

How to Screen, Cultivate, and Manage Suppliers

-- Using the Workflow of Barco as an Example

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Abstract

With the rapid development of global economy and technology, the vast majority of products between enterprises, especially those in the manufacturing industry, have rapidly entered the era of meager profits. Improving the cost-effectiveness of products and increasing the competitiveness of enterprises have become the core goals of enterprise operations. Given this, this article selects Buck Company as the research object to analyze Buck Company's supplier selection, management, and training system. The article first analyzes the importance of supplier selection, supplier management, and supplier cultivation. Subsequently, this study focuses on the selection, management, and cultivation of suppliers within Buck Company. Then analyze how Buck selects, manages, and cultivates suppliers based on actual case studies. Finally, based on the previous analysis, a summary is made on how to select, manage, and cultivate suppliers.

Keywords

Supply Chain Management; Supply Selection; Supply Management; Supply Cultivation; Evaluating Supplier.

1. Introduction

As we know Supply Chain Management (SCM) is an overarching system that covers every phase of operations from the extraction of raw materials, to product manufacturing, and ultimately to the final product delivery to the consumer. The objectives of supply chain management are to minimize inventory levels, accelerate delivery speed, and enhance production efficiency, with the aim of cutting costs and boosting customer satisfaction. There are two major theoretical and conceptual for SCM that are supplier selection and supplier management. Following points explain why supplier selection and supplier management are important in SCM.

Selecting and managing suppliers effectively can ensure the quality of raw materials and products, thereby meeting customer expectations and needs. The quality standards and consistency of suppliers are crucial to the quality of the final product.

A supplier's pricing strategy directly impacts your costs. Through effective supplier management, better prices can be negotiated, thus reducing production costs.

A reliable supplier can ensure the stability of the supply chain. The stability and reliability of suppliers can reduce the risk of supply chain disruptions.

The behavior of suppliers can impact your company's reputation. For instance, if a supplier is involved in unethical or illegal activities, this could potentially damage your brand image.

Therefore, in this paper the topic is how to select, cultivate, and manage suppliers Based on the author's work experience at Barco, an in-depth analysis was conducted on the selection of ultrasound (B-scan) suppliers, the management and maintenance of display suppliers, the cultivation of display suppliers, and supplier transition. This paper can help people gain a more concrete understanding of the supply chain and can transform theory into practice.

2. Review of Literature

2.1. How to Select Suppliers

According to the description in the article "Research on Supplier Selection, Evaluation and Procurement Process Optimization in ZL Company", there are four methods for selecting suppliers, namely the intuitive impression method, cost comparison method, tendering method, and Analytic Hierarchy Process (AHP). As an example from the article "Supplier Selection and Evaluation Based on Process", the process of identifying and screening suppliers comprises two steps:

(1) Identifying Suppliers: There are three methods for identifying suppliers. The first is waiting and watching. If a company is a reputable client, it may frequently receive self-promotion from suppliers via phone calls, emails, or door-to-door visits. The second is temptation and observation. The company promotes its reputation in the industry and releases demand information through corporate portals, professional magazines, and participation in exhibitions, attracting suppliers to contact the company and promote themselves, and identifies those suppliers who respond. The third is searching and discovering. Starting from its own needs, the company seeks and contacts potential, valuable suppliers [13-14].

(2) Screening Suppliers: Screening is the process of conducting a preliminary inspection of identified suppliers based on screening standards, determining a list of suppliers that can be evaluated in the next step. The decision to screen a few or many suppliers depends on a balance among the amount of available time, the desired level of competition among suppliers, and the cost of evaluating suppliers. The fewer the expenditures on procurement projects and the lower the risk, the fewer the number of suppliers a company wishes to select, and vice versa. According to the research on supplier selection and optimization by M company, there are five principles for supplier selection: (1) Systematic comprehensiveness, (2) Comprehensive understanding of the principles, (3) Operability, (4) Combination of quantitative and qualitative principles, and (5) Scientific and practical principles.

