Fundamentals of Project management:
# An Overview of Project Management

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PMI (Project Management Institute)

- PMI is the **professional organization** for people who manage projects.

- The major objective of PMI is to advance project management as a **profession**.

- It has established a certification process whereby qualifying individuals receive the Project Management Professional (PMP®) designation
  - must have work experience (approximately five thousand hours)
  - pass an online exam that is based on the *Project Management Body of Knowledge,* or the *PMBOK® Guide*.
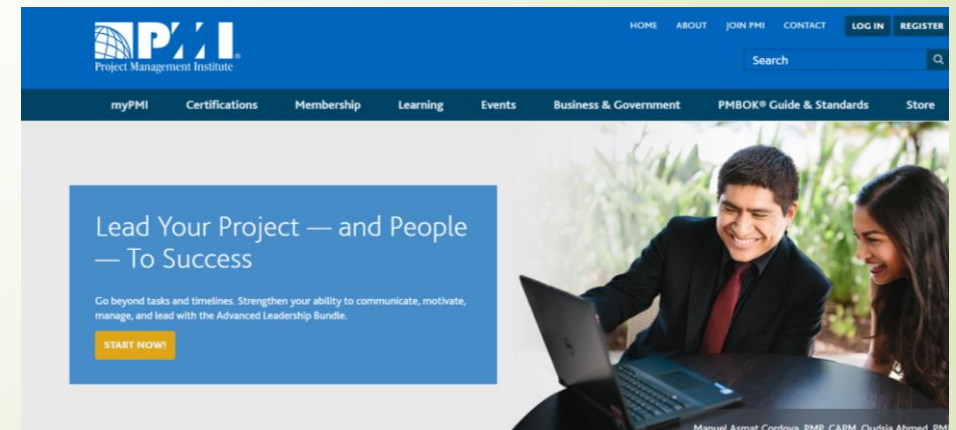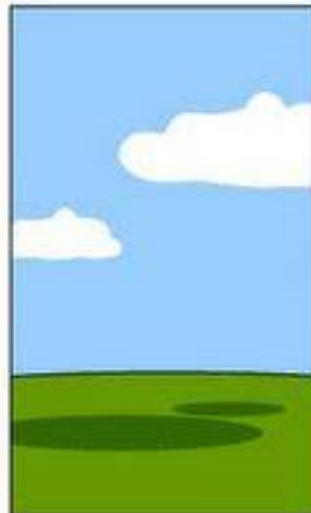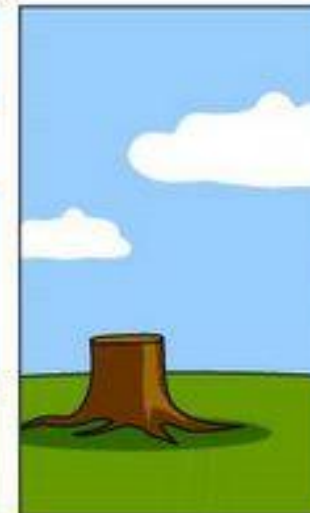
What is Project ?

- A project is a **temporary endeavor undertaken to produce a unique product, service, or result**

- A project should have definite

    - starting and ending points (time),

    - a budget (cost),

    - a clearly defined scope—or magnitude—of work to be done,

    - A specific performance requirements that must be met.

