

Project Time Management

مقرر: إداره وقت المشروع

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PMG 212

Lecture 9



Agenda

Acceleration and Schedule Compression

- Top Project Management Cases
- Case study
- Case study – Create WBS
- Case study – Create activity
- Case study – Scheduling
- Project duration versus cost
- Acceleration and Schedule Compression

Agenda

Acceleration and Schedule Compression

- **Top Project Management Cases**
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Top Project Management Cases

AstraZeneca During Covid 19

AstraZeneca was under pressure during the pandemic to develop and distribute the COVID-19 vaccine as quickly as possible. The company needed to work in collaboration with Oxford University for the research and the clinical trials. AstraZeneca created an effective project management infrastructure to face challenges like establishing an internal government contracting organization, finding personnel for vaccine development, and amping up the manufacturing facility.



Top Project Management Cases

Vodafone

Vodafone had to replace its current network with a GLAN (Global Local Area Network) in 42 cities. Vodafone used a project management approach that included workshops, the creation of resource and risk management plans, and tailored project documentation for this project. The project was completed by the given deadline.



Top Project Management Cases

British Columbia's Ministry of Transportation and Infrastructure

Massive floods destroyed the roads connecting British Columbia to the rest of Canada. The Ministry of Transportation and Infrastructure used a project management approach based on 'A Guide to the Project Management Body of Knowledge' to repair and reopen the roads quickly. They identified the most crucial paths, assessed risks, and managed several aspects of the project in just 35 days.



Top Project Management Cases

Hospital El Pilar

This hospital in Guatemala was facing challenges within its technology department that worked to develop tech solutions for the hospital. They had trouble prioritizing projects, had a lack of visibility, and had little to no interaction with the technology users. The hospital overcame these challenges by using project management concepts.



Top Project Management Cases

Saudi Aramco

This oil company in Saudi was managing two ambitious oil and gas programs called Marjan and Zuluf. The biggest challenge was to manage multiple contractors working simultaneously on the congested oil fields. Their project team tackled this challenge by simplifying construction, using contracting strategies and marine management techniques.



Top Project Management Cases

Gordie Howe International Bridge

A non-profit-making company was in charge of building a six-lane bridge between the USA and Canada. It was one of the largest projects in North America. The organization took the help of a project management company to complete this project using their knowledge and expertise in the domain.



Top Project Management Cases

Fujitsu

Famous MNC Fujitsu needed excellent project managers within the company. Their 2-year training program did not work due to a lack of the latest project management content and failure to address the concerns of trainees. The company developed an innovative 'Early-Career Development Framework,' using rotational assignments in project management, along with training.



Top Project Management Cases

Panama Canal

The Panama Canal had to be expanded in 2014. This project was worth nearly 7% of the country's GDP. The management had to balance construction, contractors, the site's biological environment, and finances. The team had to use several project management elements to do this.



Top Project Management Cases

London Olympics 2012

The UK government had the challenge of preparing the country for the 2012 Olympic Games within time. They had to prepare world-class sports facilities along with amenities needed for viewers and visitors. It is one of the biggest examples of project management, where over 2,60,000 project managers worked on this project.



Top Project Management Cases

Apple iPhone

The project of developing and launching Apple's iPhone is one of the most important ones in history. The company spent \$150 million on this project, which turned out to be its best investment. The main challenges in managing this project were hiring the best talent, maintaining high quality, and keeping the project a secret despite so many people working on it.



Top Project Management Cases

Healthcare.gov

It is an example of the consequences of poor project management. Due to a lack of proper planning and coordination, the website could only register six users out of 4 million on its launch day.



Top Project Management Cases

Nike Supply Chain Project

I2 Technologies was assigned a project to create supply chain management software for Nike. The project was not properly planned or executed. It took more time than expected, burned Nike's financial resources, and affected Nike's profits and stock.



