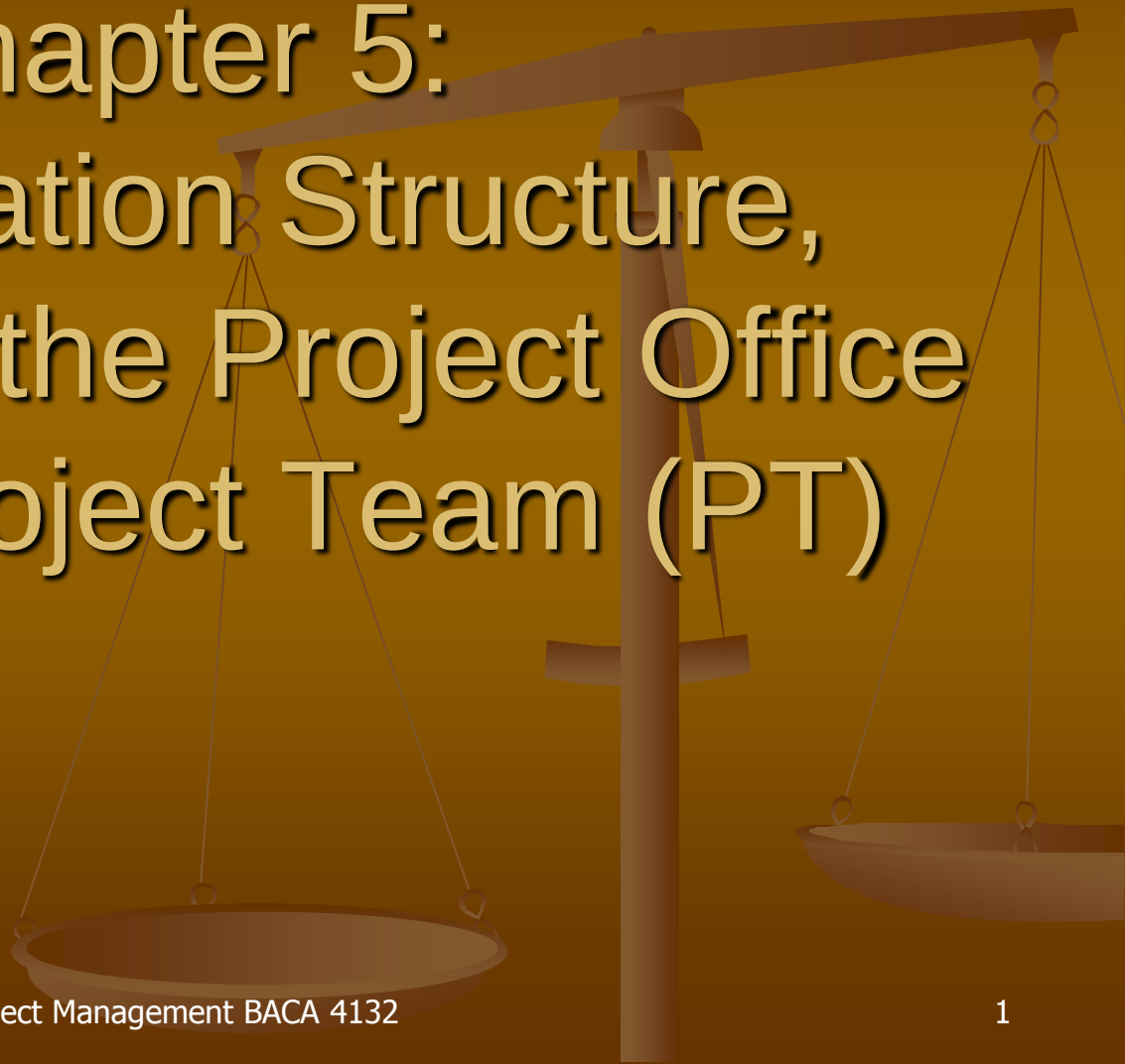
# Chapter 5: Organization Structure, Organizing the Project Office (PO) & Project Team (PT)



# Objectives of the Chapter

- Focus on project situations involving design, manufacture, assembly, testing of hardware & software systems.
- Summarizes the functions of the PO & the PT.
- Describe the duties of key persons in project.
- Discuss key persons' relationships.

