Project Management-Fundamentals

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A Better Tomorrow

Independent India

- The most successful project in the world is "Freedom fight in India through Satyagraha"
- Leader- Mahatma Gandhi (Father of Nation)
- Mahatma Gandhi executed this project for more than 25 years by inspiring millions of Indians
- The result is that we are living in Independent India today

Projects act as catalyst & change agents and play a vital role in National movement to build " A Better Tomorrow"

But we have many challenges to address- What are they ?

Food for thought

"All great undertakings are achieved through mighty obstacles"- Swami Vivekananda

Agenda

- What is a Project?
- What is Project Management?
- Process Groups & Knowledge Areas in Project Management
- The Triple Constraint
- Challenges in Project Management
- Success Stories
- Quality of The Project Manager
- Importance of Project Management
- Integrated Approach
- Role of Project Management Office/Unit

What is a Project ?

What is a Project ?

A project is a *sequence of unique*, complex, and connected activities having one goal or purpose and that must be completed by a *specific time, within budget, and according to specifications.*

What is a Project ?

”A project is a temporary endeavour undertaken to produce a unique product, service or result”

- PMBOK v4

Characteristics of a Project (1 of 2)

- A unique, one-time operational activity or effort
- Involves doing something never been done before.
- Established to *achieve specific objective*
- Requires the completion of a *large number of interrelated activities*
- *Specific time, cost, and performance requirements*

Characteristics of a Project (2 of 2)

- Defined life span with a *beginning and an end*
- Require evaluation – the criteria for evaluation need to be established from the beginning
- Resources, such as time and/or money, are limited
- Typically has its own management structure
- Need leadership

Project Vs Operation

Operations	Project
Ongoing process and repetitive	Short term Temporary Process and unique
To sustain business	Attain objectives and terminate
Example – Mass production of cars in Assembly line .	Example – Brand new Designing and building a prototype of car

Programme

A series of coordinated, related, multiple projects that continue over an extended time and are intended to achieve a goal

Portfolio

What are the Project Success Indicators ?

Project Success Indicators

Citizens/Other stakeholders Requirements satisfied/exceeded

Completed within allocated time frame

Completed within allocated budget

Accepted by the Stakeholders

Not Many Projects are Successful !

Unless we have successful projects, it is difficult to build
“ A Better Tomorrow”

Who is this great person ?

Project Success Story

Delhi Metro Project - a prime example of a project management success story in the public sector.

Project Success Rate

Infrastructure Projects- Government of India

423 of the 925 Infrastructure projects monitored by central government were behind schedule as of March 2009 which will result in cost overrun of about $ 8.13 billion

Source: Ministry of Statistics & Programme Implementation, GoI

Why Project Fails ?

Project Failure

Scope Creep

Poor Requirements Gathering

Unrealistic planning and scheduling

Lack of resources

Why do projects fail?

What the user wanted -

What the budget allowed for -

What the timescale allowed for -

What the technician designed -

What the user finally got -

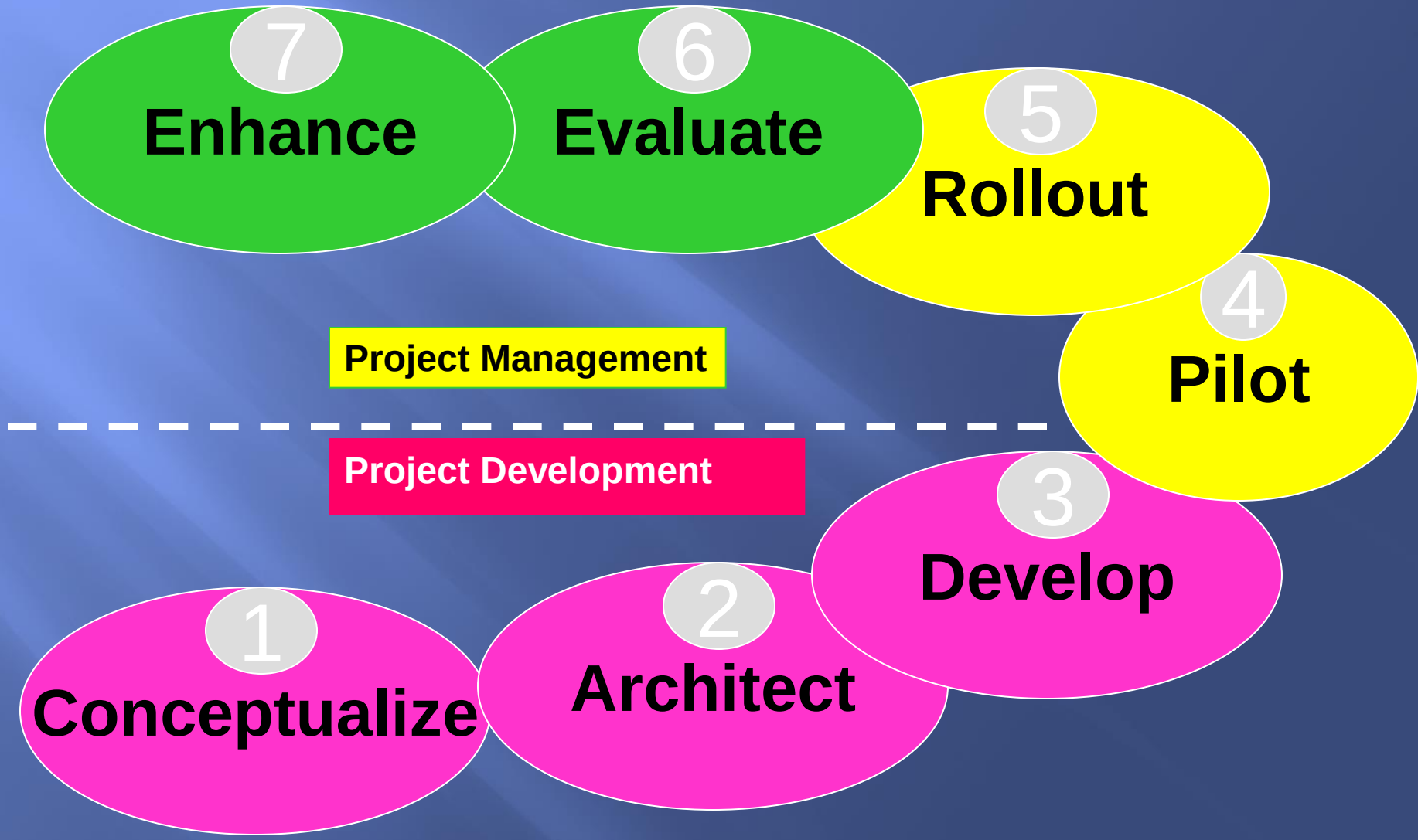
Central Sector Projects- Reasons for time & cost overrun

Factors Affecting Projects	Number of Projects
Fund constraints	31
Land acquisition issues	22
Slow progress in areas other than civil works	79
Law and order matters	10
Delay in equipment supply	5
Environmental clearance	2
Others (proper technology selection, award of contract, delay in civil works, geo-mining, court cases, inadequate infrastructure support, bad weather, government clearances)	48

Source: Project Management Practices in India 2010 (Indicus Analytics and Ace Global), Project Implementation Report (MOSPI)

In the fiscal year of 2010–11, the Ministry of Statistics and Program Implementation (MOSPI) revealed some disturbing data on time and cost overruns in central sector projects.

Seven Steps in Implementation



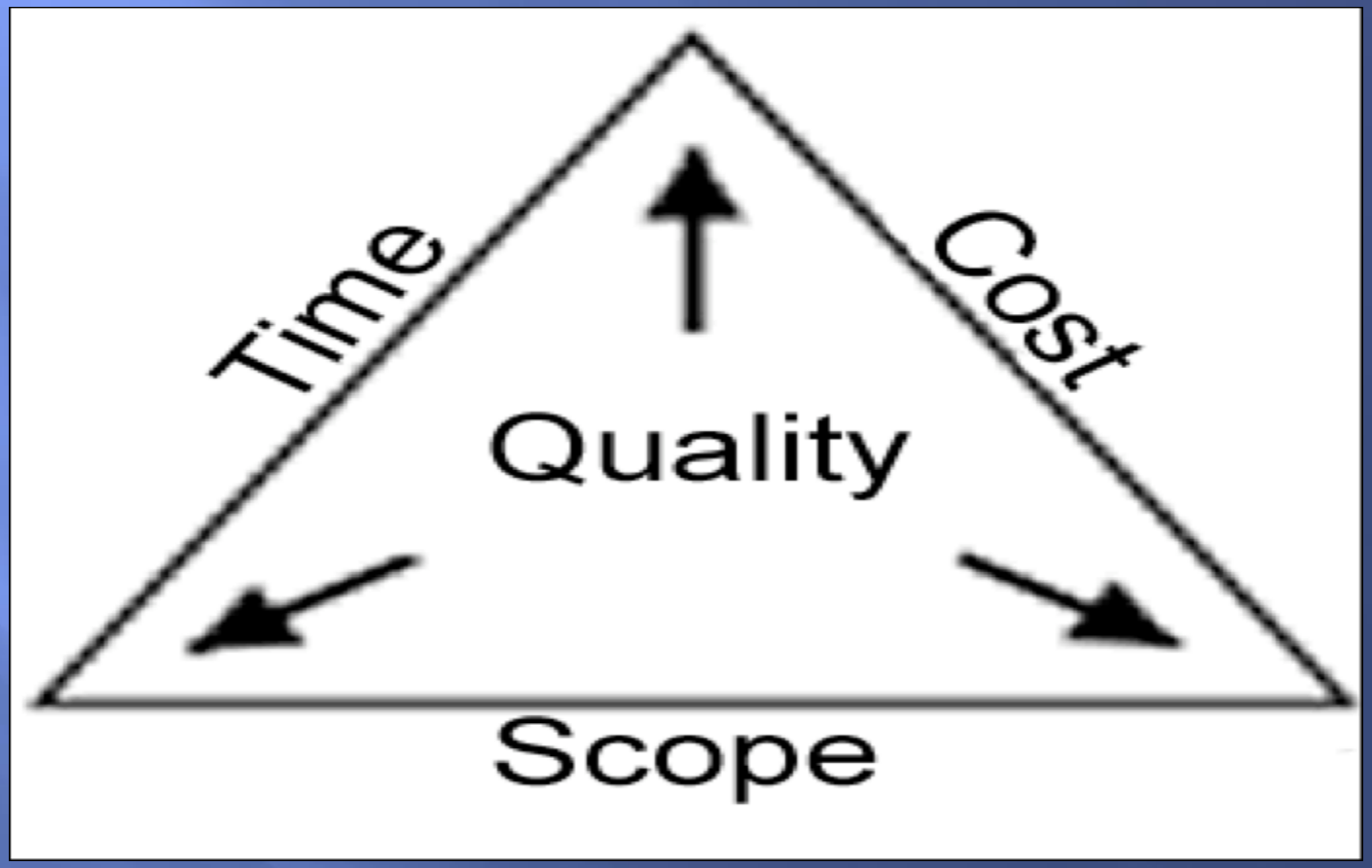
What is Project Management ?