Top Project Management Cases

Airbus A380

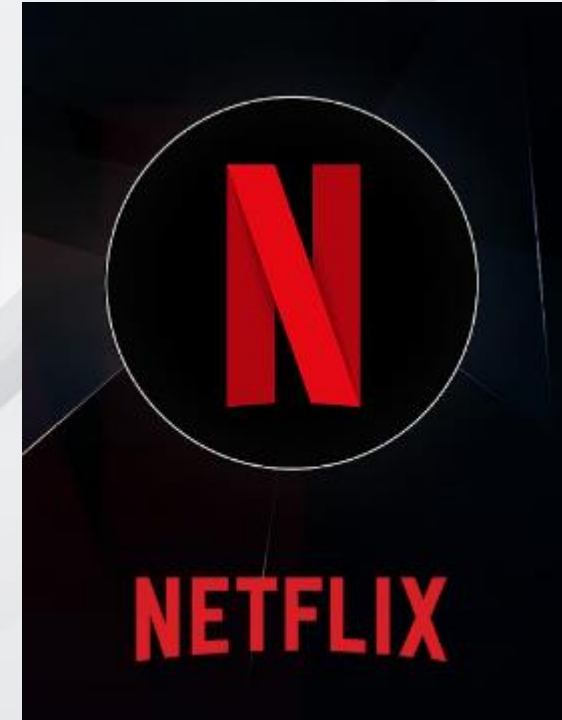
The development of Airbus A380 turned out to be too expensive, and the launch of this aircraft was delayed multiple times, further increasing its costs. After using project management strategies, the project was successfully launched.



Top Project Management Cases

Netflix

Netflix completed its project of developing original streaming content in 2017. Netflix spent its \$10 million budget successfully and developed content that appealed to the tastes and preferences of its viewers through excellent project management. It also used [unique marketing strategies](#) to launch this project successfully.



Top Project Management Cases

Sydney Opera House

Constructing the seemingly unreal Sydney Opera House was a challenge back in the 1950s. This was a 4-year project initially, which got stretched to almost 10 years. However, it was completed despite problems in the design, budget concerns, and leadership changes.

