Abstract

A supply chain is a network of departments, which is involved in the manufacture of a product from the procurement of raw materials to the distribution of the final products to the customer. The term supply chain is already invoked effervescence among the managerial community. The purchasing function has gained importance in the supply chain management due to factors such as globalization, increased value addition in supply and accelerated technology change. A key and perhaps the most important process of the purchasing function is the efficient selection of suppliers, because it brings significant savings for the organization. In general, the supplier selection criteria most commonly used by the industries are quality, delivery and price. Also, depending on the corporate environment of the industries, the importance of the performance measure can vary. In this work a versatile technique namely multi criteria decision making (MCDM) technique which involves the analytical network process (ANP) and technique for order performance by similarity to idea solution (TOPSIS) method has been used to select the best vendor.
Vendor Evaluation Using Multi Criteria Decision Making Technique

Analytical Network Process and TOPSIS method are powerful decision making processes which help people to set priorities on parameters that are to be considered by reducing complex decision to a series of one-to-one comparisons, thereby synthesizing the result.

When any vendor for a particular item make changes for the parameters like price, quality etc to improve his performance or has improved abilities in managing supply chain by providing better delivery to his customer, the whole hierarchy process for arriving the ranking of vendors is to be performed again for finding out the best vendor. Now it is felt that a standard automated procedure which could perform the above processing task is essential. So, standard software was developed in a suitable platform such as VB, .NET and MS access that could meet the current requirement. This package can be executed several numbers of times with changing input parameters values thus serving the purpose.

Reference


**Index Terms**

Computer Science  
Expert Systems

**Key words**

Vendor Evaluation  
effervescence  
analytical network process (ANP)  
TOPSIS