

# Research on Procurement Cost Control Based on Supply Chain Management

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**Abstract:** In modern enterprise management, strengthening the control and management of procurement processes can effectively reduce operational costs. However, with the continuous reform and improvement of China's market economy system, competition among supply chain enterprises has intensified. The traditional procurement management model is no longer able to meet the needs of enterprise development in the current era. As a result, procurement management based on supply chain management has emerged, offering significant improvements in the scientific management of procurement processes. It has become an important means of promoting the long-term development of enterprises. This paper primarily analyzes and studies procurement cost control based on supply chain management, providing insights for reference.

**Keywords:** Supply chain management; Procurement cost; Control

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## 1. Introduction

Supply chain management refers to the integration of suppliers, manufacturers, distributors, retailers, and other entities into an organized system, using scientific and systematic methods to control operational costs across all stages, with the goal of reducing overall enterprise expenses<sup>[1-3]</sup>. Procurement, as the initial link in supply chain management, serves as the "first station" for enterprises to achieve cost control. Strengthening cost control in procurement is thus crucial for the survival and growth of enterprises. This paper focuses on how enterprises can achieve cost control and management of procurement from a supply chain management perspective.

## 2. Comparative analysis of traditional procurement and supply chain procurement

Traditional enterprise procurement has relatively simple goals, primarily focused on inventory and purchasing. In this model, the procurement department of an enterprise is generally isolated from other departments, leading to a lack of close collaboration between various internal departments. Over time, this procurement process

reveals several issues, such as long procurement cycles and high inventory levels <sup>[4]</sup>. Traditional procurement methods (e.g., bargaining, bidding, etc.) are relatively complex and often result in slow capital turnover for enterprises <sup>[5]</sup>. Additionally, the cooperative management between supply and demand lacks a long-term, stable strategy. If the relationship between supply and demand becomes strained, it is easy for the cooperation between both parties to be terminated.

Procurement based on the supply chain perspective introduces a new mode of “production by sales, order by production,” where enterprises purchase based on actual order demand. The primary objective is to integrate the entire supply chain system to better meet the needs of users <sup>[6]</sup>. In this procurement model, enterprises and suppliers move beyond a simple “business relationship” and instead pursue “reciprocity, mutual benefit, and coordinated development” as strategic partners. This not only facilitates better resource sharing but also enables enterprises to adopt true on-demand procurement, reduce inventory, and minimize capital occupation, ultimately achieving the goal of optimized resource allocation.

### **3. Characteristics of enterprise procurement from the perspective of supply chain**

#### **3.1. The procurement workflow is more simplified**

Under normal circumstances, material procurement standards are based on the material demands reported by various departments within the enterprise. This process is not only tedious but also very passive. From the supply chain perspective, enterprises and suppliers can establish long-term cooperative relationships to facilitate material procurement, which significantly simplifies the enterprise’s procurement process and improves efficiency.

On the one hand, when an enterprise has a temporary demand for materials, it can directly contact the supplier and acquire the required materials based on the prices stated in the signed contract. This approach simplifies the transaction process by eliminating the need for repeated inquiries, price requests, and quotations, while also reducing procurement risks. On the other hand, from the supply chain perspective, the procurement process is no longer confined to the purchasing department. Relevant departments that require materials can directly participate in procurement, enabling real-time information sharing. This allows the enterprise to adjust procurement according to real-time situations, reducing the workload of the purchasing department while improving the quality of procurement.

#### **3.2. Procurement management is gradually shifting toward external resource management**

In traditional procurement modes, enterprises and suppliers often lack effective partnerships, resulting in cumbersome processes for acquiring raw materials, which extends procurement timelines <sup>[7]</sup>. From the supply chain perspective, enterprises and suppliers need to establish long-term cooperative relationships to rationalize the management of external resources. This facilitates information sharing, ensures timely delivery by suppliers, and guarantees that the material needs of enterprises are effectively supported by after-sales services.

