Project Management Workshop

Trainer **: Hari Prasad Thapliyal**

(PMP, PMI-ACP, CSM, SPOC, SDC, SAM, MCT, SCT, MBA, MCA, PGDOM, PGDFM, CIC, PRINCE2-Practitioner)

[PMI-ACP **:** #318050**]**

[PMP **:** #1563385**]**

This content is legal only for participants of Toshiba Bangalore Aug-Sep'17 Training

## Copyright: Vedavit Project Solutions
hari.prasad@vedavit-ps.com

Workshop Agenda

- **Day 1:**
  - PMI & PMP
  - Project Management Framework
- **Day 2:**
  - PM Framework Continue…
  - Project Integration Management
- **Day 3:**
  - Project Scope Management
  - Project Time Management
- **Day 4:**
  - Project Cost Management
  - Project Quality Management

- **Day 5:**
  - Project Human Resource Management
- **Day 6:**
  - Project Communication Management
  - Project Stakeholder Management
- **Day 7:**
  - Project Risk Management
  - Project Procurement Management
  - Professional Responsibility
- **Day 8:**
  - Review All
  - Case Study
  - 200 Question Exam & Review
  - Demo Online Tutorial

Introduction

Project Management Framework
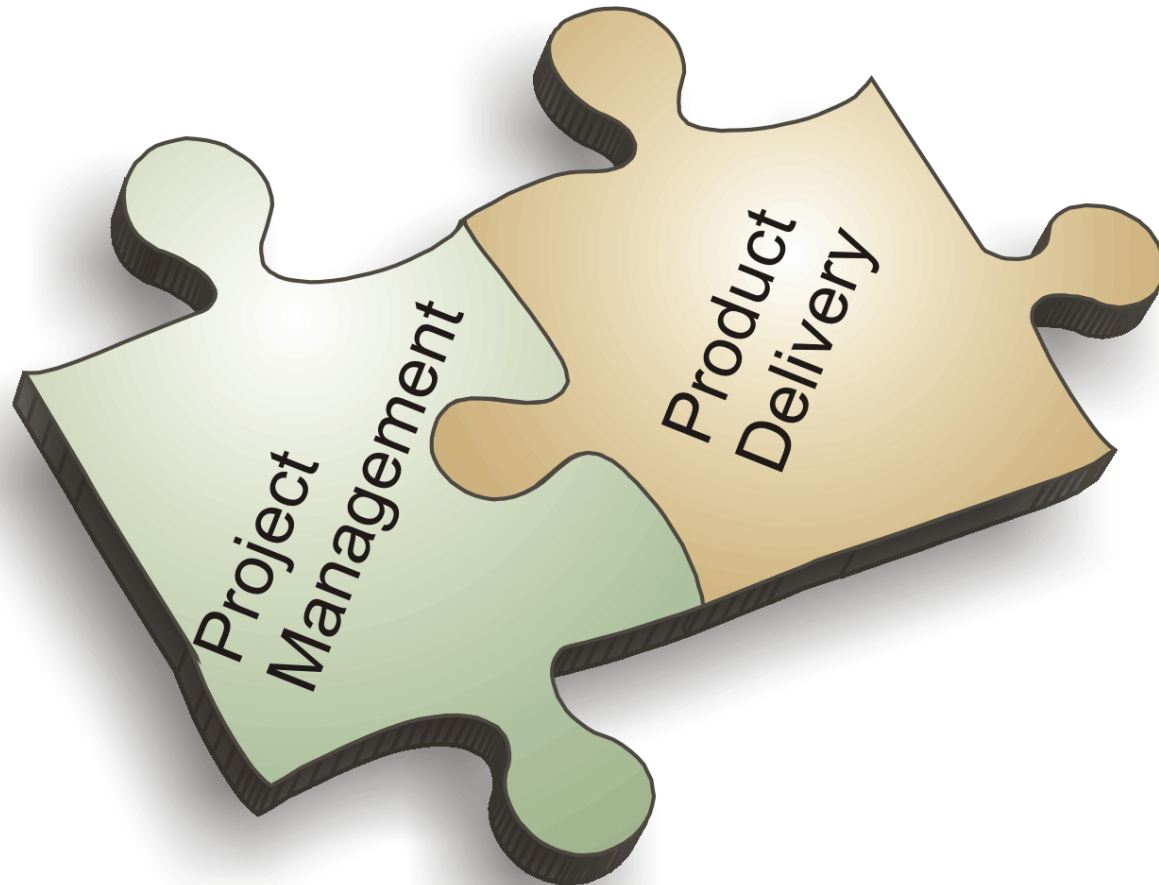
Topics

1. Project
2. Operations
3. Project Constraints
4. Project Phases, Milestones, Deliverables, Activities
5. Project Lifecycle (PLC) & Level of Activities
6. Typical Costing & Staffing across PLC
7. Risk, Cost of Change in PLC
8. Project Boundary
9. Relationship between Process Group & Phases
10. Project Management
11. Program Management
12. Portfolio Management
13. Program Management Office
14. Project Stakeholders
15. Stakeholder Register
16. Organization Types & Influence of Project Success

16. Project Management Methodologies
17. Configuration Management
18. Progressive Elaboration
19. Rolling Wave Planning
20. Project Documents
21. Project Management Plan
22. Organizational Process Assets
23. Enterprise Environmental Factors
24. Project Selection Criteria
25. Expert Judgement
26. Facilitation Techniques
27. Analytical Techniques
28. Meetings
29. Project Manager Responsibilities
30. Project Management Knowledge Areas
31. Process Groups

What is Project???

What is Project?

Project – A <u>temporary</u> endeavor undertaken to create a <u>unique</u> product, service or result

How Temporary?

- Has a definite *beginning and end*, not an on-going effort
- *Ceases* when objectives have been attained
- Team is *disbanded* upon project completion

Unique?

- The product or service is *different* in some way from other product or services
- Product characteristics are *progressively elaborated*

Project has...

➢ Goal (measurable/verifiable) Oriented

➢ Finite duration with a beginning and end

➢ Uniqueness to a great extent and related uncertainties

➢ Coordinated undertaking of interrelated activities

➢ Performing the activities involve resources

➢ Resources cost money

Source of Project?

- Need for improvement

- Market Competition

- Strategic/ Mission/ Vision

- Government Regulation

- Environmental Forces

"Projects" different from "operations"?

Projects

➢ Permanent Project Charter

➢ Catalyst for change

➢ Unique product or service

➢ Heterogeneous teams

➢ Start and end date

➢ Progressive elaboration

Operations

➢ Semi-permanent charter

➢ Maintains status quo

➢ Standard product or service

➢ Homogeneous teams

➢ Ongoing

➢ Predefined product

Project Constraints

Project Phases

- ✓ Projects are divided into phases where extra control is required to effectively manage the completion of the major deliverables
- ✓ Collectively, the project phases put together is known as **Project life cycle**
- ✓ Each phase is marked by one or more tangible verification work product
- ✓ The conclusion of a project phase is generally marked by a review
- ✓ The phase end points are referred to as phase exits, milestones, phase gates, decision gates, stage gates or kill points
- ✓ Starting a phase before approval of deliverables of a previous phase is called Fast Tracking
- ✓ Phases are not cyclical they are sequential
- ✓ Phases are not deliverables but deliverables are part of a Phase
- ✓ *E.g. Product Feasibility, Product Prototyping, Product Design, Development, System Testing, Deployment*

# Milestones, Deliverables

- Deliverables
  - Work product, product component developed by the project team
  - *E.g. Wireframe, Database ER Diagrams, Sequence Diagram, Test Case, Test Results, Any Feature of the Product.*

- Milestone
  - Zero Duration Activity. Mark of Completion of some set of activities with deliverables
  - *E.g. Design Complete, Security Testing Complete, Requirement Gathering Complete, Quality Audit Complete, Development Complete, Deployment Complete*