2.2. Managing Suppliers

According to the article "ZL Company's Study on Supplier Selection, Evaluation, and Procurement Process Optimization", based on ZL's procurement business situation, the main focus points for supplier performance assessment are: (1) Quality, (2) Service, (3) Responsiveness, (4) Delivery, and (5) Cost Price. For instance, the article "Process-Based Supplier Selection and Evaluation" mentions that the traditional core elements constituting supplier capability evaluation criteria are: Quality, Delivery, Cost, and Technology. As the evaluation criteria become more comprehensive and the demand for supplier service capabilities increases, more businesses have proposed the TQRDCEB+S model for supplier capability evaluation, which includes: Technology, Quality, Responsiveness, Delivery, Cost, Environment, Business, and Service. According to the "M Company's Study on Supplier Selection and Optimization", the company constantly refines its internal management processes and improves them with regulations to achieve standardized management of suppliers. The company has established a corresponding system of regulations. Modern internet-plus technology is also applied to supplier management, and a corresponding big data analysis system has been established for comprehensive control of suppliers. The company has set procurement objectives to ensure the timely operation of various tasks and reduce costs, achieving a win-win situation for internal procurement, timely procurement, and economic procurement.

2.3. Drawing from Author’S Internship Experience at Baker

It is believed that when selecting suppliers, it's necessary to (1) pay attention to whether the supplier possesses certain key technologies that can meet customer needs, (2) consider cost while also paying attention to the supplier's reputation, such as supporting traceability and having good after-sales capabilities, and (3) consider the supplier's management capabilities and stability. In terms of managing suppliers, I believe it's essential to set up performance assessments for suppliers. This can be approached from five aspects: (1) Quality, (2) Delivery, (3) Service, (4) Innovation, and (5) Management.

During author’s time at Baker, it was involved in a project on how to properly select and manage suppliers. One core part of this project was the selection and management of suppliers for the display panels of ultrasound machines. During the project, I followed one of Baker's supervisors (my mentor) in learning how to choose and manage suppliers based on Baker's workflow.

Table 1. Typically features of medical display panels

1.	High Resolution	Medical displays typically have higher resolutions to depict more details in the medical images.
2.	High Contrast	High contrast can help doctors differentiate subtle differences in images, such as between tumors and normal tissues.
3.	Accurate Color Reproduction	In certain medical applications, such as pathology and vascular imaging, the accuracy of color is extremely important.
4.	DICOM Calibration	Many medical displays support DICOM (Digital Imaging and Communications in Medicine) standards, which is a globally recognized standard for medical images and information.
5.	Stable and Consistent Display Performance	Medical displays usually have built-in self-calibration systems to ensure stable and consistent display effects over a long period of time.

3. Screening and Managing Medical Display Panel Suppliers based on the Burke Workflow

Under the guidance of the mentor, the selection and management of medical display panel suppliers based on Burke's workflow includes 4 steps: Step 1 (Screening): Establish internal selection criteria for display panel suppliers; Step 2 (Screening): Carry out preliminary identification and screening of existing suppliers, and initially identify potential cooperative suppliers; Step 3 (Management): Use appropriate methods to evaluate and manage suppliers; Step 4 (Management): Continually supervise and manage suppliers.

3.1. Establishing Internal Selection Criteria for Display Panel Suppliers

(1) The supplier needs to possess key technologies, such as the display panel which must require high resolution, DICOM calibration, accurate color reproduction, stable and consistent display performance, high contrast.

(2) The supplier supports traceability and has good after-sales ability, and also has a good reputation in the market. For example, when a product has a problem, it can be traced back to the production time and place of this product, and the person in charge of this product can be queried. In terms of after-sales service, the supplier can provide high-quality customer service, including response time, problem-solving ability.

(3) The supplier has good management and stability capabilities. Such as: (1) The supplier should have an effective quality management system to guarantee the quality of their products or services. This may include certifications like ISO 9001 and other industry-specific quality standards. (2) They are capable of delivering on time. (3) The supplier has a good internal atmosphere, such as the organizational culture is positive rather than negative.

