

Project Time Management

مقرر: إداره وقت المشروع

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PMG 212

Lecture 7



Agenda

- Scheduling
- Who is the Scheduler
- Attributes of Planner/Scheduler
- Importance of the Schedule
- Scheduling Tools
- Critical Path Method
- Scheduling Terminology
- Relationships (Logic) – 4 Types

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Scheduling

If **PLANNING** is an Art form based on Experience and Knowledge, then **SCHEDULING** is a Systematic exercise in using applied Logic.

Scheduling

Scheduling in project management is the listing of activities, deliverables, and milestones within a project.

A schedule usually includes a planned start and finish date, duration, and resources assigned to each activity.

Scheduling

The 6 processes of time management in scheduling;

When people discuss the processes for building a schedule, they are usually referring to the first six processes of time management:

- **Plan schedule management**
- **Define project activities**
- **Sequence activities**
- **Estimate resources**
- **Estimate durations**
- **Develop the project schedule**

Scheduling

Benefits of project scheduling in project management

Project scheduling provides the following benefits:

- Assists with tracking, reporting, and communicating progress
- Ensures everyone is on the same page with tasks, dependencies, and deadlines
- Highlights issues and concerns, such as a lack of resources
- Identifies task relationships
- Monitors progress and identify issues early

Scheduling

Seven tips for creating a solid project schedule

The time management processes identified above are the key steps to creating a project schedule. However, keep these seven tips in mind to make sure your schedule is realistic.

- 1) **Get input from stakeholders:** Don't create your schedule in isolation. It's important to use your team and other stakeholders to identify tasks, resources, dependencies, and durations.
- 2) **Reference past projects:** Looking at previous projects with similar scope and requirements can help create realistic estimates and ensure you haven't forgotten any tasks.
- 3) **Keep risk in mind:** Identify and document any factors that pose a risk to staying on schedule. This will help [your risk management efforts](#).

Scheduling

Seven tips for creating a solid project schedule

- 4) **Consider any non-work time:** For example, make sure vacations and holidays are reflected in your schedule so that you're not assuming people will be working when they're not.
- 5) **Define the critical path on your project:** Identifying your project's [critical path](#) allows you to prioritize and allocate resources to the most important tasks in the project.
- 6) **Record scheduling assumptions:** Write down the logic behind your scheduling predictions. For example, if you assume it will only take 10 hours to complete a task because you have a senior engineer. Then, if you end up with a junior engineer, you can understand and explain why it took twice as long as planned.

Scheduling

Seven tips for creating a solid project schedule

7. **Include project milestones:** Milestones are events or markers that stand for an important point in your project. They're useful for creating a summary schedule, reporting to executives, and identifying problems early. Here are some milestone examples:
- Project kickoff
 - Design approvals
 - Completion of requirements
 - Product implementation
 - Project closeout
 - Create

Scheduling

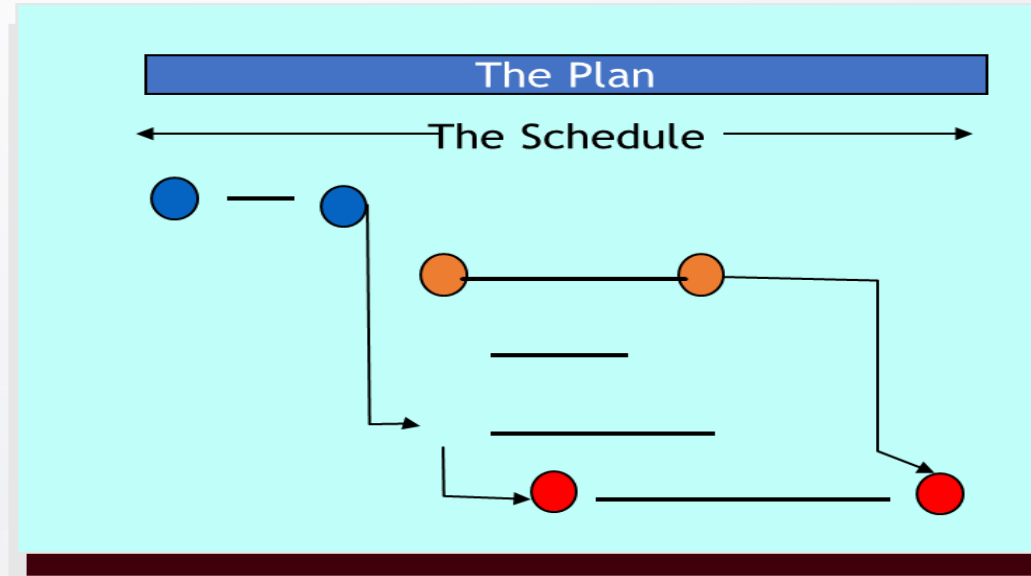


A **GUIDE** TO A WISE PERSON..... Not AN **INSTRUCTION**

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Who is the Scheduler



The **scheduler** translates the **PLAN** into **schedules**

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Attributes of Planner/Scheduler