Project Lifecycle (PLC) & Level of Activities
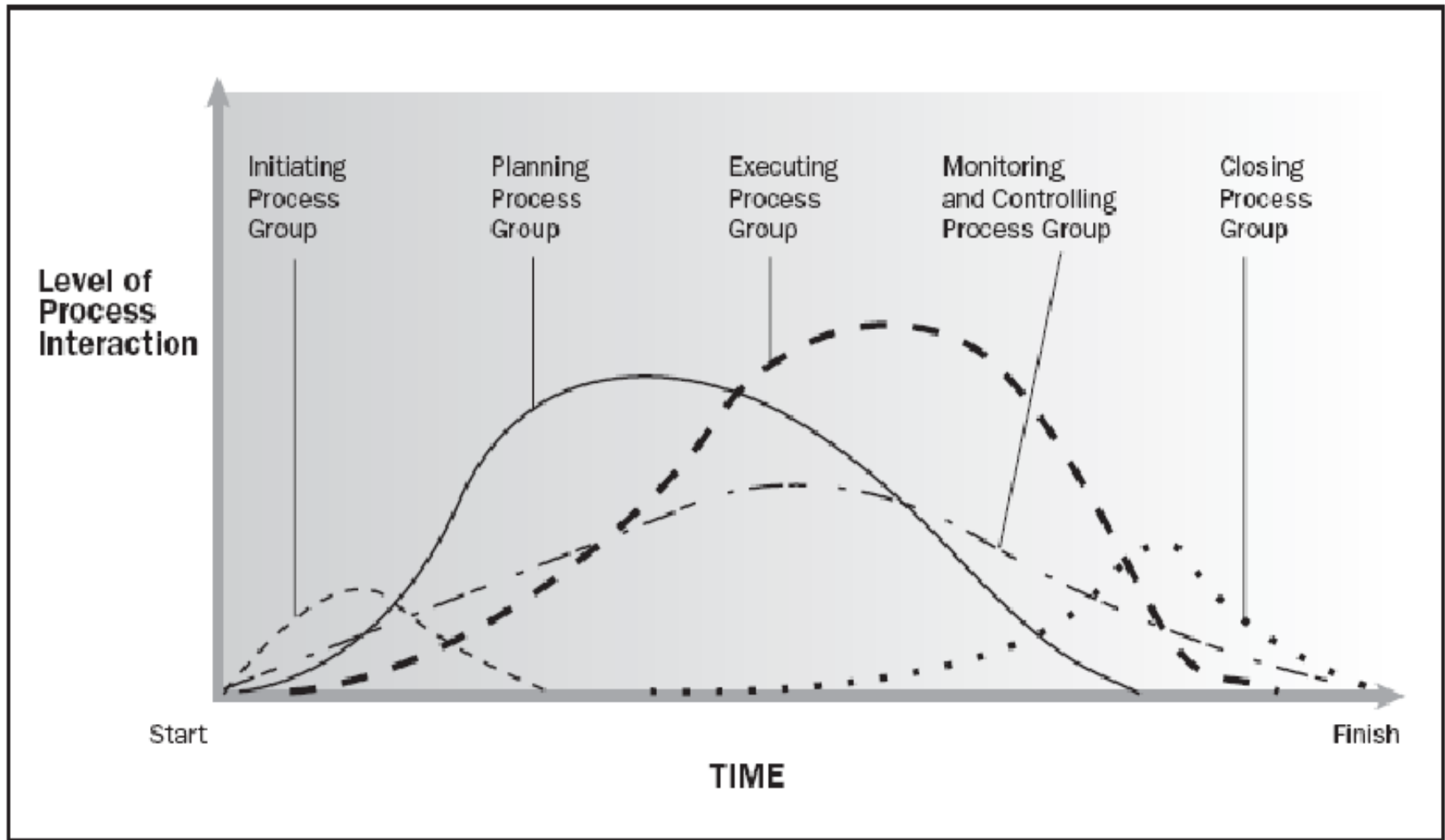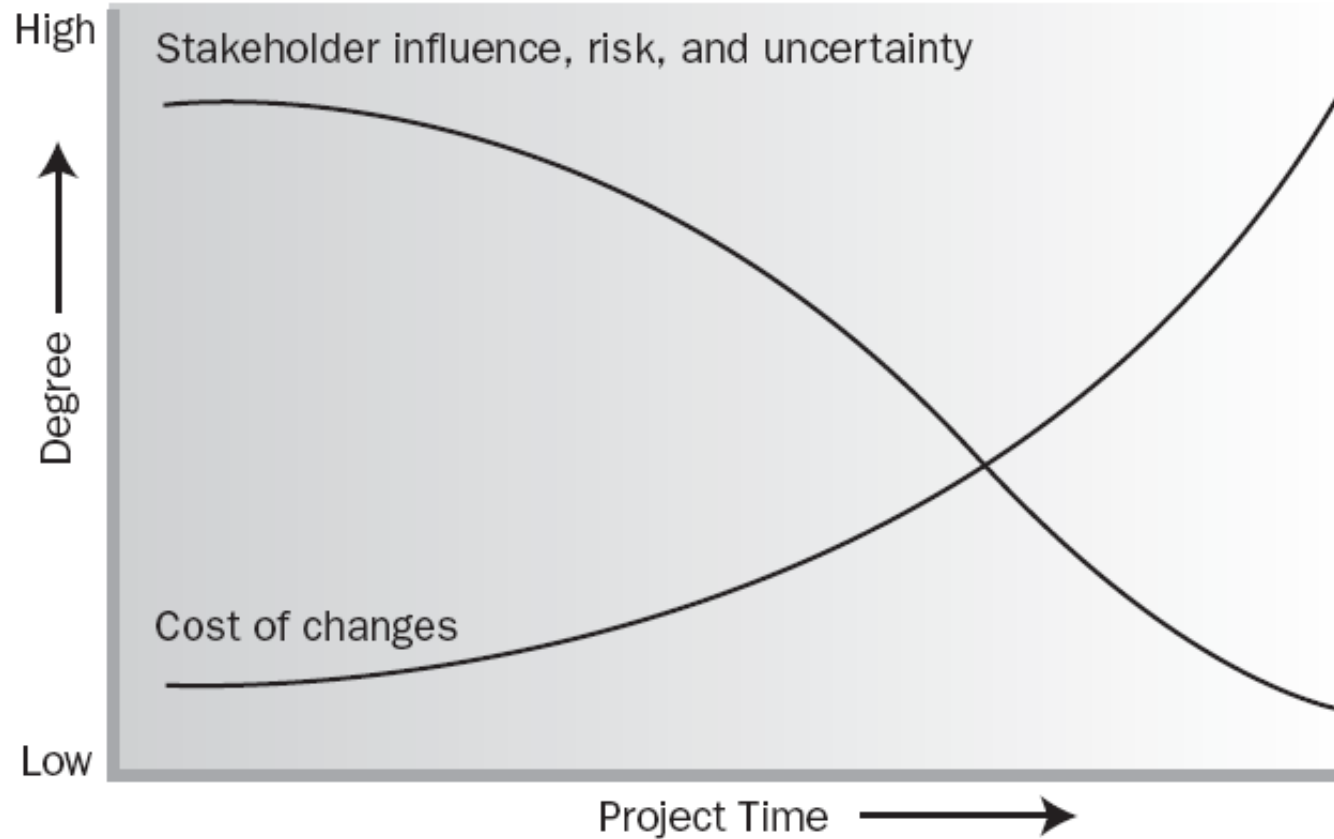

