

Introduction to (spreadsheet)

modeling : Linear Programming
(Ragsdale : Chap. 2)

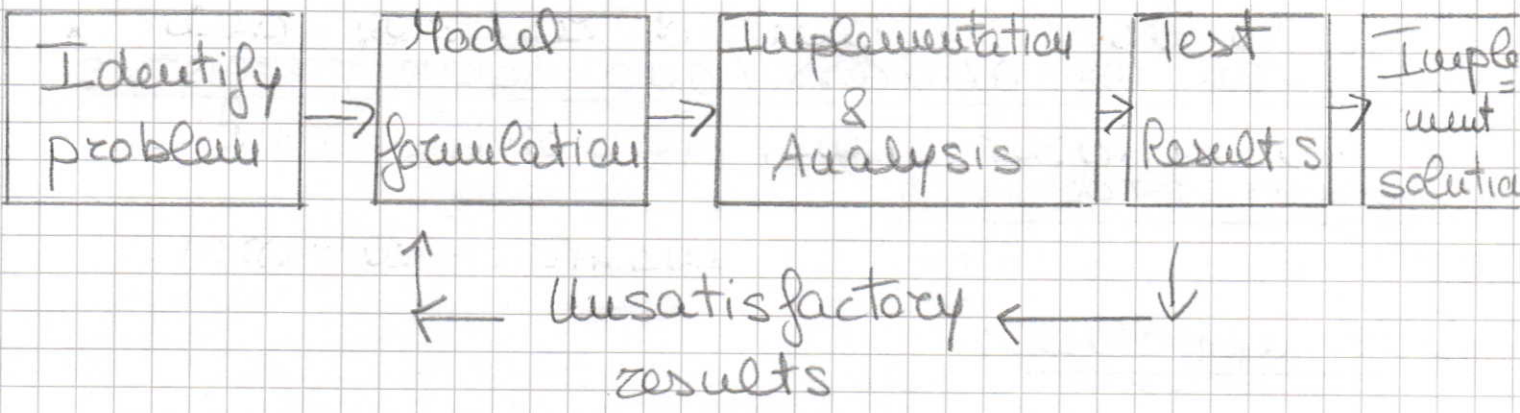
How can we address (and solve) logistics decision problems?

Our approach:

- formulate a suitable mathematical model to represent the decision problem
- implement and solve the model

Today, electronic spreadsheets provide a simple and useful way for business people to implement a model and analyze decision alternatives (although many other, more sophisticated and powerful solvers exists): spreadsheet models (i.e. models implemented via a spreadsheet) will be used in this course.

So, we follow this problem-solving approach:



Precisely, we move within Management Science, and specifically Operations Research: field of study which uses computer science, mathematics and statistics to solve business (logistics) decision problems

Optimization problems

Our decision problems consist in deciding how to use the limited resources available in an efficient way. Typically, this must be accomplished by maximizing profits or minimizing costs; i.e. the addressed problems are optimization problems

Mathematical Programming (MP): area of Management Science (Operations Research) aiming to model and solve optimization problems

Applications include:

- Manufacturing
- Financial planning
- Logistics