

Manufacturing Resource Planning in Mitsubishi Heavy Industries India Precision Tools Ltd –Ranipet

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Introduction

The primary point of the investigation is to discover the difficulties and openings and to identify the different process required in Manufacturing Resource Planning (MRPII) in Mitsubishi. It is a technique for arranging every single asset in assembling the organization. It is a strategy for operational arranging in units, monetary getting ready for the organization and fills in as an expansion to MRP (Material Requirement Planning). It is not a principal programming for overseeing but is individual's ability to pledge a database of unwavering quality and exactness. In addition, it is also about utilizing human asset and friends' asset proficiently and successfully. MRP and MRP II are both data reconciliation business process. They are used for implementing and utilizing equipment and programming application when connected to a database which can store and express business information and data.

As has been seen already when MRP is related to manufacturing resource planning whereas MRP II has a focus on the coordination of the whole assembly of creation which includes materials, account and human relations. Here the objective is to give steady information to all the players in the assembling procedure as the items on in the creation line. MRP II begins with MRP framework wherein it looks at the necessity of material arranging. MRP coordinates the acquisition of crude materials. Both together make an ace generation plan. MRP II makes the advancement of a nitty-gritty creation plan.

Manufacturing Resource Planning – MRP II

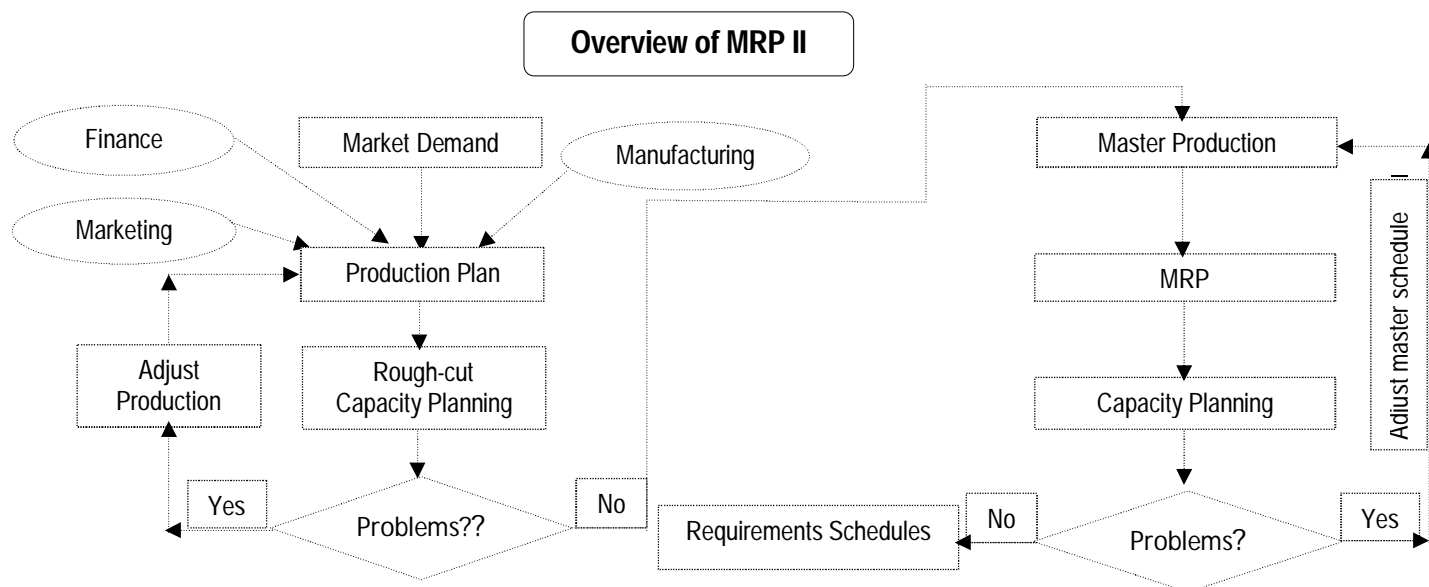
Generally, developing firms will create frameworks to determine issues as they emerge. The rationality behind MRP II is centralization and coordination, allowing viewing exertion as spared by everyone following a comparable framework. It has several functions which are linked to each other like planning the business, planning sales and operations, planning the required capacity and planning all the support systems. The end result is put together to get a financial report for shipping, inventory and purchase requirements. Therefore, it is capable to address planning at various levels like the finance, operation and so on.

Since it is able to look into many areas of the organization, it is able to provide a common set of goals.