Project management is the discipline of Planning, Organisingg, securing and Managing resources to bring about the successful completion of specific project goals and objectives.

What is Project Management?

Project management is application of knowledge, skills, tools and techniques to meet project requirements- ***PMBOK v4***

Triple Constraints



Also known as the IRON TRIANGLE

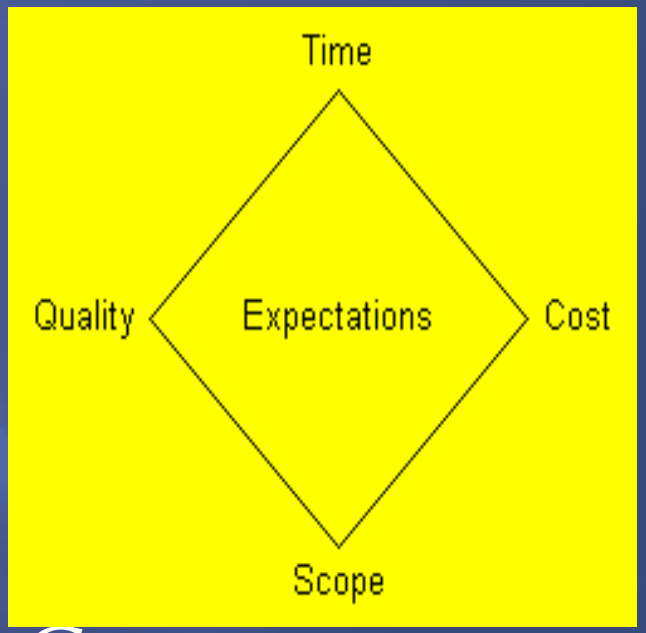
Triple Constraints

- Increased **Scope** = increased time + increased cost
- Tight **Time** = increased costs + reduced scope
- Tight **Budget** = increased time + reduced scope.

Project Management- Diamond

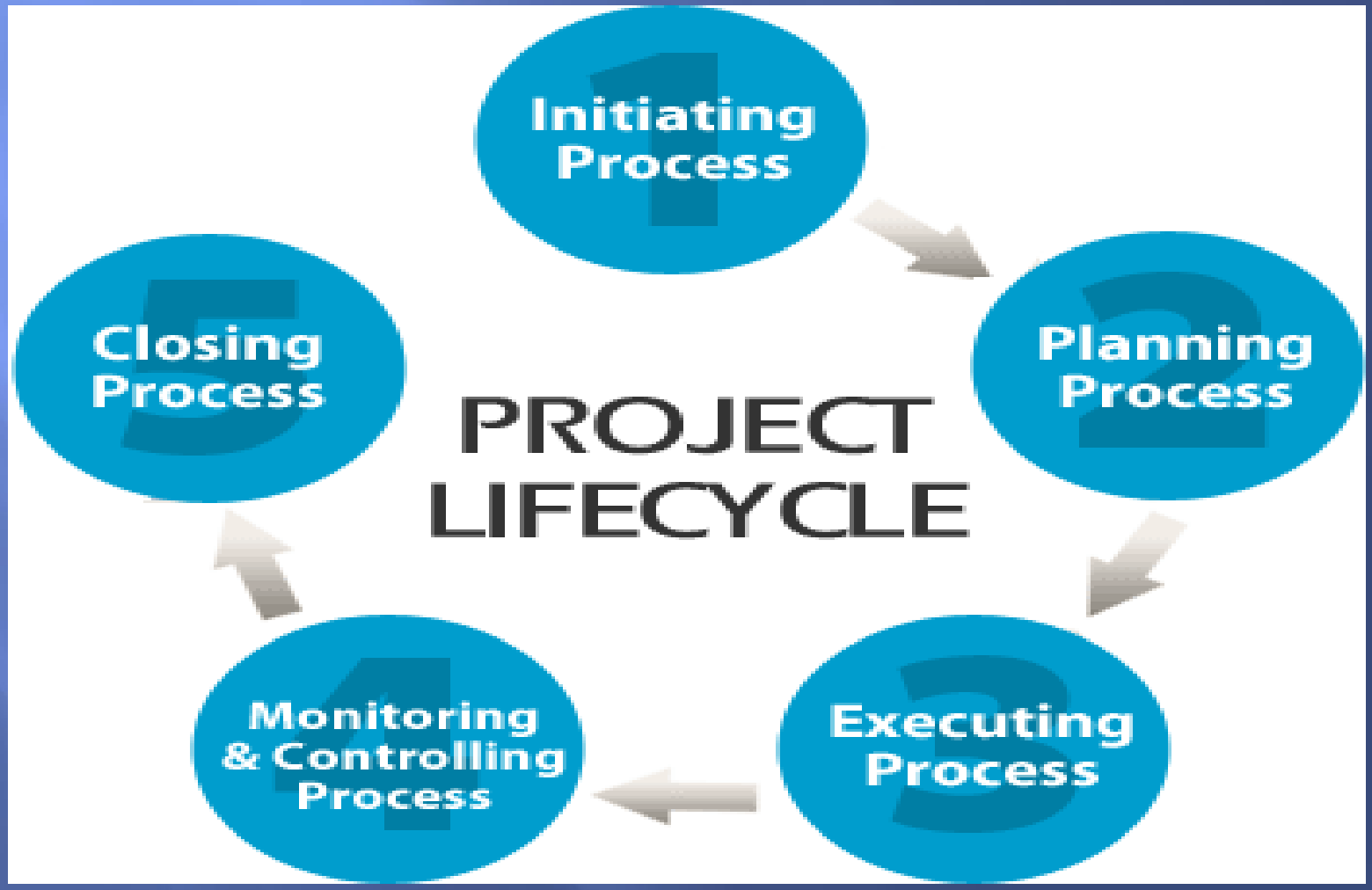
The Four most important factors

- Time
- Cost
- Scope.
- Quality



These form the vertices with Customer Expectations as a central theme.

Project Life Cycle



Project Phases- Examples

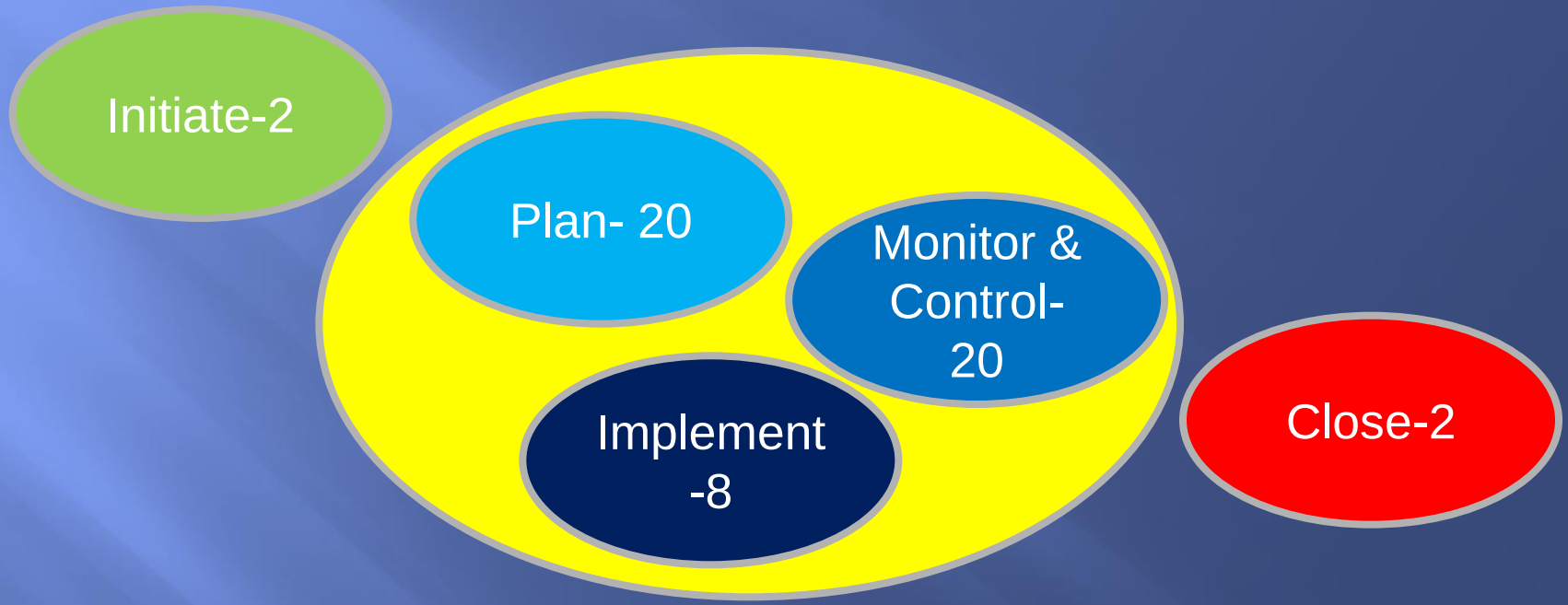
CONSTRUCTION

- Initiating- Feasibility
- Planning- General Design
  - Detailed Design
- Executing- Construct
  - Build
- Closing – Inspect
  -Commission

