EPICENTRAL

A Newsletter from Epicenter Development Group highlighting ideas that improve organizations

Welcome to Epicenter Development Group's newsletter, EPICentral. The purpose of this newsletter is to highlight fundamental ideas that have helped organizations develop and maintain great manufacturing and service operations. We hope that you find our EPICentral newsletter helpful, and we would welcome your comments on its content.

Work Plans - Creating a Project "Blueprint"

This month's newsletter focuses on the development of **Work Plans** (sometimes called Time Lines). A Work Plan is essentially **THE** "blue-print" for completing projects on-time and within budget. If done properly, this document helps to prioritize project activities, provides realistic project goals, and is an "early warning system" for identifying potential issues. The article below outlines the main steps Epicenter uses in this phase of project planning.

Work Plan Development Steps:

1. **Brainstorm every task that will be required to complete the project from start to finish:**
    1. If your project is large, you might also consider grouping tasks together under a general category (*major tasks* with *subtasks*).
    2. As possible, place the tasks in a rough time sequence (start of project to end of project).
2. **Identify the resource(s) that will be needed to complete each task:**
    1. This could include individuals, departments, outside resources and equipment.
3. **Estimate the time required to complete each task:**
    1. If you are unsure, consider identifying the *best*, *expected* and *worst case* times.
    2. You will want to get this estimate from the person/people who would be doing the work.
    3. Remember that there is a difference between work content and actual time to complete (especially with shared resources).
4. **Place the tasks in order** (if not done already).
5. **Identify the relationships between each task:**.
    1. If a project is simple, this can be documented manually. For larger projects, however, you might want to consider the use of project management software like MS Project or Primavera to complete this step.
    2. *Finish to Start* (**FS**) = Task can start when its predecessor finishes (most common).
    3. *Start to Start* (**SS**) = Task can start no earlier than when another task starts.
    4. *Finish to Finish* (**FF**) = Task can finish no earlier than when another task finishes.
    5. *Start to Finish* (**SF**) = Task can finish when another task starts.
    6. **Lag** time is a concept where tasks can overlap (*Negative* Lag) or need to be spaced out (*Positive* Lag). Lag time needs to be defined when documenting the relationships.
6. **Identify the Critical Path.**   The *Critical Path* is the path of project activities which has the longest duration. It dictates the duration for a project, and any delays along the critical path will delay the

project.
1. A PERT chart is a great tool for completing this step.
2. For simple projects, this step can be manually completed by listing the longest path of time to get from the start of the project to the end of the project (considering all pathway options).
3. For complex projects, this can be done automatically using software like MS Project or Primavera.
4. If you have identified best, expected and worst case task times, you can also apply the different estimates to see how they would affect your schedule.

Item	Task	Duration	Start Date	Finish Date	Predecessors	Responsibility
1	Preinterview Phase	3 days?	10/13	10/18		
2	Identify resource requirements	1 day?	10/13	10/16		Hiring Manager
3	Advertise position to internal and external candidates	1 day?	10/16	10/17	2	HR Manager
4	Assemble potential candidate applications and resumes	1 day?	10/17	10/18	3	HR Manager, Hiring Manager
5	Complete preinterview phase	0 days	10/18	10/18	4	
6	Candidate Interview Phase	5 days?	10/18	10/25		
7	Select candidates to interview	1 day?	10/18	10/19	5	HR Manager, Hiring Manager
8	Prepare interview questions	1 day?	10/19	10/20	7	Hiring Manager
9	Conduct interview(s)	1 day?	10/20	10/23	8	HR Manager, Hiring Manager, Interviewer
10	Document interview results	1 day?	10/23	10/24	9	HR Manager, Hiring Manager, Interviewer
11	Select final candidates based on interview results	1 day?	10/24	10/25	10	Hiring Manager
12	Interview phase complete	0 days	10/25	10/25	11	
13	Candidate Selection Phase	3.83 days?	10/25	10/30		

Example Work Plan with Simple Relationships

Improving the Plan:

Once you have completed the base plan, it is time to consider options. You may have found, for example, that the calculated completion date is beyond your target date. In this case, you will want to consider options that will decrease the critical path to completion without going over your project budget. Some common ways to reduce the project duration include:
1. Deleting, combining or putting tasks in parallel along the critical path.
2. Assigning more resources to tasks that are along the critical path.
3. Increasing a resources' available time through an expanded work schedule (overtime) or reassigning other, non-critical tasks to other people. This could include outsourcing some of the work.
4. Note that the critical path might change as improvements are made; it is important to remember that improvements must be made along the critical path to affect the completion date.

Considerations:

- For more information on the overall Project Management step, please refer to our project management newsletter.
- Do the leg-work upfront. The more accurate and thorough the information is in the Work Plan, the more likely it is that the project will be a success.

- As possible, all stakeholders should sign-off on the Work Plan before it is finalized.
- Sometimes even the best planned time line may put your completion date beyond where you need it to be. It is important to go back to the stakeholders and customers to determine what has to give to make the project work. You may be surprised how flexible the "drop dead" end date might be when sticking to it will increase the budget.
- Be sure to build in time for unexpected contingencies. A little bit of slack time on the critical path can save you when something doesn't go quite right. It can also make you the hero when you finish a little early. Just be careful not to pad you schedule too much or your stakeholders and customers may lose faith in your skills.

Next Steps

If you would like more information on this topic or other similar types of tools, please contact Bill Proctor with your request at wproctor@epicentergroup.com or 216-702-0952. You can also find previous issues of EPICentral at Newsletters.

Mr. Proctor also speaks on a variety of problem-solving and system design topics that can help companies significantly increase the success and profitability of their businesses. If you are interested in having Bill speak at one of your upcoming meetings/events or would like more information on any of the speaking topics, please visit Speaker Services or you can email sales@epicentergroup.com.

Epicenter Development Group is a unique consulting firm that seamlessly integrates the disciplines of Systems Engineering and Organizational Analysis & Development to create practical design solutions to your toughest challenges. It is on the cutting edge of problem-solving solutions and the creator of a unique process called GreenRoom Engineering. This process adds greater value and cost savings for clients as compared to traditional engineering methods.

William Proctor, Epicenter's founder and president, has provided services around the country to more than 100 companies consisting of a variety of organizations; and Epicenter continues to grow as a resource for firms of all sizes.

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