3.2. Preliminary Identification of Existing Suppliers

Seeking suppliers of medical display panels with a relatively good reputation in the market, such as Sharp, LG, AUO, Innolux, Tianma, and BOE. These companies are all well-known existing display panel suppliers.

3.3. Evaluating and Managing Suppliers

When managing a display supplier normally, the following performances are assessed: quality, delivery, service, price, innovation, and management.

3.4. Continuously Supervising and Managing Suppliers

(1) Once the appropriate suppliers have been chosen through the first three steps, it is necessary to maintain supervision of the suppliers to ensure the stability of product quality and to further optimize the suppliers. This can be achieved by periodically scoring the suppliers based on the indicators in 3.3 to ensure continuous monitoring of whether the suppliers are qualified.

3.5. Practical Analysis of Selecting Medical Display Panel Suppliers

Table 2. Analyze and investigating work flow of LG

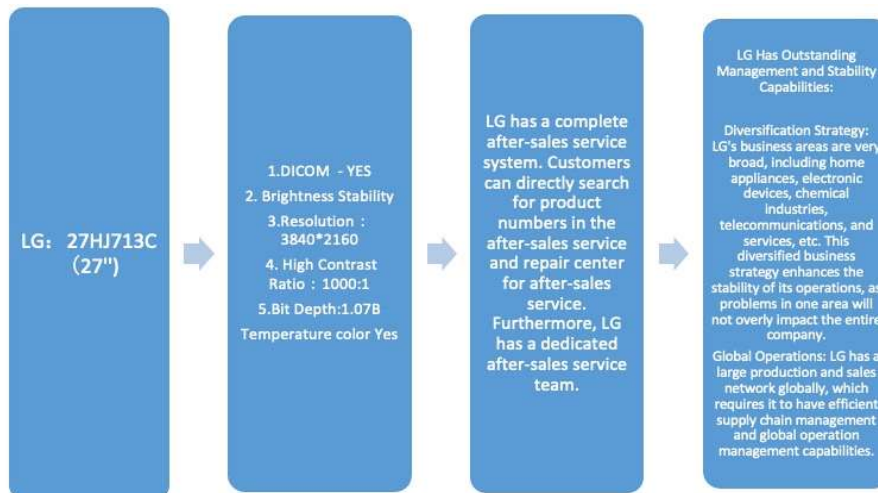


Table 3. Analyze and investigating work flow of BOE

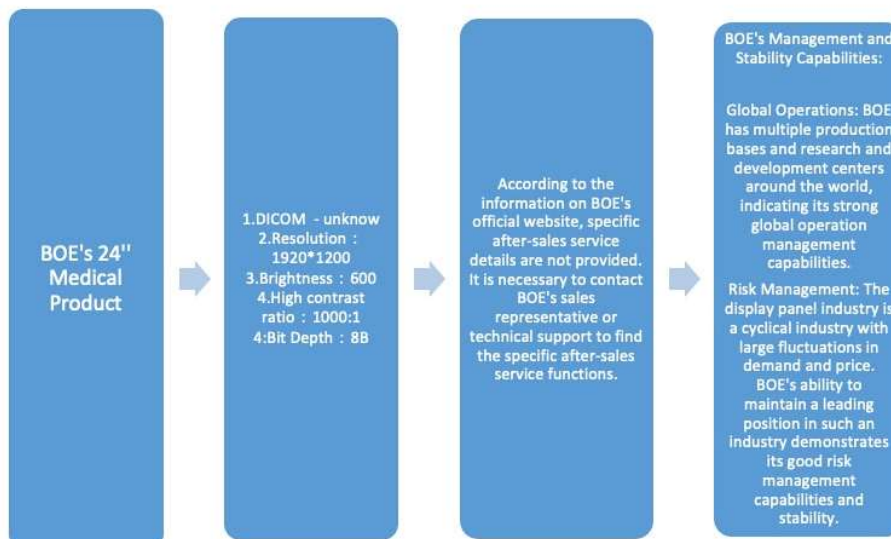
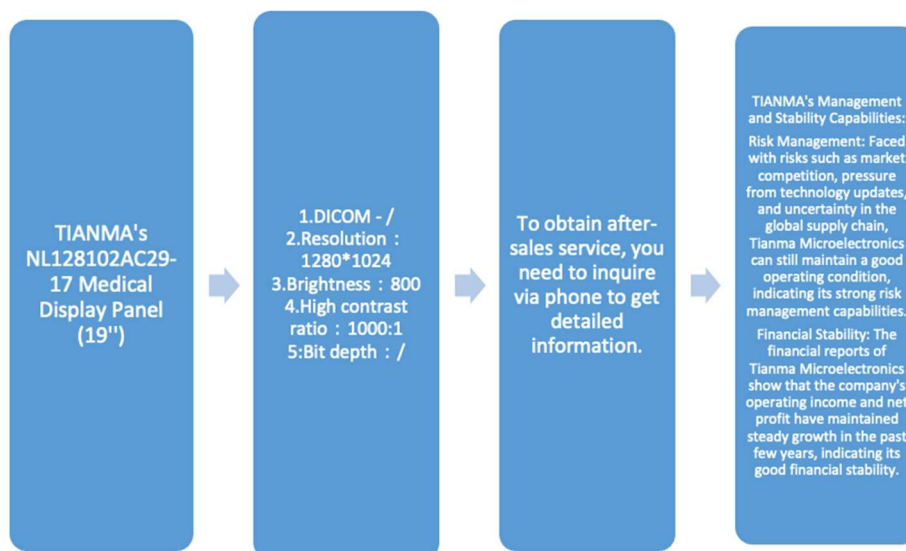


Table 4. Analyze and investigating work flow of TIANMA

Firstly, we need to clarify what our requirements are for medical display panel suppliers (refer to 3.1). Now, we know that there are three famous medical display panel suppliers for us to choose from: LG, BOE, TIANMA. The next step is to analyze and investigate each supplier one by one.

4. Research Analysis

4.1. Based on the Analysis of the Three Suppliers, We Can Conclude from the Following Points:

(1) Key features of medical panels: Only LG's medical display panel meets the DICOM standard. (2) Resolution: LG's medical display panel has the best resolution, followed by BOE and TIANMA. (3) Brightness: All three suppliers' display panels meet the brightness requirements for medical display panels. (4) Contrast: All three suppliers' display panels are the same. (5) Depth: LG has the best image quality, followed by BOE. TIANMA is unknown.

4.2. After-sales Service System

LG has the most clear after-sales service system, which can be directly traced on the official website. Both BOE and TIANMA require communication with sales managers via phone calls.

4.3. Excellent Qualities

All three suppliers have good management capabilities and stability, and they all have quite a good reputation internationally.

Conclusion: LG is the most suitable to be a cooperative supplier because it possesses capabilities and product quality that the other two do not have.