# Organizational Structure

Consists of three key elements:

1. Designates formal reporting relationships
   - number of levels in the hierarchy
   - span of control
2. Groupings of:
   - individuals into departments
   - departments into the total organization
3. Design of systems for
   - effective communication
   - coordination
   - integration across departments

# Forms of Organization Structure

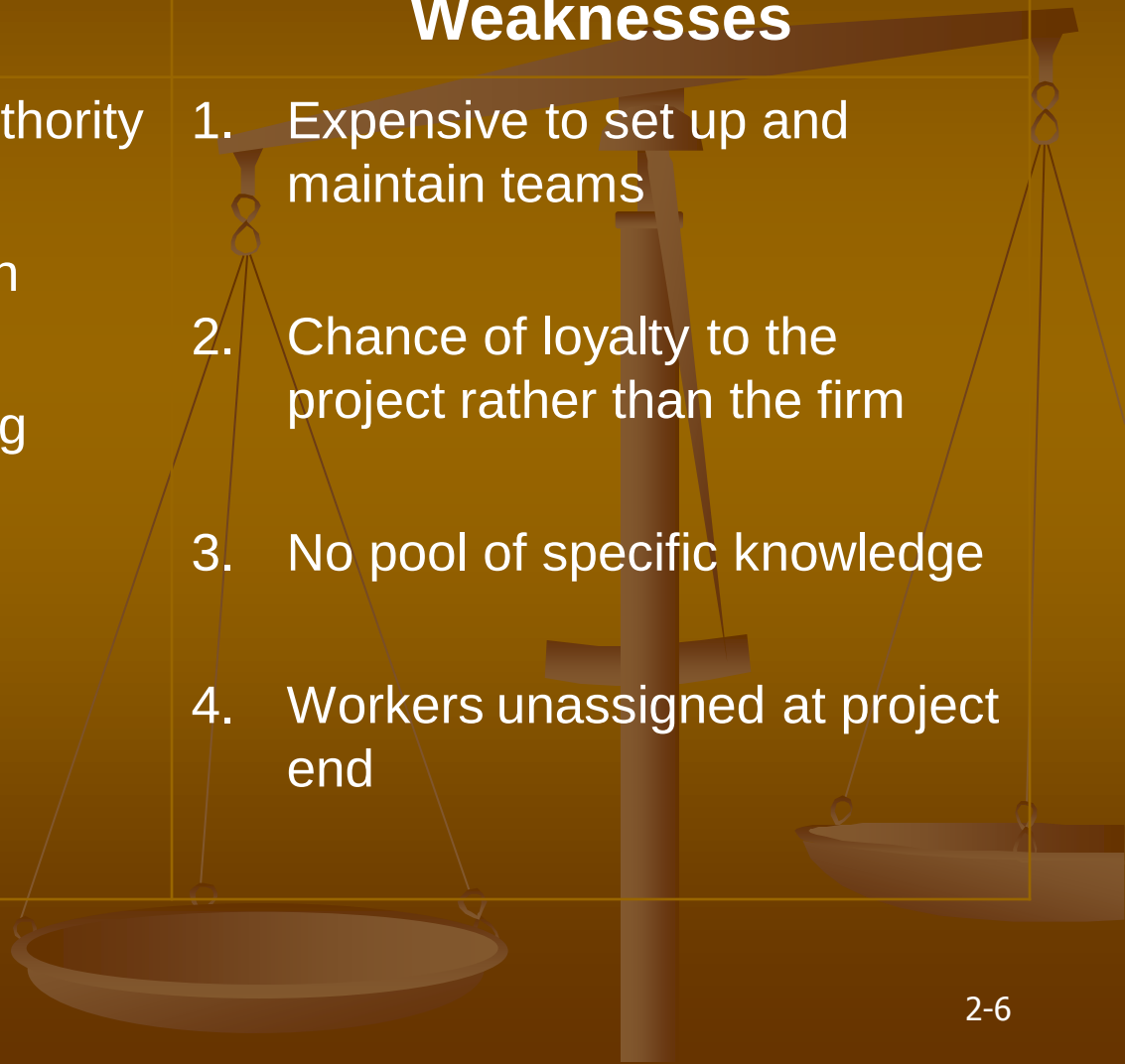
- Functional organizations – group people performing similar activities into ***departments***
- Project organizations – group people into ***project teams*** on temporary assignments
- Matrix organizations – create a dual hierarchy in which ***functions and***

# Functional Structures for Project Management

| Strengths | Weaknesses |
| --- | --- |
| 1. Firm's design maintained | 1. Functional siloing |
| 2. Fosters development of in-depth knowledge | 2. Lack of customer focus |
| 3. Standard career paths | 3. Projects may take longer |
| 4. Project team members remain connected with their functional group | 4. Projects may be sub-optimized |