- Possess **PEOPLE** skills!
 - Exercise humility and salesmanship
 - Exercise care when recommending various approaches
 - Do not alienate the managing parties
 - Ease off when needed
 - Emphasize his/her role is to **coordinate** and **integrate** ideas and **plans** into a coherent project schedule.
- امتلاك المهارات الشخصية (عدم الاعتماد على البرامج الحاسوبية)
 - التحلي بمهارات التواصل بين أقسام المشروع
 - العناية الشديدة عند التوصية باستخدام أساليب مختلفة
 - العمل على عدم نفور الأطراف ذات الصلة
 - الحد من المشكلات عند الحاجة
 - تنسيق ودمج الأفكار والخطط في جدول زمني متماسك

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Importance of the Schedule

- Depicts **the Scope of work** يُصور
- **Improves** the probability for the project team to **meet its goals**
- Establishes overall **schedule parameters**
- Aids in determining **staffing requirements**

Importance of the Schedule

- **Resource loading** basis
- Identifies **long lead** items
- Identifies the **phases** in the project

Importance of the Schedule

Standardized scheduling techniques motivates the project team to:

- Think through the **entire project**
- **Predict** a realistic project **completion**
- Recognize **impacts** of **unexpected** events

Chapter
07

Importance of the Schedule

Standardized scheduling techniques motivates the project team to:

- Identify **claims** or time extensions
- Coordinate **interfaces** and **reduce conflicts**
- Plan **resource requirements** and cash flow
- Serve as a **record** of the project's **progress**
- **Communication Tool**

Importance of the Schedule

1. Tells you **where you've been**.
2. Tells you **where you are**.
3. But most importantly, it tells you **where are you going!**

Must have **sufficient detail** to control the project

- Too much detail is cumbersome to maintain.
- Not enough detail and the analysis of the schedule is difficult.

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Scheduling Tools

- In practice, the best project management software will give you everything you need to plan, manage, and deliver projects effectively. It should provide a single central platform where teams can assign tasks, share resources, communicate about work, and track project progress and metrics in real-time.
- The reality is that many of even the best-known tools for managing projects struggle in these functions. The trouble is that you're unlikely to know these limitations in advance.

Scheduling Tools

That's why, in this guide, we've selected each tool based on how they perform in these five functions:

- **Project visualizations.** How you physically see your projects affects how you manage and complete them. Does your platform have a timeline view, to help you meet deadlines? Do colleagues have a user-friendly dashboard where they can track their own individual work? How customizable is the software to your unique work structure? These are all critical questions you need answers to.

Scheduling Tools

That's why, in this guide, we've selected each tool based on how they perform in these five functions:

- **Team collaboration.** The best work management software should also streamline your teams' communications by bringing it all under one roof. With instant messaging, commenting, shared editing, and even Scrum capabilities, you can dramatically reduce the number of emails you send. Choose the tool that has the communication functionality that's right for you.

Scheduling Tools

That's why, in this guide, we've selected each tool based on how they perform in these five functions:

- **Resource planning and management.** Project management software should provide a single source of truth for your work. For teams, it's crucial that it offers easy access to the docs, files, and assets they need. For project managers, it should provide tools to help track and plan for budgets and colleagues' capacity, such as timesheets.

Scheduling Tools

- That's why, in this guide, we've selected each tool based on how they perform in these five functions:
- **Reporting and analytics.** Project management tools should provide detailed information on how your projects are progressing and whether you're on budget and on schedule. Many tools do this well, but the analytics they provide may be limited to individual projects rather than your whole portfolio. This may be OK for some teams, but others may want a more scalable solution.

Scheduling Tools

- That's why, in this guide, we've selected each tool based on how they perform in these five functions:
- **Workflow automations.** Rather than just providing a platform for you to work, the most advanced tools can actually do part of that work for you, thanks to automation. For instance, with Wrike you can automate some repetitive work, such as assigning tasks and subtasks. If you're serious about boosting organizational efficiency, this can be a hugely useful feature.

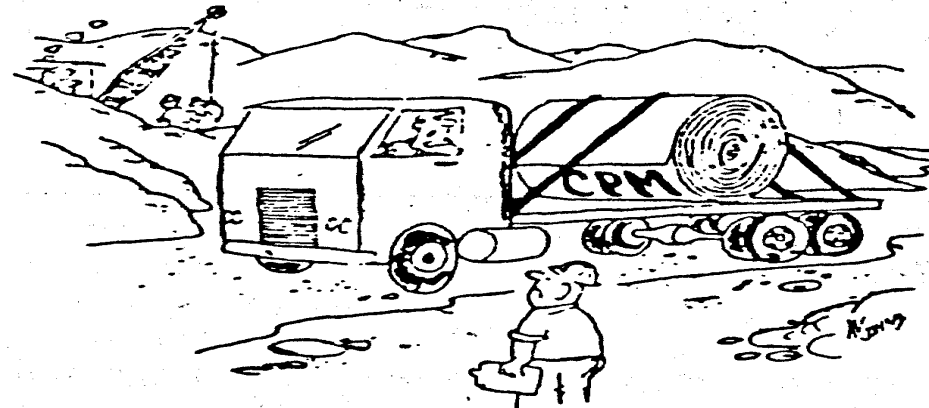
Scheduling Tools

- P6 (Primavera)
- Microsoft Project Planner (MSP)
- Suretrak (Primavera)
- Milestones, etc.. - Bar Chart
- TILOS- Linear Scheduling

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Scheduling Methodology



"Where do you want this CPM chart?"