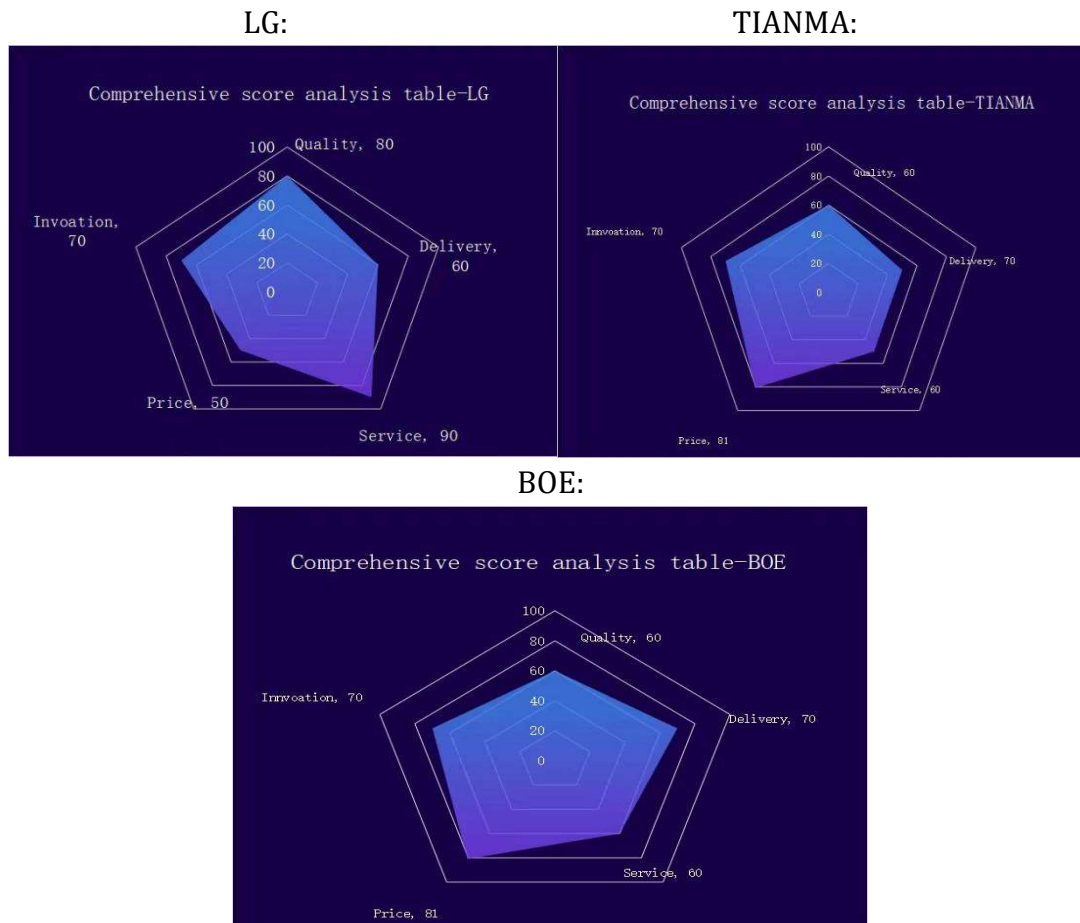
5. Practical Analysis of Supplier Management

Although LG ultimately becomes our cooperative supplier, we still need to further observe LG to ensure whether LG is the most suitable supplier and to further optimize the supplier.

5.1. Firstly, We Need to Score LG from the Five Aspects Mentioned in 3.3: (Scored According to Burke's Supplier Scoring Standards)

- (1) Quality: Product qualification rate and defect rate, failure rate. As well as product performance and durability.
- (2) Delivery: Whether they can deliver on time, how their delivery cycle is.
- Service: Whether they have good after-sales ability, and how it is. Whether their service attitude and response speed are good.
- (3) Price: Evaluate the cost-effectiveness of the supplier to see if the supplier's financial status is good. How the product price is.
- (4) Innovation: Evaluate whether the supplier has the innovative ability to ensure sustainable development in the future and further reduce costs for both parties.
- (5) Management: Whether the supplier has a good management system, how the quality of the employees is, and whether the overall culture of the supplier is good.

Table 5. Comprehensive Score analysis table of LG, TIANMA and BOE



5.2. Continuous Supervision of LG:

Following the five performance standards mentioned above, we will score LG monthly to continuously supervise and manage whether there are aspects that LG can continuously optimize and whether LG can continuously serve as a cooperative partner.

6. Conclusion

This article first explains the necessity of supply chain management. Then analyzed how to Screen, Cultivate, and Manage Suppliers based on the workflow of Barco Afterwards, a 4-step

process for supplier selection and management based on medical display screens was proposed. At the same time, analyze three different medical display screen suppliers based on actual cases to determine how to use these four step processes specifically so as to analysis how to select, manage, and cultivate suppliers.

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