Why IT Project fails ?
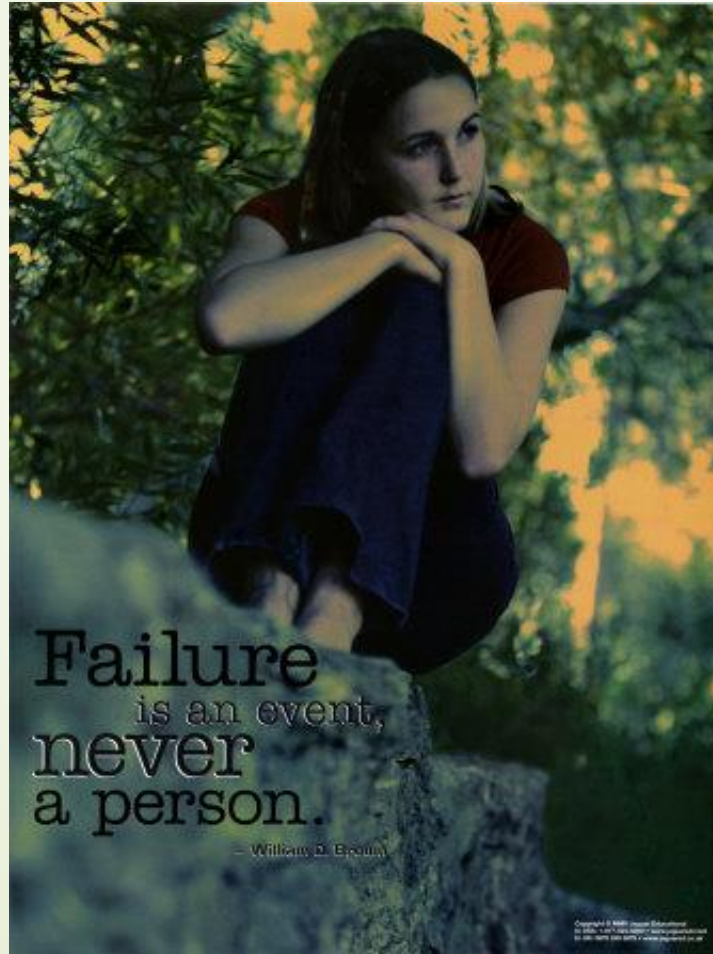
Failure is an event, never a person !

Why IT Project fails ?

TOP THREE REASONS FOR PROJECT FAILURE: REGULAR THEMES SINCE 2004

2004	Bad estimates/ missed dealines	Scope changes	Changes in environment
2007	Bad estimates/ missed dealines	Scope changes	Insufficient resources
2012	Poor estimates in planning	Lack of executive sponsorship	Poorly defined goals and ojectives
2014	Poor estimates in planning	Change in scope mid-project	Insufficient resources

Source: PwC 2014

Why IT Projects succeed ?

- Sound project management processes
- Project tied to the organization's business goals
- Senior management commitment
- Good change management
- Detailed requirements
- Realistic schedule
- Good stakeholder relationship
- Empowered project manager
- Skilled and appropriate team members with defined roles and responsibilities
- Availability of funding

What Is Project Management?

- *PMBOK® Guide* definition : Project Management is an **application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.**

- Project management is accomplished through the application and integration of the 42 logically grouped project management processes comprising the 5 Process Groups:

  - initiating,

  - planning,

  - executing,

  - monitoring and controlling,

  - closing

Some Rules in Project Management

- One of the common **misconceptions** about project management is that **it is just scheduling**.

- One **mistake** made by inexperienced project managers is **to plan** the project for the team.

  - The first rule of project management is that **the people who must do the work should help plan it.**

You Can't Have It All !

- One of the common causes of project **failures** is that the project **sponsor demands** that the project manager must finish the job by

  - a certain **time**,

  - within **budget**,

  - and at a given **magnitude or scope**,

  - while achieving specific **performance** levels.

- the sponsor **dictates** all four of the project constraints. This doesn't work.

PCTS constraints

- C = f(P, T, S)
  - Cost is a function of Performance, Time, and Scope
- Graphically, it is a triangle, in which P, C, and T are the sides and S is the area.
- If we are given values for the sides of a triangle, we can compute the area. if we know the area and the length of two sides, we can compute the length of the remaining side.
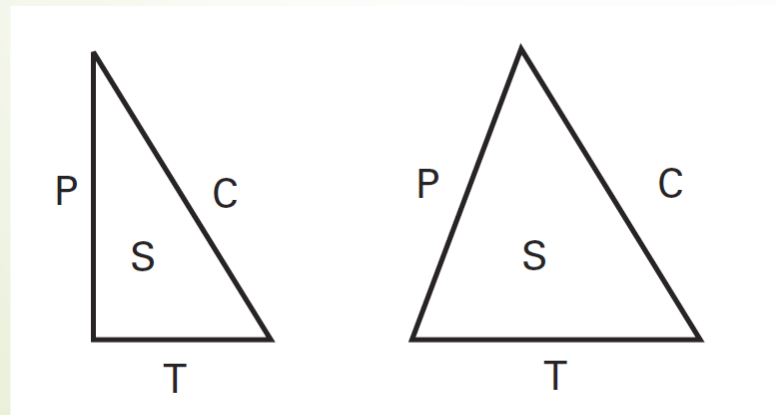
Very practical rule of project management: The sponsor can assign values to any three variables, but the project manager must determine the remaining one.