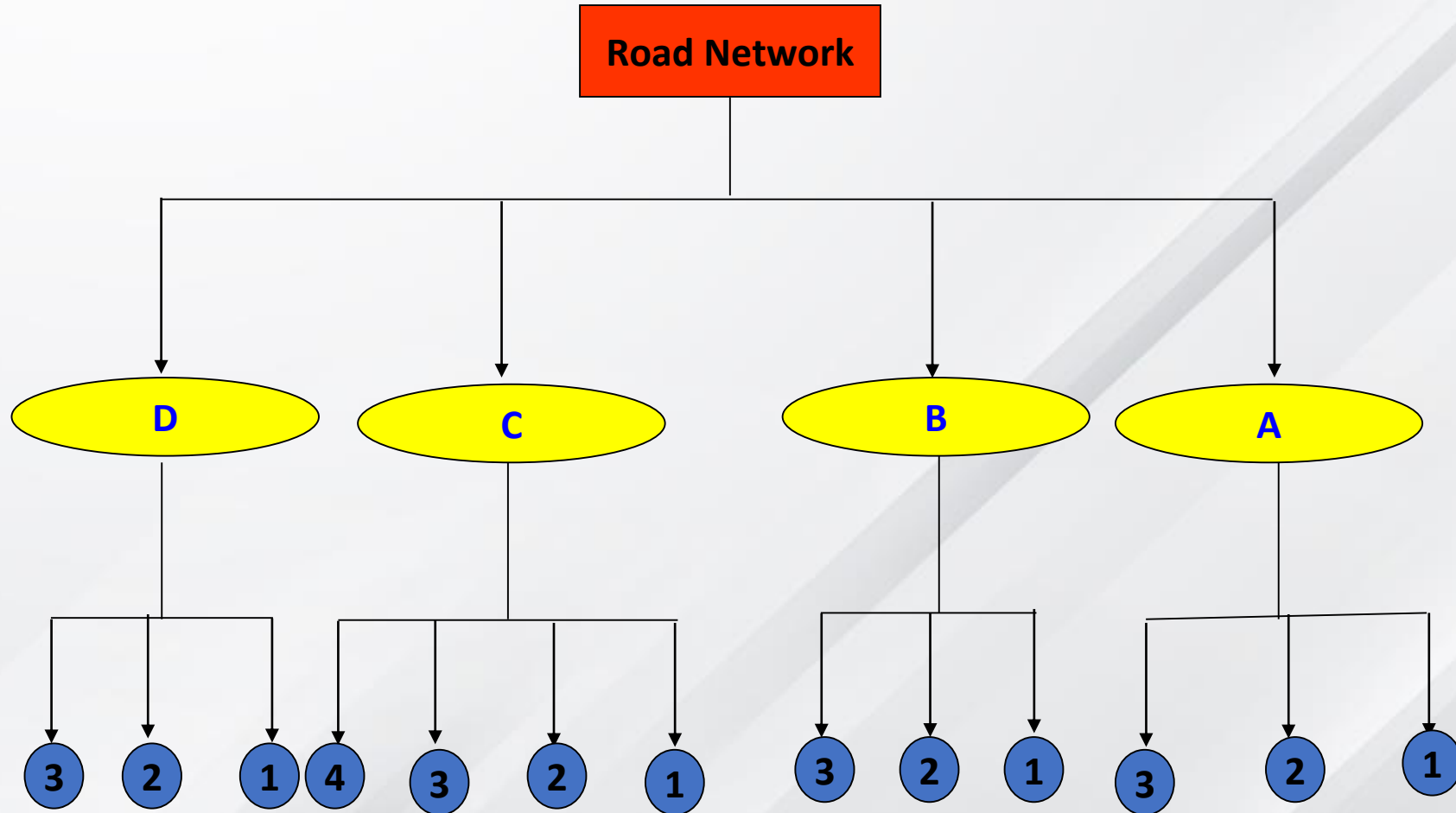


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Case study

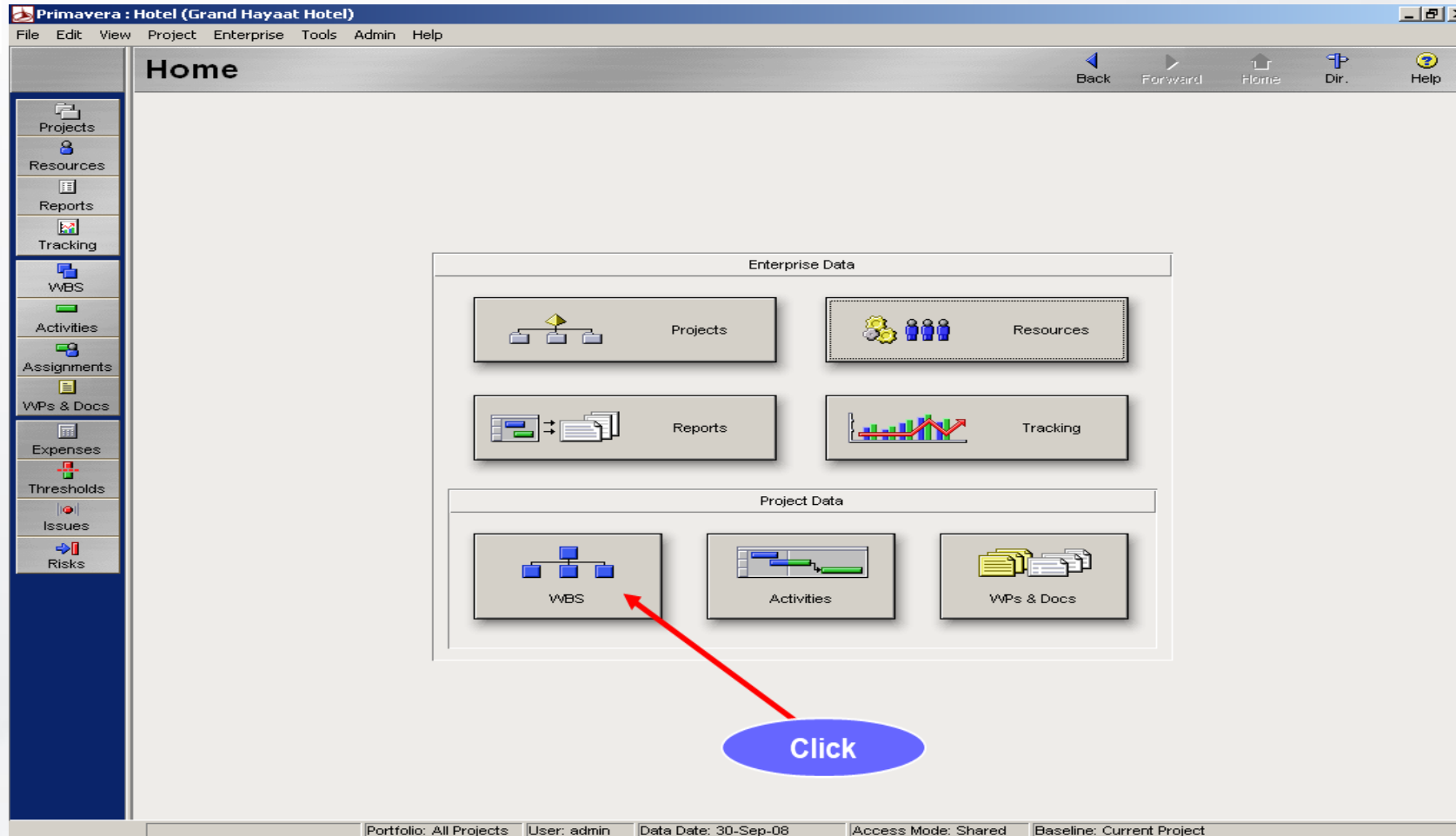


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Case study – Create WBS



Case study – Create WBS

Primavera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

File Edit View Project Enterprise Tools Admin Help

Work Breakdown Structure

Layout: Project Status

WBS Code	WBS Name	Project ID	Project Status
Hotel	Grand Hayaat Hotel	Hotel	Active
Road	Road Network in Badr City	Road	Active