This enables the managers to come up with various types of reports as and when they are required and

the adjustment required for various areas according to the progress of the work can be undertaken. In each of the departments accurately one will know the requirements like in finance what are the things to be bought and when is the final product ready for delivery and the know the type of cash flow trend. In the HR department one will be able to know when to hire and when to have layoff. In marketing field one will know about the timings of delivery and the pulse of the customers. With the help of computer one will be able to easily execute and plan one's activities for the system is complex and may turn out to be complicated to if not well executed. This also brings in efficiency, speed and accuracy.

Various phases of MRP II are master planning, detail planning of fabric flows and capability and implementation of plans. Some of the components are Master Production Schedule (MPS), Bill of Materials (BOM), Inventory Records, and Lead Time, Capability arranging, Ascertain sufficient ability, Purchasing/Procurement and Work administration.



Industry Profile

Mitsubishi Heavy Industries Ltd. is a Japanese Company. The principle job of the company is in assembling division, where hardware is produced and delivered in the market. Their headquarters is in Tokyo, Japan. This organization was begun by Mitsubishi Keiretsu in Tokyo. Mitsubishi Company was created to supply everything from atomic power, like plants, spans, motor for airplane, ships and climate control systems to assortment of enterprises and clients around the globe. The core market of the organization is in Japan. The organization does the business not only in Japan but also in other parts of the work like Asia, North America, Europe and South America and Middle East. They have some unique tasks which are utilized in the business like energy, transportation, automotive ship and

ocean, aircraft, environment, infrastructure living and leisure, space, defense, material handling and industrial machinery.

Objectives of the Study

1. To analyze the comfort level of the employees of Mitsubishi in using MRP II
2. To find out the helpfulness and usefulness of MRP software
3. To identify the effectiveness of MRP II in Mitsubishi

Review of Literature

Xiande Zhao, *et.al.*, in their article 'A study of Manufacturing Resources Planning (MRP II) implementation in China' talks about MRP II as the most important information system for a manufacturing organization. From 1970 on, it is said to be in use in the US. Then Chinese companies seem to have understood the value of it and have started to make use of the same in their companies too. Here they have evaluated the various factors that can influence and the benefits that could be derived in the Chinese firms with the help of MRP II. They have done this on the top 93 companies in China and analyzed the data using various top most tools like Additivity and Variance Stabilization (AVAS) and the Projection Pursuit Regression (PPR) methods. Using those tools they have tried to bring in a functional relationship between the benefits derived and the problems that are to be faced while executing the same. They also have tried to understand the involvement of various functional areas while implementing the program and the number of functional modules that are to be used.¹

'A Study on Manufacturing Resource Planning (MRP II) Practices in Singapore' is an article written by C. C. Sum & K. K. Yang in which they state that due to the acute competition in the international level many companies are adopting to MRP II system in Singapore. They went for it since they have seen the improvement in their functionalities that it is able to bring. But the saddest part they said is that, there is no one who has come up with the possibilities of identifying how the companies are making use of this MRP II. In this article they have made extra ordinary effort to find the relevant practices that are there in place and the cost benefit that MRP II can bring to the companies in Singapore. Survey findings are also very suggestive to the managers, already users and would be users about the advantage of

¹Xiande Zhao, *et.al.*, (2002, September). *A study of Manufacturing Resources Planning (MRP II) implementation in China*. Available: https://www.researchgate.net/publication/238182405_A_study_of_Manufacturing_Resources_Planning_MRP_II_implementation_in_China

using MRP II and how it must be promoted by everyone to make their life easy in their own respective companies.²

Neil Towers *et. al.*, in his article titled 'Implementing manufacturing resource planning in a Greek aerospace company' the improvement that could be brought in supply and productivity sectors with the use of MRP II. Here they go on to say that the system is excellent in itself for planning and scheduling. It has the capacity to increase customer service which automatically will bring in improvement in productivity, better inventory and low cost production. The article goes on to say that if the system is executed well, then output is also expected to be well like having a project team, steering committee, decent execution of plan and having a clear cut goal. It also warns the users to have decent level of idea about the operation of the system if not they will find the going tough. They also warn about having proper machinery and system in place to execute the system.³

Hypothesis

Ho : Comfort level of the employees are equally likely to depend on the variables

Ho : There is a significant relationship between helpfulness of MRP software to the employees and the usefulness of learning it

Ho : MRP II is not so important for the organization

Research Methodology

Data Source: Source for the primary data is the users of MRP II in Mitsubishi Heavy Industries India Precision Tools Ltd. – Ranipet. Rating questionnaires were utilized to get the information on the concerned subject. Interview method also was utilized. Secondary sources were mainly the website, journals and books.

Duration of the Study: The duration of the study that was used is 30 days.

Analytical Tools: Various relevant analytical tools were used like Chi-square and Correlation Analysis.

