

# A Study on the Impact of Green Supply Chain Management on Sustainable Performance in Manufacturing Companies

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**Abstract:** Manufacturing companies can cause serious pollution during the production and manufacturing process, but with the establishment of a green supply chain, this can be changed to realize green production of the company and gradually transform the company's performance into sustainable performance.

**Keywords:** manufacturing companies; green supply chain management; sustainable performance

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## Foreword

Manufacturing enterprises have a close connection with the development of national economy, but manufacturing enterprises can bring serious pollution problems and resource waste problems while promoting economic development. As people's awareness of environmental protection continues to rise, manufacturing enterprises also need to change themselves to reduce pollution emissions by establishing a green supply chain to realize the green, healthy and sustainable development of enterprises.

## 1. Concept of a green supply chain

In recent years the earth has serious environmental problems, natural disasters, extreme weather began to appear constantly, in order to protect the human home, people continue to pay attention to environmental protection. According to the survey, the manufacturing industry can cause serious damage to the environment, a large number of gases, liquids, and solid wastes are discharged into the nature, and gradually have an impact on the environment, resulting in contaminated rivers, the land is no longer fertile, and the air is no longer fresh. Severe pollution not only brings extreme weather and natural disasters, but also causes serious harm to human life and health.

The supply chain has an important impact on the production of enterprises, and the supply of materials directly determines the quality of products and the production process, and if the materials are not green, serious pollution may occur in the production process. Therefore, in order to solve the problems arising from the production process, manufacturing enterprises should first of all innovate technology and equipment, and purchase some pollution treatment equipment, but only these treatments are not enough to solve the problem of pollution, manufacturing enterprises also need to establish a green supply chain, to ensure that the materials used are non-polluting green materials, in order to minimize the damage to the environment<sup>[1]</sup>.

## 2. The concept of sustainable performance

Sustainable performance refers to the stable, long-term economic gains that an enterprise obtains in the production process without jeopardizing the interests of related parties. In layman's terms, it is the enterprise's long-term stable development in the process of production and operation through reducing emissions, retaining talents and other legitimate ways. However, if enterprises want to realize sustainable development, they need to integrate enterprise economy, social issues, and environmental issues, and in the process of enterprise operation, they must adhere to these three bottom lines and combine the three elements with the supply chain to ensure that they will not bring negative impacts on society and the environment when carrying out production.

In the pursuit of sustainable performance of enterprises, we can refer to the concept of sustainable development in China to find a suitable path for the development of enterprises, establish a green supply chain, and reduce the waste of resources and environmental pollution by means of green raw materials, so as to realize the development of sustainable performance of enterprises.

## 3. The impact of green supply chain management on sustainable performance in manufactur-

## ing companies

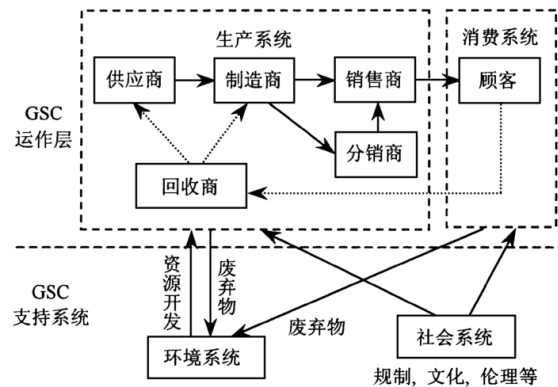


Figure 1 Green supply chain management flow chart

As shown in Figure 1 , the production process will be a large number of input raw materials and produce waste, after the customer purchase, may also produce waste, the recycling of these wastes, you can effectively improve the utilization of resources and reduce environmental pollution.

### 3.1 Impact of green design on business performance

Design is the source of production, in the design of the link into the green, environmental protection, saving and other concepts, you can better application of green materials, and improve the utilization rate of resources, research and development and manufacturing more in line with the modern market of green and healthy products, enhance the market competitiveness of enterprise products, so that enterprises can obtain more economic benefits. Design link has a significant impact on product quality and production process, good design can improve the environmental performance of the product, change the previous production process, minimize the pollution caused by the production link, and reduce the waste of resources caused by the production process.

