MATERIAL REQUIREMENTS PLANNING, INVENTORY CONTROL SYSTEM IN INDUSTRY

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Abstract: In this paper, I present a method of control of the inventories, one of the most used methods to control the inventory, I present the mmaterial requirements planning, the purposes of this method, and I present a classification of the MRP users

Keywords: *system, method, material requirements, independent request, control*

1. Introduction

Many practitioners, managers and researchers have raised the question of how you can control stocks. These issues were made in the form of questions, to which answers must be found. The questions were: What items should I keep in stock? Because the stock is expensive and you have to have exactly what you should do. When I do an order? How much should I order?
Thus have been attempts to classify inventory control methods. A criterion was whether the application is dependent or independent. Demand is dependent on whether the request for an article is linked to the demand for other items, and the demand for an item can be forecasted according to the demand for other items, while demand is independent when the demand for an item is independent of the demand for an item. Thus, other application dependent methods are: MRP and JIT, and application methods employed are: EOQ and Periodic review [1]. In this paper I will address materials requirements planning

2. Material Requirements Planning

Material requirements planning (MRP) is seen as one of the most widely used systems for production planning and control in industry, becoming very popular thanks to Orlicky (1975) with his material Requirements Planning - The New Way of Life on Production and Inventory management, which has shown the potential and benefits of MRP. As we know, the systems represent sets of elements that are interconnected, interacting, acting as a whole to accomplish a goal, [2]. We also know that any system is seen as a subsystem within the organization, [3]. Our approach is that within organizations as MRP system helps the organization to achieve the objectives, interacting with other subsystems.

CHIRCHIR and MAGETO, [4], say that material requirements planning is a technique which helps in detailed planning of production, with the following characteristics:
• It aims particularly assembly operations
• The technical application dependent
• It is a computer-based information system aiming to make available any ensemble be purchased or produced even before being asked the next stage of production or delivery, "allows orders to be tracked through the entire production do help their acquisition and control to move goods suitable to the time according to the production or distribution points".
Material requirements planning is based on the idea that we can use to find the application planned production of materials and master program initializes and uses a bill of materials to turn it into a

calendar of required materials, which can be further used to scheduling orders sent to suppliers and internal operations related [1].

MRP is "a program that enhances production control production efficiency and customer service", [5].

The purpose of material requirements planning (MRP)

Material requirements planning has its principal forms Master program , using it to design a detailed timetable for ordering materials , master program article showing the number of units made , every week , also for unit develops a list of materials needed and a timetable for suppliers of materials , these materials are either purchased or produced internally , the main results are:
• Calendars showing the necessary materials;
• Calendars showing when purchased materials should be ordered;
• Calendars for the operations required to produce material internally, [1].
Using MRP makes stocks are generally low, but increases as deliveries are made just before the start of production, stocks are used during production and decreases the amount held until you return to a normal level, low, [1].

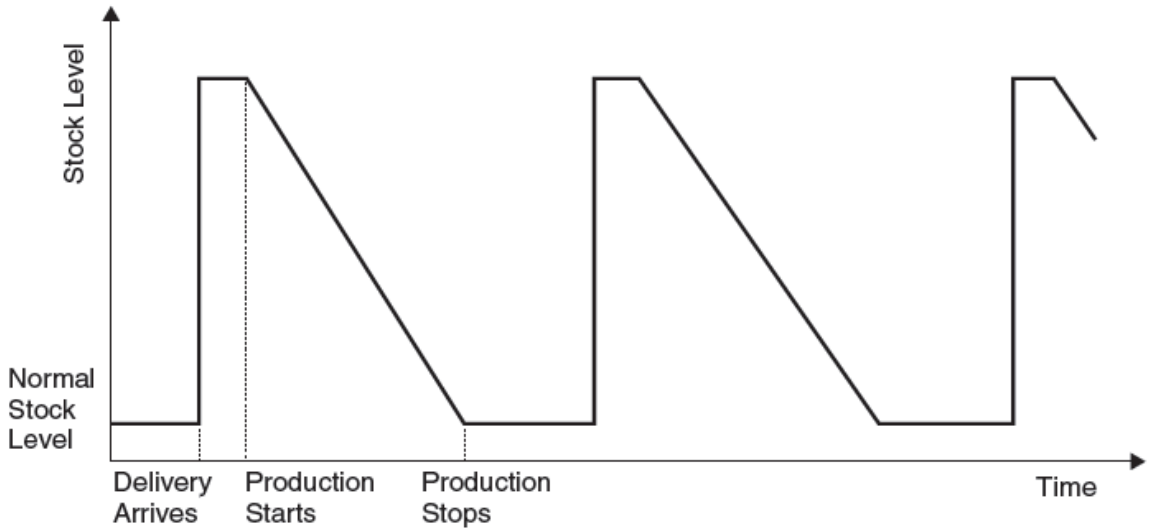

Fig. 1. Comparison of inventory levels with demand method dependent, MRP, [1]

Stocks are not related to production plans independent application methods, higher levels being kept in case they are needed, inventories are reduced during production, but are replenished as soon as possible, MRP advantage is a lower level of average stock, [1].