E- GOVERNANCE

- Business Case
- Requirement Analysis
- Design
- Construct
- Test
- Implement
- Evaluate

Process Groups



- *All projects typically go through 42 Processes comprising of these five processes groups*

Project Management –Processes

- Project Initiation (2 Processes)
- Project Planning (20 Processes)
- Implementing (8 Processes)
- Monitoring & Controlling (10 Processes)
- Closing (2 Processes)

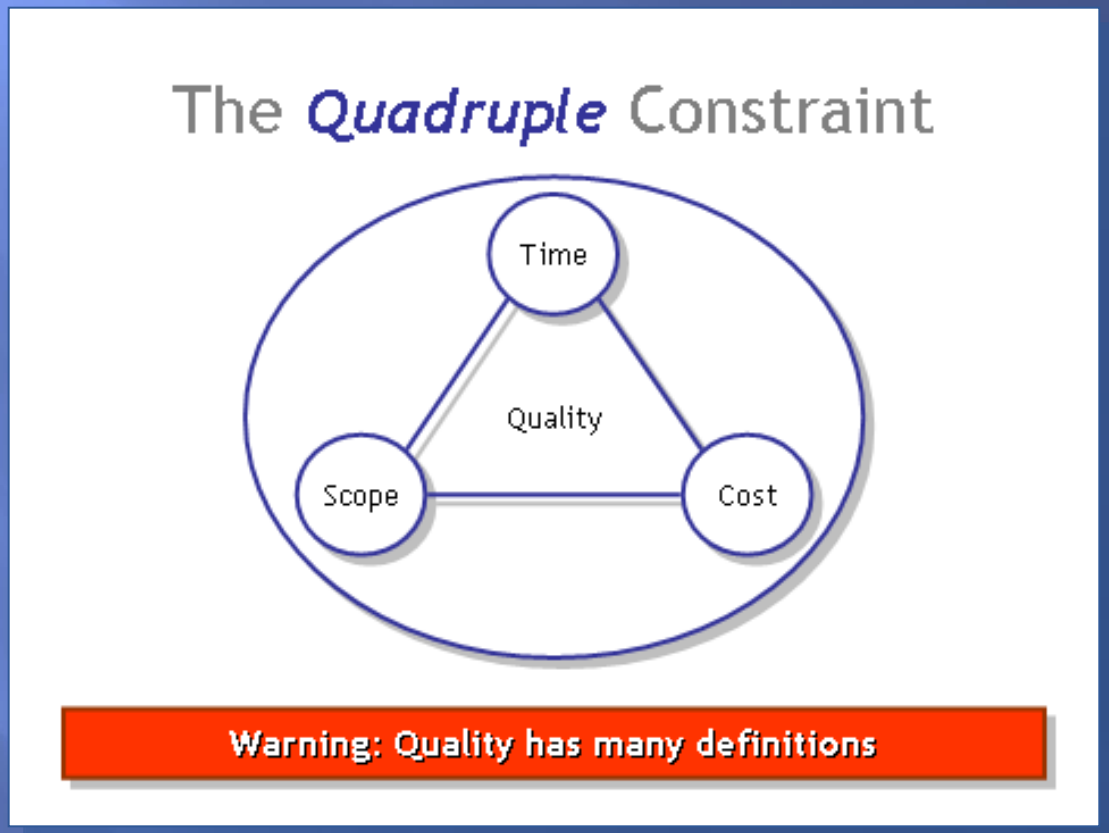




Project Management- Knowledge Areas

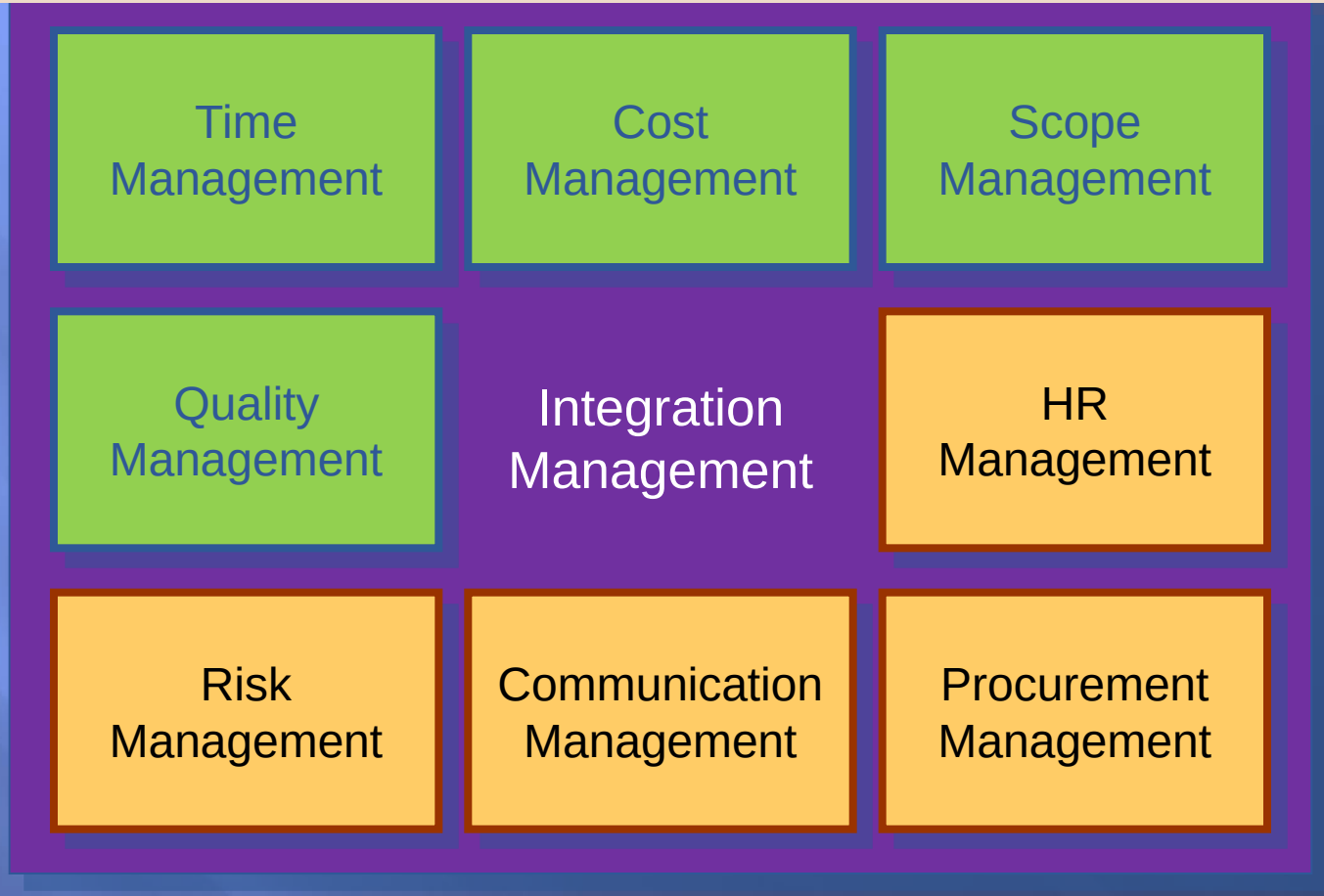
- The PMBOK's 9 Knowledge areas

Core Functions



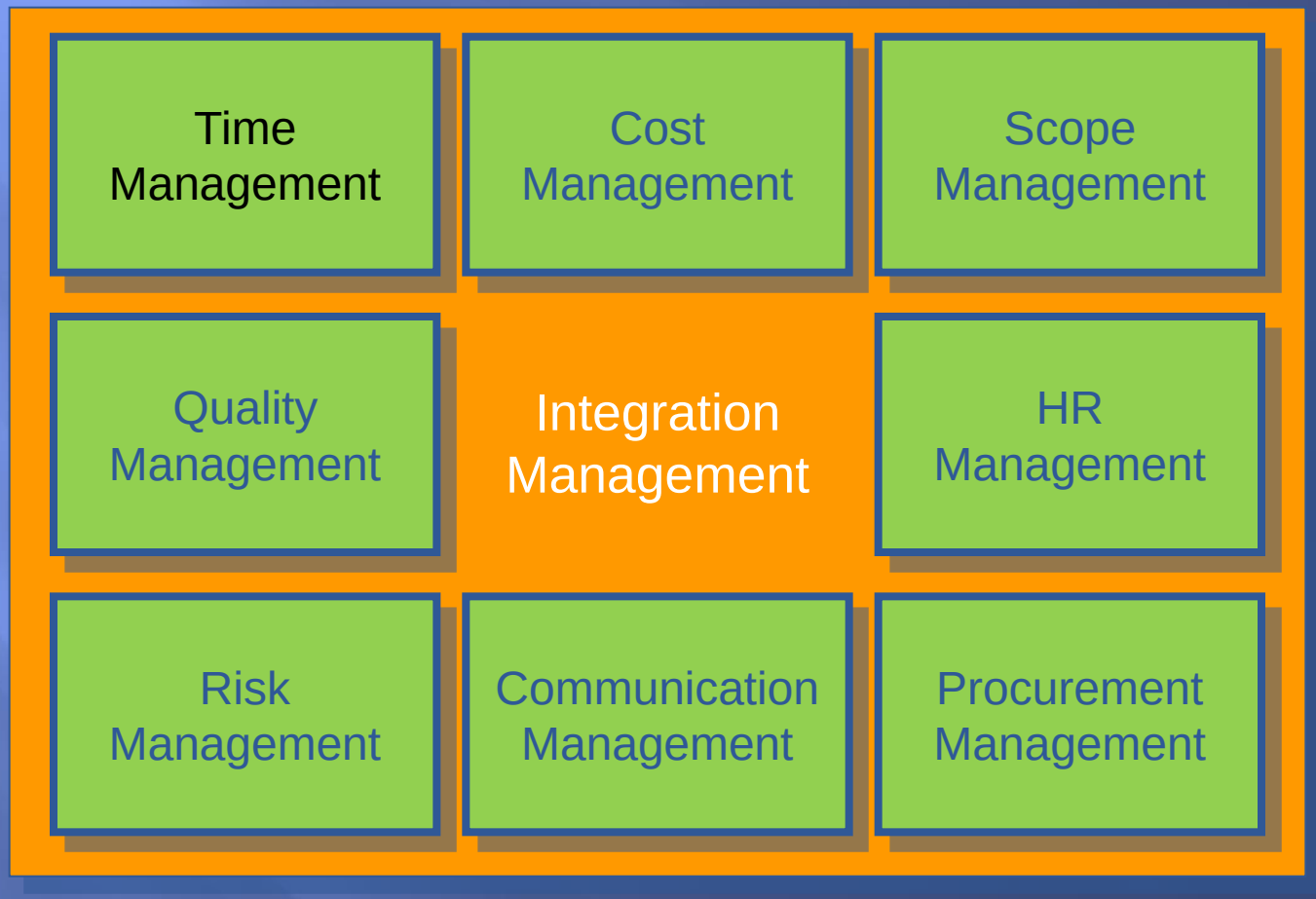
- The first four knowledge areas are **Core Functions**

Facilitating Functions



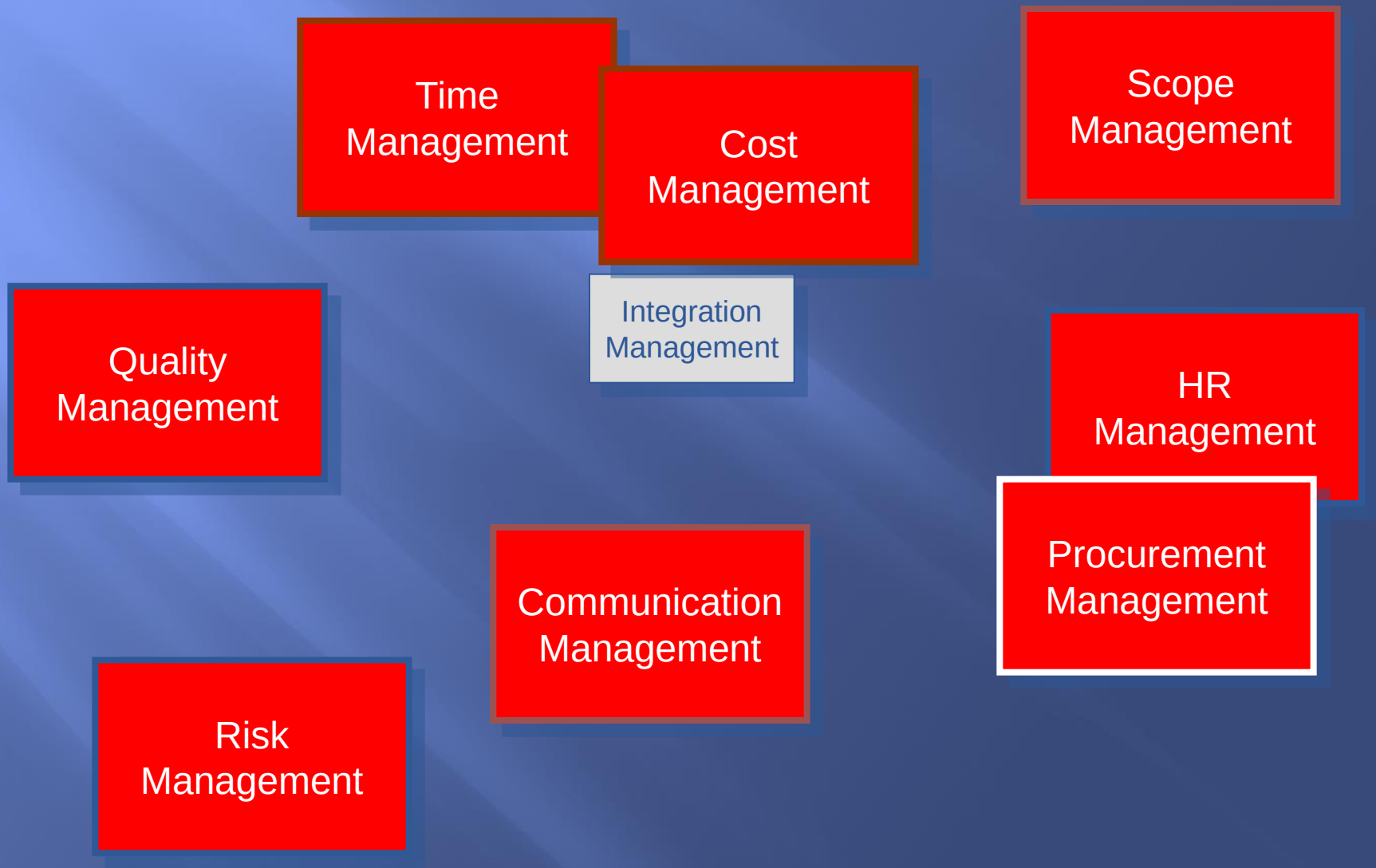
- The next four knowledge areas are **Facilitating Functions**

Integration Management



- Integration Management – pulling it all together

What if it's Not Integrated



Issues & Mitigation Measures in Knowledge Areas

- Inappropriate Stakeholder Management leads to risks such as
  - Difference in expectations

  Mitigate
  - Communications should be concise and clear.
  - Say No to "Gold Plating" - It has impact on Cost, time and Scope

- Lack of focus in Risk Management
  - Everything is a variable in Project Management viz. Cost of Men & Material
  - External environment

  Mitigate

  Identify Risks ; Quantify Risks; Keep a Project Risk Register

  Have Quarterly Risk Management Team meeting

Issues & Mitigation Measures in Knowledge Areas