Source PMBOK Guide Version 5.0

Typical Costing & Staffing across PLC
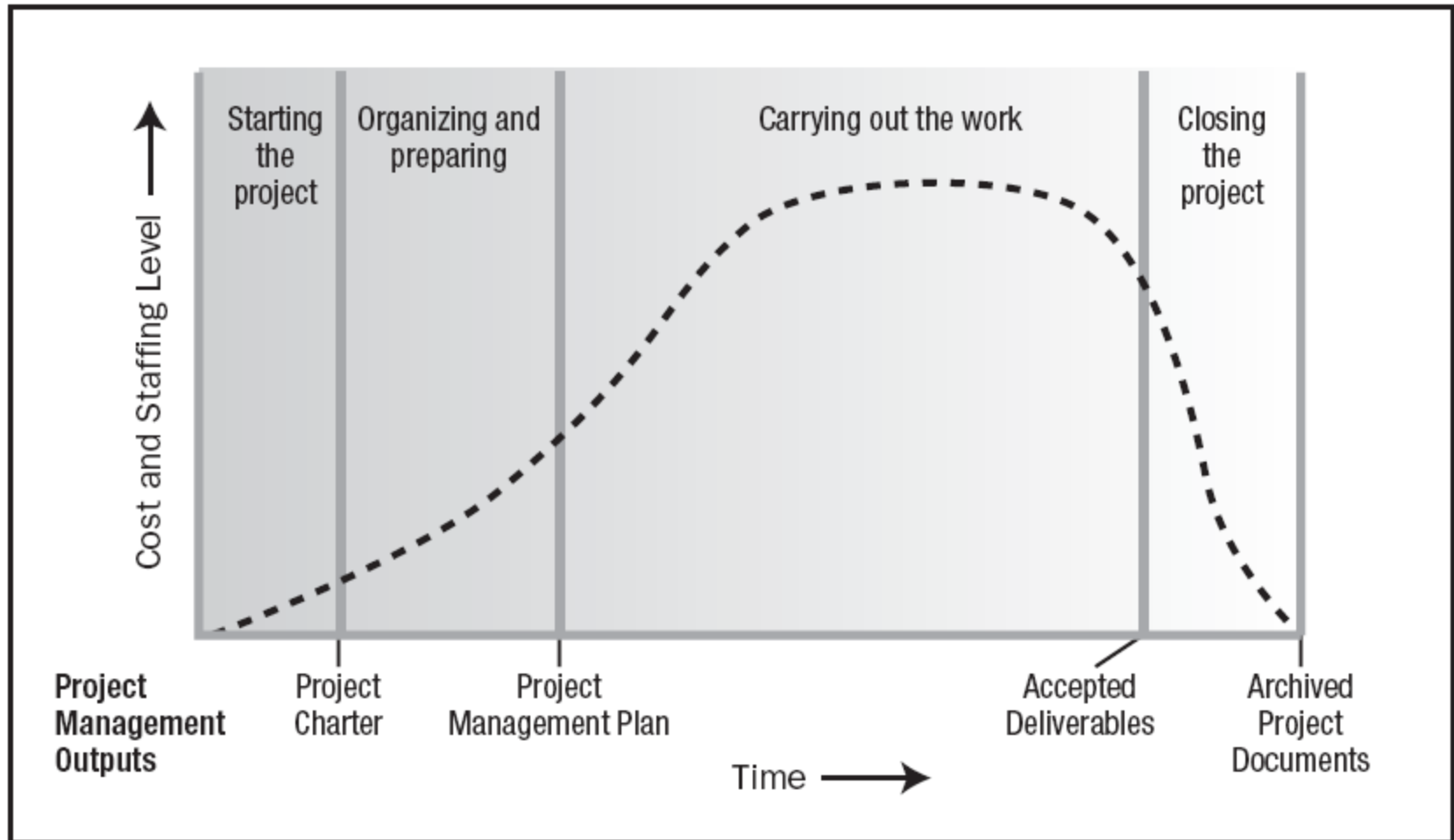
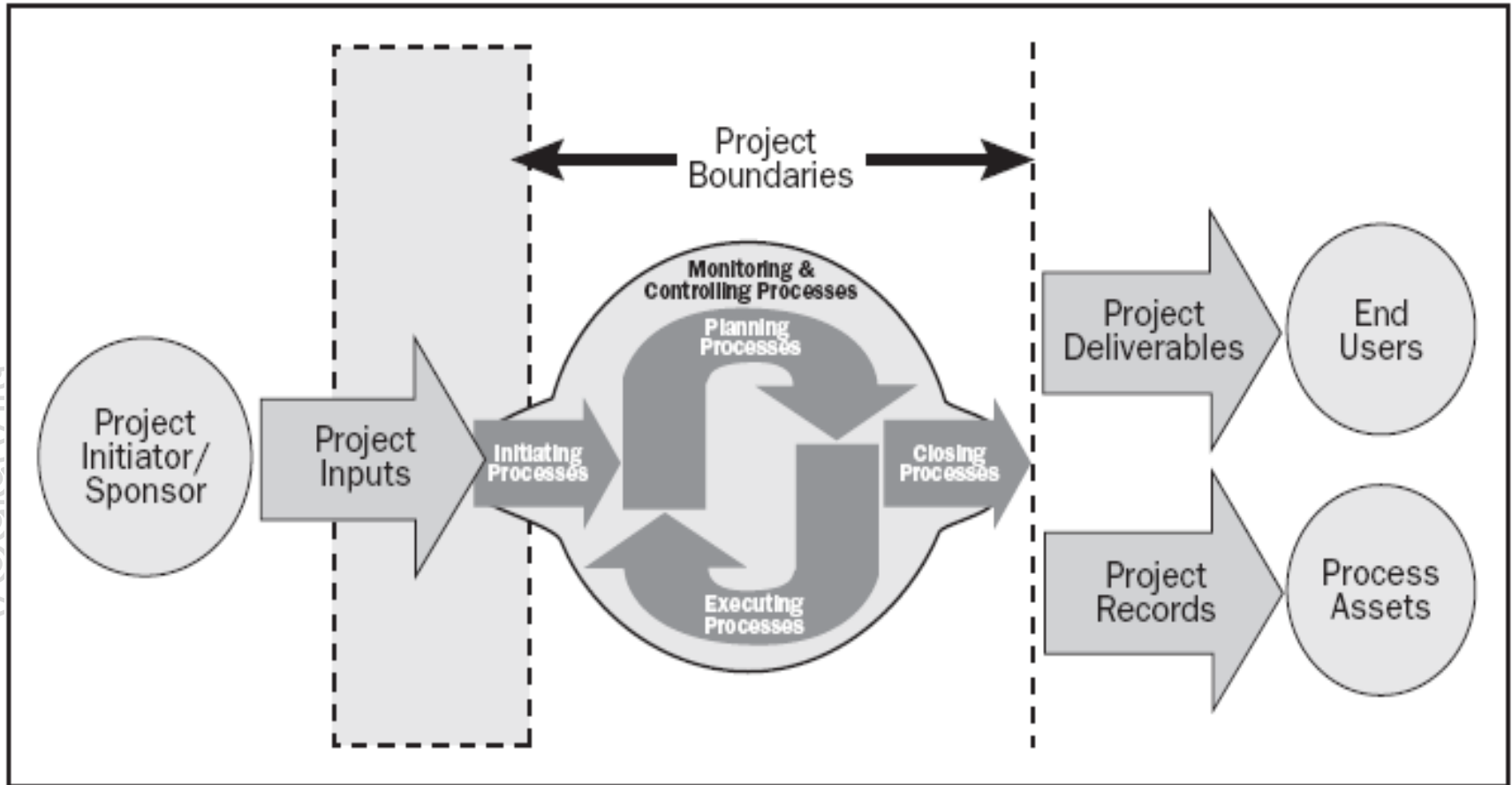Source PMBOK Guide Version 5.0

Risk, Cost of Change in PLC

Source PMBOK Guide Version 5.0

Project Boundaries are Important!

Source PMBOK Guide Version 5.0

Relationship between Process Group & Phases

One Approach to Cleaning Up a Hazardous Waste Site

Source PMBOK Guide Version 5.0

Project Management

The application of **knowledge**, **skills**, **tools** and **techniques** to project activities in order to **meet** the **project requirements**

What is Program?

Group of <u>related projects </u>managed in a <u>coordinated way </u>to obtain the <u>benefits and control </u>which will not be possible from managing them individually

Scope is least important. Benefit(s) are primary goal. Program manager is not responsible for delivery but for benefit realization. Addition/removal of projects in a program is in the hand of Program Manager
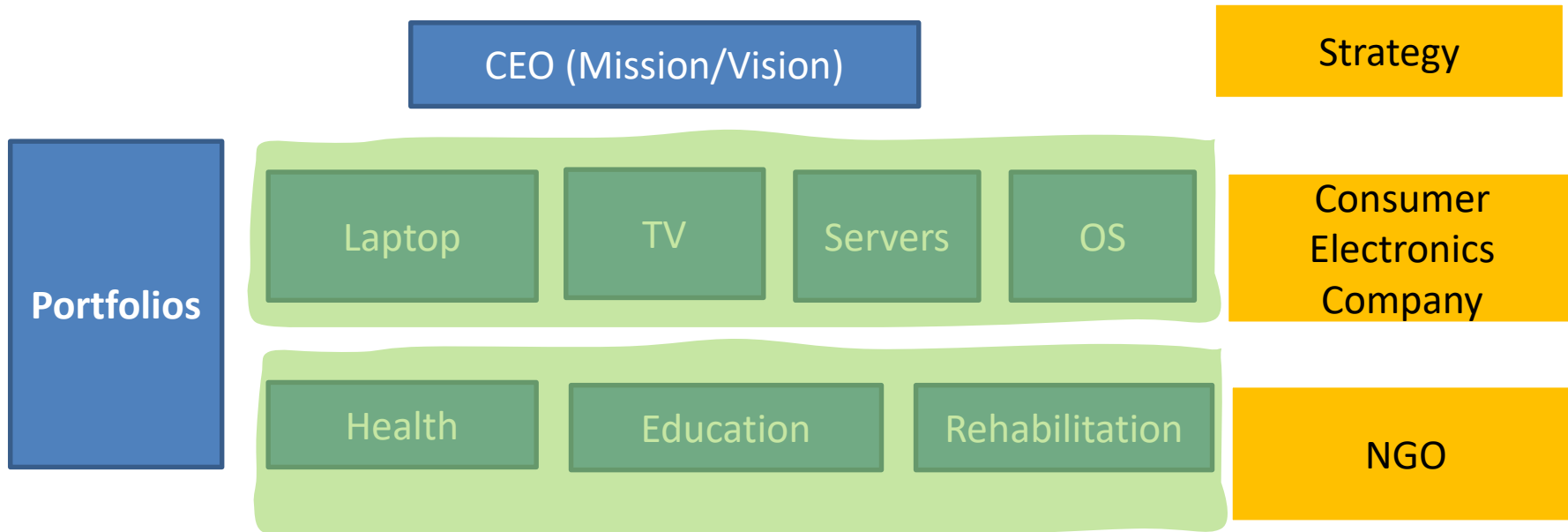
Several projects are required under a program because of different technology, different skills & different kind of teams, parallel work, different type of deliverables.

