Module 1

Introduction: Project Management Definitions & Concepts

Contexte

Etudiant EPITA – ING01 ?

- Codeur, concepteur d'applications,

…vous serez confrontés à la Gestion de Projets:

- Projets au cours du cycle d'études (Exemple: YAKA*)
- PFEE: projets de fin d'études en entreprise
- Engagé dans des rôles différents au sein d'un projet:
  - Codeur, architecte, concepteur,…
  - Répondre a des appels d'offres de projets
  - Jouer le rôle de chef de projet
  - Construire un appel d'offres
  - …..

Course Objectives

- Understand what is a **Project**
- Understand Project Management **Fundamentals**
- Understand Basic **Business interactions** : Customer, Service Provider, Budget, Cost, Price, Contract
- Acquire Project management **vocabulary**…in English.
- Practice Project Management **Processes & Techniques** on a simple project (YAKA*).
- Acquire a **basic toolkit** to use along your study cycle @EPITA, and more.
- Understand **AGILE concepts** and how they fit within Project Management

Course Agenda & Organization

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

- **Fil Rouge**: Tender Yakasserole (YAKA*)

- Evaluations:
  - QCM: Vocabulary – après le module 5
  - YAKA*: Phase de PROPAL
  - Retour sur PROPAL

What is a Project ?

Definition:

« A project is a temporary endeavor (effort) undertaken to create a unique product, service or result »

Temporary: has a beginning and a end !

A project is undertaken to fulfill **objectives** by producing **deliverables**

– Projects drive change: state A → state B

– Projects enable business value creation

Examples :

– Developing a new App, or Internet site,

– Developing a new pharmaceutical compound to market

– Building a building, a road, a bridge

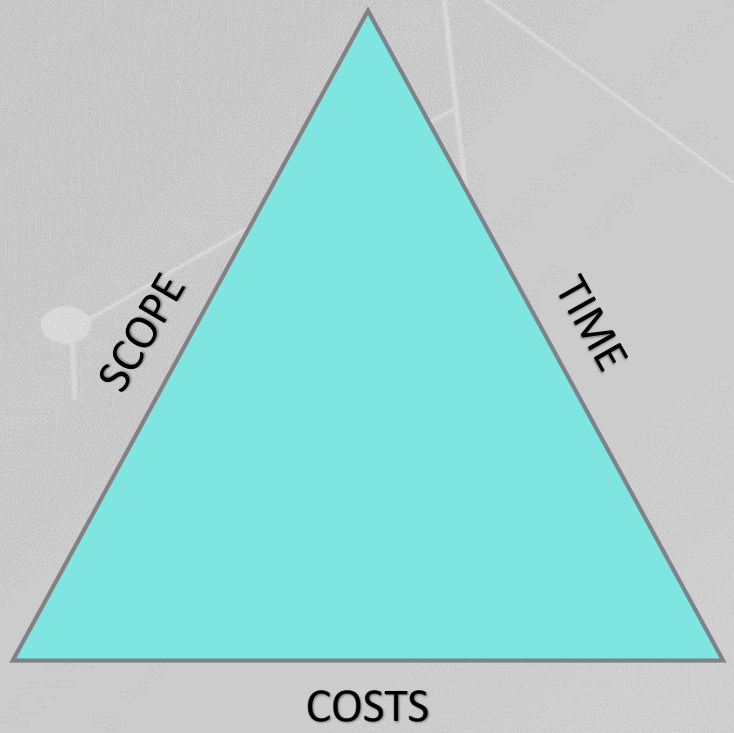
– Modifying a computer software

– Improving a business process in an organization

– NOT a project:
  – Support Operations
  – Sales Operations
  – HW Maintenance

Project Management Concepts

– IRON TRIANGLE



– SCOPE : defines WHAT? = the work 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