The Phases of a Project

CONCEPT	DEFINITION	PLANNING	EXECUTION	CLOSEOUT
Marketing Input Survey of Competition	Define Problem Develop Vision Write Mission Statement	Develop Strategy Implementation Planning Risk Management	Do all Work Monitor Progress Corrective Action	Final Reports Lessons-Learned Review

EFFORT EXPENDED IN PLANNING
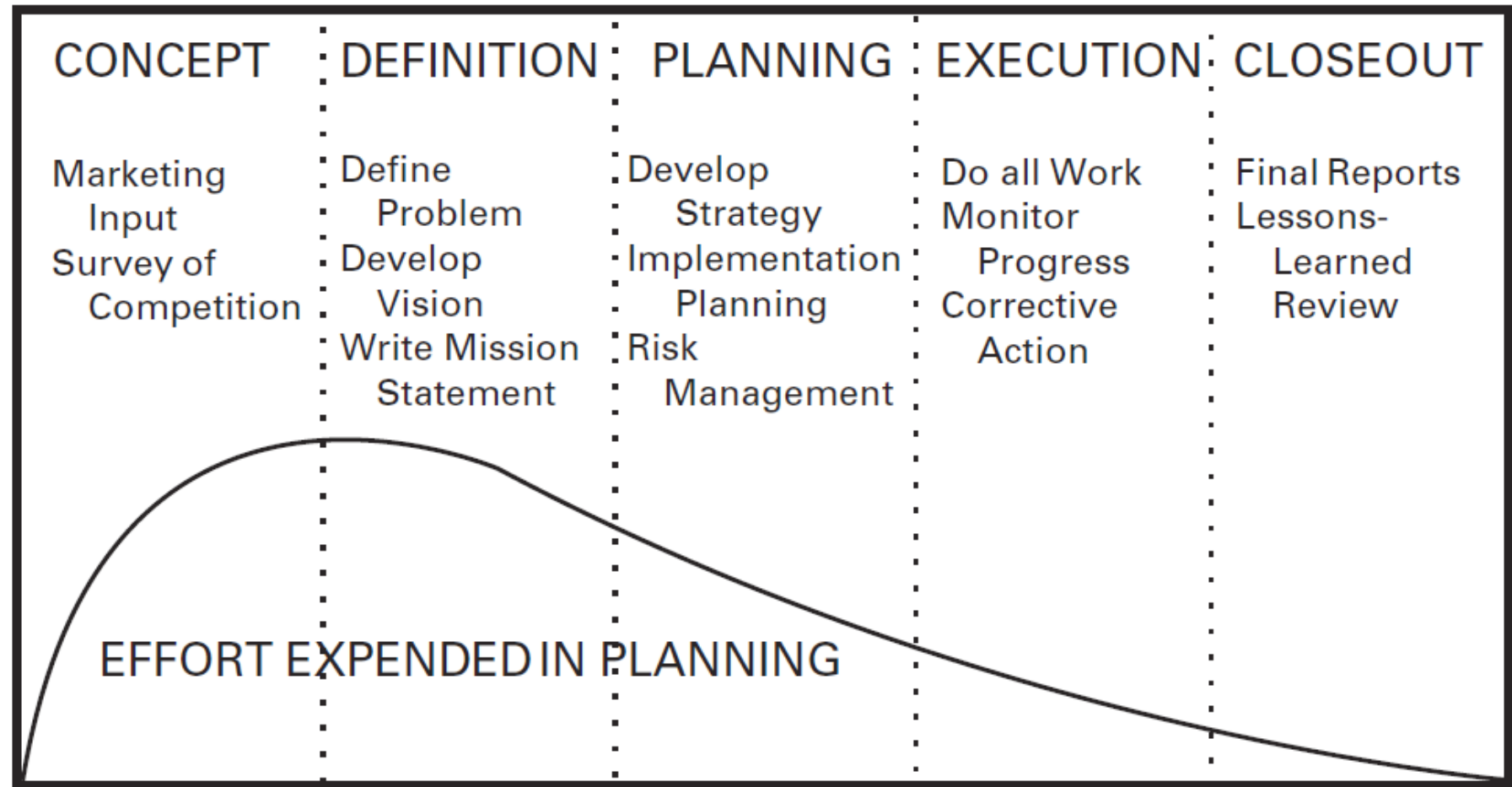
Definition Phase