e.g. Bringing a new product (from conceptualization to Sale all project), New satellite in space, Health improvement of a cancer patient. An IT company want to enter into new market with Cloud Services for the customer.
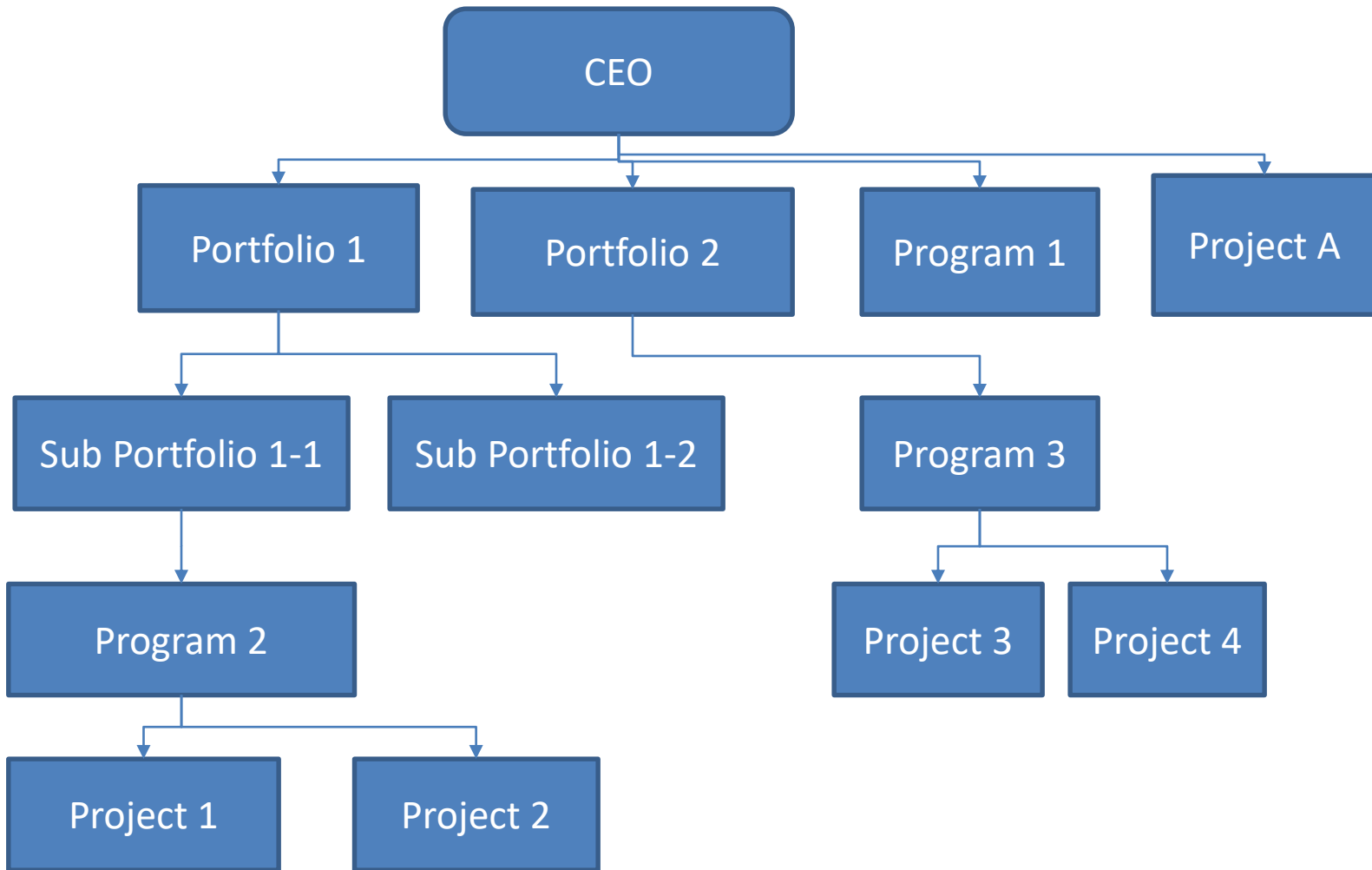
Project Portfolio Management

Collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives

CEO (Mission/Vision)	Strategy
Laptop	TV	Servers	OS	Consumer Electronics Company
Health	Education	Rehabilitation	NGO

Portfolios

vedavit

Relationship Between PPP

What is PMO?

- ✓ Managing shared resources across all project administered by PMO

- ✓ Identifying and developing project management methodology, best practices and standards

- ✓ Coaching, mentoring, training and oversight

- ✓ Monitoring compliance with project management standards, policies, procedures and templates via project audits

- ✓ Developing and managing project policies, procedures, templates and other shared documentation (organizational process assets), and

- ✓ Coordinating communication across projects

Who are Stakeholders?

Persons or organizations who are actively *involved* in the project or whose interests maybe positively or negatively *affected* by the performance or completion of the project

Source PMBOK Guide Version 5.0
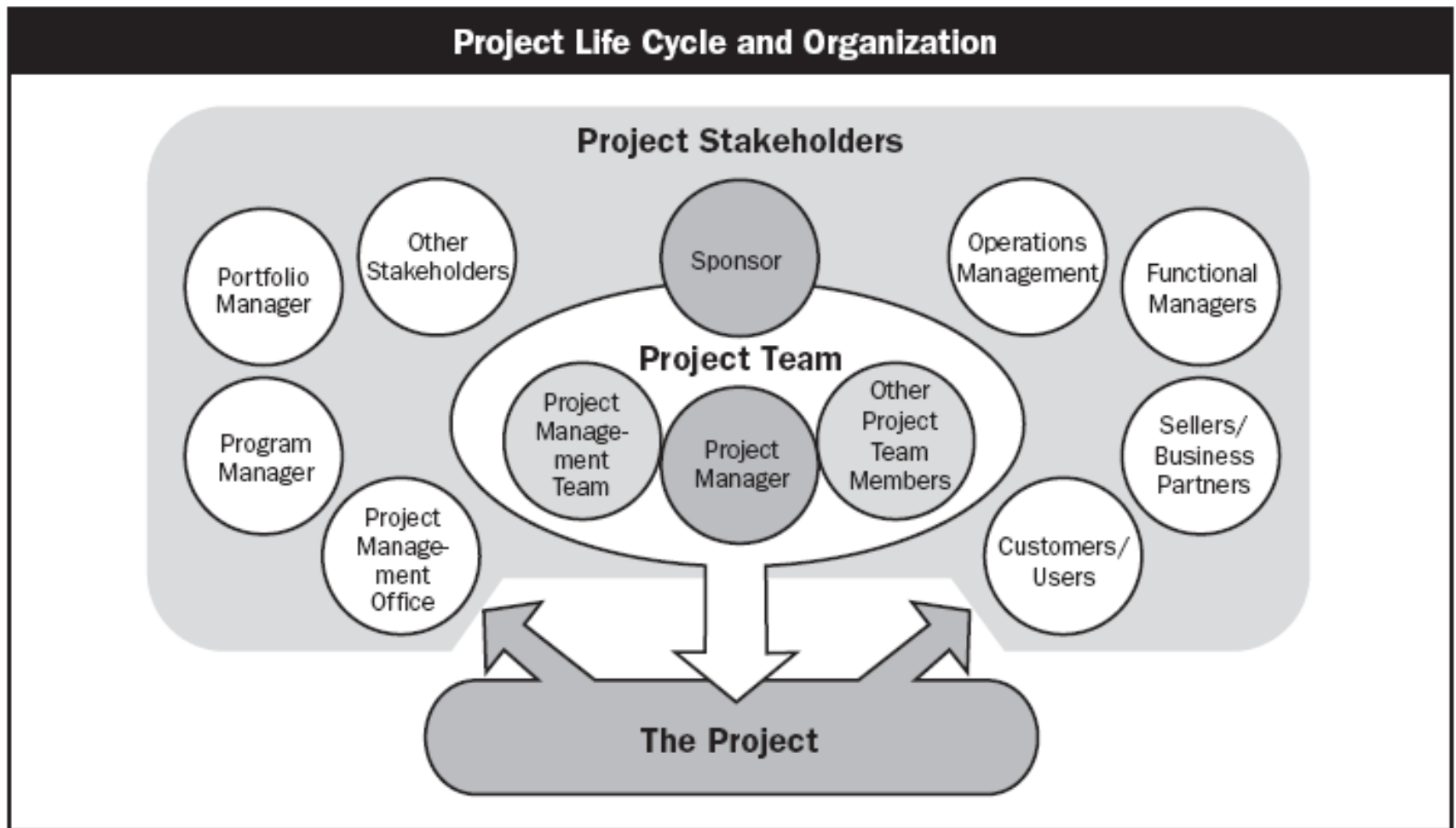
Stakeholders