# Project Structures for Project Management

| Strengths | Weaknesses |
| --- | --- |
| 1. Project manager sole authority | 1. Expensive to set up and maintain teams |
| 2. Improved communication | 2. Chance of loyalty to the project rather than the firm |
| 3. Effective decision-making | 3. No pool of specific knowledge |
| 4. Creation of project management experts | 4. Workers unassigned at project end |
| 5. Rapid response | |



# Matrix Structures for Project Management

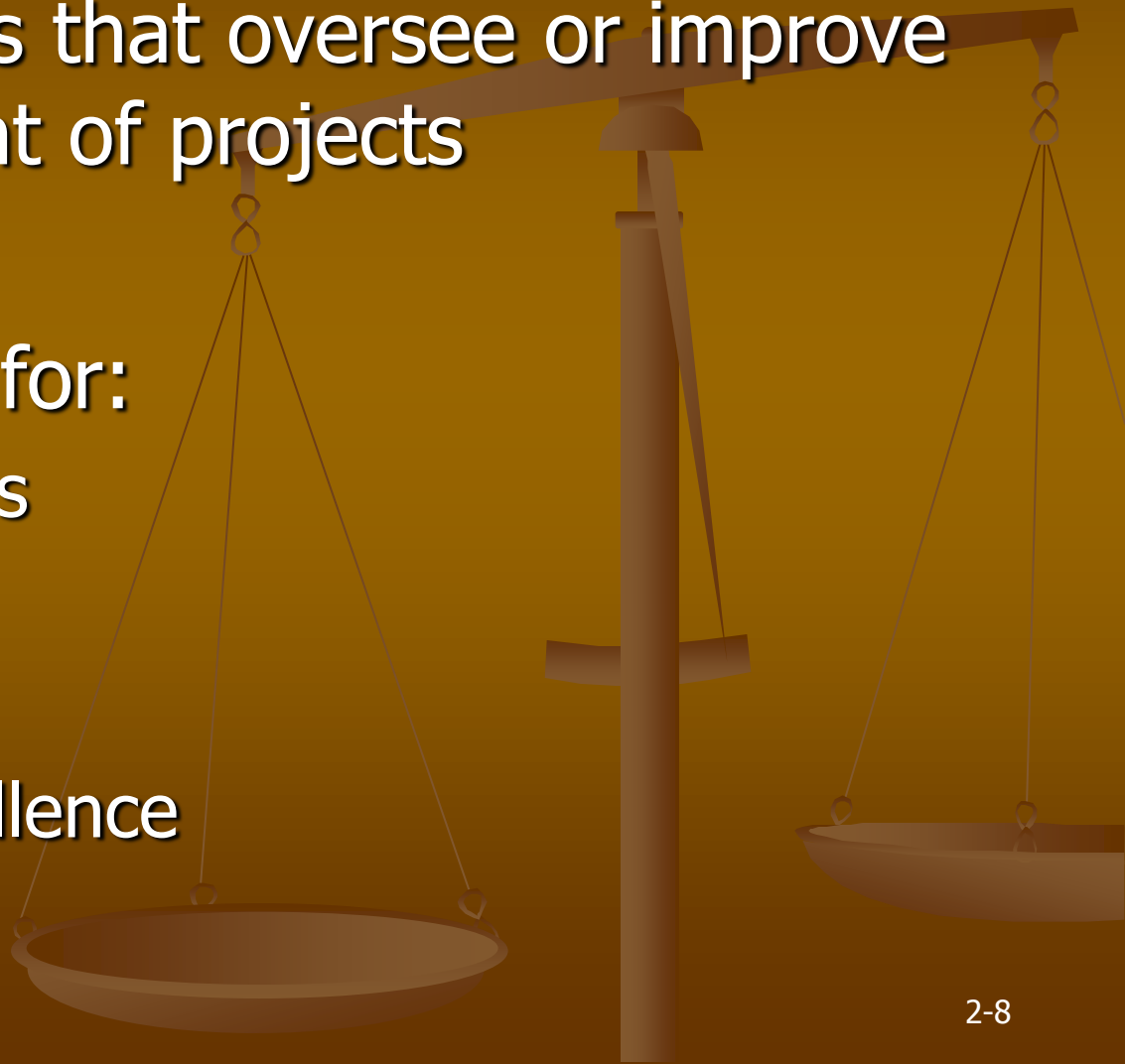
| Strengths | Weaknesses |
| --- | --- |
| 1. Suited to dynamic environments | 1. Dual hierarchies mean two bosses |
| 2. Equal emphasis on project management and functional efficiency | 2. Negotiation required in order to share resources |
| 3. Promotes coordination across functional units | 3. Workers caught between competing project & functional demands |
| 4. Maximizes scarce resources | |