### **4. Existing problems of procurement cost control based on supply chain**

At present, Chinese enterprises generally face the following problems in the procurement process:

First, supplier management is inadequate. The number of suppliers is limited, and some enterprises have restricted options due to their scale. To save on logistics costs, enterprises often choose nearby suppliers. As a

result, if the supplier encounters problems, the enterprise may face a serious shortage of resources, leading to blind procurement, which can ultimately have a severe impact on the entire supply chain.

Second, the diagnosis of market information is insufficiently accurate. For instance, in the case of chemical materials, price fluctuations occur in relatively short cycles. Therefore, most enterprises choose to purchase materials during “off-peak periods” to reduce costs<sup>[8]</sup>. However, if an enterprise does not establish a relatively comprehensive information management system, buyers will not be able to conduct regular market research and assess material price trends, preventing timely and accurate decision-making. If an error in market diagnosis occurs, the enterprise may end up purchasing materials in bulk at a high price, which will significantly increase operational and management costs.

Third, the selected procurement method is inflexible. Most enterprises determine suppliers based solely on “price.” However, some companies focus only on the price, neglecting the quality of the products, thus choosing the cheapest suppliers. In reality, the phrase “you get what you pay for” holds true—product quality is often closely tied to its price. Cheap goods often come with flaws. This results in poor procurement management at the initial stages of the supply chain, causing a decline in the enterprise’s overall benefits and reputation.

Fourth, the preparation of procurement plans is not rigorous enough. In some enterprises, the production department is overly cautious when drafting procurement plans and often overestimates demand due to concerns over product qualification rates. In reality, however, such quantities may not be necessary. If the enterprise does not receive similar orders, the surplus materials will accumulate and, over time, their performance will degrade. This clearly contradicts the principle of “production based on sales”<sup>[9]</sup>.

## **5. Countermeasures to achieve procurement cost control based on supply chain**

### **5.1. Strengthen supplier management**

Supply chain management is an organic integration of resources and development strategies. In today’s market, competition increasingly focuses on supply chains. For businesses, those with a relatively complete industrial chain and access to more resources hold an advantage in the market economy as “trackers”<sup>[10]</sup>. Therefore, for an enterprise to remain competitive in such fierce market conditions, it must strengthen resource integration. Specifically, an enterprise’s resources can be divided into two parts: internal and external<sup>[11]</sup>. Internal resources are generally controllable and can be managed through continuous improvement of relevant systems. However, external resources are more challenging to control and usually require supply chain management tools. It is also essential for downstream enterprises to establish long-term strategic partnerships that bundle the interests of supply, production, and sales, maximizing the value of the industry chain.

To achieve this, enterprises must strengthen supplier management. They should follow the principle of supply-source quantity control and proportional balance<sup>[12]</sup>. On one hand, enterprises need to enhance the procurement management of bulk materials by carefully selecting suppliers, moving away from the traditional concept of “temporary cooperation.” Instead, they should actively establish strategic partnerships with suppliers and engage in discussions about long-term “win-win cooperation,” aligning strategy and goals. On the other hand, the number of suppliers chosen by enterprises should be limited to 2–3, with 3 being ideal. This creates an “iron triangle,” where suppliers can check, balance, supervise, and compete with each other. Enterprises can assess suppliers based on actual purchase requisitions, and distribute procurement tasks according to supplier ratings. This approach reduces over-reliance on individual suppliers, helping to disperse procurement risks and

ultimately achieve the goal of controlling purchasing costs.

