PROJECT MANAGEMENT FUNDAMENTALS

01-Introduction

ENG: Hany Ismail, MSC ,PMP



Projects before Management

The Great Wall of China

- ✓ Made of cement, rocks, and bricks
- ✓ **21000** km long and **10** meters high.
- ✓ It took 2,000 years to build
- ✓ Estimated Cost 90 billion dollars



Projects before Management

Great Pyramid of Giza

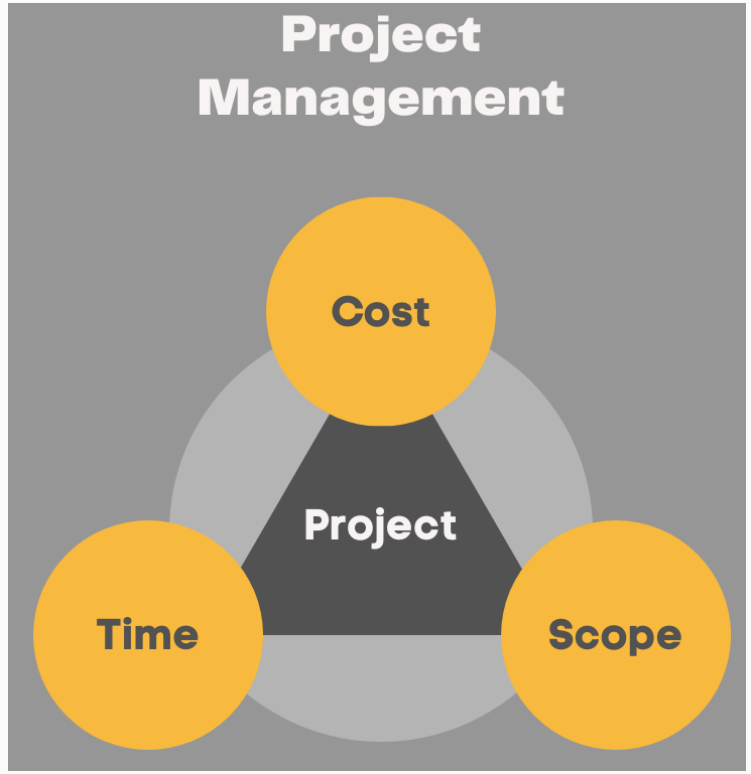
- ✓ Average Height of 147 m
- ✓ It took more than 20 years to construct.
- ✓ Demanded the labor of 100,000 men.
- ✓ Estimated cost today is 1.2 billion dollars



Projects before Management

How did they do it without Project Management?

- ✓ Unlimited Labors
- ✓ Unlimited Resources
- ✓ No deadlines
- ✓ They didn't have any constraints



What is project management?



What is a project?

A project is a temporary task, undertaken to create a product, service, or result.

Temporary => Has start & End

Project	Operation
Developing a design of a new car 	Production Line of cars 
Building a tower 	Maintenance works after construction 
Creating a mobile app 	Customer service to mobile app users 

Good Project vs Bad Project

Good Project



- ✓ On Time
- ✓ On Budget
- ✓ With the Needed Quality

Bad Project

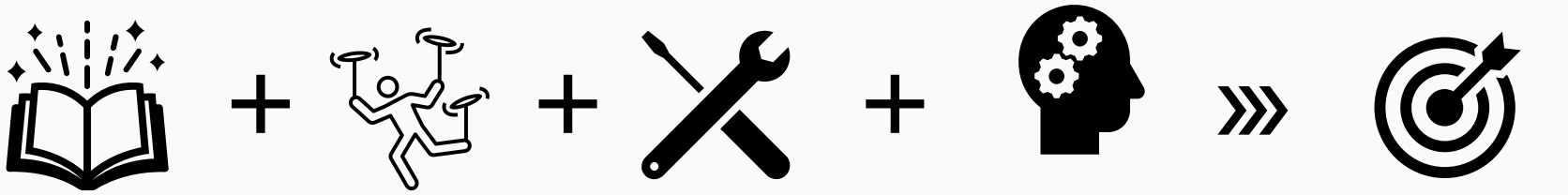
- ✓ On Time
- ✓ On Budget
- ❑ Low Quality

- ✓ With The Needed Quality
- ✓ On Budget
- ❑ Late

- ✓ With The Needed Quality
- ✓ On Time
- ❑ Over Budget / Cost Over-run

What is Project Management?