- Ignored Communications Management
  - Project Team works in multiple locations
  - Members are from different cultures

  Mitigate
  - Communications should clear, concise
  - Effective Communications sets the expectations in clear terms and mitigates many of the potential issues

- Project Package Responsibility
  - Team responsibility is nobody's responsibility
  - Create small packages of work and assign responsibility to personnel

  Mitigate

  Create RACI Matrix

  R- Responsible A- Accountable C- Consult I- Info

  Assign Clearly Defined Roles and Responsibilities

Issues & Mitigation Measures in Knowledge Areas

- Critical Path for the Project
- Critical Path: Is the succession of connected tasks that will take the longest to complete the project. Therefore, to complete the project on schedule it is the critical path and the tasks that are the part of it that must be managed most closely

Do Not Blink your Eyes from the Critical Path

Improving Project Management

- Empowerment
  - Empowered Committee for Major Decisions
  - Project Implementation Committee for operational decisions
- Partial outsourcing of PM activities
  - Select a Professional Organization as PMU
- Capacity Building in PM skills
  - Institutional Capacity
  - Sponsoring Key people for PMI Certification

Skills of Project Manager

Technical skills

Budgeting, Scheduling, Documenting

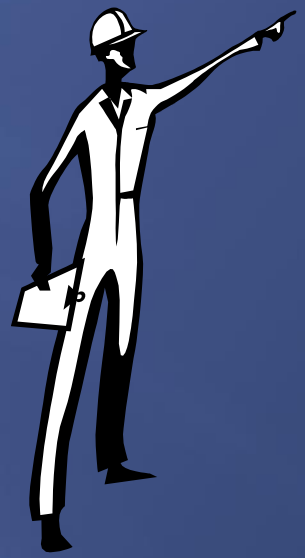
People Skills

Leading, Motivating, Listening, Empathising

- Which ones are most important for projects?

