

Application of Computer in Production Planning and Control for SME's

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Abstract:-The success of any enterprise largely depends upon its planning. Without planning become random and results are meaningless and no enterprises can avail success to its maximum satisfaction. Therefore, computerized planning for SME's, paper work the clerks in the department must bring out every day on regular basis to bring interrelationship and ensure coordination between different work centers. There is again an important necessity that these documents are prepared in time and the communication is fast enough to reach the receiver before it becomes state with change of situation and directly or indirectly , it will be help for zero defect programme for SME's in terms of re-engineering process.

Key words: Computerized planning, Re-Engineering Process, Zero Defect programme.

1. Introduction:

The basic fundamental in production planning are the same but that may however vary according to the size and type of the plant. Planning also provide the basis for control in an organization. However, there are many complaints about department overloads or poor delivery performance -particularly in fabrication and assembly operations-focus on scheduling or control.

At the outset, a computer sometimes called magic box. It consists of a Central Processing Units (CPU) having the ability according to programme to process data, to give output. It has also memory which permits retrieval of information's in a moment's time. It can print out output.

One can have his own computer if the investment is justified. One can also 'hire' time in others computer. There are service bureaus who can offer their services to their clients through 'library programme' which is actually 'software' under the general term. The rate of change of situation is the higher in jobbing production and the slowest in mass production, batch production being intermediate with change of situation.

When the paper work production become high clerical error mounts, delay becomes high. If turbulence is high, such error and delay put system out of gears resulting diminishing of confidence.

2. Literature Review:

Computerization takes the situation out of morass. Any changed in the parameters as a

result of the change in the situation may result change of schedule.

For example, an ICL system has developed in modular form an integrated package called "prompt" on magnetic tape. These modules can be used independently as sub-systems in conjunction with others. The modules are:

2.1 Beak Down: This module accepts sales forecast and orders as input and explodes them into component output is the requirement list captive manufacture, subcontract and bought in.

1.1. Stock Control: This module

2.2. Stock Control: This module has the feature to prepare stock replenishment statement in order to raise orders for purchase or manufacturing, monitoring of stocks and orders.

2.3. Shop Planning and Control: This module has four segments:

2.3.1. Forward loading: The purpose of this loading is to help the management foresee the effect of any projected plan on the manufacturing capacity of the company.

2.3.2. Short-term loading: The output from this segment gives details of the jobs required from work centre listed in priority sequence for each period.

2.3.3. Work documentation: This segment produces feedback documents for communicating to staff the work that should be carried out.

2.3.4. Progress Control: This segment involves itself in the maintenance of work in progress records.

2.3.5. Purchase Control: *This module covers:*

2.3.5.1. Ordering: *Places orders in the most economical way.*

2.3.5.2. Up-Ordering: *Records orders and receipts through goods inwards to stores.*

2.3.5.3. Progressing: *Records the list of pending orders.*

3. Methodology:

Application of computer in Production Planning and control is consisting by the following:

3.1. Job Shop:

It is psychological accepted that in large-scale manufacturing factories, computers will have instant use. Its utility has been realized even in jobbing shop. For jobbing shop, computer need not give out merely the output as per "library programme". It can as well as utilized for determining critical path and effect on the critical path as a result of delays on other activities, even in an activity in the critical path. This information generated by the system will spur the management to take necessary actions to remain as close to the critical path as practicably possible.

3.2. Process Shop:

There are three types of process control applications and have to discuss on two methods:

3.2.1. Data Loading: This is the simplest application and having control over the process. This computer merely scans rapidly and frequently information displayed or provided by such instruments towards control of process.

3.2.2. Supervisory Control System:

As is evident, data logging allows manual control of the system which obviously means delay in action and hence less efficient. In certain process, delay may not be merely costly; it may be dangerous too necessitating closed-loop control in which the system is under supervision of a suitably designed and programmed computer. It employs Direct Digital Control (DDC). This is basically the same as Supervisory Control System with the

difference that this controls the process without the use of conventional analogue controllers. Present day systems are mostly DDC.

4. Result and Discussion: Computerization of Networks:

Network diagram for small projects having about 150 events or 250 activities can be manually managed. Bigger ones become unwieldy and so will take long time. There is also likelihood that errors may creep in through a large number of calculations to be made for forward and back pass computations, total and free floats, etc, in a manually done large and complex network diagram.

Flow diagram, however, has to be made in computer language and entered in the event file which when fed in the computer will give output information.