■ Remember, project management is solving a problem on a large scale, and the way you define a problem determines how you will solve it.

■ If you have the **wrong definition**, you may come up with the right solution— to the wrong problem!
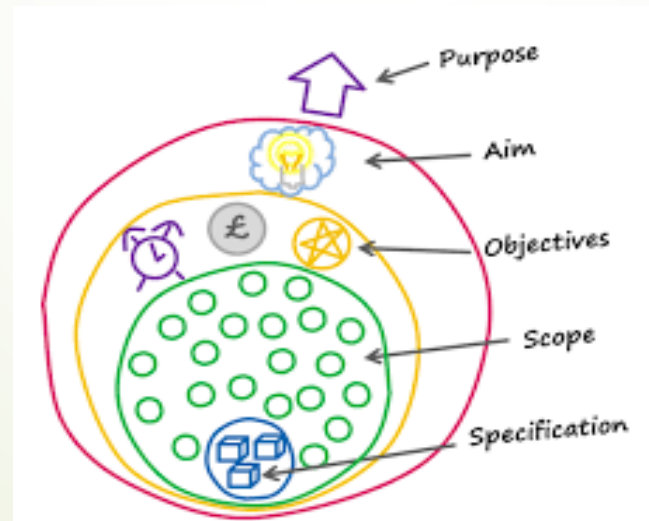
Implementation Planning Phase

- This phase includes **tactics** and **logistics**.

  - *Logistics* deal with making sure the team has the materials and other supplies needed to do their jobs.

- It also includes the sequence in **which** the work will be done, **who will** do what, and **how long** each step will take.
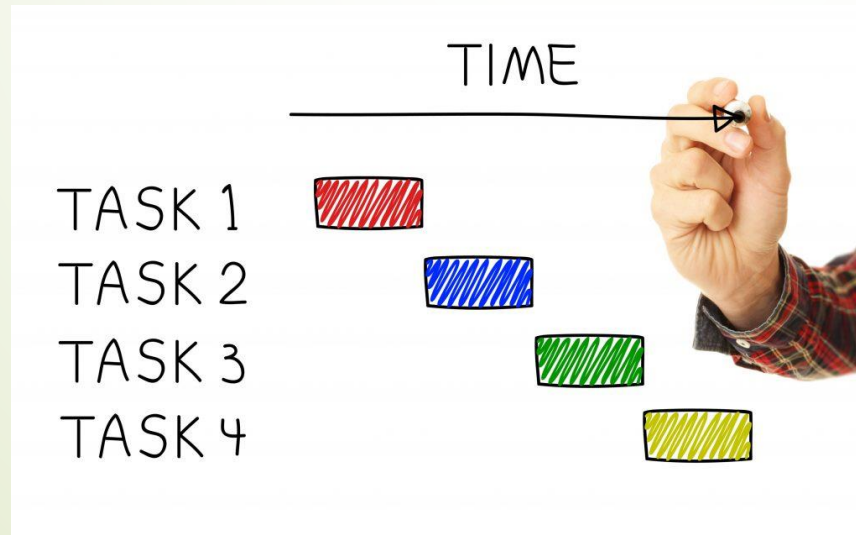
Execution and Control Phase

- Once the plan has been developed and approved, the team can begin work. This is the **execution** phase,

- It also includes **control**, because, while the plan is being implemented, progress is monitored to ensure that the work is progressing according to the plan.

  - When deviations from the plan occur, **corrective action** is taken to get the project back on track or, if this is not possible, the plan is changed and approved

Closeout Phase

- When all the work has been completed, the **closeout** phase requires that a review of the project be conducted.