Qualities of Project Manager

- Strong leadership ability
- Ability to develop people
- Excellent communication skills
- Ability to handle stress
- Good interpersonal skills
- Problem-solving skills
- People management (customers, suppliers, functional managers and project team)
- Creative thinking



Management Lesson

Never start a project unless all resources are available

Project Management Unit (PMU)

- A project management unit (PMU) is an organizational unit to centralize and coordinate the management of projects under its domain.
- A PMU oversees the management of projects, programs, or a combination of both.
- The PMU focuses on the coordinated planning, prioritization and execution of projects and subprojects that are tied to the parent organization’s or client’s overall business objectives

Role of PMU (1 of 4)

- Project Performance Related
  - Monitoring the Project Performance and milestones
  - Anticipating, assessment and action plan of project risks
  - Tracking implementation and delivery progress to include hardware procurement, network services, security, facilities
  - Tracking Service Level Agreement
  - Assisting in strategic control of the project

Role of PMU (2 of 4)

- Issue Resolution – with respect to process, change interventions, training and other project issues etc.
- Track, report on day to day operational issues, MIS Reporting

Role of PMU (3 of 4)

- Technology Induction
- Monitoring of *software development*
- Monitoring of system changes and version control
- Analysis and monitoring of service levels
- Monitoring of Data Centre and Disaster Recovery Site
- Monitoring of performance of hardware
- Assist in resolution of network related issues

Role of PMU (4 of 4)

- **Project Finance**

• Ensure that user charges are properly collected and transferred to government account

• Ensure that *amount collected is reconciled with the Bank statement*

•Ensure that amount is transferred to the respective Departments as per time lines

• Monitoring of performance of the Service Provider (SP) through SLA

• Calculation of payment to SP on the basis of SLA compliance
• Any other issues related to accounting and Financial transaction

International Standards

- 1. A Guide to the Project Management Body of Knowledge

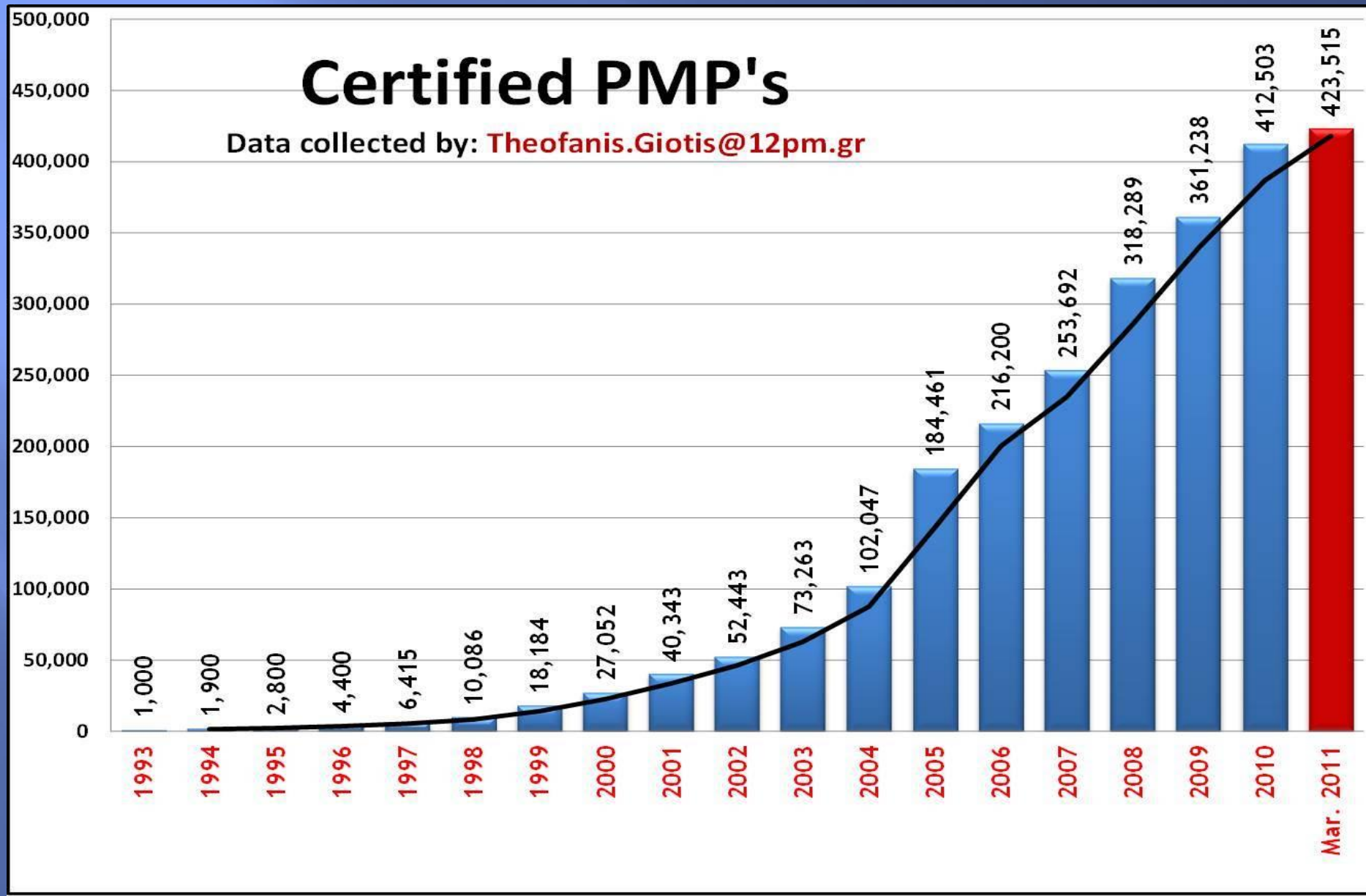
  (Developed by consensus. Provides guidelines for managing individual projects/ American National Standards Institute (ANSI) accredited

- 2. The ISO standards ISO 9000, a family of standards for quality management systems, and the ISO 10006:2003, for Quality management systems and guidelines for quality management in projects.

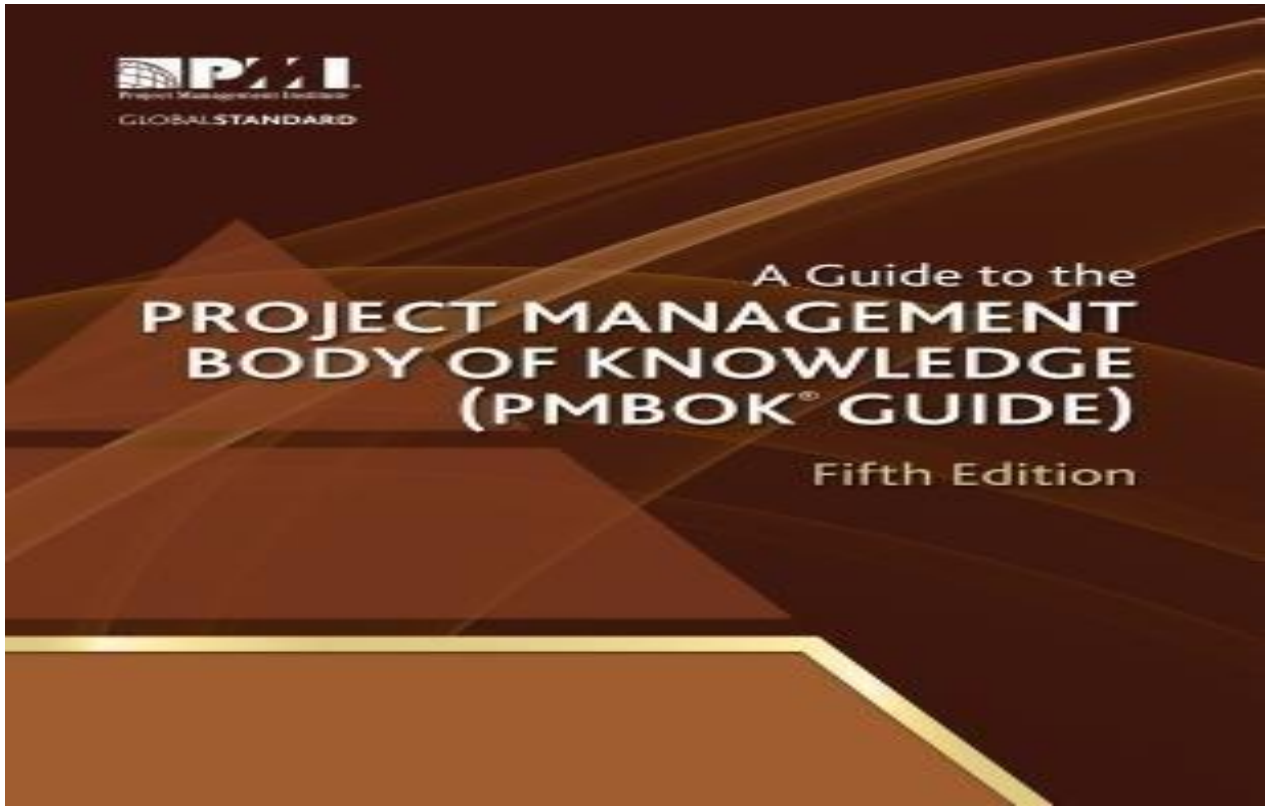
- 3. Total Cost Management Framework, AACE International's Methodology for Integrated Portfolio, Program and Project Management)

- 4. The Logical framework approach, which is popular in international development organizations.