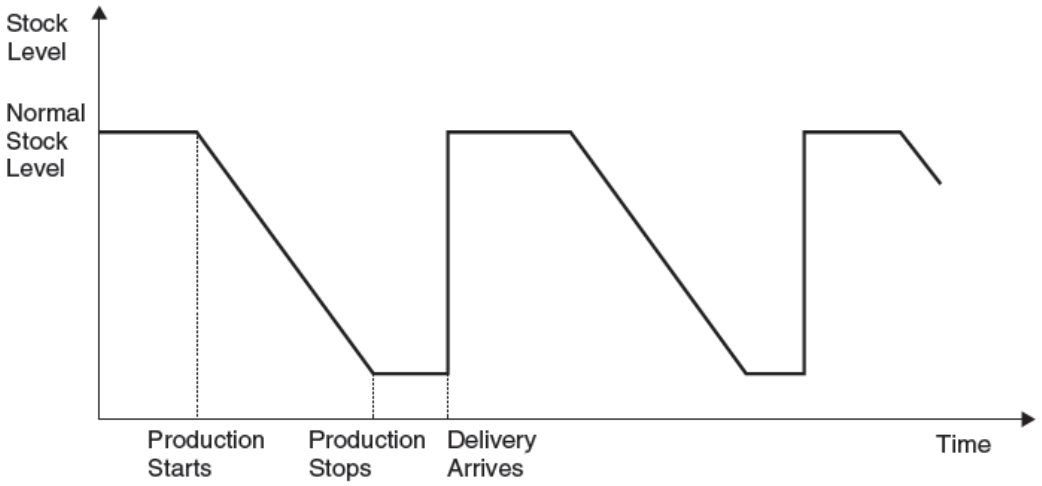

Fig. 2. Comparison of inventory levels with demand method independent MRP [1]

Computer systems or logical MRP II / ERP organization serve the following functions:

"In terms of stocks:
-Determine the number of parts, components and materials required to produce each item.
-determine the right part, the right quantity, the right time to order spare parts programs provide time-ordering of materials and spare parts
-maintain bill of materials parts assembly sequencing (" schematically product structure tree ")
Priorities: Order for appropriate due date, due date kept valid
Capacity: Plan to optimize the use of plant and equipment
Objectives: MRP has the same objectives as any inventory management system
1. Improve customer service
2. Minimize investment in inventories
3. To maximize the efficiency of production operation'', [5].

Classification MRP users

MRP systems fall into four categories in terms of usage and organizational deployment is often identified as ABCD. According Moustakis, [6]: "Class is full implementation of the MRP.
MRP system is linked to the company's financial system and includes capacity planning, shop floor dispatching and scheduling ties suppliers and human resources planning.

There are no performance monitoring and inventory records and master production schedules accurate.

Class B is less than full implementation. MRP system is limited in the production area, however, include master production scheduling.
Class C is a traditional MRP approach the system is limited to inventory management.
Class D represents a data processing application MRP. The system is used to keep track of data rather than as a tool for decision making".