Source PMBOK Guide Version 5.0

Stakeholder Register

- ID
- Name
- Department
- Internal vs External
- Designation
- Manager
- Power (1-10)
- Interest (1-10)
- Current Position (Favorable, Against, Neutral)
- Needed Position
- Person Attributes (food, philosophy, ideology etc)
- Person Preferences
- Contact Details

Organizational Types

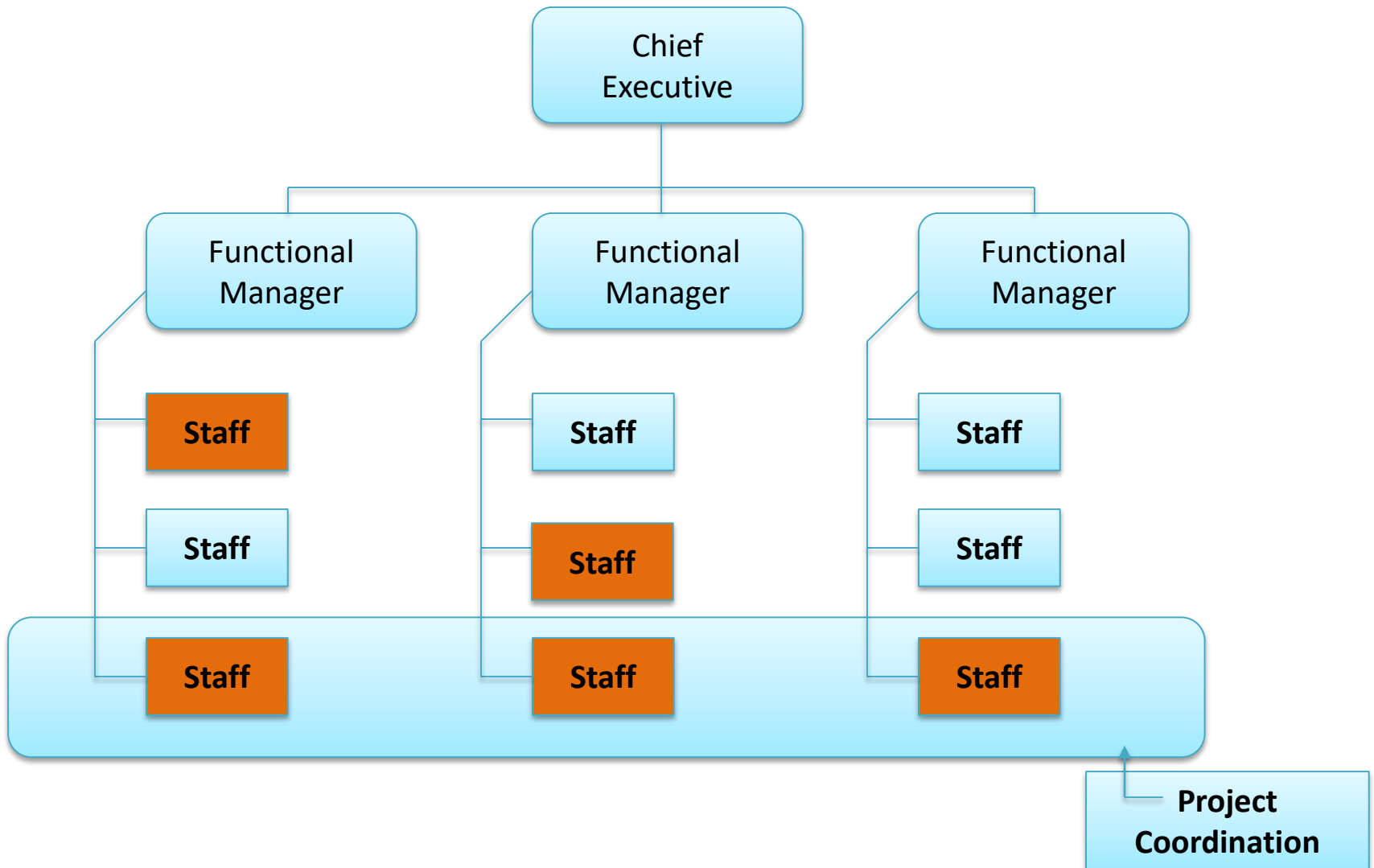- ✓ Functional

- ✓ Matrix
    - ✓ Weak Matrix
    - ✓ Balanced Matrix
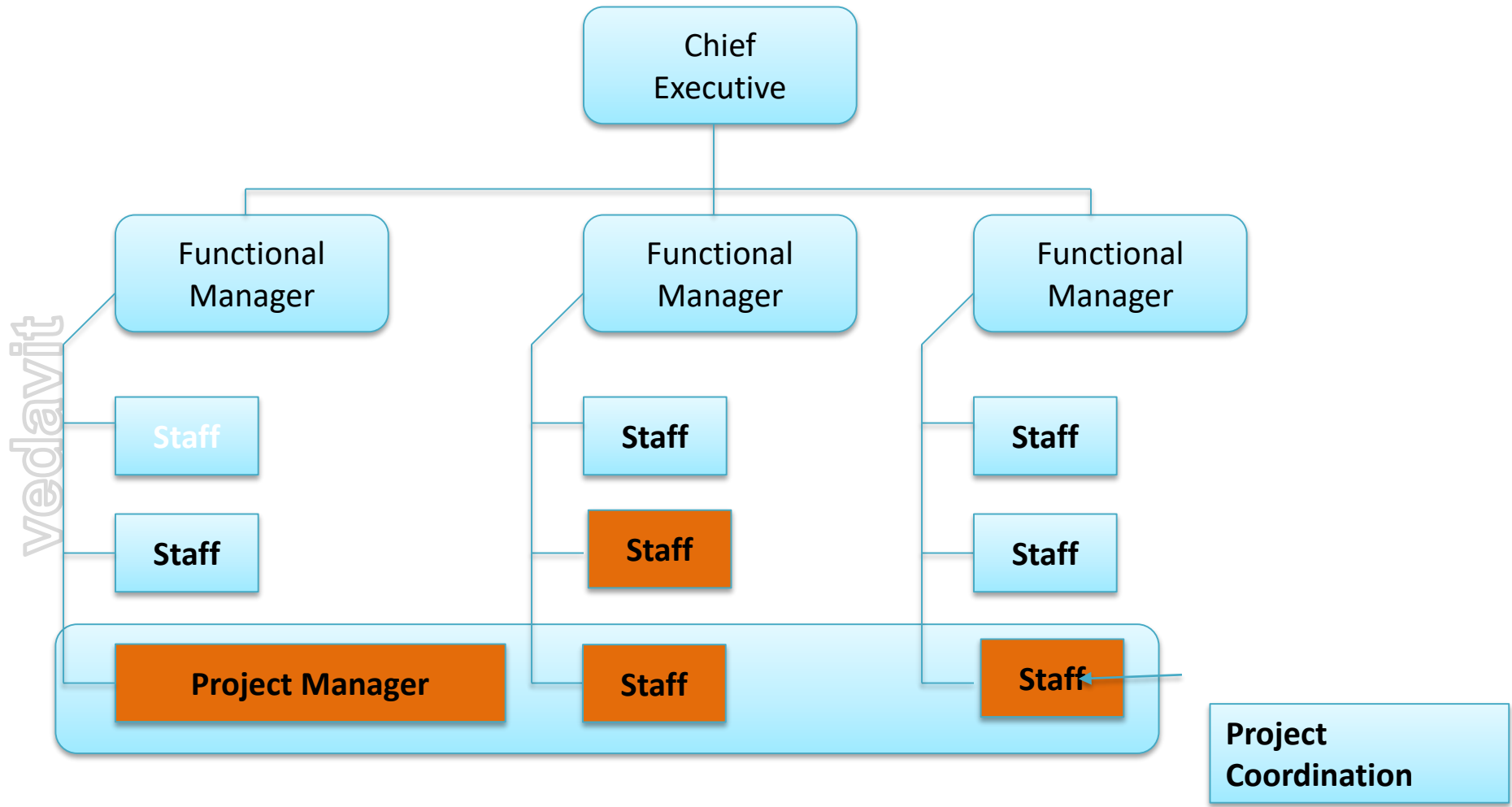   - ✓ Strong matrix