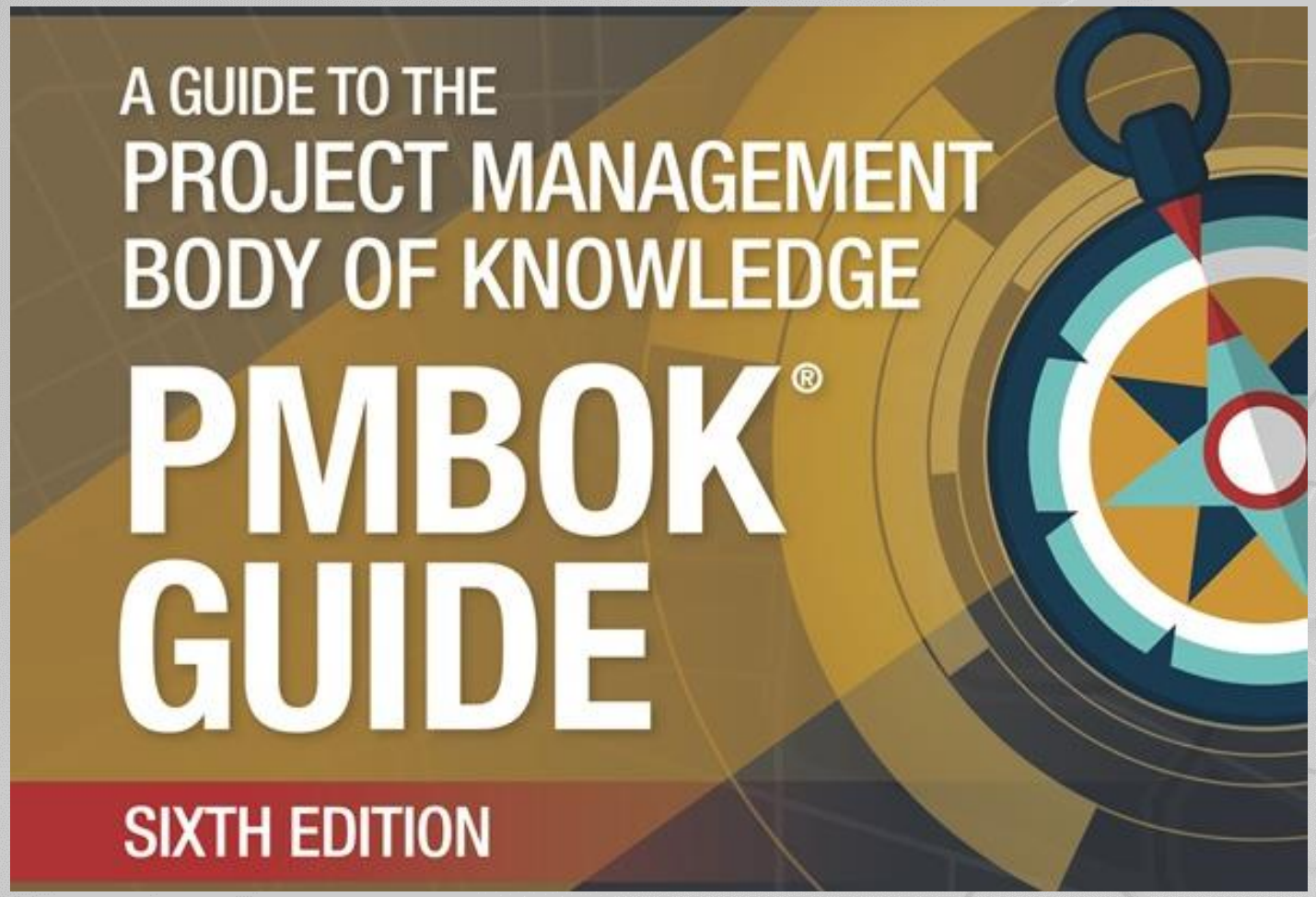
– Quality is often defined as the 4th constraint driving to an « Iron Square » model.

Project management **Processes and Tools** have all the same goal: help the project manager to Balance within these 3 constraints.

The Importance of Project management

– Meet Business Objectives
– Satisfy stakeholder expectations,
– Be more predictable,
– Increase chances of success
– Deliver the right product in the right time
– Resolve Problems,
– Respond to risks
– Manage and optimize resources
– Manage Changes
– Balance the influence of constraints : scope, time, costs, quality

PMI - PMBOK



- Structured Approach
- **Set of Practices and Processes generally recognized.**
- Common vocabulary for all PMs
- Fundationnal elements
- Support for PMP certification
- Not a standard
- Not a methodology

Project Management: Project and Development LIFE CYCLE

A series of phases that the project passes through from its start to its completion

- Project phase: a collection of logically related project activities that culminates in the completion of one or more deliverables
  - Attributes : Name, duration, Entrance & Exit criteria
  - Example : Design, Prototype, Build, Test
- Phases can be: sequential, iterative, overlapping
- Project Life cycle can be predictive or adaptive
  - **PREDICTIVE**: scope, time, cost are defined in the early stages. All changes are carefully managed. This the classic approach also called waterfall life cycle.
  - **ADAPTIVE**: Agile, iterative, or incremental. The detailed scope is defined before the start of an iteration.
- Project management will determine what is the best approach for the project life cycle

Life Cycle/Process Groups/ Knowledge Areas

– The PMP Model :