Growth in PMP Certifications



The Text Book



Published	2013 (Project Management Institute)
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Thank You

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Backup Slides

Project Management- Initiation Process

1. Project Charter
2. Identification of Stakeholders

Project Management- Planning Processes (20 Processes)

1. Develop Project Management Plan
2. Collect Requirements
3. Define Scope
4. Create WBS
5. Define Activities
6. Sequence Activities
7. Estimate Activity Resources
8. Estimate Activity Durations
9. Develop Schedule
10. Estimate Costs
11. Determine Budget
12. Plan Quality
13. Develop Human Resource Plan
14. Plan Communications
15. Plan Risk Management
16. Identify Risks
17. Perform Qualitative Risk Analysis
18. Perform Quantitative Risk Analysis
19. Plan Risk Responses
20. Plan Procurements

Project Management- Execution Processes (8 in number)

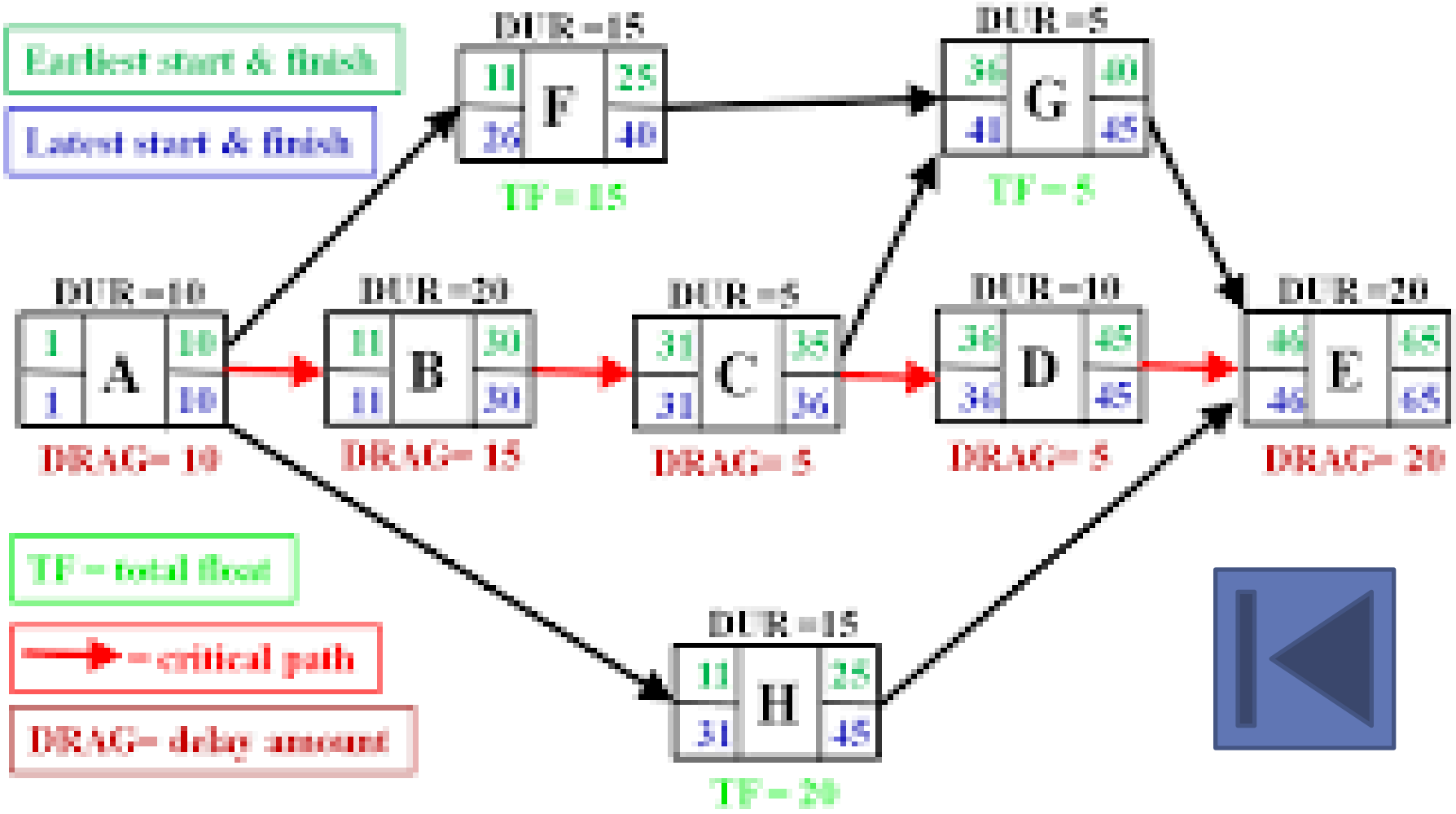
1. Direct and Manage Project Execution
2. Perform Quality Assurance
3. Acquire Project Team
4. Develop Project Team
5. Manage Project Team
6. Distribute Information
7. Manage Stakeholder Expectations
8. Conduct Procurements

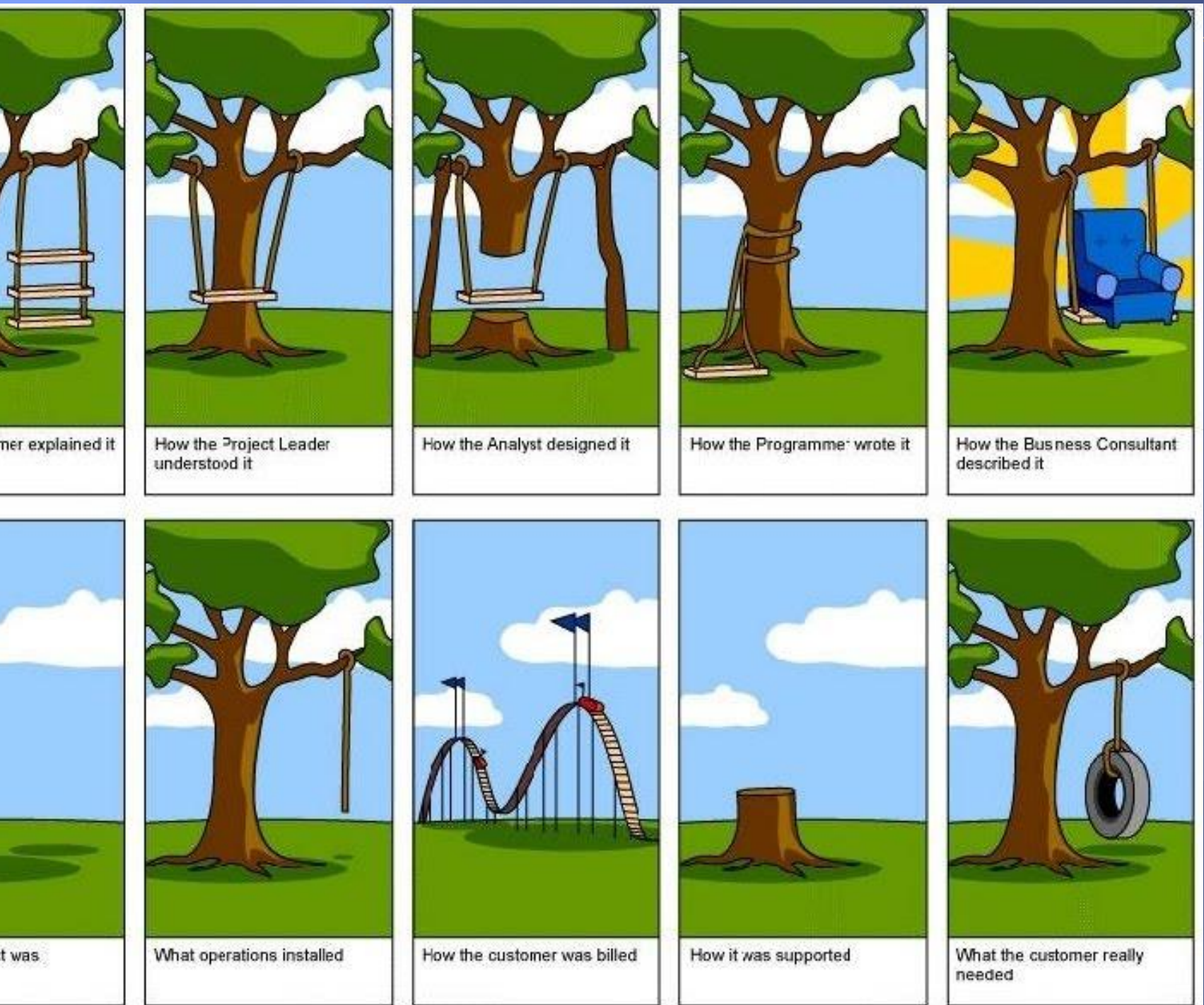
Project Management- Monitoring & Control Processes (10 in number)

1. Monitor and Control Project Work
2. Perform Integrated Change Control
3. Verify Scope
4. Control Scope
5. Control Schedule
6. Control Costs
7. Perform Quality Control
8. Report Performance
9. Monitor and Control Risks
10. Administer Contracts

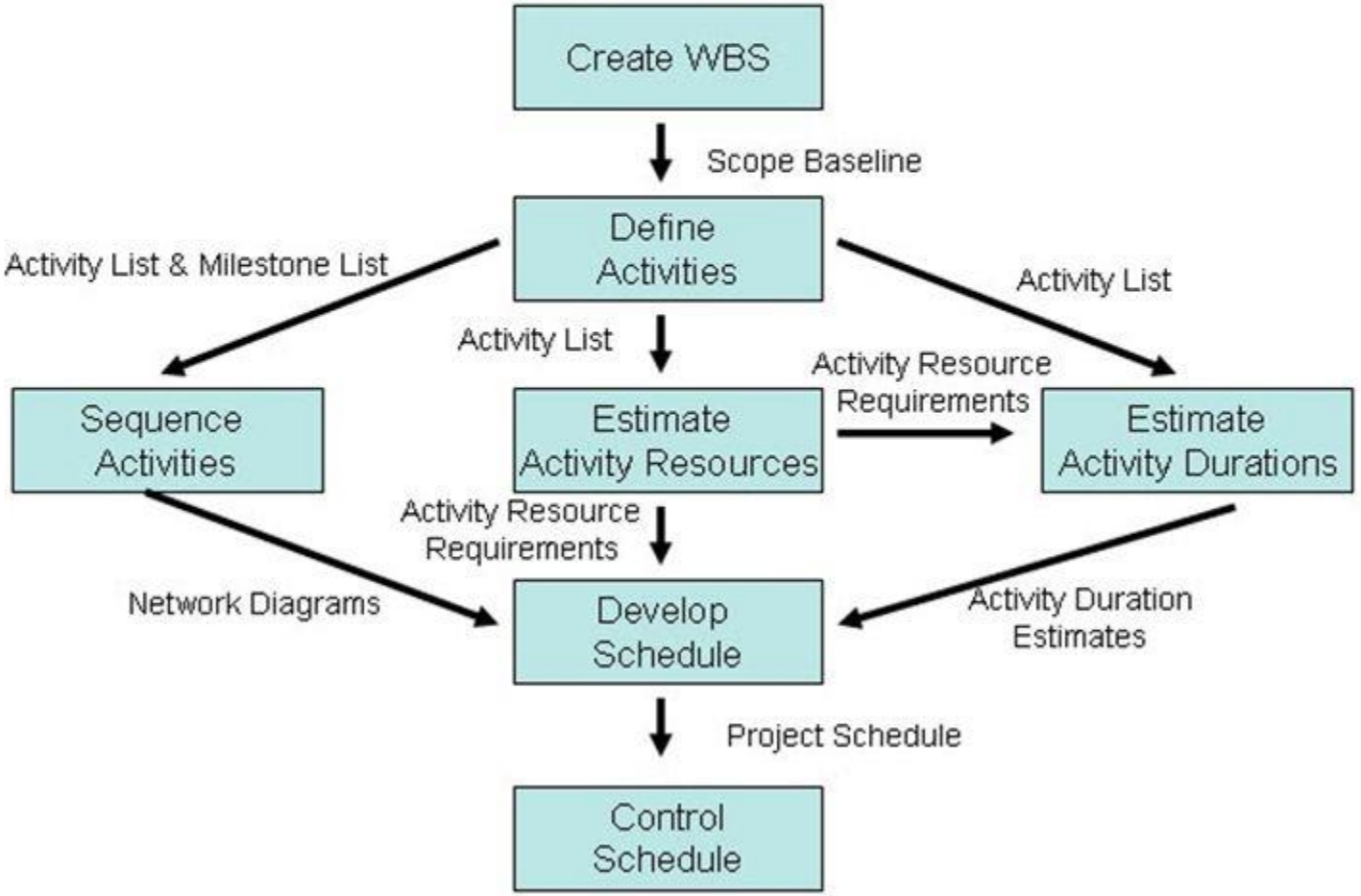
Project Management- Closing Process (2 in number)