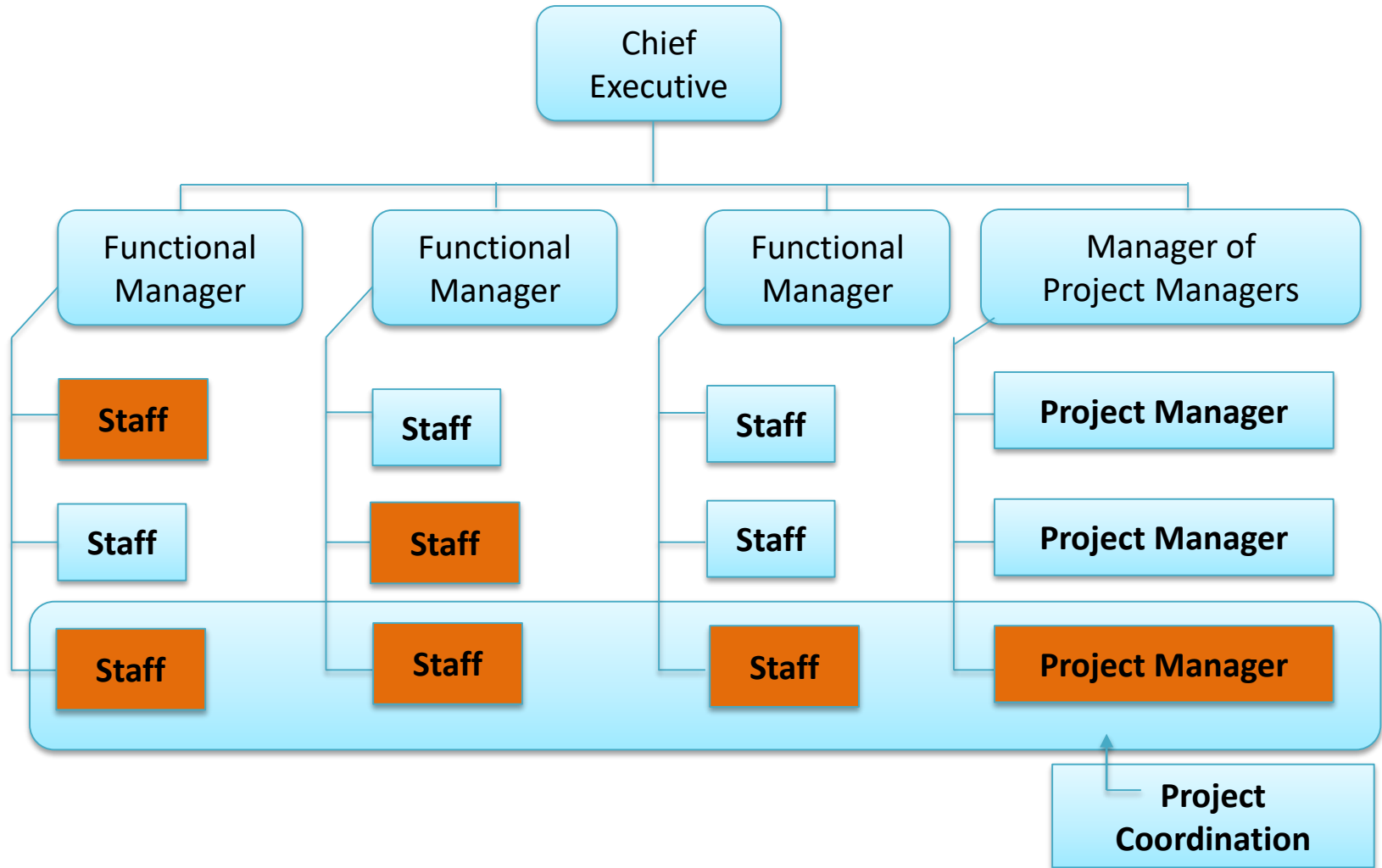- ✓ Projectized

Functional
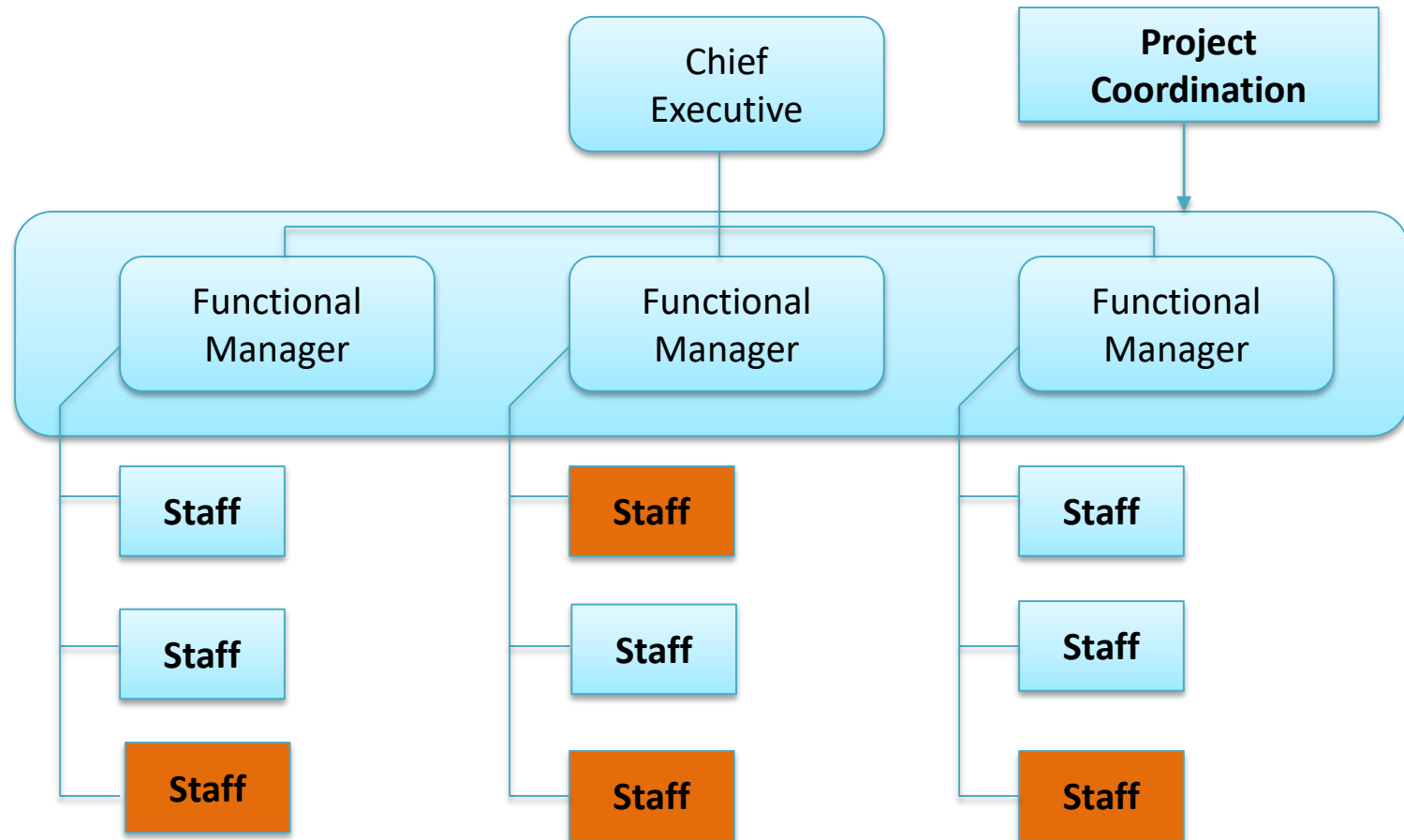
Weak Matrix

Balance Matrix

Strong Matrix

Projectized Matrix
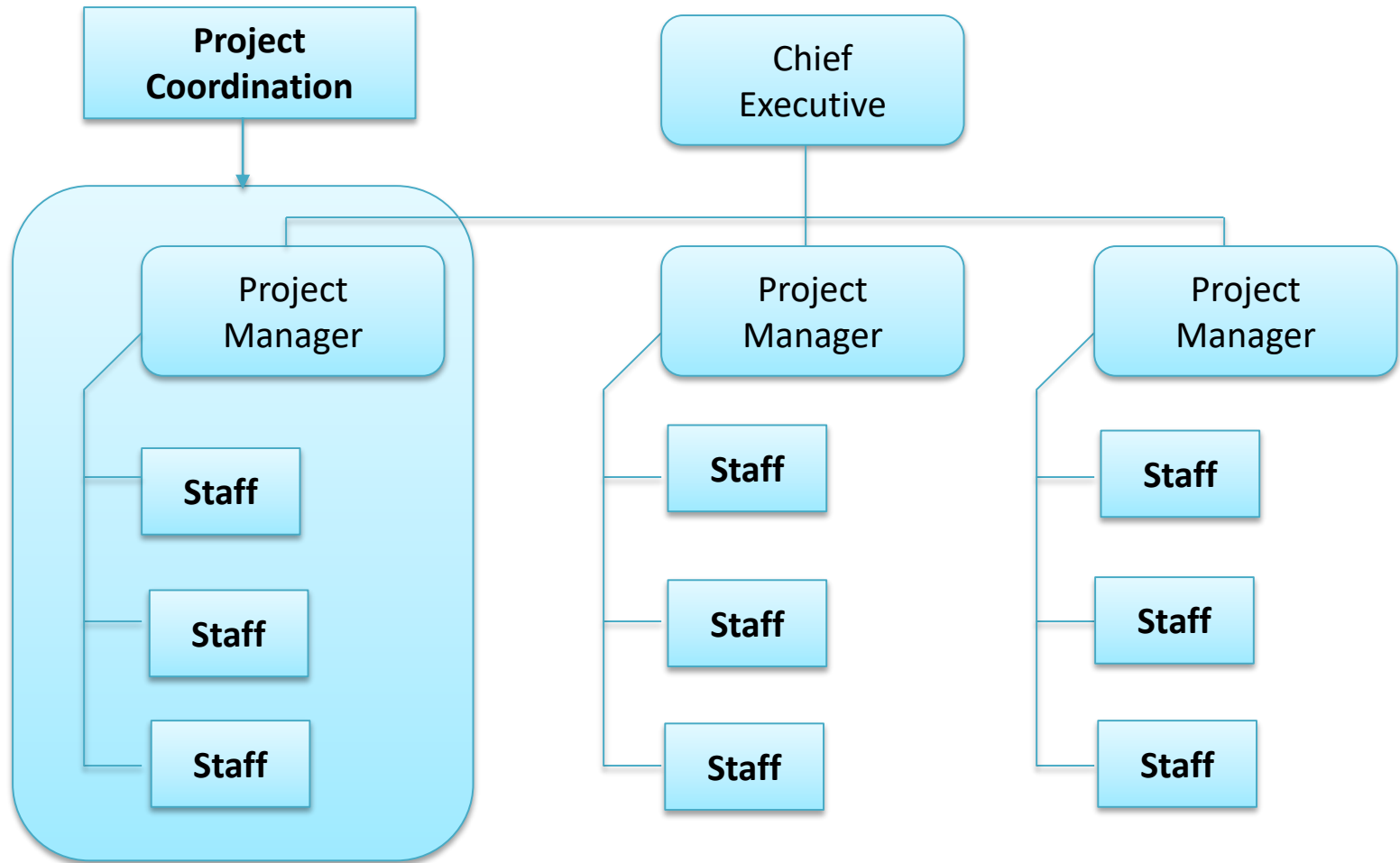
Organizational Influence

Organization Structure / Project Characteristics	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Resource Availability	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Who controls the project budget	Functional Manager	Functional Manager	Mixed	Project Manager	Project Manager
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

Source PMBOK Guide Version 5.0

Project Management Methodologies

All projects are not same. Bases on the project characteristics a project manager need to select a right PMM to deliver a project successfully. Broadly methodologies can be categorized in the 3 groups.

- Waterfall Development

- Iterative Development

- Agile Development

Configuration Management System

- A system to manage project artifacts, project's product and project's product's components.

- It helps in versioning, naming, storing, archiving, backup, securing project and product output.

- *e.g. SVN, VSS, TFS*

Progressive Elaboration

- Project scope unfolds during the project execution. Scope of the next phase depends upon the output or success of previous phase.

- It is Scope Management Concept.

Rolling Wave Planning

- Activities of any deliverable can be known when we know what need to delivered.

- Attribute of the activities can be known only when we know what are the activities and what is deliverable.

- It is Time Management Concept.

Project Documents

- Documents being managed by the project team to perform the project

- Document provided by customers, vendors, government agencies, management

- Documents which are prepared by the team like Design Related, Requirement Related, Issue Register, Risk Register, Change Log

- All document must be managed using some Configuration Management Tool.

Project Management Plan

- Project Management Plan includes
  - All Subsidiary Plan (Configuration, Cost, Risk etc)
  - All Baselines Related to Project
  - Project Management Methodology
  - Project Lifecycle and Project Phases
  - Process Tailored List
  - Tailored Process

Subsidiary Plan

Subsidiary plan need to be developed for each aspect of the project. For every aspect (Scope, Time, Cost, Quality, Resources, Communication, Risk, Stakeholder) you need to know following

- What are the activities which need to be done?