Population: MRP II in Mitsubishi Heavy Industries India Precision Tools Ltd. – Ranipet.

Sample Size: The total sample size chosen is 100. In this the people who are involved are employees of various cedar of the same company.

²C. C. Sum & K. K. Yang (1992, June). *A Study on Manufacturing Resource Planning (MRP II) Practices in Singapore*. Available: https://www.academia.edu/17656989/A_study_on_manufacturing_resource_planning_MRP_II_practices_in_Singapore

³Neil Towers. (2005, March). *Implementing manufacturing resource planning in a Greek aerospace company*. Available: https://www.researchgate.net/publication/247625357_Implementing_manufacturing_resource_planning_in_a_Greek_aerospace_company_A_case_study

Sampling Technique: Sampling technique used for the study was Restricted Sampling.

Date Analysis & Interpretation

01. Comfort level of the employees of Mitsubishi in using MRP II

Hypothesis

Ho : Comfort level of the employees are equally likely to depend on the variables

H1 : Comfort level of the employees are not equally likely to depend on the variables

Table No. 1

S. No	Particulars	No .of Respondent	Percentage (%)
01.	Productivity Improves	26	26
02.	Timely Delivery	26	26
03.	Quick Order	22	22
04.	Optimum Profit	26	26
Total		100	100

Analysis

O	E	O - E	(O-E) ²	(O-E) ² / E
26	25	1	1	0.04
26	25	1	1	0.04
22	25	-3	9	0.36
26	25	1	1	0.04
100				$\sum (O-E)^2 / E = 0.48$

Degrees of Freedom : (n-1); 4-1 = 3

Table Value @ 5% : 7.815

Calculated Value : 0.48

The calculated value 0.48 < table value @ 5% i.e., = 7.815

So, H1 is rejected and H0 is accepted.

Comfort level of the employees are equally likely to depend on the variables like improvement of production, delivery to be done on time, getting quick orders and having maximum profit level.

02. Helpfulness and usefulness of MRP Software

Hypothesis

Ho : There is a significant relationship between helpfulness of MRP software to the employees and the usefulness of learning it

H1 : There is no significant relationship between helpfulness of MRP software to the employees and the usefulness of learning it

Table No. 2

S. No	Helpfulness of MRP II	Usefulness of MRP II
01.	18	21
02.	37	24
03.	22	36
04.	23	19
Total	100	100

Analysis

	Column 1	Column 2
Column 1	1	
Column 2	- 0.02641	1

Table Value @ 5% : 2.58

Calculated Value : - 0.02641

The calculated value -0.02641 < table value @ 5% i.e., = 2.58

So, **Ho is accepted** and H₁ is rejected.

Inference: There is a significant relationship between helpfulness of MRP software to the employees and the usefulness of learning it. So it has been understood that employees must learn the usage of MRP software and need to utilize it in their day to day activities. For the usefulness of MRP II is tremendous for the progress of the organization.

03. Effectiveness of MRP II in Mitsubishi

Hypothesis

Ho : MRP II is not so important for the organization

H1 : MRP II is very important for the organization

Table No. 3

Particulars	Strongly Disagree	Disagree	Can't Say	Agree	Strongly Agree	Total
Frequency	38	24	02	22	14	100

Analysis

O	E	(O-E)	(O-E) ²	(O-E) ² /E
38	20	18	324	16.2
24	20	4	16	0.8
02	20	-18	324	16.2
22	20	2	4	0.2
14	20	-6	36	1.8
100				$\sum (O-E)^2 / E = 35.20$

Degrees of Freedom : (n-1); 5-1 = 4

Table Value @ 5% : 9.488

Calculated Value : 35.20

The calculated value 35.20 > table value @ 5% i.e., = 9.488,

So, Ho is rejected and H1 is accepted.

This analysis indicate that MRP II is very important for the organization. This indicates that the employees of this company has to make effort to see that they learn MRP II software and make use of it in their day to day activities in the organization to get better results for their own and the organizations progress too.

Conclusion

One needs to move according to the signs of the time. A time has come today in the market, to be able to stand up to the challenges of the time with quality, accuracy and speed. In order to achieve this one has to certainly fall back to the ever improving technology. One of such technologies that can bring efficiency and effectiveness in one's work is MRP II. As we had seen it in the paper, today that has become one of the necessities of life for everyone who is working in an organization. It was also noticed that nearly 70% of the company people are already using this software and so it is only a matter of time to make it reach to the remaining 30%. Employees generally are aware of the usefulness of this

software and it is only some training required to get everyone in line to achieve the purpose of the organization. So today MRP II has become an indispensable factor any organization.

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