Project Management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements



Knowledge + Skills + Tools + Techniques » Project Goals & Requirements

Knowledge

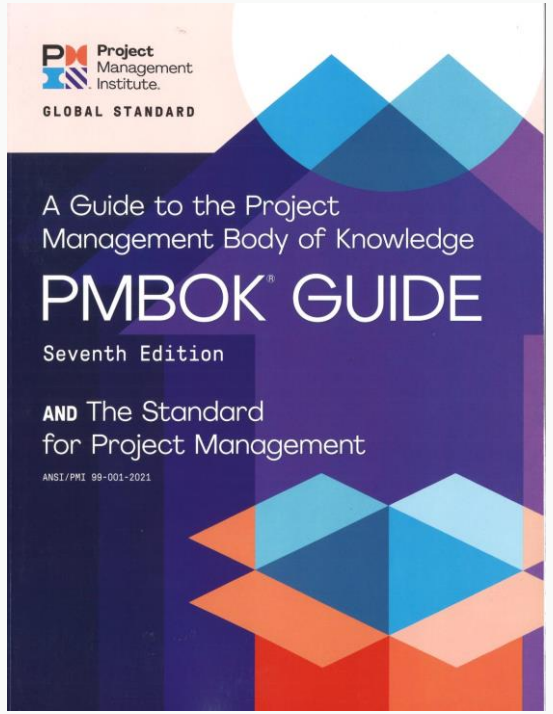
- ✓ Reading on How to Drive a car
- ✓ Reading on How to make a time schedule

- The first component of the Project Success formula is Knowledge.
- Knowledge can be found in books, lectures, papers, and courses.

- A perfect guide to start your knowledge journey with, is the Project Management Body of Knowledge (PMBOK) provided by the American Project Management Institute. (PMI)

- It is a collection of processes, best practices, tools, techniques, and guidelines that are accepted as standard within the project management industry.

- The first PMBOK was published in 1996, and now we have the seventh edition published in 2021 with the latest best practices in the project management field.



Skills

- ✓ Try to drive your friend's car by yourself
- ✓ Create different time schedules

Skill is the application of knowledge. You have to combine your knowledge with a professional skill set to drive your projects to success.

- You read on how to drive a car, but can you ride one?
- You read on how to create a time schedule, does that mean that you can create one?



Tools

- ✓ Get yourself a car
- ✓ Get tools and software to help you

Besides knowledge and skills, you need tools to help you apply your knowledge and skills and transfer your ideas into actions.

- Now you know how to drive, but you need a car
- You learned how to create schedules, now you need tools to help you like P6



Techniques

- ✓ Learn driving techniques
- ✓ Learn scheduling techniques and best practices

Now you have knowledge, skills, and tools. You still need to learn some techniques.

- Drivers have different techniques, also planning engineers have different techniques when they create time schedules.
- Some prefer to finish the ceiling and all the MEP, then start with floor finishes.
- Some others prefer to finish the flooring and protect it, then start with the ceiling.

Good Management vs Bad Management



Good vs Bad Management

	Good Management	Bad Management
	✓ Being Proactive	x Being Reactive
• You have a peak in labor in a certain period	✓ Plan to get more labors ahead	x Delay the activities
• You knew that reinforcement steel won't be available after 6 months	✓ Contact your supplier to reserve the quantity you need in advance	x Wait for the problem to happen then look for a solution