- Who will perform these? Is any training required to perform these activities.
- When these activities will be performed?
- How will you measure success?
- What tool you will use for this?
- How will you execute the work of this aspect?
- How will you control this aspect?
- Most of these activities are related to Planning of the Plan and **NOT** of the planning of Execution

Organizational Process Assets

- Process Assets which created by the organization while doing the project in past

- Processes, Standards, Guidelines, Checklist, Templates standardized by the Quality Department or PMO

- Lessons learned report of the previous projects

- Consider them for project Initiation, Planning, Executing, Monitoring & Controlling and Closing. Do not reinvent the wheel in project management.

- *e.g. Time/Cost/Resource Estimation database, Risk database, Issue Register, Skills Database*

Enterprise Environmental Factors

- Constraints which are not in control of a Project Manager and the project manager has to consider them to make project successful.

- These constraints are imposed by environment of those enterprises which are involved in the project

- Consider them for project Initiation, Planning, Executing, Monitoring & Controlling and Closing

- *e.g. Skill Availability, Market Condition, Attitude of People, Organization Culture, Climatic Condition, Political Condition, Bosses etc.*

Project Selection Criteria

Project	Project name	Outflow	Year 1 Inflow	Year 2 Inflow	Year 3 Inflow	Asset Value at the End of 3rd Year	IRR Calc	IRR	PBP (Years)	PV	NPV	BCR
P1	Start Hotel	995		200	250	900	990.48	11.50%	2.5	1029.3	34.3013	1.034474
P2	Invest in MF	800	250	300	350	800	803.19	36.00%	2.5	1339.2	539.2186	1.674023
P3	Invest in Green Field Tech	690		700	200	400	687.30	30.00%	2.0	1029.3	339.3013	1.491741

Discount Rate: **10%**

- Maximum IRR (Internal Rate of Return)
- Lowest PBP (Payback Period)
- Higest PV (Present Value)
- Highest NPV (Net Present Value)
- Hight BCR (Benfit Cost Ratio)

- PBP- Payback Period is a time in which original invest is realized.
- $PV = FV / (1+ r)^n$
  - PV= Present Value
  - FV= Future Value
  - r = Discount Rate
  - n = Number of Years
- NPV = Inflow – Outflow (Take Positive Value)
- IRR = A discount rate at which [Outflow – Inflow =0]
- BCR = Benefits (Present Value) / Cost (Output)

Expert Judgement

- Being an industry neutral, domain neutral, culture neutral standard PMBOK provides you a unique tool to deliver a successful project. This tool is called expert judgment.