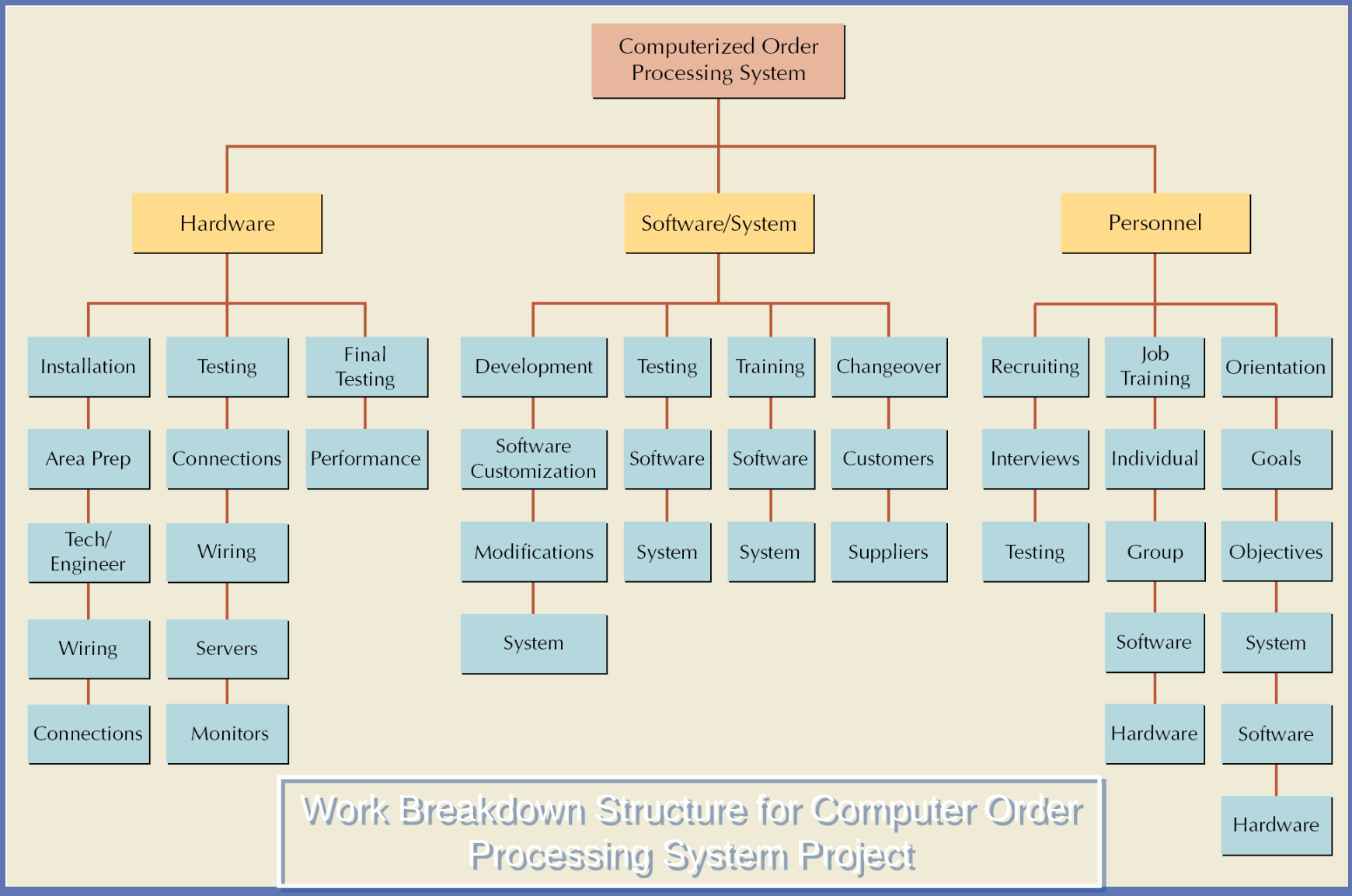
1. Close project or phase
2. Close procurement


Earliest start & finish
Latest start & finish
DUR =15
11
F
25
26
40
TF = 15
DUR =5
36
G
40
41
45
TF = 5
DUR =10
1
A
10
1
10
DRAG= 10
DUR =20
11
B
30
11
30
DRAG= 15
DUR =5
31
C
35
31
36
DRAG= 5
DUR =10
36
D
45
36
45
DRAG= 5
DUR =20
46
E
65
46
65
DRAG= 20
TF = total float
= critical path
DRAG= delay amount
DUR =15
11
H
25
31
45
TF = 20


mer explained it
How the Project Leader understood it
How the Analyst designed it
How the Programmer wrote it
How the Business Consultant described it
t was
What operations installed
How the customer was billed
How it was supported
What the customer really needed