Click

General Notebook Budget Log Spending Plan Budget Summary WBS Milestones WPs & Docs Earned Value

General

WBS Code: Road WBS Name: Road Network in Badr City

Status: Active Responsible Manager: Hosni

Anticipated Dates

Anticipated Start: ...

Anticipated Finish: ...

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project

Case study – Create WBS

navera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

File Edit View Project Enterprise Tools Admin Help

Work Breakdown Structure

Layout: Project Status

WBS Code	WBS Name	Project ID	Project Status
Hotel	Grand Hayaat Hotel	Hotel	Active
Road	Road Network in Badr City	Road	Active
Road.A	Road Type (A)	Road	Active
Road.A.1	Road No. 1	Road	Active
Road.A.2	Road No. 2	Road	Active
Road.A.3	Road No. 3	Road	Active
Road.B	Road Type (B)	Road	Active
Road.B.1	Road No. 1	Road	Active
Road.B.2	Road No. 2	Road	Active
Road.B.3	Road No. 3	Road	Active

General | Notebook | Budget Log | Spending Plan | Budget Summary | WBS Milestones | WPs & Docs | Earned Value

General

WBS Code: B WBS Name: Road Type (B)

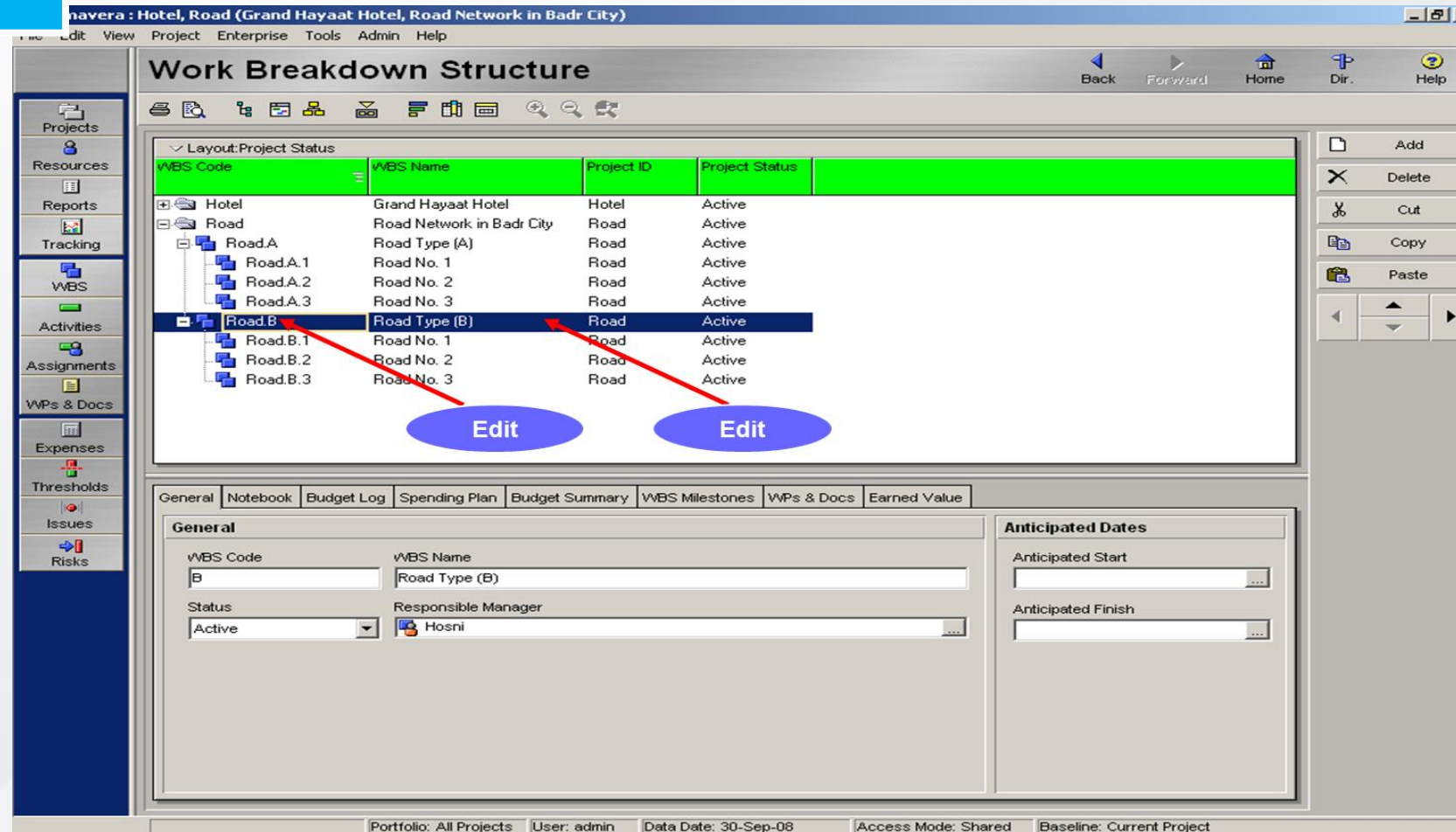
Status: Active Responsible Manager: Hosni

