

Preparing Gantt Chart for a Project

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Abstract

Gantt chart is widely used to prepare a project planning and scheduling by many project managers, because of its simplicity and flexibility. The main objective of a Gantt chart is to assess how long a project should take and to establish the order in which tasks need to be carried out by the ending of the project..to assess a project how long a project should take and to establish the order in which tasks need to be carried out by the ending of the project. In this study, we are learning how to prepare a project plan using Gantt chart with its advantageadvantages and disadvantages.

Keywords: *Gantt charts, project planning, project monitoring*

1. Introduction

Gantt chart is largely used to show the arrangement of production plan in production scheduling. In gantt chart, bar charts displays the work and time, which expresses the clear task situation. Gantt chart is an effective tool for the workshop production scheduling problem, it displays the work has been completed and the work to be complete on the time horizontal axis, the people and equipments undertake the work are shown on the vertical axis, so that the complex data of production scheduling algorithm are displayed with intuitive graphical at a glance, therefore gantt chart is an effective tool for workshop managers to understand visualization and quantification, and the workshop plan arrangement situation is clear the overall situation and arrange the schedule.

Henry Gantt extended Fayol's theory A significant originator of techniques for planning and control, Gantt created a project management tool called the Gantt Chart (Stevens xxii). The charts and diagrams he designed allowed processes to be charted and controlled. An

example Of their application occurred during the First World War in constructing ships for the U.S. Navy. cann't documented and analysed the ship. building process step by step, which enabled him to assess and provide data about how the management functions outlined by Fayol interrelated. Gantt Charts have remained a significant aid in project management (Meyer), They have been used for major government projects, including in the construction or the Hoover Dam (1931— 1936) and the U.S. interstate highway system (The Gantt Chart History). As a project management tool, their impact has been and continues to be immense. Canti and Fayol both drew inspiration from the theories that Frederick Winslow Taylor presented in his text Scientific Management. Taylor (1856—1915) anticipated cur- rent management concepts, including those or resource allocation and work break- down. The Industrial Revolution led to worldwide expansion ofbusiness activities. The development Of automation enabled more work to be undertaken more efficiently. Managing such activities successfully, including building projects, required the ability to manage resources, finances, and the workforce at different sites. Managers needed new ways or doing this faster and more effectively.

Work schedules

It is the role of managers to organise the work schedules so that subordinates understand exactly what is required of them, schedule outline i.e, What tasks need to be, the order in are to out, who is assigned to complete each task (individuals or groups);the timeframe for completion.

Work schedule designs have been a feature of formal working environments since emergence of the Industrial Revolution. They vary in format and complexity but they are all designed to underpin the outcomes detailed above,

One of the earliest and most widely used formats is the Gantt Chart. Henry Gantt was a close colleague of Frederick Taylor and his work contributed very much to the concept of scientific management that Taylor pioneered. The longevity of the Gantt Chart as a work schedule template much to its simplicity and effectiveness. Simply put, it shows actual and planned output over a of time. Below Figure illustrates the Gantt Chart on the horizontal axis is the time dimension and on vertical axis are the work activities to be scheduled. The chart offers a visual representation of what work has to be done, when it is to be completed, and progress towards its completion.

For managers it allows them to monitor progress and helps them make decisions on how to complete tasks satisfactorily within a given timeframe (Gantt, 1919). A quick glance at a Gantt Chart informs a manager as to whether a task is ahead, behind, or on schedule for completion. The successful completion of the task requires planning and organizing. In the Gantt Chart in Figure the planning details the work activities needed to complete the task, the order in which they are to be undertaken (listed in the first column), and the timeframe for completion. The planned is illustrated by a bar located within a timeframe represented by the green shaded boxes. The orange shaded boxes represent actual progress towards completion of the work activity. A quick glance at chart reveals from planned schedule. Thus, it can be seen that Activities 6 and 7 have fallen behind schedule (by 2-4 weeks) and will require remedial action to bring them up to speed if the planned timeframe for completion is to be met. Gantt charts and others of a similar nature have stood the test of time and are still widely used in many industry sectors those featuring production or systematic work routines.



Figure : Gantt Chart

The next figure shows how a Gantt chart can be used for more than just scheduling the important steps of a job. Filling in the timelines of completed activities makes it to progress at a like Gantt charts force a man to his analytical as they or to separate steps. Also, Gantt charts upgraded on flow charts by letting the planner to specify the time to be worked on each activity.



2. Advantages Of Gantt Charts

1. They are simple to make and are very helpful in planning and scheduling small projects.
2. Gantt charts are easy to read and they remain the best tool to use for communicating to team members what they need to do within a given time frame.
3. Arrow diagrams tend to be too complicated for some teams, but these teams can make use of bar charts for scheduling.

Limitations of Gantt Charts

Gantt charts, drawn by hand, are best suited for simple projects. That is in a project where:

- a. The number of activities and resources is low. (For example, it is difficult to draw a Gantt chart with one hundred activities on it.)
- b. The environment is fairly static. This means that it does not change with time. (It is difficult to make changes on a Gantt chart.)
- c. The time periods are relatively long— days and weeks, rather than hours.

For example, most projects last for months and even years.

A Gantt chart will not be able to represent these project activities using time periods in hours, as it will occupy too much space.

Gantt charts do not make a link between time and cost. They, therefore, do not provide a method for deciding how to best allocate resources. For example, there are two activities, X and Y, for which the times have been estimated and which use the same resource.

If the resource could be shifted from activity X to activity Y, Y could be completed in a shorter time. However, X would obviously take longer, so how would this affect the project overall?

Computer software can assist you with the analysis of complex problems such as these.

Gantt charts do not give information about the size of a project. This makes it difficult to estimate costs. For example, a Gantt chart for a house construction project does not indicate how much cement or sand will be needed.

The Gantt charts do not tell you about the importance of the individual work packages as all the bars are of equal size and vary only in length. For example, in a house construction project.

Gantt chart will not identify which is more important: laying the foundation of the building or plastering the house.

It is very difficult to determine what impact a slip in one task will have on the rest Of the project. For example, consider the Gantt chart for a house

Construction project. It will be difficult to evaluate what the effect will be if the foundation has not been laid on time.

4. Considerations

Gantt charts are also updated with more columns displaying things like the amount of time estimated to perform each task, how many resources are required to complete each activity and/or the person who is responsible for performing the activity.

Particular meetings or reviewing processes are not suggested to be noted on a Gantt chart because they might occur over a long time period.

5. Conclusion

Gantt chart will transmit a clear idea to professionals for construction of project plan about what must be done to complete a specific task and can promote a healthy scheduling process.

6. References

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