Project Management Life Cycle



Types of Project Management Life Cycle

Agile

- Not Clear Scope
- Start with MVP
- Continuous Customer Feedback

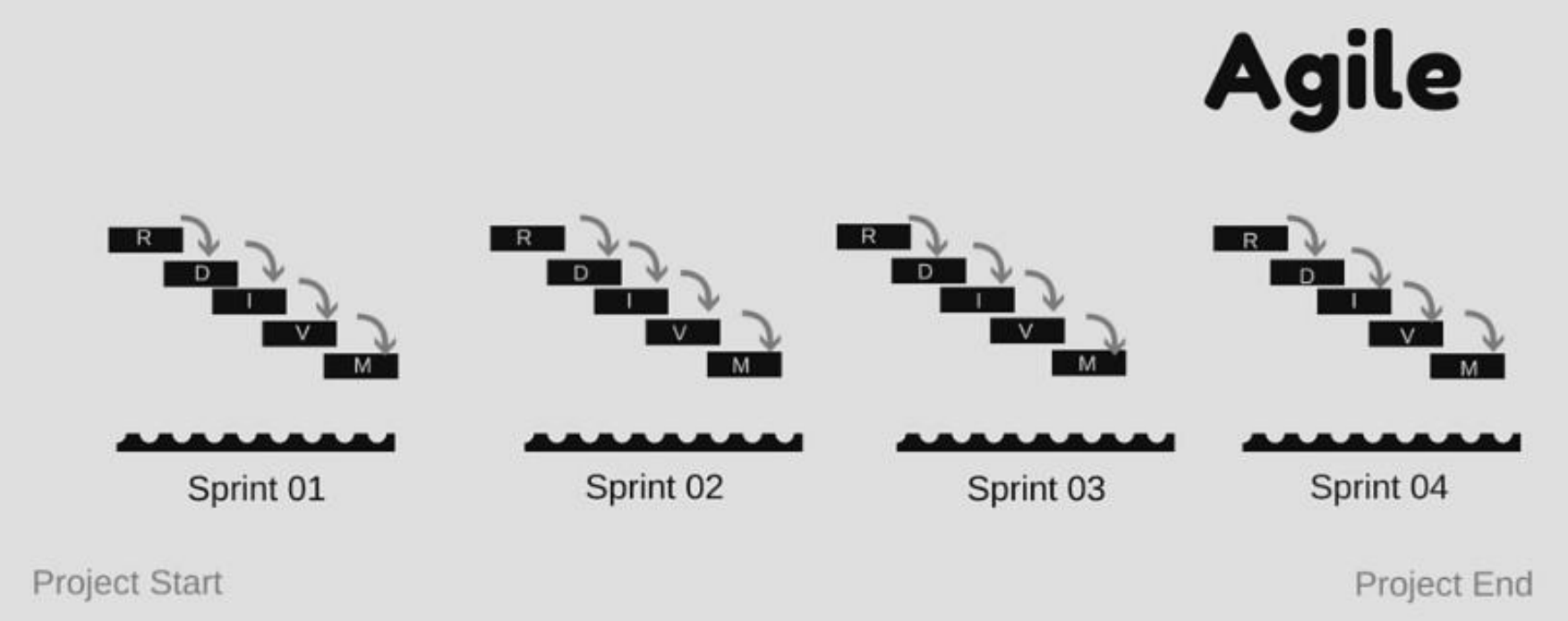


Waterfall (Traditional)

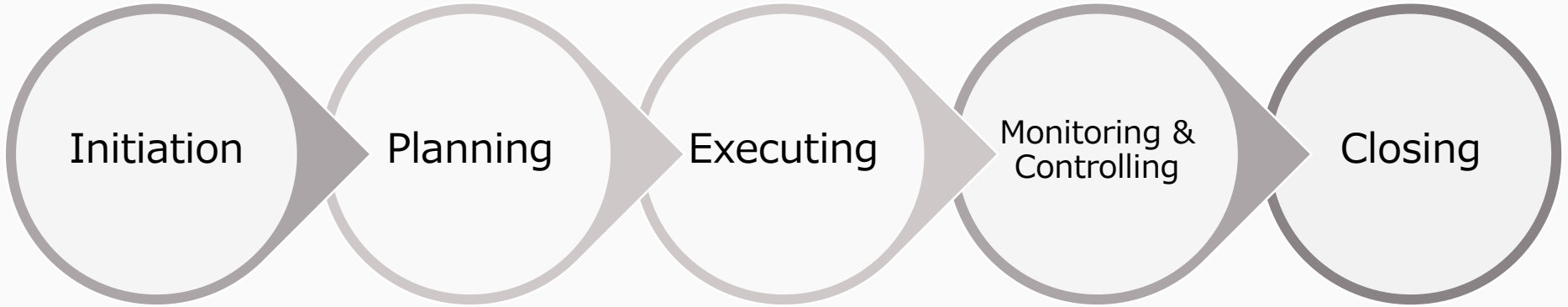
- Clear Scope
- Follow a Plan
- Cost Friendly



Project Management Life Cycle - Agile



Project Management Life Cycle - Waterfall



Project Management Life Cycle

Initiating	Feasibility Study	Design	Tender
Planning	Time	Cost	Scope
Executing	Time	Cost	Scope
Monitoring & Controlling	Time	Cost	Scope
Closing	Testing & Commissioning	Handing Over	Lessons Learned



