Mrp mrp ii is a push inventory model

MRP IIWhile MRP I primarily address the inbound flow of inventory (materials management), MRP II adds other interfaces such as finance, marketing, and integrated logistics.

Like MRP I, MRP II is a push inventory model which pushes product through manufacturing and distribution processes in order to meet forecast demand. However, it adds further dimensions to the basic model. MRP II not only considers the inbound flow of material, but also how much material can actually be handle within the plant. Furthermore, it actually handles production scheduling, labour needs, inventory budgets, and personnel needs. But the most important feature is the addition of the finance interface. This module provides the capability of transforming the operating production plans into financial terms, consequently the data can be used for financial planning and control purposes of a more general management nature.

Another significant addition is the simulation module. This simulation capability enables management to perform a more comprehensive alternative planing work in developing the marketing and business plans. Operating variable could be regulated to examine the systemwide response to the proposed operating change. Besides MRP II includes the entire set of activities involved in the planning and control of production operations. It consists of a variety of functions of modules and includes production planing, resource requirement planning, master production scheduling, materials requirements planning (MRP I), shop floor control, and purchasing. Process of MRP II Step 1 – Market Demand; the process begins with an aggregation demand from all sources. Examples of sources are firms orders, forecasts,

and safety stock requirements. Step 2- Production Plan; with inputs from manufacturing, finance, and marketing, the production plan would be derived.

Step 3- Rough-cut capacity planning; it involves short-term capacity considerations that are affected by irregularities in demand. It formulates benchmarks for the proper use of personnel, machines, and shifts. Bills of capacity and bills of labour resources are the primary inputs to determine rough-cut capacity. In the event of incapability in producing the require output (due to limitation of capacity), adjustment to the production plan would be made.

Step 4- Master production schedule; formulation of the master production schedules provides a realistic, detailed, statement of what the firm expects. It is more detail than the aggregate plan, it translates the aggregate plan into specific numbers of specific products to be produced in a specific period of time. Step 5- Material requirements planning (MRP); MRP is the heart of the entire process (MRP II). When MRP comes into play, material and schedule requirements would be generated. Step 6- Capacity requirements planning; at this stage, the capacity requirement planning determine whether the firm has enough capacity (e. g. worker, space, money) to meet the schedules.

Again, if schedules could not be met, some adjustment in the master production schedule would be required else requirements would be scheduled. Advantages of MRP IIThe advantages of MRP II includes:- Improved consistency in one-time customer delivery-Reduction in purchasing

cost due to fewer expedited shipments-Fewer shortage and stockouts-Increase customer service level-Inventory reduction of one-fourth to one-third (cost reduced)-Higher inventory turnover -Improve responsiveness to demand changes-Allowing more planning flexibility- Minimization of workforce overtimeProblems in Implementation of MRP IIImplementation an MRP II system is a monumental effort. The system requires a tremendous amount of information, which must be accurate if the system is to be successful.

The MRP II systems is capable of affecting all function within Forgess marketing, production, purchasing, accounting, finance and logistic. All personnel who have any interaction with the MRP II system require training. Further, Forges must be committed to make the MRP II system work. The problems that occur in implementing MRP are frequently organizational and behavioral rather than technical.

Existing Systems and the Informal SystemIf an MRP II system is replacing an existing production and inventory control system, Forges may see significant resistance to change, even if the existing system has been unsatisfactory. People generally resist to change, and they prefer the familiar to the unfamiliar. Also, when a system performs poorly, an informal system develops to deal with problems. Information RequirementsFor MRP II to operate effectively, the company must have a large amount of timely and accurate data. Besides, bill of material must be developed for all items. Furthermore, all the bill of material (BOM) must be reviewed, updated, and structured that provide the data needed by MRP II. This would not be a

simple task. Frequency product changes and modification can make the process of developing a BOM challenging.

To maintain the integrity of the BOM, the company must practice effective configuration control, that is, the company must control and coordinate changes to its products to ensure a smooth changeover to new product designs. After a system is installed, careful attention and discipline must be exercised to ensure at all data used by the system is accurate. For example, if a clerk is supposed to enter a code 3, indicating that the item is purchase in thousands, but instead enters code 1, indicating that it is purchase in dozens, serious error and material shortages are likely to occur.