Anticipated Dates

Anticipated Start: ...

Anticipated Finish: ...

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project



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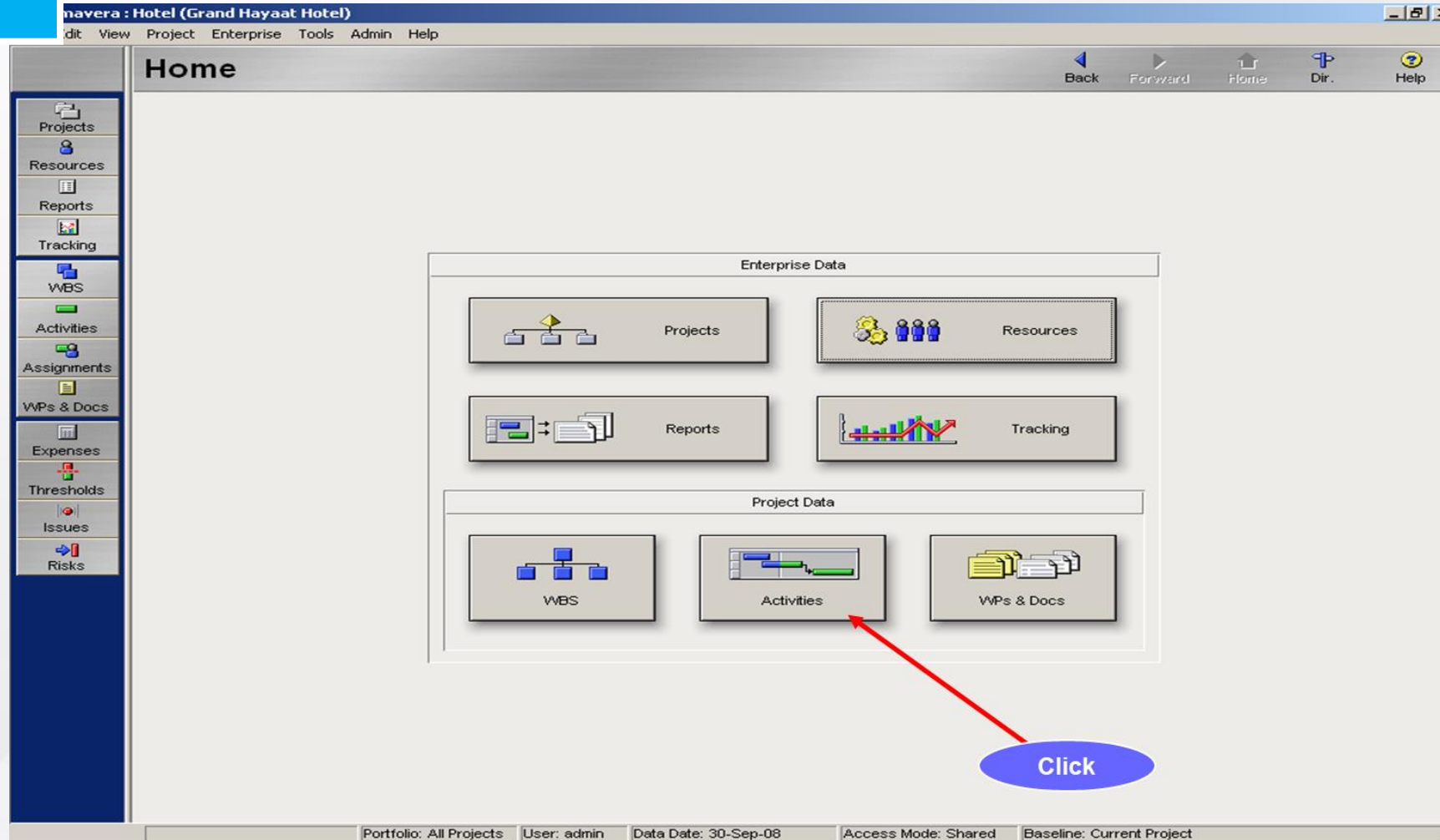
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Case study – Create activity code