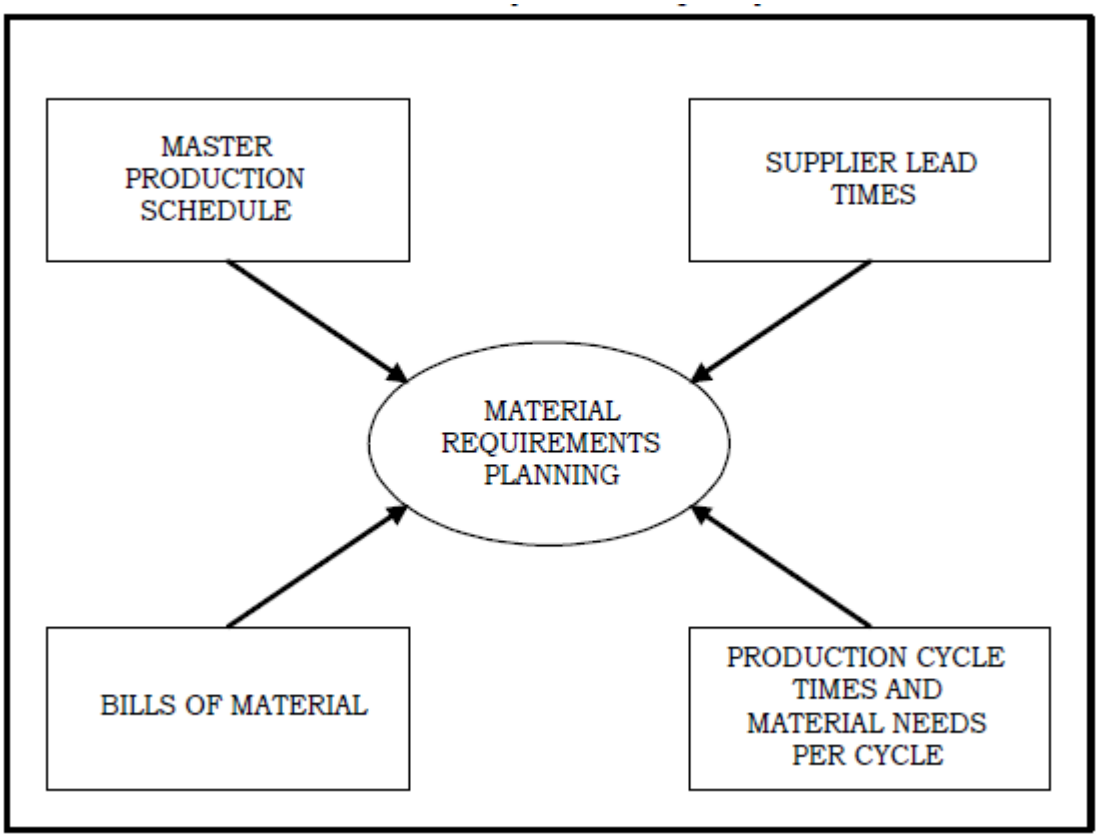

Fig. 3. MRP in the context of production management processes

The organization uses the above scheme can be classified as Class C MRP user, [6].

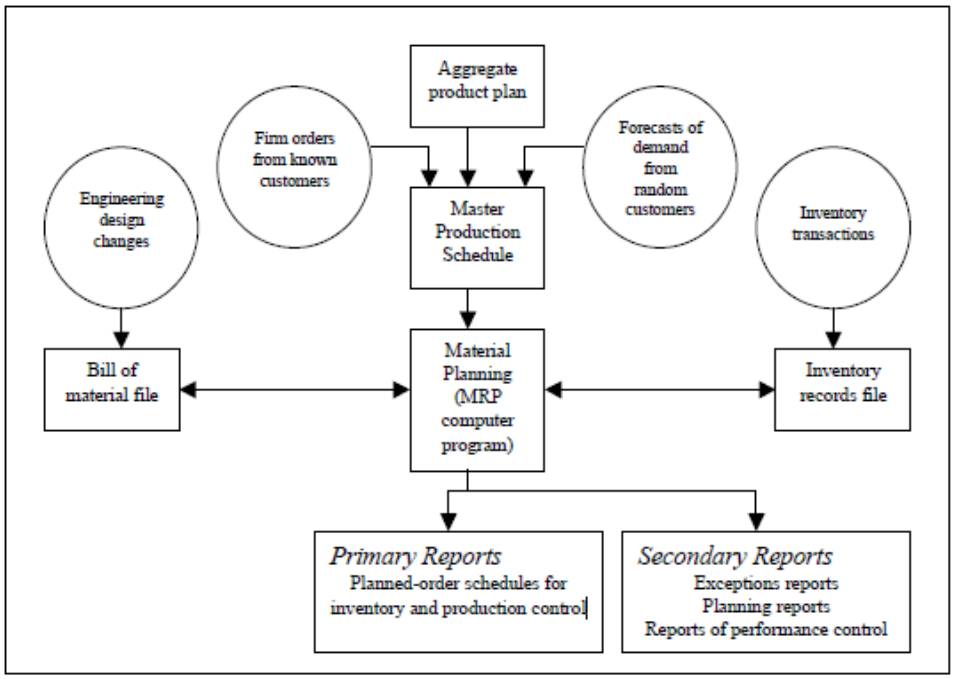

Fig. 4. Overview of the inputs to the program requirements of standard materials and reports generated by the program [6]

3. Conclusions

In this paper I have presented a method of inventory control and MRP-dependent specific request method. I have presented a framework in which appeared the need to control stocks; I made a classification of methods, materials requirements planning method we presented. I presented planning purposes, objectives, and a classification of the MRP users. The main idea is that using this method helps practitioners to supply exactly what they need to help to achieve production plan so that customers are satisfied, be satisfied by the fact that they receive it on time, their behavior can be influenced, [7], so resist in the market the organization and the result is materialized in savings space, time, financial resources, production system is efficient and the stocks are at an optimal level, which is consistent with the stated objectives.

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