MRP, MRPII, ERP?

The dream of any operations manager in a manufacturing and / or distribution company is to have enough goods / materials, manpower and machine capacity to meet all needs.

Two main types of constraints hamper the manager in establishing the production plan:

- The availability of goods / materials is subject to procurement rules (min qty, costs, etc.) and deadlines (credit approval, manufacturing, transport, inspection, etc.) specific to each supplier and each product.

- The availability of resources is limited by their theoretical and practical capacities. The rules governing these capabilities can be complex, especially when considering the interrelationships between different resources.

The MRP / MRPII / ERP model offers a framework that allows to define in a structured way:

- The goods / materials, services and resources necessary for the manufacture of each product as well as their sequences.

- The rules related to the replenishment of each good / material and served.

- Rules related to the use of capacity and the availability of each resource.

- An analysis engine which, from stocks on hand and external demand, recursively establishes the production release needs and the replenishment needs by required date while respecting the rules governing the replenishment and use of resources.

- A methodology for integrating on-demand sales plans in hand to punctually review the master production plan and agreements with suppliers and / or resource requirements.

The last two points characterize the MRP model systems (MRP / MRPII / ERP). Note that a system supporting the MRP model can work very well in conventional mode (without using the MRP features). The reverse is obviously wrong!

What differentiates MRP from MRPII and ERP?

Very briefly:

- The MRP (Materials Requirements Planning) model plans production goods / materials and services.
- The MRPII model adds the planning of production resources and their capacities.
- The ERP (Enterprise Resource Planning) model adds the planning of other company resource (Transport, fixed assets, working capital, distribution, etc.) and full and transparent integration into the company's financial management software.

What are the benefits of the MRP model?

Ensures the availability of products to be delivered, which:

- Increase customer satisfaction
- Work in planning mode rather than reaction
- Increase the flexibility of the company
- Reduces the level of inventories and related costs
- Increases business productivity and efficiency

Strengthens the links between services:

- By increasing communications by force of circumstance
- By aligning all staff towards the same goals

Increases its management controls:

- By enabling an analytical management approach
- By speeding up decision-making
- Presenting management information faster

Finally, allows the company to:

- Meet your growth objectives
- Stay in control of your operations
- Maximize your profitability
- Automate the management of its operations