Activity	Code
Excavation	EX
Replacement	RE
Ferma Layer	FR
Base Layer	BA
Prime Coat	PR
Layer Bond	LB
Tack Coat	TA
Asphalt Layer	AS
Curbs	CU
Sign Traffic	ST
Draw Axis	DR
Pavement Layer	PV

Case study – Create activity



Case study – Create activity

Primavera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

Edit View Project Enterprise Tools Admin Help

Activities

Layout: Classic WBS Layout Filter: All Activities

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start
Grand Hayaat Hotel		318	318	0%	30-Sep-08
Road Network in Badr City		0	0	0%	
Road Type (A)		0	0	0%	
Road No. 1		0	0	0%	
Road No. 2		0	0	0%	
Road No. 3		0	0	0%	
Road Type (B)		0	0	0%	
Road No. 1		0	0	0%	
Road No. 2		0	0	0%	
Road No. 3		0	0	0%	
Road Type (C)		0	0	0%	
Road No. 1		0	0	0%	
Road No. 2		0	0	0%	
Road No. 3		0	0	0%	
Road Type (D)		0	0	0%	

2009 April 2009 May 2009 J

15 22 29 05 12 19 26 03 10 17 24 31 01

Click

Click

Add

Delete

Cut

Copy

Paste

Resources

Rsrc by Role

Roles

Activity Codes

Predecessors

Successors

Steps

General Status Resources Relationships Codes Notebook Steps Feedback WPs & Docs Expenses Summary

Activity

Project

Duration

Original

Actual

Remaining

At Complete

Status

☒ Started

☒ Finished

Exp Finish

Duration %

Suspend

Resume

Constraints

Primary

Secondary

Labor Units

Budgeted

Actual

Remaining

At Complete

Total Float

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project

Case study – Create activity

vera : Hotel, Road (Grand Hayaat Hotel, Road Network in Badr City)

View Project Enterprise Tools Admin Help

Activities

Layout: Classic WBS Layout Filter: All Activities

Activity ID	Activity Name	Original Duration	Remaining Duration	Schedule % Complete	Start
Grand Hayaat Hotel		318	318	0%	30-9
Road Network in Badr City		1	1	0%	02-0
Road Type (A)					
Road No. 1					
Road No. 2					
Road No. 3					
Road Type (B)					
Road No. 1					
Road No. 2					
Road No. 3					
Road Type (C)					
Road No. 1					
Road No. 2					
Road No. 3					
Road No. 4					

New Activity

Activity Name
Enter an Activity ID and Activity Name. The Activity ID uniquely identifies the activity.

Activity ID
A1000

Activity Name
Excavation Road (A1)

☐ Do not show this wizard again.

General Status Resources R

Activity A1000

Duration

	Original	Actual	Remaining	At Complete
Duration	1	0	1	1

☐ Started 02-Oct-08 Duration % 0%

☐ Finished 02-Oct-08

Exp Finish

Constraints

Primary < None > Secondary < None >

Budgeted 0

Actual 0

Remaining 0

At Complete 0

Portfolio: All Projects User: admin Data Date: 30-Sep-08 Access Mode: Shared Baseline: Current Project