- Two main questions are asked: "**What did we do well?**" and "**What do we want to improve next time?**"

- Lessons-learned sessions : We don't ask what was done wrong.

  - This question tends to make people defensive, and they try to hide things that may result in their being punished.

Steps in Managing Project
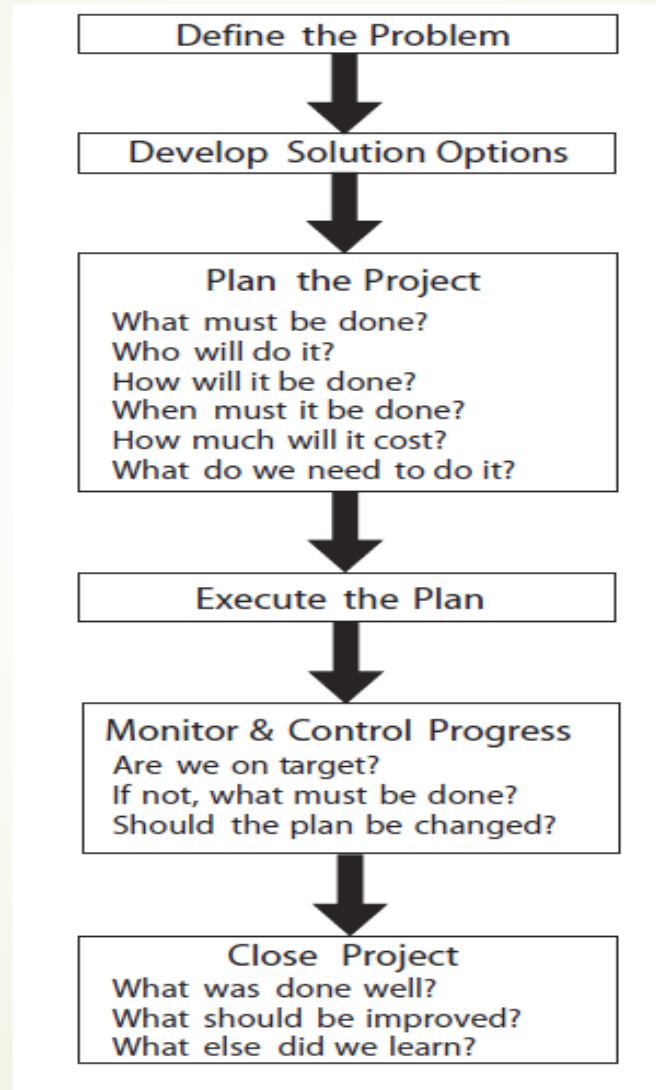
Knowledge Area defined by *PMBOK Guide*

- **Project Manager** should be **familiar** with:
  - **Project Integration Management**
  - **Project Scope Management**
  - **Project Time Management**
  - **Project Cost Management**
  - **Project Quality Management**
  - **Project Human Resources Management**
  - **Project Communications Management**
  - **Project Risk Management**
  - **Project Procurement Management**

Project Integration Management

- Project integration management ensures that the project is properly **planned**, **executed**, and **controlled**, including the exercise of formal **project change** control.

