

Gestion de Project

- Documents sent through Slack (based on 25SEPT20 course) :
 - Chapter 3
 - Summary 18SEPT20
 - Exercice 2 Critical path with correction
- **Next courses : 8 hours done (including today) / 8h to be done as :**
 - W2043 – 23OCT
 - W2045 – 06 NOV with 1 hour for EXAM1 (Critical path / Costs & EVM)
 - W2046 – 13 NOV with 1 hour for EXAM2 (QCM on all chapters starting Chapter2)
 - W2067 – 20 NOV MS Project

Summary of 25SEPT20

Chapter 3 : Time

- **Planning Building : Other Methods**

- **Critical Chain Method :**

Critical Chain Method, developed by Dr. Eliyahu M. Goldratt (1997), is a **schedule network analysis technique that takes account of task dependencies, limited resource availability & buffers.**

This method is based on the **Theory of Constraints (TOC)**

This method allows the project team **to place buffers :**

- ⇒ To account for limited resources
- ⇒ To manage uncertainty

- **Schedule Compression :**

To reduce the duration of a project, you have to reduce the duration of activities on the Critical path.

Two ways of Schedule compression :

- **Fast Tracking** : Doing activities in parallel
- **Crashing Technique** : costs and schedules trade-offs are analysed to add more resources by increasing Project cost.

Chapter 3 : Time : Planning Monitoring and Control

- **How to control schedule : Techniques and Tools**

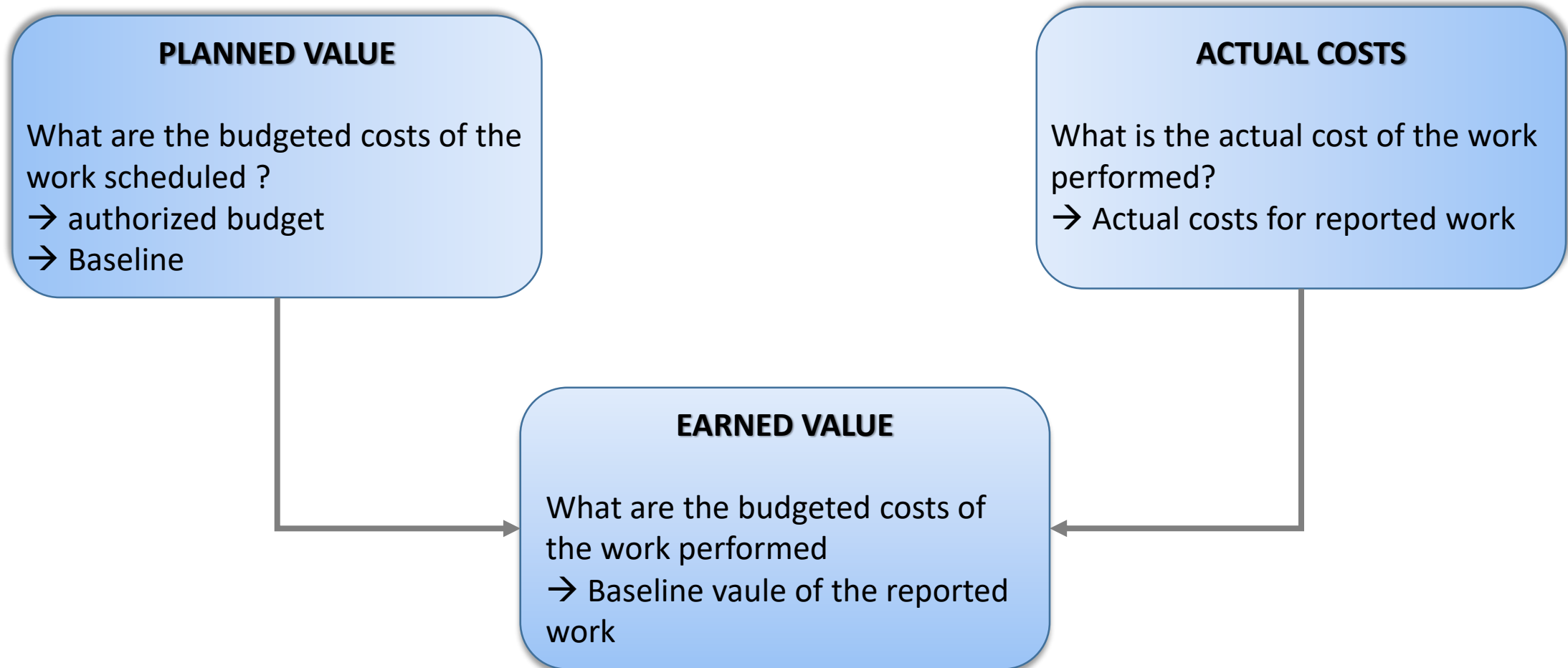
- **Performance reviews** : They measure, compare and analyze schedule performance → Project Metrics can be developed to compare the plan versus the actual.

Using the planned versus actual information and analyzing the critical path provides a good way to track the performances.

- **Trend Analysis** : Project performance over time is examined to determine if performance is improving or deteriorating. Graphical Analysis techniques are used.
 - **Critical Path Method** : Comparing the progress along the critical path can help to understand schedule status
 - **Critical Chain Method** : Comparing the amount of buffers remaining versus the amount of buffers needed to reach the end date.
 - **Control of schedule by Earn Value Analysis (PMBOK Guide)**

Chapter 3 : Time : Planning Monitoring and Control

- Earned Value Management



Chapter 3 : Time : Planning Monitoring and Control

- **Earned Value Management :**

With the help of these three elements, you can calculate the following variances and performance index:

- **Schedule Variance (SV)**= Earned Value – Planned Value

$$SV = EV - PV$$

- **Cost Variance (CV)** = Earned Value – Actual Cost

$$CV = EV - AC$$

- **Schedule Performance Index (SPI)** = (Earned Value) / (Planned Value)

$$SPI = EV/PV$$

- **Cost Performance Index (CPI)** = (Earned Value) / (Actual Cost)

$$CPI = EV/AC$$

Chapter 3 : Time : Planning Monitoring and Control

- During the project the schedule can start to be on the critical path as :

- Slippage of activities
- Changes to activities (new activities / new dependencies ...)
- Reduction of time allocated
- Problems of resources availability :
 - Issue to find some special competencies
 - Inexperienced personnel ...