Stage 1 - Initiating

Feasibility Study

- Project Business Case
- Decide the importance of the project

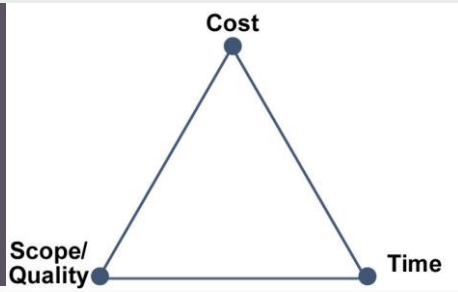
Design

- Choose a consultant
- Develop the final design

Tender

- Call for bidders
- Contract awarding

Stage 2 - Planning



Time Planning

- Sequencing activities
- Cashflow, Resources Histograms
- SD, Procurement Logs

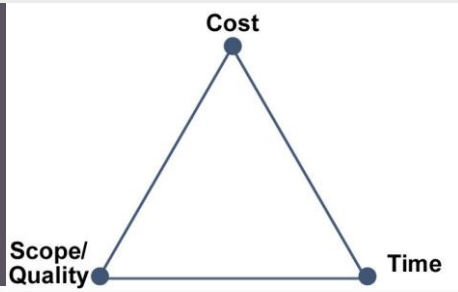
Cost Planning

- Cost Control Procedures
- Cost Breakdown

Scope Planning

- Quality Control Plan
- Quality Assurance Plan

Stage 3 - Executing



Time

- Shop Drawing Submittal
- Material Procurement
- Providing needed Labor

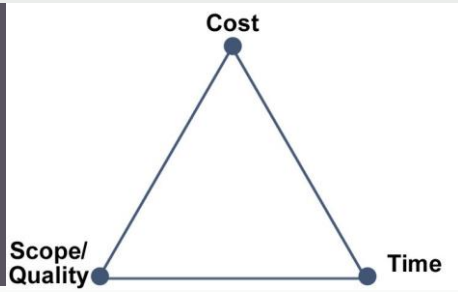
Cost

- Record actual cost
- Assure cost alignment to the estimations

Scope

- Perform QA/QC Plans
- Perform Quality Audits

Stage 4 – Monitoring & Controlling



Time

- Create progress reports
- Calculate Schedule Variance

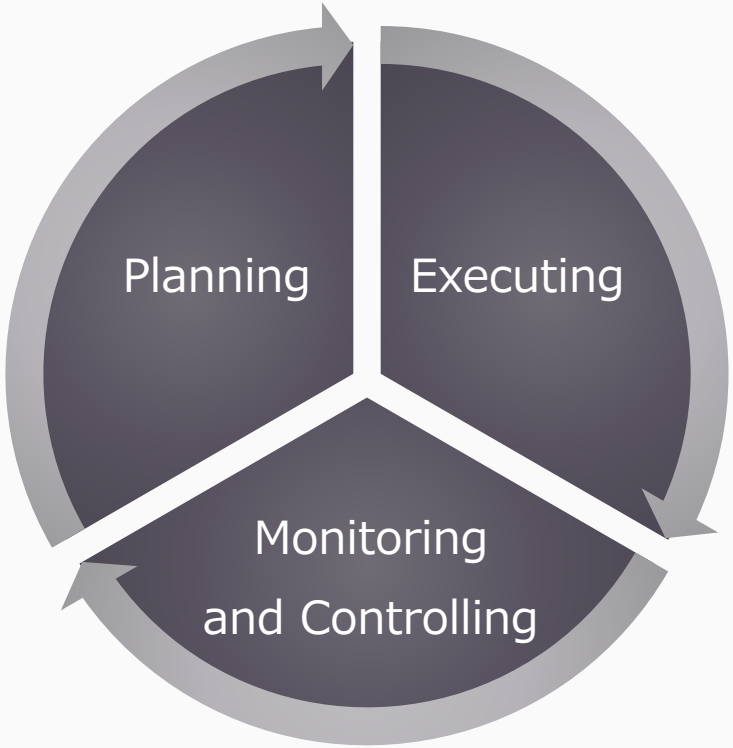
Cost

- Calculate Cost Variance
- Over Budget / Under Budget

Scope

- QC Reports and test results
- NCR Reports

Planning, Executing, and Controlling





Stage 5 – Closing

Testing & Commissioning

- Snagging
- Verifying Deliverables

Handing Over

- Operation Training
- O&M Manuals

Lessons Learned

- Meetings
- Lessons Learned Register

Quick Review

Project Lifecycles

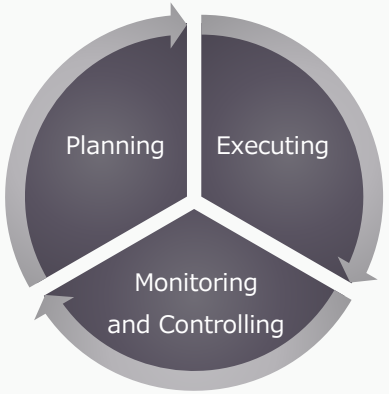


Ancient vs Modern Projects





Plan, Execute & Monitor



Project Life Cycles– Test Yourself

In which project lifecycle phase does the client call for bidders and choose the best bidder?	(Tender Phase – Initiation Phase – Contracting Phase)
Taking reinforced concrete cubes to test in the lab is a form of a ……	(Inspection Request – Quality Audit – Quality Control)
How did ancient Egyptians build the pyramids without knowing project management?	✓ Unlimited Resources ✓ No Deadlines
Once we are in the execution phase, we can't modify the time schedule. True or False	(True – False)

This isn’t the end, we have more!

PlanningEngineer.net provides a wide range of services

& training options for companies and individuals





Click Here for More Details!

Follow us on social media!

Follow us, we're everywhere!

Click on the logo to follow us

PLANNING ENGINEER

THANK YOU





Hany Ismail
Hany@PlanningEngineer.net
https://planningengineer.net/