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A Guide To Resource Scheduling In Project Management

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Nearly all projects have limited capacity or resources. As a result, the success of a project depends on how efficiently the resources are managed. A resource is anything that is required to carry out and complete a project successfully. They can be labor, equipment, materials, facilities or anything needed to complete a project.

A planned approach to allocating resources allows project managers to outline completion dates for tasks assigned to their teams. They can then report to stakeholders such as customers or a board of directors. In this article, we will look at what resource scheduling is, why it is important and the steps to create an effective resource scheduling plan.

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What is resource scheduling?

Resource scheduling refers to the process used by organizations to efficiently allocate their resources to tasks or projects they need to complete. It also includes scheduling the

start and end dates for each task or project based on resource capacity and availability. Depending on the industry, resources can be people (either employees or vendors), equipment, materials, funding or facilities.

Resource scheduling incorporates decisions about capacity into the scheduling process using two methods: time-constrained and resource-constrained. Time-constrained scheduling uses the time factor as its critical variable. On the other hand, resource-constrained focuses on the limited capacity of resources, emphasizing resolving capacity overload problems.

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Who uses resource scheduling?

Often, project managers are in charge of resource scheduling. In large organizations, there are dedicated resource managers to handle resource scheduling. It is the project manager's responsibility to deliver the project on time within the budget and without compromising the quality. If the resources are not properly utilized and scheduled before the initiation of the project, it will result in time delays and even cause the project to fail.

Why is resource scheduling important?

Resource scheduling provides project managers a smarter, more efficient way to assign tasks to their team based on their expertise and availability. This process allows you to monitor a project from start to finish to ensure that the work flows smoothly. It also gives your organization a way to utilize labor in the most efficient manner such that they are neither over nor under-allocated.

Managing human resources is much more challenging than managing other resources like equipment or materials. Therefore, proper resource scheduling ensures that people are not overloaded with work, their time is best utilized and your budget is allocated as intelligently as possible. Resource management can be a complicated and time-consuming process. Still, it's a crucial aspect when it comes to the successful completion of a project.

Resource scheduling is important for the following reasons:

- Improve efficiency and cost of the project
- Prevent timeline delays
- Prevent overloading people with too much work
- Assign tasks and monitor projects from start to finish

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- Schedule labor based on skills and availability
- Analyze the utilization rate for each of the resources and reassign tasks to resources that are not working to their full utilization rates
- Track project estimations and outcomes to make future scheduling easier

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What are the steps for effective resource scheduling?

Resource scheduling is more than timelines and deliverables. It is also about keeping your team members motivated and challenged but never assigning them more tasks than what they can handle. Here are six steps in effective resource scheduling along with examples:

1. Break down tasks

The first step to resource scheduling is to understand the project as a whole and then to break down each part into individual tasks. A work breakdown structure (WBS) is an essential tool used by project managers to structure the project by breaking down all the functions to the basic level, resulting in a comprehensive list of all the activities that need to be done.

For example, If your agency is making a digital marketing plan for a start-up business, your task list might look like this:

- Create social media status updates, blog posts, pictures, audio and video content to engage people and drive traffic to your website.
- Automate digital marketing strategy through email automation, Facebook messenger bots and schedule social media posts in batches.
- Analyzing competitor businesses marketing strategies to see what your customer is missing
- Setting up advertising, analytics, reporting and tracking on each channel
- Updating the content across each channel at a predefined time period and removing any outdated information

Once the list is complete, you can estimate the number of resources and labor required to complete the tasks.

2. Evaluate resource capabilities

The next step is to identify and evaluate the resources required. In most projects, the common resources needed are equipment and human resources. When it comes to equipment, you have to determine the kind of software, hardware or tools required and any specific versions or industry standards to meet. Another factor to consider is if it makes more economic sense to purchase or lease them.

Assess your people resources and assign the right person with the right skillset required for the task completion. The quickest way to do this is to have a database with the skills of all of your team members so you can easily match up tasks with their schedules.

Consider the expertise, skills and certifications needed and consider whether to use the employees you already have or contract them. For example, to identify any highly skilled graphic designer for your team to work on a marketing campaign, you can check the skill database or hire a third-party contractor well in advance.

3. Assign tasks to employees based on their availability

Once the resource capabilities are correctly evaluated, assigning the right person to the right tasks is based on their availability. It would be best if you have an accurate estimate of how long each of these tasks would take to complete. It is important to find out if anyone is overloaded with too much work while others may not have enough work.

During this stage of the resource scheduling process, you also have the chance to adjust the size of your project team as required. Suppose you had underestimated the amount of work at any phase of a project, such as graphic design or quality assurance testing. In that case, this is an excellent time to onboard additional resources.

4. Identify bottlenecks and adjust quickly in real-time

If a team member takes a holiday or sick leave, you will need to reassign their tasks or change their deadlines. There are many project scheduling software to help you plan, track and analyze your projects. With the help of this software, you can easily assign and manage work tasks, control the load volumes of your team, receive notifications about project status updates and track the reach of resources (sick days, holidays and days off).

Often, team members may get stuck on a problem or issue that they cannot resolve. It is important to watch your resources, time taken and get them help quickly.

5. Execute risk plan for critical resources

Critical personnel on your project may be reassigned to a higher priority project or maybe unavailable on your project for some reason. It is essential to implement a risk

plan to identify the critical resources and devise a cost-effective contingency plan in such circumstances.

Identifying risk and then analyzing the impact on the whole project and managing them without compromising the goal of your project is a key step in project planning.

6. Track the time spent on tasks and activities

Finally, track your project closely to make the project run even smoother. By identifying how many resources you used on each task, as well as the time it took to complete them, you will be able to use that data to fine-tune your future resource scheduling tasks. Adding a time tracking function to your resource scheduling software is the most effective way to do this.

Resource leveling vs. Resource smoothing

In the pragmatic world of project management, both resource leveling and resource smoothing is used. Resource leveling is the process of allocating resources in conflict. If resources are overused, then leveling is done for fair and efficient utilization of resources. Resource leveling can be done by implementing many steps such as delaying start time, extending plan duration or allocating new resources and many more.

Resource smoothing is more about managing the time constraints around your project. It aims to finish a project on time while avoiding peaks and dips in resource demand.

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