EPITA
ÉCOLE D'INGÉNIEURS EN INFORMATIQUE

Février 2019

Module 6 : Resources, Costs, Note de cadrage

Cours Pilotage Projet ING1 2019

Course Agenda & Organization

- Module 1: Introduction, Definitions, Concepts
- Module 2: Product Scope: Concepts
- Module 3: Project Scope: Deliverables & WBS
- Module 4: Schedule Management
- Module 5: Risk Management
- Module 6: Resources, Costs, Note de cadrage
- Module 7: Communication, Organization, Program and Portfolio management.
- Module 8: AGILE methodology introduction
- Module X : Feedback on YAKA* PROPAL

- **Fil Rouge**: Tender Yakasserole (YAKA*)
  - Requirements Table
  - Scope Baseline : WBS – Deliverables Matrix
  - Time line
  - Risk Matrix

- Evaluations:
  - QCM: Vocabulary – semaine des partiels
  - YAKA*: Phase de PROPAL
  - Retour sur PROPAL

Knowledge area : Project Resource Management

Conception & Initiation	Definition & Planning	Execution	Performance & Control	Project Close
	– Plan Resource Management – Estimate Activity resources	– Acquire resources – Develop team – Manage team	– Control resources	

Resource Management: Key points of attention

- Build a Project Team with all the skills required to deliver the activities
  - Availability: local, remote ?
  - Technical ability
  - Resource proximity is important (AGILE)
  - Resource may come from different organization/countries
  - Resource cost
- If needed, some resources must be trained on a specific technical skill
  - Formal training
  - Self-training
  - Peer or Teacher communications
  - Develop a POC to facilitate onboard of new technologies
- Project Manager takes control of the project team
  - Management by influence
  - Not legal or direct management
  - Must comunicate to share project objectives
  - Important to assign clear responsabilities to Resources (RACI Matrix)

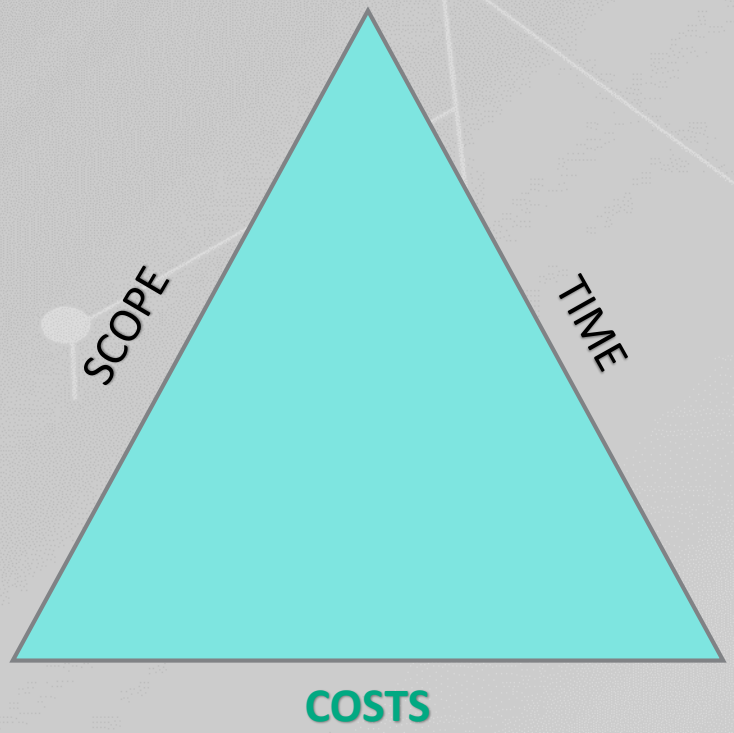
Resource Management: Tools
Example of a RACI Matrix

		Project Team							Stakeholders				
Activity \ Role		Program/Project Manager	Applications, Enterprise, Technology and Data Architects	Application Developer	Business Analyst	Resource Manager	Design Review Board (DRB)	Technology Support	Executive Committee (Class 4/5 Project)	Executive/Program/Project Sponsor	Account Manager/Service Manager	Key User	Steering Committee
2.4. Understand Customer Need													
2.4.1 Evaluate Initial Customer Request					R						AR	C	
2.4.2 Select and Mobilize ITS Consulting Team					C						AR	I	
2.4.3 Consult with Customer					R						A	C	
2.4.4 Develop Problem/Opportunity Statement					R						AR	C	
2.5. Define High-Level Requirements													
2.5.1 Confirm Purpose, Goals and Benefits					R						A	R	
2.5.2 Define Development Objectives and Deliverables					R						A	R	
2.5.3 Define Development Approach and Methodology					R						A	C	
2.5.4 Prepare High Level Requirements Document		C			R						A	C	
2.6. Develop Candidate Solution Options													
2.6.1. Evaluate Existing IT Inventory			C		C						A	C	
2.6.2. Scan for External Solution Options			C		C						A	C	
2.6.3. Document Candidate Solution Options			C		C						A	C	
2.6.4. Review Solution Options with Sponsors										C	A	C	
2.7. Conduct Preliminary Solution Scope													
2.7.1. Estimate Development Resources Required		R	C		R	C					A		
2.7.2. Develop Rough Order of Magnitude (ROM) Development Budget		R			R						A		
2.7.3. Develop Cost/Benefit Analysis		R			R						A	C	
2.7.4. Create Preliminary Solution Scope Document		R			R						A		
2.7.5. Confirm Preliminary Solution Scope with Sponsors										C	A		