Edit

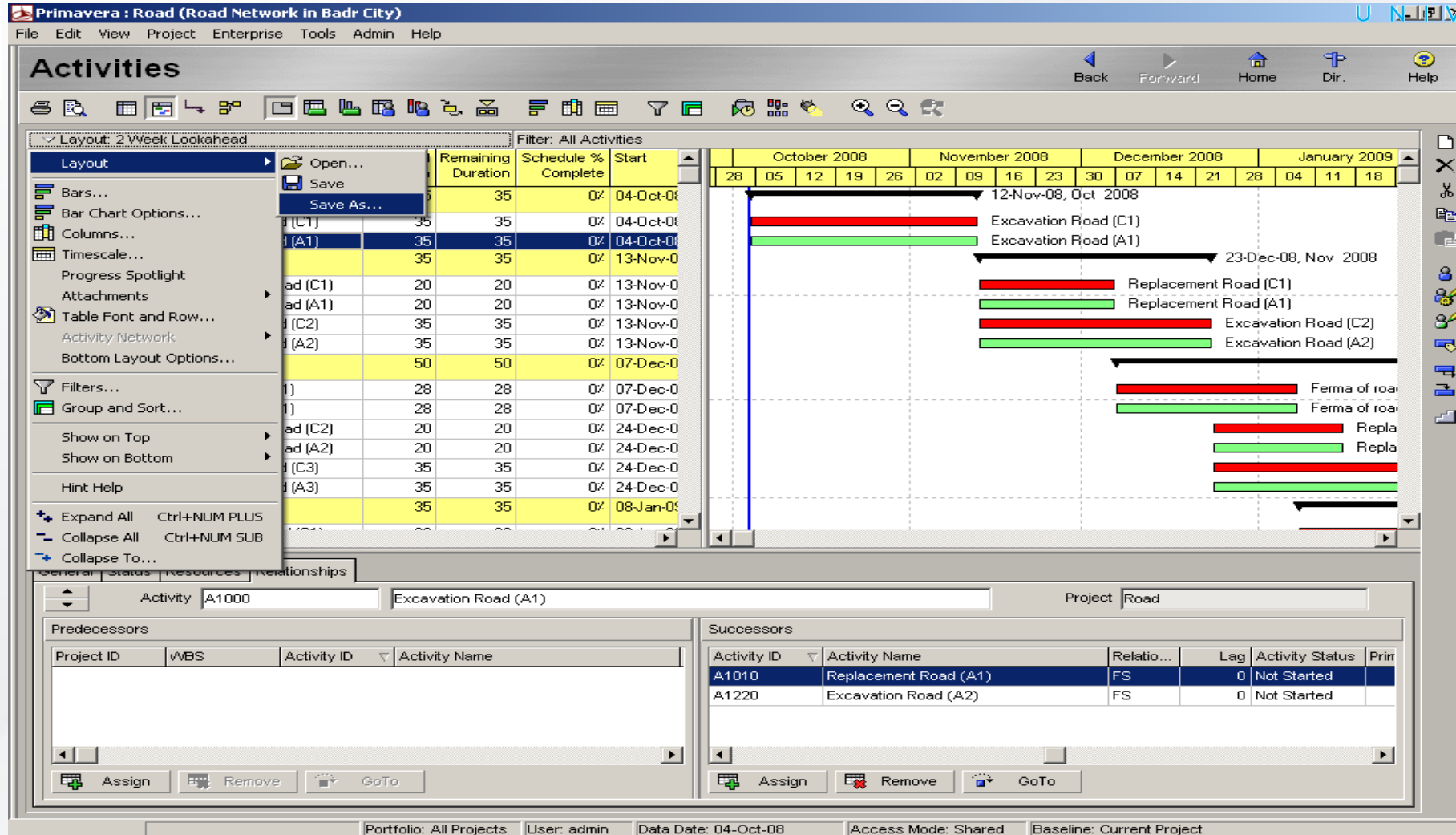
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Case study – Scheduling



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Project duration versus cost