- As the term implies, every **activity** must be **coordinated or integrated** with every other one in order to achieve the desired project outcomes.
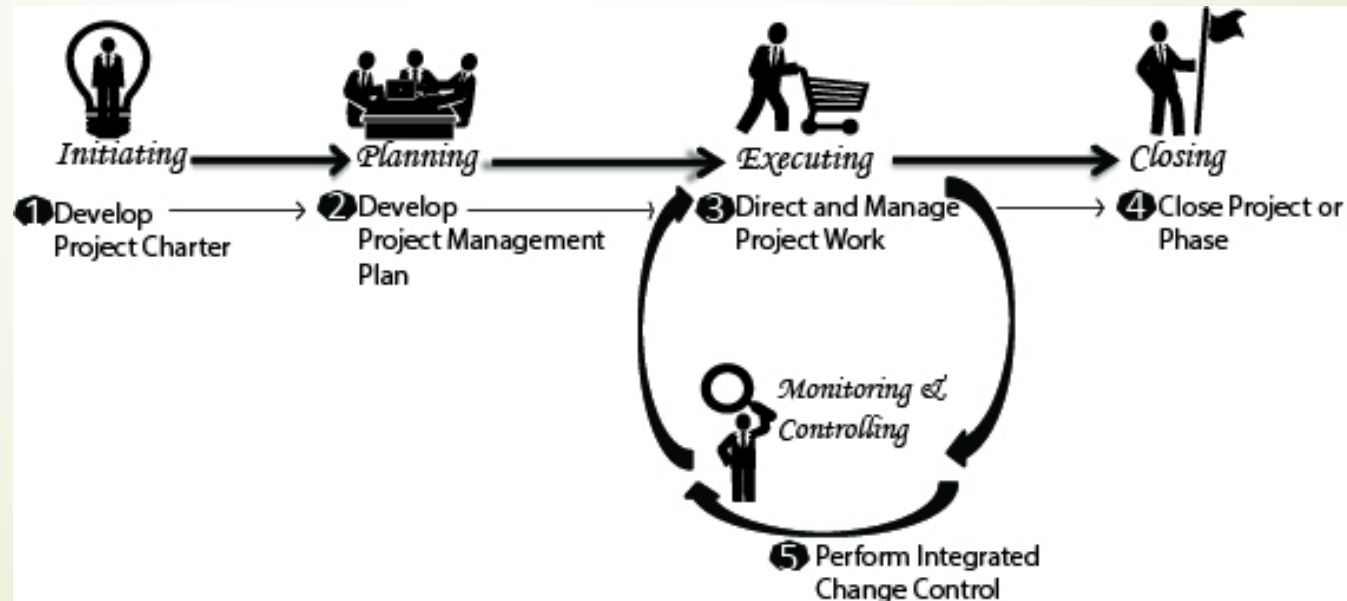
Project Scope Management

- **Changes to project** scope are often the factors that kill a project.

- Project scope management includes

  - authorizing the job,

  - developing a **scope statement** that will define the boundaries of the project,

  - **subdividing** the work into manageable components with deliverables,

  - verifying that **the amount of work** planned has been achieved,

  - and specifying **scope change** control procedures.

Project Time Management

- Project time management specifically refers to **developing a schedule** that can be met, then **controlling work** to ensure that this happens!

- Because everyone refers to this as scheduling, it should really be called schedule management.

Project Cost Management

- ▶ Project cost management involves estimating the cost of **resources**, including **people**, **equipment**, **materials**, and such things as travel and other support details.

- ▶ After this is done, costs are budgeted and tracked to keep the project within that budget.

Project Quality Management

- One cause of project failure is that quality is overlooked or sacrificed so that a tight deadline can be met.
  - It is not very helpful to complete a project on time, only to discover that the thing delivered won't work properly!
- Project quality management includes:
  - **quality assurance :** planning to meet quality requirements.
  - **quality control :** steps taken to monitor results to see if they conform to requirements.

Project Human Resources Management

 Project human resources management involves:

- Identifying the people needed to do the job;

- Defining their roles, responsibilities, and reporting relationships;

- Acquiring those people;

- Managing them as the project is executed.

Project Communications Management

- Project communications management involves

  - planning,

  - executing,

  - and controlling the acquisition and dissemination of all information relevant to the needs of all **project stakeholders**.

- This information might include project status, accomplishments, and events that may affect **stakeholders** or **projects**.

Project Risk Management

- Project risk management is the systematic process of **identifying**, **quantifying**, **analyzing**, and **responding** to project risk.

- It includes maximizing the probability and consequences of positive events and minimizing the probability and consequences of adverse events to project objectives.

- This is an extremely important aspect of project management that sometimes is overlooked by novice project managers.

Project Procurement Management

- Procurement of necessary goods and services for the project is the **logistics** aspect of managing a job.

- Project procurement management

  - involves deciding what must be procured,

  - issuing requests for bids or quotations,

  - selecting vendors,

  - administering contracts,

  - and closing them when the job is finished.

Leadership Vs Dictators

- "Leadership is the art of getting others to *want* to do something that you believe should be done."
  - The operative word here is "**want**."

- Dictators get others to do things that they want done.

- **Without** leadership, projects tend to just satisfy bare **minimum** requirements. **With** leadership, they can **exceed** those bare minimums.