Needless to say that the nodes must be numbered and they need not necessarily be numbered in ascending order, for computers also accept programmes with random numbering.

Input sheets are prepared manually bearing the following information which is consisting by: Activity number; Preceding number; succeeding number; Activity description. Code of department; Code of the operation (Design, Manufacturing etc.).

Information in the input sheets are then converted into computer language either through punch cards or magnetic tapes. In case of punch cards, they are stored in the card deck.

When instructed computer can process the information to give the output in print-out. There are many occasion when computer throws up errors which are to be manually corrected. In the end, correct print – out must be ensured so that the persons receiving them are neither confused nor misled.

However, the print outs contain the following output information:

4.1. Activity number, Preceding number, Succeeding number, Activity description, Activity duration , Departmental code, Operational code, Earliest starting time, Earliest finishing time, Latest starting time, Free float, Total float, Allocation of floats.

4.2. Bar charts for the entire project with all activities start and finish at the earliest possible time.

4.3. Free float, Total float and Allocation of float.

4.4. Separate listing of construction work at a separate site,

4.5. Identification near critical activities having up to 4 weeks float.

In large and complex project, it is a truism that what man proposes God disposes. Thing do not as planned and therefore, the network analysis needs review renewal. This can be done easily by preparing fresh input sheet incorporating the change in the network, such as:

4.6. Obsolete activities,

4.7. New activities, and

4.8. Present estimation of activity duration time.

5. Type of Data:

In terms of, Other Recent Upcoming Field of Management", as Common application (Computer) in Road Transports industry, the following data:

5.1. Statement of Consignment Notes (Sales):

This gives the statement would ready information about each sale giving details such as customer name, value of business and shows the originating as well as terminating city.

5.2. Statement of Lorry –wise challan (Purchase):

This gives the details of Lorries hired with amount, to be paid out to the lorry Owners and lists out towards consignment notes that have gone along with Lorry and shows the originating and terminating city.

5.3. Costing Statement:

This statement is prepared Lorry wise to find out profit from each trip. All sales and rebates are picked up from consignment notes and expenses from the challan.

5.4. Party Wise Business Statement:

This helps to bring to management's attention of any party, where the business has been started falling, Business in current month, year-to-date and business in previous year could be printed

Profit from the each customer could be compared.

5.5. Outstanding statement:

This show all outstanding invoices and management's attention focusing on large outstanding and old outstanding, which is possible to reduce the same substantially

5.7. Other MIS and misc reports:

Some of the other information that can be available to the management to take corrective operations and profitability's are:

5.7.1. Destination wise pending Lorry hire challan.

5.7.2. Station to station costs for full load time of the journey, etc.

6. Conclusion:

Reliability is showing a degree of dependability or level of confidence in the industries, which is assumed to be stable and uniform. Many a times, the terms like reliable, quite reliable are also used to indicate degree of dependability or level of confidence in system's work. It means; Normally, reliable product or

service is one which is trustworthy and consistent in service and therefore, products behavior under circumstances are predictable and not likely to fail in delivering a desired service or action or product commensurate with capability at the time of need.

The system of reliability model consists of some combination of a reliability block diagram or cause consequence chart. Thus a reliability block diagram is developed to calculate the system reliability. It is pictorial view system. Normally a system is constituted of a combination of- Series combination, Parallel combination and Combination of the above two. Etc.

Series combination of any one would cause failure to the entire system then the parts are said to be in series from the functional point of view. So, if the failure of any constituent part results in system failure, then the reliability diagram is a contribution of elements, each with its own reliability function. The reliability of the system can be obtained from the multiplication of individual reliabilities. Parallel system of 'n' elements which are connected in parallel. A system having its elements in parallel plays an important role in improving system's reliability and the technique is called Redundancy. Reliability engineering is to obtain trouble free performance for a specified operational period in balance with factors as cost, weight, size etc. A method of optimizing the balance is by the use of redundancy.

Redundancy signifies that a system will continue to function satisfactorily in spite of failure of some of the elements from which it is built up. The resistance to failure is provided by alternative path of operation by arranging selected elements of the system in series and parallel.

In series arrangement, the failure of one element results in failure of the entire system whereas parallel arrangement is such that all

elements must fall before the system falls. Reliability of such elements must also be taken into account in the analysis of the system. The possibility of repairing failed items is also a necessary consideration.

From the above discussion, a computer can be programmed within programme specification of the machine to perform specific processing, say, obtaining the critical path in a network chart.

8. Type of Data:

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