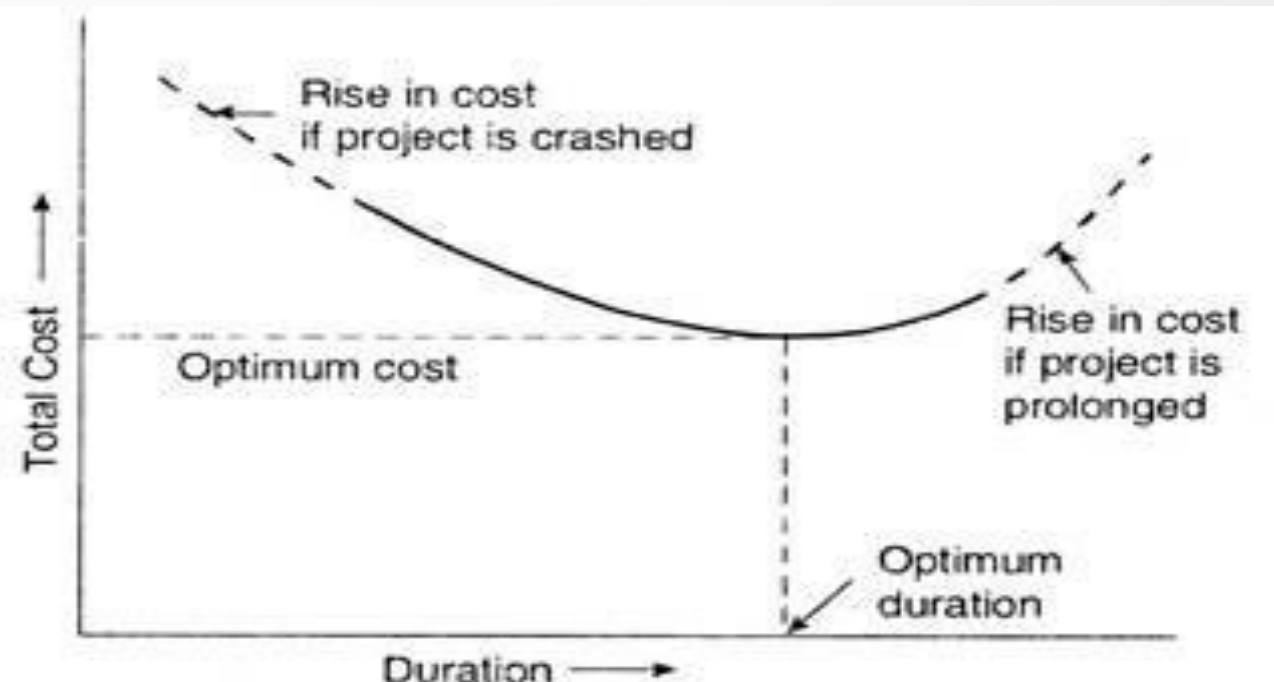


Fig. 29.4. Variation in total project cost due to change in duration.

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Acceleration and Schedule Compression

- Construction projects always have delivery dates. Some are dictated by the owner, and some are dictated by the contractor.
- Most delivery dates are contractual.
- There are a multitude of reasons, but the most prominent one is that a project needs a delivery date for control.
- Without a delivery date, there is no goal and human nature's proclivity toward procrastination takes over.

Acceleration

Delivering on time or ahead of schedule is important for all parties, from subcontractors all the way up to the owner.

Finishing within or under budget is another important goal.

The real achievement, however, is doing both simultaneously. Unfortunately, this may not always be possible.

Acceleration

At the point where an accelerated pace of the work is diagnosed as the cure for delay, the project manager may have to make the decision to spend money.

Acceleration is defined as the addition of resources or work hours to a task or project.

Acceleration results in schedule compression or reducing the duration of the task or shortening the entire project without diminishing the scope of the project.

Acceleration

The acceleration must be applied to the critical path or a critical task. To accelerate a noncritical task rarely benefits the schedule.

There are three different types of acceleration that the average project may potentially encounter.

Acceleration is issued in the form of written direction from the owner to the contractor and can be classified in three categories: actual, constructive, and forced.

Actual Acceleration

Actual acceleration is the directive to complete the project ahead of the accepted or contractual schedule.

This directive comes from the owner to the contractor through the architect, and is then passed on to the subcontractors.

Constructive Acceleration

Constructive acceleration occurs when the contractor requests an extension of time and is denied.

If the delay that resulted in the request for an extension of time is an excusable delay, the extension should be granted.

Constructive Acceleration

Constructive acceleration exists when the following conditions occur:

- There is an excusable delay to the project.
- The contractor requests a justifiable extension of time for the excusable delay.
- The request for an extension is denied.

Constructive Acceleration

Constructive acceleration exists when the following conditions occur:

- The contractor is directed to achieve the original completion date.
- The contractor actually accelerates the work to meet the original date.
- The contractor incurs additional costs for acceleration.

Forced Acceleration

There is also a need for acceleration when delay occurs as a result of nonperformance.

This type of acceleration is sometimes referred to as forced acceleration. This occurs frequently when a subcontractor on the critical path is falling behind.

While this is not acceleration in the truest sense of the definition, it does require an increase in production.

Schedule Compression

The decision to accelerate work and incur costs must have a tangible benefit to the project.

Schedule compression is not always about the shortest duration of the task. It is more about the balance of getting the shortest duration for the least cost.

Schedule Compression

Schedule compression is generally defined as modifying the plan and/or schedule to complete critical tasks or the project early.

Schedule compression is the resequencing or rescheduling of tasks with minimal or no cost impact.





Thank You