Critical Path Method

The calculation of the earliest and latest start and finish dates of activities based on their duration's and relationships to other activities

a resource-utilization algorithm for scheduling a set of project activities

Item	Price
A	100
B	100
C	100
D	100
E	100
F	100
Sum	600

Activities

- The Basic element into which a project is subdivided for scheduling a network (CPM)
 - Has a definable start and finish
 - Consumes resources
 - Is assignable
 - Is measurable
 - Is defined by a **Work Package**
 - Is a Physical Task for Construction

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Scheduling Terminology: Work Package

- A group or number of Engineering/Construction Deliverables that will enable Procurement or Construction to accomplish a meaningful task. WP is the lowest level of a WBS.
 - All of the **Data Sheets & Specifications** required for a Purchase Order.
 - All of the **Drawings & Details** necessary to Locate, Excavate, Form and Pour a Foundation
 - Earthwork
 - Foundation
 - Cabling

CONSTRUCTION WORK PACKAGE																	
Project Name:										Company Logo							
Project CWP WBS No:																	
CWP				Plant				Area					Discipline				Sequence No
C	W	P	-					-					-				
Description:																	

Section No.	Section Description	# of Sheets
1.0	Scope of Work	
2.0	CWP Reference List	
3.0	Engineering Information	
4.0	Craft / Manpower	
5.0	Direct Field Equipment and Materials	
6.0	Safety	
7.0	Quality	
8.0	Regulatory Approvals and Permits	
9.0	Sub-contracts (Construction Contractor)	
10.0	Vendor Support	
11.0	Rigging Studies	
12.0	Scaffolding	
13.0	Special Equipment, tools and consumables	
14.0	Waste Management	
15.0	Risk Register	
16.0	WorkFace Planning	
17.0	Project Controls	
18.0	Turnover Documents	
19.0	3D Model Shots of CWP	
20.0	Submittals	
21.0	Contact List	

Scheduling Terminology: Milestone

- Is a **GOAL** to be achieved.
 - Can be either a Start or Finish Achievement
 - Is a single point in Time
 - Has no duration
 - Has no resources
 - Has a specific and unique Definition
 - It is either YES or NO

Scheduling Terminology

- **Predecessor** = An activity that must occur before another activity. A predecessor activity controls the start or finish date of its successor(s). An activity can have multiple **predecessors**, each with a different relationship to it.
- **Successor** = An activity that must occur after another activity. An activity can have multiple successors, each with a different relationship to it.

Scheduling Terminology

Predecessor and Successor Synonyms مرادفات



Dependencies

Prerequisites

Interface requirements

Links

Logic relationships "To" and "From"

التابعين (الاعتماديين)

المتطلبات المسبقة

متطلبات الواجهة/الربط

الروابط

العلاقات المنطقية "إلى" و "من"

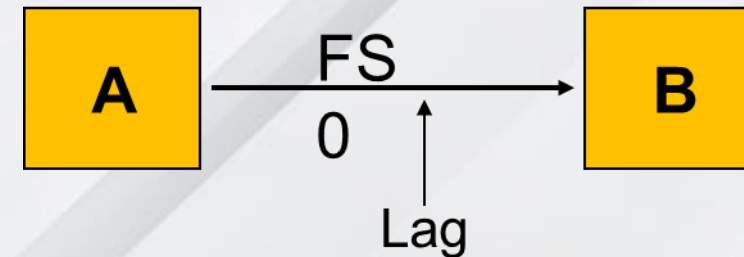
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Relationships (Logic) – 4 Types

Finish to Start - FS - A

relationship in which the predecessor activity must **Finish** before its successor activity can **Start**.



Relationships (Logic) – 4 Types

Finish to Finish - FF - A

relationship in which the **Finish** of a successor activity depends on the **Finish** of its predecessor activity.



Relationships (Logic) – 4 Types

Start to Finish - SF - A

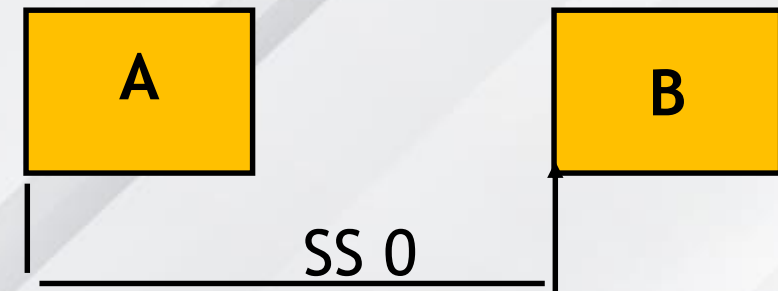
relationship in which the **Start** of the predecessor activity controls the **Finish** of a successor activity. **Not used**



Relationships (Logic) – 4 Types

Start to Start - SS - A

relationship in which the **Start** of the predecessor activity controls the **Start** of a successor activity .







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