If a system gives erroneous data at times, people may develop other way to get the data they need and may no longer bother to update the system, since they no longer use it. The system could then become even less reliable and be a burden rather then a benefit. Inventory ControlAll MRP II data must be accurate to ensure system integrity, but the inventory data are the most difficult to maintain because they change frequency. The MRP II inventory data must be compared periodically with the actual physical inventory to maintain accuracy. Periodic counting involves more than just counting parts. Forges must maintain proper housekeeping so that parts are properly located, accessible and identified.

When implementing MRP II for the first time, getting inventory under control can be a formidable task. Keys to Successful ImplementationManagement CommitmentTop-level managers and managers are in all parts of the organization that will be affected by MRP must clearly recognize all the

efforts needed to achieve this new way of managing their activities. These mangers must fully support all the changes and must remain supportive of the new system. User InvolvementThe participation of users of the system in its development will make the people more familiar with the system. Besides, they would also be more committed as they play a part in the systems development. Education and TrainingFor the system to work, the entire user would have to be properly trained. Users must understand the system in order to used it effectively. Good Information Technology DesignA well-designed MRP system could help to improve a companys operation greatly, however a poorly designed can lead a company into deep trouble.

Wallaces Proven Path for MRP ImplementationMRP II Implementation PlanAccording to Thomas Wallace, an MRP II expert, the implementation could be completed in 18 months. 12 months for implementing MRP, 3 months to close the loop, and three more months to implement MRP II. Figure above is a graphic representation of the implementation timetable.

The process starts with first-cut education follows by developing a consensus that the company should implement MRP. Next, the education and training phase will begin and it is an ongoing activity even after implementation. By the second month, inventory accuracy and bill of material accuracy and structure will begin, they are the most time and labour consuming step. In the mid of the third month, production planning and MPS policies together with the system and software participation would start.

By the eighth month, the first pilot program would commence. Subsequently the cutover phase would start. By the end of the twelveth month, the

implementing of the basic MRP would be completed. The next three-month is for closing the MRP loop which encompass shop-floor control, capacity requirement planning and purchasing. Routings, work centers and system preparation will commence simultaneously. Once finished, another pilot program will commence follows by the cutover program. By the end of the fifteenth month, the MRP loop would be closed. The last three-month is for the implementation of the MRP II which emphasis on financial planning simulations.

Financial information and system preparation is to taken up the first 1 1/2 months. The remain time will be cater for implementation. By the end of the eighteenth month the entire process would be completed. ProductVendorInstalledUser BaseAverage PriceCaliach MRPManufacturing and Computer Systems71, 000$20, 000PC/MRP for WindowsSoftware Arts8, 700$395BPCS Client/ServerSystem Software Associates8000+-NRSNRS Consulting6. 000$40, 000Impact Encore/AwardSyspro Group5, 000$2, 000/modR/3SAP America5, 000-BAAN IVBann Company4, 100$3, 500-$5, 000 per userADD+ON SoftwareADD+ON Software, Inc. 4, 000+ResellerJBA System 21JBA International4, 000+-MOVEXIntentia4, 000-APICS THE PERFORMANCE ADVANTAGE, September 1997, Volume &, Number 9. Types of Software and their Average CostTable above shows the different types of MRP II software and their respective costs.

These softwares were ranked top ten in the 1997 MRP II software survey. (Ordered by number of installed users) Caliach MRP from Manufacturing and Computer System was ranked first with the highest number of installed users of 71000 with an average price of $20000. PC/MRP for Windows was ranked

second with an extremely low average price of $395. The price Software Arts (Vendor of PC/MRP) is offering is one of the lowest in the market. Therefore, a company that does not want to invest too much on implementing MRP II, PC/MRP would make good choice. ConclusionSoftware itself cannot make a company successful MRP II user.

However, the lack of a reasonably set of software can keep a company from succeeding. Therefore to ensure a company to be successful MRP II users, a detail study must be done in choosing the " right software (in term of cost and capability), education and training must also done extensively, and accuracy and integrity of data must be enforced.