Abstract
In this paper the problems encountered in the supply and demand planning process in a multinational pharmaceutical company in Bogotá, Colombia, are analyzed. It begins with a qualitative diagnosis of the key process logistics indicators in order to analyze and propose an inventory model as the result of the use of the heuristic proposed by Hopp, Spearman y Zhang [1997] with the intention to adapt it to the politics and conditions of an specific firm. Finally, the results of the application of the model to pilot data are presented showing an important reduction in inventories and increases in the service level.

Keywords
Inventory optimization, forecasting, logistics, pharmaceutical industry