## **5.2. Choose the right procurement method**

Manufacturing enterprises provide a useful example. For such enterprises, direct material costs account for a significant portion of expenses. Therefore, controlling direct material costs is an effective way for these enterprises to manage procurement costs. During the actual procurement process, the enterprise must adhere to the concept of “win-win cooperation” when selecting the appropriate purchasing method and should use price-based decision-making management to further improve the operational efficiency of the supply chain. Specifically, manufacturing enterprises can choose between two procurement pricing models:

The first is for bulk materials, which can be procured through public bidding. This requires the establishment of a dedicated bidding team to purchase the primary raw materials needed for production through a competitive bidding process. In this method, enterprises must carefully consider the selling price of their products and other factors within the value chain to calculate a base purchase price. One of the most critical steps in this process is bid evaluation, where the bidding team assesses suppliers based on factors such as bid price, product quality, credit status, and business scale. This enables the enterprise to select the most suitable supplier <sup>[13]</sup>. Generally, since there are more bidders involved, this method fosters competition and can effectively reduce the risk of collusion or malicious behaviors. It also embodies the principles of “fairness, justice, and openness,” ensuring both quality and cost-efficiency in procurement <sup>[14]</sup>.

The second method applies to general auxiliary materials, which are typically low in value, have limited usage, and can be easily substituted. In this case, enterprises can determine the purchase price through price comparison. This procurement process is relatively simple, requires less investment, and has high transparency. It effectively prevents internal and external collusion during the procurement process, which might otherwise harm the enterprise’s interests <sup>[15]</sup>. However, it should be noted that when making purchasing decisions, enterprises should prioritize the cost-performance ratio of products rather than blindly pursuing the lowest prices.

## **5.3. Use big data to estimate procurement costs**

To control procurement costs from a supply chain management perspective, enterprises must estimate these costs effectively. The first step is for enterprises to determine procurement costs and enhance their understanding of relevant control and management methods. For example, they can use big data to conduct statistical investigations, analyze product data, and carefully assess product performance and value, ensuring that enterprises can secure the best products at the lowest price. However, only by reasonably utilizing the data in the big database can enterprises truly improve procurement quality and reduce costs. Thus, enterprises must provide procurement personnel with more scientific data for reference.

In practice, the enterprise’s technical personnel need to design a module to assist procurement staff in identifying necessary product information, estimating procurement costs more accurately, and enabling them to have a better understanding of product pricing during the procurement process, helping to avoid excessively high procurement costs.

To further refine this module, technical personnel can employ a hierarchical data processing design. The first layer is the collection layer, which integrates the collected data, providing more support and assurance for subsequent work. The second layer is the service layer, which allows for the organic integration of various data

through analysis and sharing, typically tailored to the actual procurement needs, and must accurately reflect the specific details of the purchased goods. The third layer is the application layer, which involves data analysis and application. Relevant personnel must ensure the proper storage and management of data to facilitate easy access for follow-up staff, providing them with reference material and a solid foundation for future procurement decisions.

#### **5.4. Establish and improve the supplier performance evaluation system**

The primary significance of performance evaluation lies in two aspects. On the one hand, it helps clarify whether suppliers consistently fulfill purchase orders with “guaranteed quality and quantity” in accordance with the actual needs of enterprises and procurement standards. On the other hand, it enables better comparison of different suppliers, allowing enterprises to identify the “good” and eliminate the “poor.” This continuous improvement of the supplier database contributes to enhancing the efficiency and quality of procurement, ultimately reducing procurement costs. Therefore, it is essential for enterprises to establish performance appraisal objectives and criteria based on their actual situation to ensure rationality. Specifically, suppliers can be evaluated based on their timely delivery, product quality qualification rates, after-sales service, and other relevant factors.

### **6. Conclusion**

In conclusion, in today’s socioeconomic environment, competition between enterprises continues to intensify, and effectively reducing procurement costs has become a key area of focus for businesses. It is evident that traditional procurement models can no longer meet the needs of modern enterprise procurement, nor can they adapt to the demands of today’s economy. In contrast, procurement models based on supply chain management can effectively reduce procurement costs. This can be achieved by strengthening supplier management, selecting appropriate procurement methods, leveraging big data to estimate procurement costs, and establishing and improving supplier performance evaluation systems, among other measures.

### **Disclosure statement**

The authors declare no conflict of interest.

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