Code	RACI	Summary	Details
R	Responsible	"The doer"	The individual who actually completed the task. This person is responsible for action / implementation of the deliverable.
A	Accountable	"The buck stops here"	The individual who is ultimately accountable for the correct and thorough completion of the deliverable. Includes "yes" or "no" authority and veto power. Only one "A" can be assigned for a deliverable, often the Project Manager / Approver Authority
C	Consult	"In the loop"	The individual to be consulted prior to a final decision or action – this incorporates two-way communication. Often the end user or client.
I	Inform	"Keep in the picture"	The individual who needs to be informed after a decision or action is taken. This incorporates one-way communication. Could be wider project team.

Project Management Concepts

– IRON TRIANGLE



– SCOPE : defines WHAT? = the Product that has to be performed, what are the deliverables expected, And also HOW ? it will be performed. !! Defines what is excluded from the delivery.

– TIME : WHEN? = the time you have to execute your project, and when you must deliver what is expected (SCOPE)

– COSTS : HOW MUCH? = The budget that can be spent to achieve the work defined in the SCOPE

– Quality is often defined as the 4th constraint driving to an « Iron Square » model.

COST Management

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Knowledge area : Cost Management Processes

Conception & Initiation	Definition & Planning	Execution	Performance & Control	Project Close
	– **Estimate Costs** – **Determine Budget**		– **Control Costs**	

Cost Management: Planning

Costs Planning takes as input:

1. WBS and Project Schedule – Scope & Schedule BASELINES
2. Risk Management Plan
3. Organizationnal constraints: Outsourcing, Offshoring etc…
4. Resource availability

Costs Management depends on environment:

Size of Organization,

Knowledge management in place ?

Estimating and budgeting tools ? (ERP)

AGILE approach ?

Governance : formal audit policy (Delivery Assurance)

Legal & Finance: Revenue Recognition

For A Service provider Costs means Margin and Profit. As a consequence, Cost management is the domain where the PM will interact with the business.

Estimate Costs

Tools:

Expert judgement: Expertise from individual or groups with specialized knowledge and experience of past similar project.

Bottom-up Estimating: estimate value of each activity, WP and roll-up. Usually produces high estimation.

Most of time LABOUR costs are based on a

- daily rate (depend on resource value)
- load estimated for each activity is easily mapped to a cost
- Some extra costs may be considered (travel , logistics , cost of the structure)

Three-point estimating:

- Most likely (cM)/Optimistic(cO)/Pessimistic(cP)
- cE=(c0+cM+cP)/3 (Triangular)
- cE=(cO+4cM+cP)/6 (Beta)

DATA Analysis & Various estimation techniques….

Always provide BASIS for estimates:

- How it was developed
- Assumptions made
- Constraints known
- Risks taken into account

BUDGET = Cost Baseline

Similar to Scope Baseline (chapter 3) and Schedule Baseline (chapter 4), the project budget is a COST BASELINE

Agregates of all the cost estimations of individual activities and work package into an AUTHORIZED COST BASELINE.

Closely associated to Project Timeline, it provides information on Costs utilization OVER TIME.

This Budget will be used to monitor Project PERFORMANCE.

Reserves: Additional budget that we be used in specific conditions

- Contingency Reserve
- Risk reserve: See Risk Management
- Management Reserve

BAC : Budget at completion

What is EARNED VALUE ? (EVA) : (Valeur Acquise)

EVM integrates the scope baseline with the cost baseline and the schedule baseline to measure Project Performance

At a specific TIME in the project, We measure:

1) Actual Costs vs Planned Costs: How much has been actualy spent ?

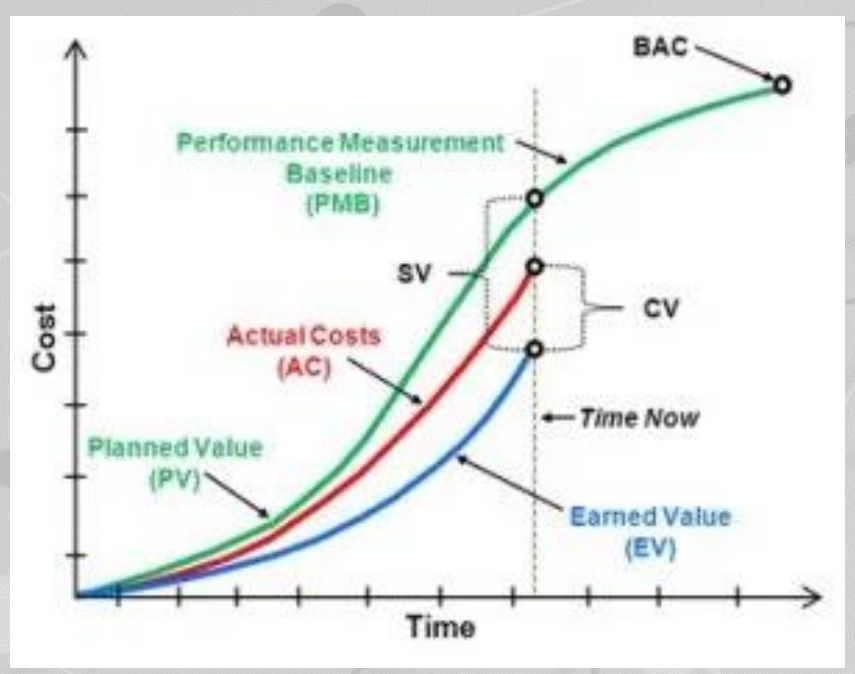
2) Scope Execution vs Scope Baseline : What has actualy been executed ?