- Project managers highly rely on industry specific skills, input from local market experts, those who have done similar work earlier

- *E.g. SME, A department within Organization, Industry Group, Consultants, Experienced People within Org or Industry*

vedavit

Facilitation Techniques

Facilitation techniques enable us to conduct the fruitful sessions.

- Structured problem solving/decision making
- Working in pairs or trios
- Three star rating
- Round Robin
- Ranking
- Multi voting
- Meta-planning (PostIt Note on Wall)
- Ice Breakers
- Group Review
- Go Wild (wouldn't it be good if...)
- Flipchart
- Brainstorming/ Reverse Brainstorming
- Action planning

Analytical Techniques

Analytical techniques enable us to examine complex relationships between variables

- Regression Analysis (Dependent/outcome variable is directly affected by one or more independent variables)
- Grouping Methods
- BCG (Boston) matrix
- Brainstorming
- Benchmarking
- Gap Analysis
- Mind Maps
- Pareto principle, Pareto principle 80-20 rule
- Six Questions
- SWOT Analysis
- Causal Analysis
- Root Cause Analysis
- Forecasting Methods (time series, simulation, scenario building etc)
- Failure Mode and Effect Analysis (FMEA)
- Fault Tree Analysis (FTA)
- Reserve Analysis
- Trend Analysis
- Earned Value Management
- Variance Analysis

Meetings

Meetings with stakeholders helps us understand their viewpoint which is critical for making decisions.

- F2F
- Virtual
- Formal
- Informal
- Standup Meeting
- Kickoff Meetings
- Adhoc Meeting
- Review Meeting
- Off-site Meetings
- On-Site Meeting

A Framework

Project Manager Competency Development Framework- 2nd Edition, 2007

Project Manager Responsibilities

- Estimates of <u>size</u>, <u>efforts</u> & <u>schedule</u>
- <u>Risk</u> identification, analysis, prioritization, monitoring & control
- <u>Resource</u> allocation, resource backup and utilization
- <u>Scope</u> management
- <u>Communication-</u> reviews, steering committee meetings, stakeholder identification and expectation management
- <u>Stakeholder Expectation Management</u>
- <u>Defect free</u> product delivery on time within budget
- <u>Team motivation</u>, team management, training & development, appreciation, career planning, interview
- <u>Deliver</u> as per contract & proposal
- <u>Procure</u> as per contract & proposal
- <u>Configuration management</u>, data backup
- <u>Quality</u> planning
- <u>Cost optimization</u>
- <u>Presales</u> & proposals
- <u>Technical guidance</u> to team – if team members are not available do their work (after project manager has completed his work & he has spare time)

vedavit

Project Manager Responsibilities

- **Initiating a Project**
  - Project aligned with org objectives & customer needs
  - High-level risks, assumptions and constraints are understood
  - Stakeholders identified and their need are understood
  - Project Charter approved
- **Planning a Project**
  - Project scope agreed
  - Project schedule approved
  - Cost budget approved
  - Project team identified with roles and responsibilities agreed
  - Communication activities agreed
  - Quality management process established
  - Risk response plan approved
  - Integrated change control processes defined
  - Procurement plan approved
  - Project Plan approved

Project Manager Responsibilities

- **Executing a Project**
  - Project scope achieved
  - Project stakeholders expectations managed
  - Human resource managed
  - Quality managed against plan
  - Material resources managed
- **Monitoring & Controlling a Project**
  - Project tracked and status communicated to stakeholders
  - Project change is managed
  - Quality is monitored and controlled
  - Risk is monitored and controlled
  - Project team managed
  - Contract administered
- **Closing a Project**
  - Project outcomes accepted
  - Project resources released
  - Stakeholder perceptions measured and analyzed
  - Project formally closed

Project Manager Competencies

- Communication

- Leading

- Managing

- Cognitive Ability

- Effectiveness

- Professionalism

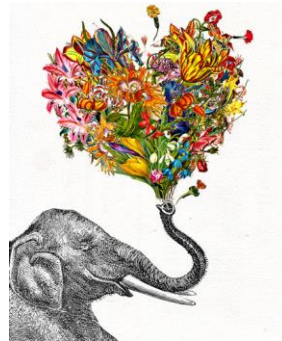# Project Management Knowledge Areas
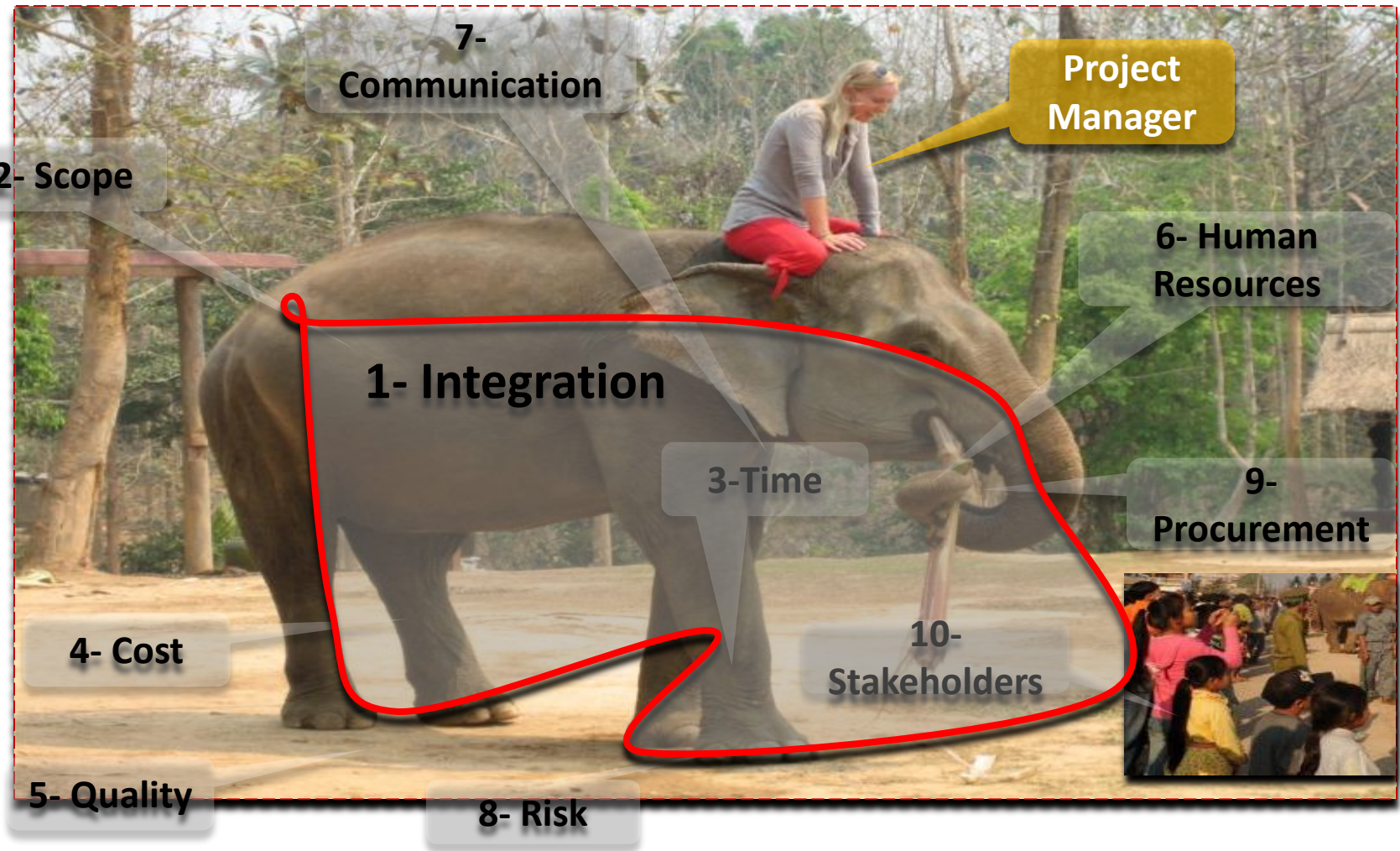
Process Groups

Initiating

Planning

Executing

Monitoring & Controlling

Closing

Discussions !