Green materials refer to some recycled materials or special non-polluting materials, but without special design, some non-polluting materials may not be directly applied to the products. For example, a certain environmentally friendly sneakers mainly use recyclable materials, but recyclable materials and traditional material characteristics are completely different, if not specially designed, in the support, softness and so on, there may be problems, in order to ensure the comfort of the sneakers, in the design stage will need to be filled with more sponge material inside the sneakers. Therefore, early design plays a very important role in using green materials and enhancing product power.

### 3.2 Impact of green manufacturing on enterprise performance

The production and manufacturing process is the most prone to resource waste and environmental pollution, in the production and manufacturing process into the green concept, you can effectively enhance the utilization of resources and reduce the pollution caused by production. At present, there have been a variety of green production technology, such as, low-carbon production technology, low-pollution production technology, the application of these technologies to the production, can effectively reduce environmental pollution, reduce the enterprise in the environmental pollution of the resource inputs, so as to save costs, so that the enterprise through the implementation of green production to obtain more economic benefits, improve enterprise performance, and will gradually transform it into a sustainable performance of the enterprise.

The extensive use of green materials in the manufacturing process can also be effective in improving business performance. As green materials have different characteristics from traditional materials, they tend to perform better through special design. Applying green materials to production can not only reduce resource waste and environmental pollution, but also improve production efficiency. For example, in the production of wood flooring, the traditional use of wood, but the treatment of wood is extremely complex, not only to discharge all the moisture of the wood, but also need a variety of special treatments to ensure its strength, and to ensure that it has a strong waterproof, corro-

sion-resistant, anti-moth-eaten performance, and the use of solid wood flooring will also use a large amount of wood, the utilization rate of resources is low. And if the manufacture of laminate flooring, you only need to use a very small amount of wood, some recyclables can also be reused to enhance the utilization of resources, and laminate flooring has a higher strength, but also has a strong waterproof, corrosion-resistant, insect-resistant performance, the price is also more affordable, more popular with residents, which can effectively enhance the economic returns of enterprises<sup>[2]</sup>.

### **3.3 Impact of green marketing on business performance**

Marketing is an important part of selling products, and green marketing means that the production and sale of products or services ensure that they do not cause damage to the environment. The marketing link is very complex, which includes the product packaging, advertising and so on, marketing activities and product power have a direct link with the final economic benefits of the enterprise. However, in these processes, serious resource waste and environmental pollution problems may also arise.

Such as, in today's market, some beautifully packaged products are more likely to be favored by people, and even the value of the box over the product itself. But these exquisite packaging box use value is not high, most will eventually be discarded, resulting in a serious waste of resources, and these boxes exist in plastic and other materials, plastic is extremely difficult to degrade, but whether it is burned or landfill disposal, will have a serious impact on the environment.

Therefore, integrating the green concept into the marketing link can also effectively solve the problems of resource utilization and environmental pollution, and through good green marketing, you can utilize less resources to achieve better marketing results and obtain more economic benefits for the enterprise<sup>[3]</sup>.

### **3.4 Impact of green recycling on business performance**

Part of the manufacturing enterprises in the production process is also more emphasis on waste recycling, which is also the green concept into the production process, there will be a certain amount of raw material losses in the production process, but these raw materials are not useless, the recovery of these raw materials can be processed again, which can realize the resource conservation, reduce environmental pollution, thereby reducing the cost of raw materials, improve enterprise performance.

For example, in the manufacture of wood flooring, some of the scraps of wood can also be filled into the laminate flooring and together synthesized into a whole floor, which allows for a more efficient use of raw materials.

## **Conclusion**

The green concept is one of the mainstream concepts in today's manufacturing industry, and by integrating the green concept into the entire supply chain, a green supply chain can be established to influence sustainability through green innovation. Green supply chain management can not only promote the value of green innovation, but also innovate the design and production process through green supply chain management, improve the material utilization rate of enterprise production, reduce the pollution caused by the production process, realize green production, produce green products with green raw materials, and bring sustainable performance for the enterprise to promote the development of the enterprise, and enhance the competitiveness of the enterprise in the market.

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