Earned Value: It is the budget associated with the work that has actualy been completed.

Control Costs & Project performance

Used Values & Abbreviations:

- BAC: Budget at Completion
- EAC: Estimated Costs at Completion
- PV: Planned Value
- EV: Planned Value = Sum(Planned Value of completed Work)
- SPI: Schedule Performance Index = EV/PV
- CV: Cost variance
- SV: Schedule Variance



Control Costs : Importance of Change Requests

At the crossroads of Scope/Schedule/Cost management, we find the CR (Change Request):

The PM monitors SCOPE through the Requirements Table.

At some stage of the project The Customer will ask for something different adding more work:

Example: He wants an app working on Android & IOS although it was Android only in the RT.

The PM will perform an Impact analysis:

1. Scope Baseline : All activities to add of modify
2. Schedule Baseline : Impact on schedule – delays…
3. Cost Baseline : How much it wil cost to customer.

The PM will issue a proposal for a change request. Usually it is an opportunity as more costs means more Margin…

When the proposal gets accepted/ordered, it is included in the new Revised Baseline.

Note de cadrage

Recap of our Project Analysis

Product Scope Definition

(Requirement Matrix +Discussion with Customer)

Project Scope Definition

(Project Deliverables matrix , WBS)

Technical Solution Outline

(Produced by the Solution architect)

Planning Baseline and Resources

Cost Baseline and Initial Risk response Plan

(Risk Matrix)

Communication Plan

READY TO BUILD AN ANSWER TO THE CUSTOMER

Typical Proposal to a Customer

Scope of Work

Technical Solution

Product requirement accepted

Technical solution outline

Project Proposition

Deliverables

Planning

Risk responses

Commercial part

Sales proposition

Prices

Reference

Legal

Terms and Conditions

Framing Agreement = Note de cadrage

- Note de cadrage is simplier than a Formal Commercial Proposal and well adapated to Student Project (YAKA * or PFEE)
- This note aims at
  - Define a common agreed frame document with Customer for project realization
  - GET a GO from Customer: it commits both parties on WHAT will be performed by the project.
- This note must show that we understand the Project Objectives and the product we commit to realize.
- This note must provide a clear view on Deliverables, Schedule, Organization, Communication, as well as anticipated risks.
- This note must be synthetic: approx. 10 Pages

Exemple de contenu de la note de cadrage (1)

- **This document** : dire qu'il s'agit d'une note de cadrage et que l'on attend une validation du client sur son contenu
- **Les objectifs du projet/mission** :
  - business case: Probleme à résoudr , changement amelioration attendue
  - Attentes: but final de la mission , les attentes d'échéances …
  - Objectif: relater quelques objectifs principaux qui résument ces attentes
- **Périmètre:**
  - **Périmètre technique et fonctionnel:** reprendre les éléments essentiels et marquants des fonctions attendues , des contraintes techniques: renvoyer sinon au tableau d'exigences qui sera établi pour recueillir le besoin détaillé . Préciser les exclusions explicitement.
  - **Démarche Projet employée:** Expliquer le principe de déroulement de la mission (E.g. Découpage en lots, Méthode AGILE fréquence des sprints …)
  - **Périmètre de la mission:** Livrables 6 identifier les livrables que l'on propose de fournir, leur contenu , le phasage … Se référer au tableau de suivi des livrables

Exemple de contenu de la note de cadrage (2)

- **Macro planning** :
  - Identifier les milestones principaux de la mission
  - Les échéance de vos livrables
  - Les actions clients attendues (validations, fournitures essentielles …) .
- **Ressources:** si pertinent?quels sont vos besoins pour mener à bien la mission ? (matériel par exemple)
- **Organisation projet :**
  - Chez le client: les interlocuteurs
  - Chez vous: quels sont les contacts/ rôles …
- **Pilotage et communication :**
  - Règles de suivi de la mission (coproj , copil..?) / fréquence
  - Méthode de com . (skype, slack …)
- **Difficulté et risques :** si pertinent les points à suivre avec le client , notamment s'il y a des fournitures critiques du client, les mettre en lumière comme un risque si décalage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