Project Time Management Processes

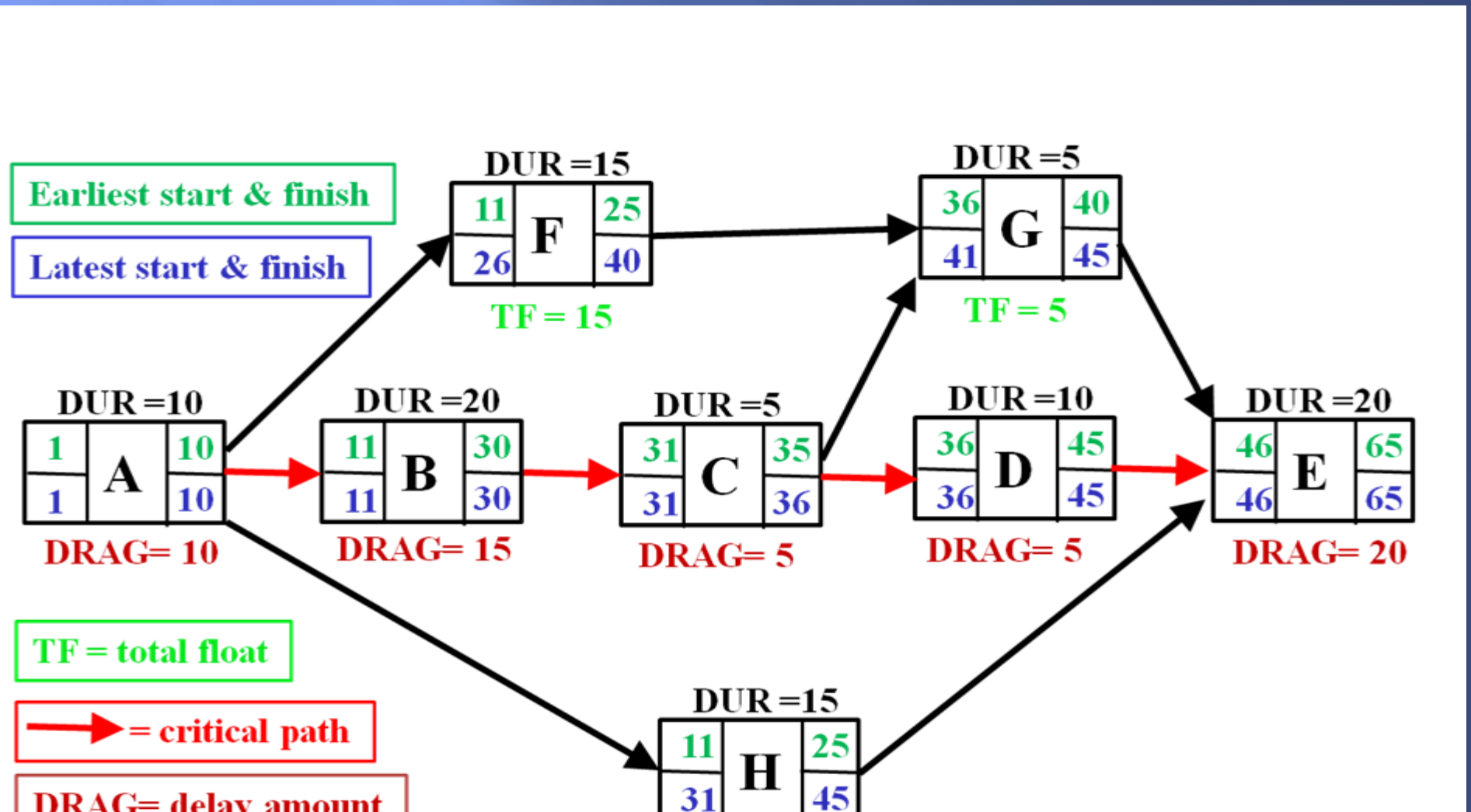




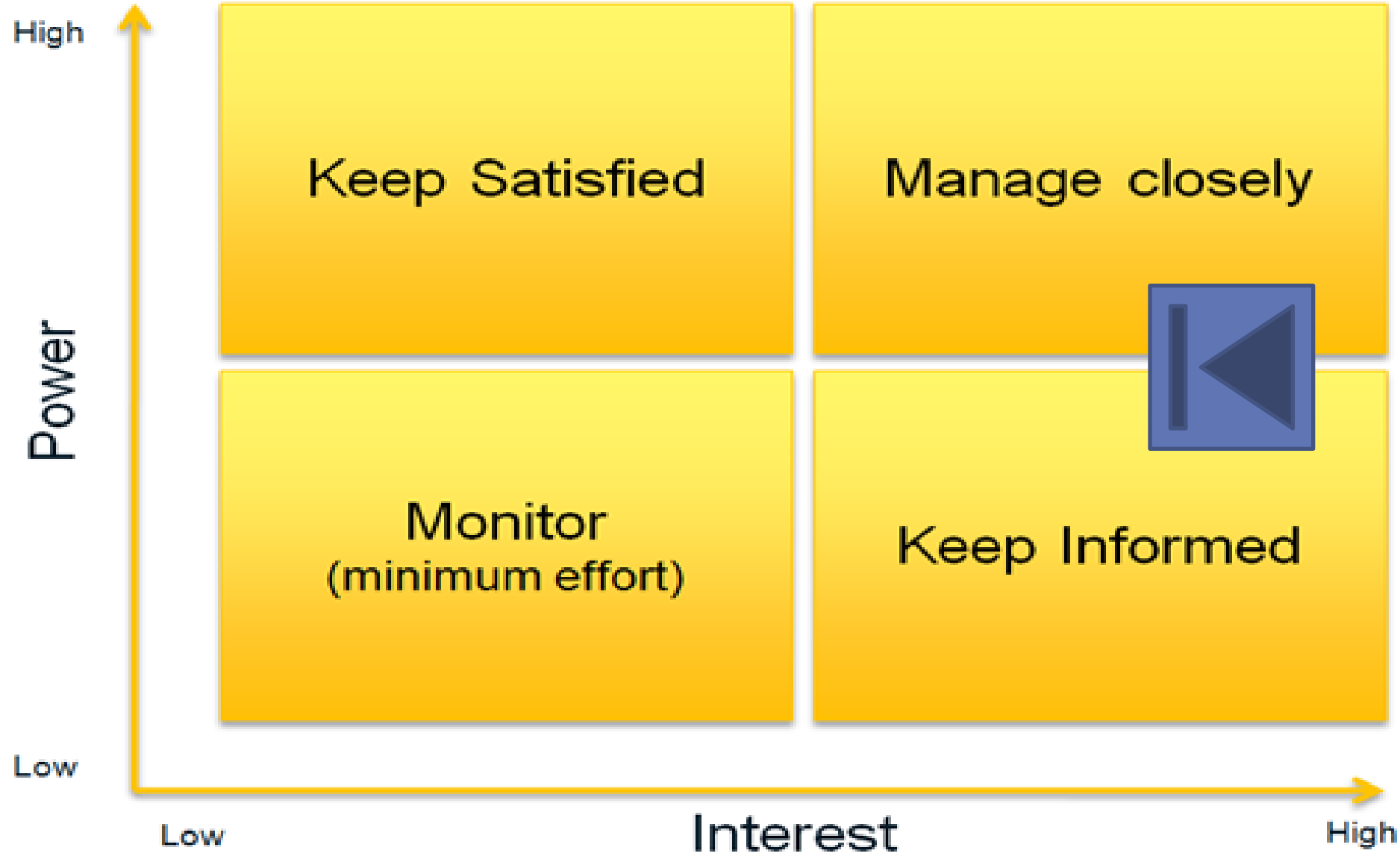
Work Breakdown Structure for Computer Order Processing System Project


Managing the Project Schedule
'Project Activities'
'Project Estimations'
'Develop Schedule'
Defining
Sequencing
Resources
Time
Controlling Schedule

Activity-on-node diagram showing critical path schedule, along with total float and critical path drag computations



Stakeholders Matrix

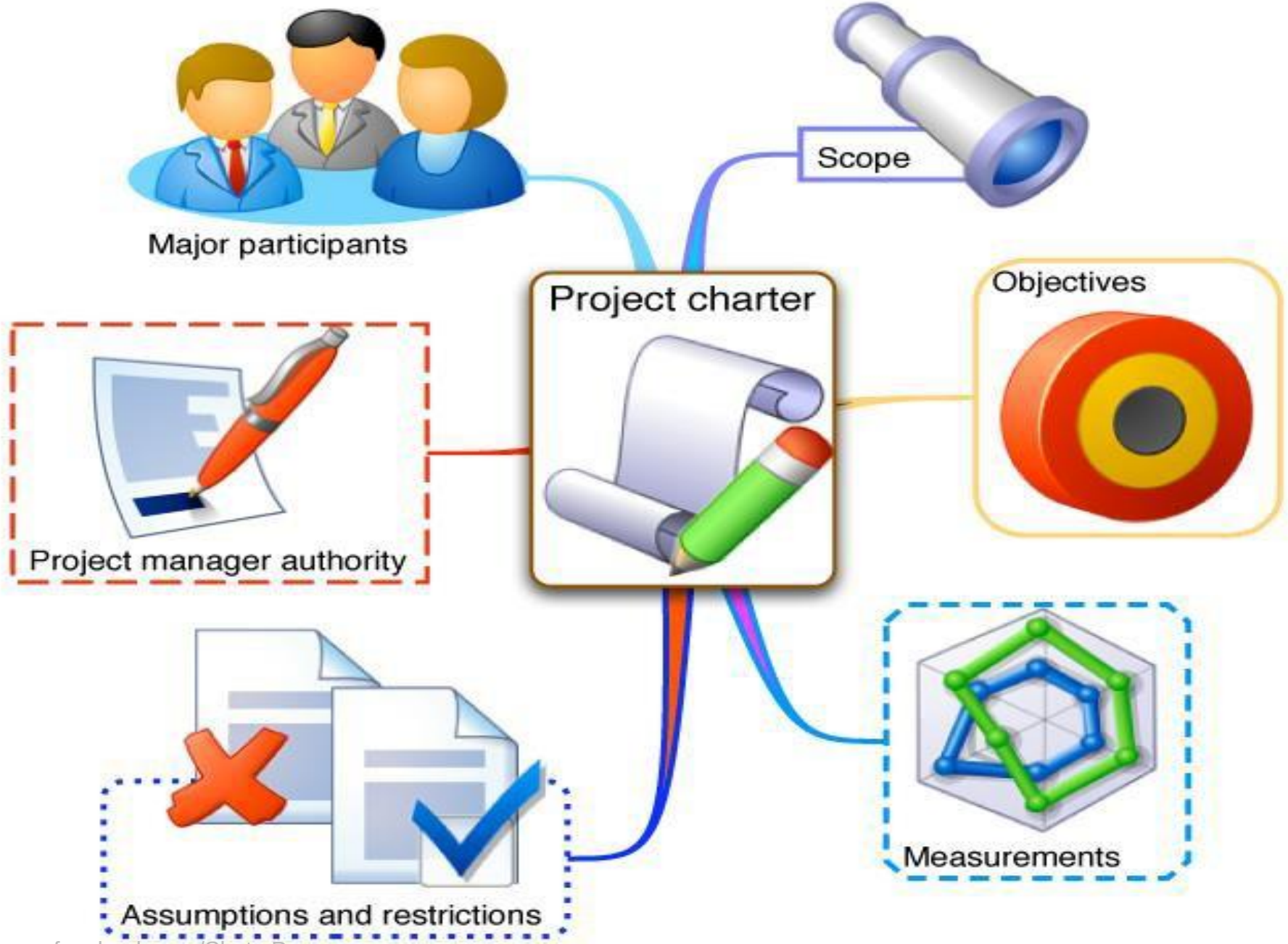


- ***Responsible***
  - Who is/will be doing this task?
  - Who is assigned to work on this task?
- ***Accountable***
  - Who's head will roll if this goes wrong?
  - Who has the authority to take decision?
- ***Consulted***
  - Anyone who can tell me more about this task?
  - Any stakeholders already identified?
- ***Informed***
  - Anyone whose work depends on this task?
  - Who has to be kept updated about the progress?

Maintenance Planning – RACI model

	Maintenance Supervisor	Maintenance Planner	Maintenance Technician	Maintenance Manager	Storeroom Manager	Purchasing Agent
Develop Job Plan Template	C	A/R	C	I	I	
Develop Job Plan for Specific Jobs	C	A	R		I	
Develop Library of Info for Planning	R	R	C	A	R	R
Keep Prints Updated and Secure	A	C	R	I	I	I
Stage Kitted Parts	C	R	C		A	R
Order Parts		R			I	A

RESPONSIBLE ACCOUNTABLE CONSULTED INFORMED


Major participants
Scope
Project charter
Objectives
Project manager authority
Assumptions and restrictions
Measurements