- To allow to respect initial commitment, the PM can control :
 - the resource allocation
 - The duration
 - Control the end date

If any change of the initial commitment :
→ **new BASELINE is defined**
→ **New BASELINE has to be approved by Customer (internal or external)**

Chapter 4 : Resources Management

- **Organizational Structures :**
 - **Functional** → Project managers authority is low / role as part time
 - **Projectized** → Project managers authority is high to almost total / role as full time
 - **Matrix – Strong Matrix structure** → Project managers authority is moderate to high / role as full time

Chapter 4 : Resources Management

- **Resources Planning :**
 - Resource planning determines who does what when → Roles, Responsibilities, Reporting and Relationships
 - One of the most useful formats is the **RAM - Responsibility Assignment Matrix**
 - **RACI** format :
 - R** = Responsible for accomplishing the work
 - A** = Accountable for the work being accomplished correctly
 - C** = Consulted about the work
 - I** = Inform about the work
 - **ARCI** : Accountable, responsible, Consulted and Informed
 - **LRC** : Linear Responsibility Chart
 -

EXAM PREPARATION

1. A **SMART objective** is :

A – Open-ended (ouvert, sans spécification de date d'achèvement)

B – Intelligent

C – Measurable (mesurable)

D – Flexible

2. All the following are characteristics of a project **except** :

A – Unique

B – No Time limitation (pas limité dans le temps)

C – Clear objective with Specific Delivery

D – Temporary

3. To create the **WBS** for the project, you can use as technique :

A – Top-Down

B – Bottum Up

C – Mind-mapping Technique

D – All of the above (Tout ce qui précède)

4. **Critical path** is:

A – The time it takes to finish the project completing only the critical activities

B – Difference between end time and start time of project

C – The sequence of activities that represents the longest path through a project, which determines the shortest possible project duration

D – The sequence of activities that represents the shortest path through a project, which determines the longest possible project duration

5. When there are **multiple critical paths** in a project:

A – The risk is less as it is divided between the paths

B – The risk is more as the risk of delay is more

C – Risk depends on how the critical path is calculated

D – There is no risk as the paths cancel it out

6. Software Project A took 5 months to complete. Project B, very similar to Project A will probably take about 5 months to complete. This technique to estimate duration is:

A – Analogous estimating

B – Critical path method

C – Parametric estimation

D – “What if “ Scenario

7. **Crashing Technique** :

A – Is a schedule compression technique

B – Increases cost

C – Is achieved by adding resources

D – All of the above (Tout ce qui précède)

8. **Lag** results in _____ of successor activity:

A – Acceleration

B – Delay (by adding waiting time)

C – Tracking

D – Regression

9 - **Fast tracking** means to :

- a – Speed up a project through parallel tasks
- b – Swap one task for another
- c – Reduces the number of tasks if possible
- d- Accelerate resources allocation

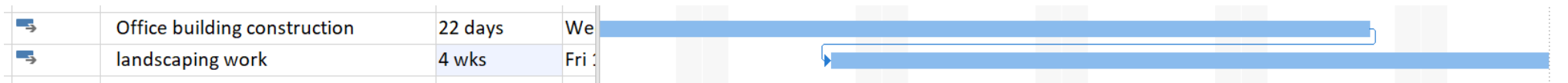
10 - **While developing the project schedule, you find that the completion of a successor activity depends on the completion of its predecessor activity. What is this dependency called?**

- a – Start-to-Finish
- b – Start-to-start
- c – Finish-to-Start
- d- Finish-to-Finish

11. After one year of construction, an office building is scheduled for completion on 30 January. The landscaping work needs to start 15 days prior to the building's completion. Which of the following relationships most likely represents the relationship of the completion of the office building and the start of landscaping work ?

Après un an de construction, un immeuble de bureaux devrait être achevé le 30 janvier. Les travaux d'aménagement paysager doivent débuter 15 jours avant l'achèvement du bâtiment. Laquelle des relations suivantes représente le plus probablement la relation entre l'achèvement de l'immeuble de bureaux et le début des travaux d'aménagement paysager ?

- a. Finish-to-start with a 15-day lead
- b. Start-to-finish with a 15-day lead
- c. Finish-to-start with a 15-day lag
- d. Start-to-finish with a 15-day lag



12. In a **functional organization** structure, the PM's authority is:

- A – Little or None
- B – Low to moderate
- C – Moderate to High
- D – High to almost total

13 - What does the acronym **RACI** commonly stand for in project management?

- A – Risk Analysis and Caution Initiative
- B – Remote, Attached, Connected, Integrated
- C - Responsible, Accountable, to be Consulted, to be Informed
- D – Randomly Accessible Cashflow Information

14 - Which of the following is true?

- a - RACI (Responsible-Accountable-Consult-Inform) is a type of RAM (Responsibility Assignment matrix)
- b- ARCI (Accountable, responsible, Consulted and Informed) is a type of RAM (Responsibility Assignment matrix)
- c- RAM shows the resources' responsibilities on the project
- d- All of the above (Tout ce qui précède)