

## **Optimal Customer Allocation in a Large Newsprint Manufacturing Company**



## Background \_\_\_\_\_

A large US based company has six product lines; newsprint, groundwood papers, fine papers, craft products, building products, and lumber. Growth in these lines was largely dependent on U.S housing starts, whereas newsprint is the company's largest product line, consuming 75% of the company's pulp and paper capacity. In recognition of the importance of newsprint, the company established a separate subsidiary with responsibility for all of the company's pulp and paper operations. Newsprint is a type of paper that has only one use; it is the paper on which newspapers are printed. Hence the market demand for newsprint is highly dependent on the demand for newspapers, which is in turn dependent on business conditions in the economy that influence the demand for newspapers and newspaper advertising.

Pulp and paper operations use about 85% of the company's effective capacity. Breaking out the production figures by product line, we found that some products made more efficient use of the available capacity than others. Highly efficient use of available capacity was indispensable if profitability is to be maintained in this capital-intensive and highly competitive industry. The 85% utilization rate achieved by the company was about the industry norm; rates lower than this will be a concern.

## Challenge\_\_\_

The company operates a total of 12 newsprint mills in the United States and Canada, with the most of them located in the United States. Three of the mills are located in Canada. Because more than 87% of the company's newsprint demand came from the United States, the Canadian mills shipped most of their output to the United States. The company's nine U.S. mills were assigned specific customers that effectively required their entire newsprint output. These assignments seemed generally quite logical; a mill located close to a large-demand center would naturally supply that center, or in other cases, mills that were quite isolated from major demand centers exported the majority of their production to Japan or elsewhere on the Pacific Rim. These assignments were somewhat arbitrary. The company noted that reassignment of newsprint from the three Canadian mills to North American customers might provide some opportunities for cost savings. The company's 3,000 customers could all be supplied from one of the major centers.

## **Solution**

We developed an optimization solution to solve the allocation problem. The optimization solution resulted in significant cost savings to the company and also, it was used to answer questions related to some of the strategic issues such as 'delivery-swap' contracts, capacity expansion.