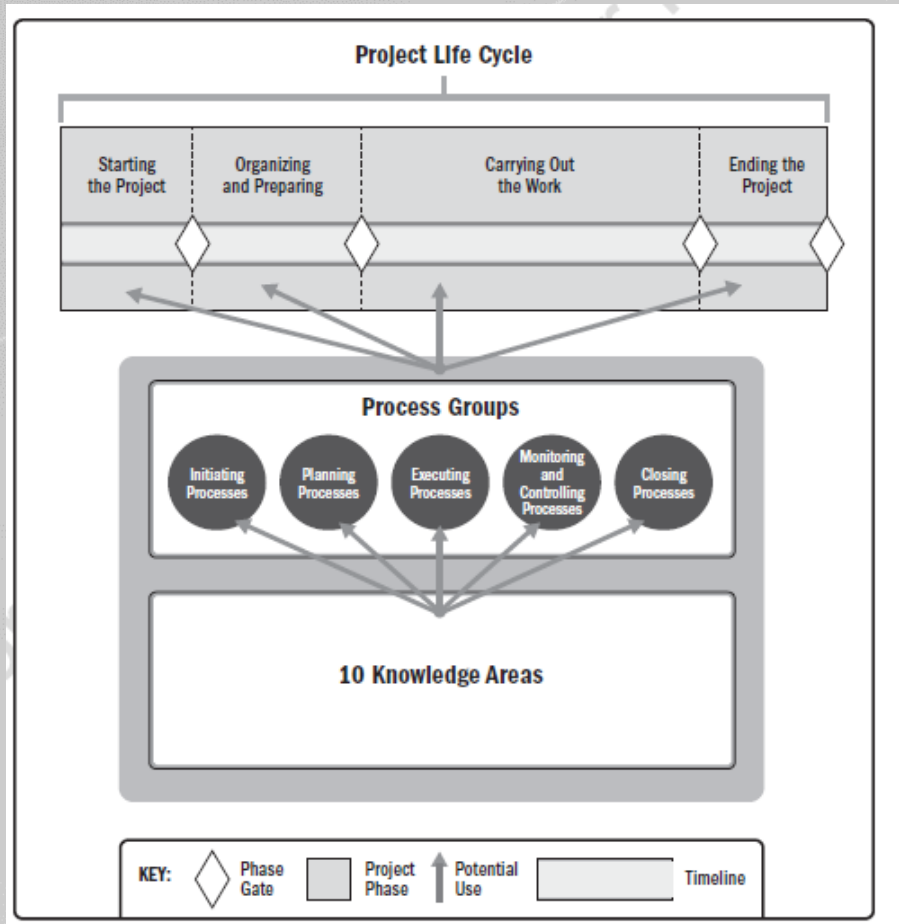


Figure 1-5. Interrelationship of *PMBOK® Guide* Key Components in Projects

Project Management : Process Groups

Conception & Initiation	Definition & Planning	Execution	Performance & Control	Project Close
– Project initiation – Project Charter	– Scope & Budget – WBS – Gantt Chart – Communication Plan – Risk Management	– Status & Tracking – Forecasts – KPIs – Quality	– Objectives – Change management – Quality Deliverables – Effort & Cost Tracking	– Reporting – Acceptance – Closing

PMBOK : 10 Knowledge Areas

Project Integration Management	Identify, combine, unify the various processes within the the project management process groups
Project Scope Management	Ensure the project includes all the work required and only the work required to complete the project successfully.
Project Schedule Management	Manage the timely completion of the Project
Project Cost Management	Planning, estimating, budgeting, managing all costs to ensure project can be delivered within the budget.
Project Quality Management	Incorporating the organization quality policy for all aspects of project management
Project Resource Management	Identify, acquire and manage the resources to ensure successfull completion of project phases.
Project Risk Management	Conducting risk management planning, identification, analysis, response implementation, and monitoring risk.
Project Communications Management	Insure timely and appropriate collection, distribution, management of all components of project information project :
Project Procurement Management	Purchase or acquire products or servives outside the project team.
Project Stakeholders Management	Identify all people that could impact project or be impacted by the project. Analyze expectations and develop management strategy.

Knowledge area example: Scope Management processes

Conception & Initiation	Definition & Planning	Execution	Performance & Control	Project Close
	– **Collect requirements** – **Define Scope** – **Create WBS**		– **Validate scope** – **Control Scope**	

Knowledge area example: Schedule Management processes

Conception & Initiation	Definition & Planning	Execution	Performance & Control	Project Close
	– **Define activities** – **Sequence activities** – **Estimate activities duration** – **Develop Schedule**		– **Control schedule**	

Knowledge area : Project Resource Management processes

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

AGILE Concepts & Positionning

AGILE Concepts adresses **Life cycle selection**: Iterative, Incremental. When there is a need for an adaptive (vs predictive) approach

For Software Development:

- Disruptive technology
- High uncertainty around expectations
- High level of interaction with user/customer
- Many changes anticipated

Detailed scope is defined at the beginning of an iteration

Each iteration will produce « Software that works »

Common Practices: SCRUM, XP, KANBAN

- Not new : Born in 2000 and even before…
- Highly applicable to Software engineering and emergent technnology
- Need to master the concepts (simple) before diving into AGILE
- Applicable only to a subset of projects

Agile Manifesto (2001):

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have to come to value:

Individuals and interactions over processes & tools

Working software over comprehensive documentation

Customer collaboration over contract negociation

Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

YaKasserole tender : READ!

– Yakasserole est un tender Yaka* du même type que ceux que vous aurez à exécuter en 2019

– Yakasserole sera utilisé à partir du module 2 comme Fil Rouge

– Les outils proposés durant le cours seront déclinés sur le projet Yakasserole


EPITA
ÉCOLE D'INGÉNIEURS EN INFORMATIQUE