=0.359，Adjusted R²=0.340	

Table 3.8 Multiple Regression Analysis Table of Green Supply Chain Management Variables

and Operating Performance of Chinese Furniture Enterprises

In this equation, three different variable standardized regression coefficient value are positive, shows that three variable variable have positive positive effects, with green manufacturing variable standardized regression coefficient is the highest, shows that the Chinese furniture enterprises operating performance is strongest, this is because the manufacturing of Chinese furniture enterprises production activities, the stronger the manufacturing capacity of the stronger the ability to deliver goods, so Chinese furniture enterprises to improve their operating performance should give priority to improve their green production capacity and product delivery capacity.

Conclusions

Main results of the experiment include:

1) In 2020, the average green supply chain product efficiency of four domestic furniture companies is 0.912, and has about 9% upward space, with certain development potential. China's comprehensive implementation of green production development policy, the development trend and direction, green development policy requires companies must continue to carry out green technology research investment, also must maintain and improve the quality of green suppliers, green supply chain cost and customer service price, led to the green supplier production benefit fluctuations or decline, so the company must in the next time to find economic development balance, so as to break through the bottleneck, production efficiency rose again.

2) The GDP of the region and the population of the end of the year are negatively correlated to the total R & D investment, raw materials procurement, production and sales expenses, etc. Among them, the GDP of the region of the enterprise is the most obvious at the level of 10%, while the regional population at the end of the year is not obvious. This shows that improving the external environment such as the economic development level and human capital level of the green supply chain company can reduce the investment redundancy, optimize the operation process of the green supply chain company, and realize the purpose of improving the output efficiency of the company.

3) China furniture company performance management work for economy, environmental protection, sales performance, and the green supply chain management for green design, green manufacturing, green marketing, and establish a multiple regression model through analysis: green supply chain management for Chinese furniture enterprise environmental performance and operating performance has a positive impact, improve the Chinese furniture enterprises for environmental protection, production activities to protect employees and improve the production of the Chinese furniture enterprises capacity and the ability to deliver products on time. But at the same time, Chinese furniture enterprises also need additional costs for green supply chain management. Chinese furniture enterprises need to develop recyclable and biodegradable products, buy environmentally friendly raw materials, and introduce new production equipment to reduce emissions. These links may lead to the decline in the financial data of Chinese furniture enterprises, which has a negative effect on the economic performance of Chinese furniture enterprises.

Countermeasures and suggestions
Enhance the technological innovation capacity of green supply chain enterprises

Science and technology is the basis of development. The main factor leading to the significant decline of the production efficiency of green China furniture Company in this research is that the research and development of science and technology is still insufficient. In the process of implementing green furniture production, the Chinese furniture production

company is still in urgent need of a large number of high-tech technology as a guarantee, so as to achieve the goal of achieving the least impact on the environment while accelerating the development. So, from the furniture company level, is needed based on the overall goal, further enhance the company's management level, strengthen research and development investment intensity, breakthrough and improve environmental resource efficiency and energy conservation and emissions reduction core technology, at the same time by learning from each other international advanced model, enhance the company's own endogenous power, so as to improve the overall creative efficiency.

Improve the level of external environmental guarantee

The regional economy, environmental protection and social development level of China Furniture production Company are all necessary conditions for the company's development tolerance and existing value. The influence and driving of environmental protection atmosphere, as well as the availability of the company to external environmental resources, are all important influencing factors in the development process of the company. Therefore, the national provinces and cities in the process of promoting regional economic and social development also want to enter the green manufacturing, guided by green economic development ideas, for the regional environmental bearing capacity, resource reserves to make scientific and reasonable planning, and not blindly seek to maximize economic benefits, and implement excessive expansion, etc.

Strengthen the support for the transformation of green supply chain enterprises

Green supply chain system is the product of the integration of green production theory and modern supply chain management technology. Its purpose is to coordinate the various node enterprises in the supply chain, promote the effective transmission and response of various intelligent streams, so as to meet the needs of enterprises to improve the overall operation efficiency of the chain. And in order to promote the green supply chain enterprises successfully complete green healthy development goals, adhere to promote the green production system construction is in the implementation of the strategy of modern manufacturing power, promoting green manufacturing projects vigorously under the background of major action, but also in our country at the present stage and even in the future need to focus on the major task.

Limitations of research and outlook

1) The sample size of Chinese domestic furniture companies selected in this paper has certain limitations. According to the needs and availability of research on domestic furniture companies, only four domestic furniture companies in 2020 research data were selected, resulting in a small sample size. Therefore, in the future research, we may increase the annual product efficiency evaluation and research of different companies in the industry, so as to increase the coverage of the product efficiency of green supply chain management, thus increasing the sample size, and make the evaluation conclusions more representative and guiding.

2) Considering the availability of data, this research only divides the green supply chain into three links: green design, green manufacturing and green marketing, but does not include the internal management environment and external communication with upstream and downstream customers. Other links can also be considered as the consideration scope, and different green supply chain links are the starting point to investigate the impact and importance on the company's performance respectively, and put forward more substantive suggestions for the company to further improve the green supply chain management model.

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