# Project Management Offices

Centralized units that oversee or improve the management of projects

Resource centers for:

- Technical details
- Expertise
- Repository
- Center for excellence



# Forms of PMOs

- Weather station – monitoring and tracking
- Control tower – project management is a skill to be protected and supported
- Resource pool – maintain and provide a cadre of skilled project professionals

# PMO

- A dept. or group that defines or maintain the stds. or process related to PM
- It is the source of documentation, guidance & metrics on the practice of PM & execution:

  - Creating & maintaining the internal PM info.systems
  - Recruiting & selecting PM both & within & outside the organ.
  - Establishing standardized project planning & reporting methodologies
  - Training personnel in PM techniques & tools
  - Auditing ongoing & recently completed projects
  - Developing comprehensive risk management programs

- providing in-house PM consulting & mentoring services
- Maintaining an internal PM library containing critical documents, including project plans, funding papers, test plans, audit reports, etc.
- Establishing & benchmarking best practices in PM
- Maintaining & tracking portfolio of projects within an organ.

Therefore PMO performs an integration function for planning & control

# 5.1 Functions of the PO & PT

- PO supports PM in carrying out responsibilities.
- PM's basic charter(rights & privilege), organizational relationships, nature of project; 3 of these will influence the makeup of PO.
- PT includes all functional contributors (in PT itself) & members (in PO) to the project.

# CHOOSING THE BEST TEAM FOR YOUR PROJECT

- Organizational planning:

  -identifies, documents & assign project roles, responsibilities & reporting relationship

  - organ. chart diagrams who is to report to whom, establishing clear chain of command

  - includes any supporting documents needed to outline each job title & description or any training needs

- Staff acquisition:

  - the process of getting the Hr needed assigned to & working on the project

  - consider previous experience, personal interests, personal characteristics, availability, competencies & proficiency

  - determine whether each team member will be working full or part time on the project

- Team development

  - team building activities, general management skills

  - reward & recognition systems

  - collocation or frequent face-to-face meetings

  - training

# 5.1.1 General functions to be carried out by PT along project

- 1. Management
- 2. Product design & development
- 3. Product Manufacturing
- 4. Purchasing & subcontracting
- 5. Product installation, testing & field support

- Product/outcome/result: refers to **all results** of the project: hardware, software, documentation, training, services, facilities, systems & etc.
- Fig.7.2 pg.159 generalized project organizational chart.

# 1. Management

- Management: Functions of overall direction, coordination & administration of the project through all its phases to achieve the desired results within established.

a) Time
b) Cost (budget) &
c) Schedule

- Obj: towards a quality outcomes.

# Six Attributes of Successful Project Managers

- **1. They possess the gift of foresight. Good project managers are able to anticipate and head off problems that can jeopardize deadlines, budgets and user acceptance.**
- 2. **They're organized**. Organization seems like an obvious characteristic of a star project manager, but it manifests itself in a variety of ways, including in an ability to stay focused on the big picture and to prioritize competing responsibilities. "In most projects, there are so many things that have to get done that it's hard to stay on top of everything and in control of everything," "Being able to prioritize work for your team is a critical aspect of what a project manager has to do."

- **3. They know how to lead. Project managers have to interact with and influence a variety of stakeholders including their project teams and project sponsors. Since many project team members don't report directly to the project manager, the project manager has to find ways to motivate workers over whom they have no direct influence and who can make or break a project. Project managers also need to be able to inspire the confidence of stakeholders and sponsors in the event the budget or timeline needs to be renegotiated or additional resources are needed to complete the project.**

- They're good communicators. Successful project managers effectively use e-mail, meetings and status reports to communicate their ideas, get decisions made and resolve problems. They also understand that they need to discuss their project in the context of whatever is most important to their audience.

- They're pragmatic. Sometimes project managers can be too analytical. "They analyze things to do death before they move ahead,which slows progress on a project. Good project managers focus on getting work done with the resources available to them.
- 6. They're empathetic. "Project managers rely on others to be successful. Project managers can't effectively influence others if they don't understand what motivates their stakeholders. They need to learn stakeholders' concerns about a project, take those concerns seriously and address them.

# 2. Product Design & Development (PD&D)

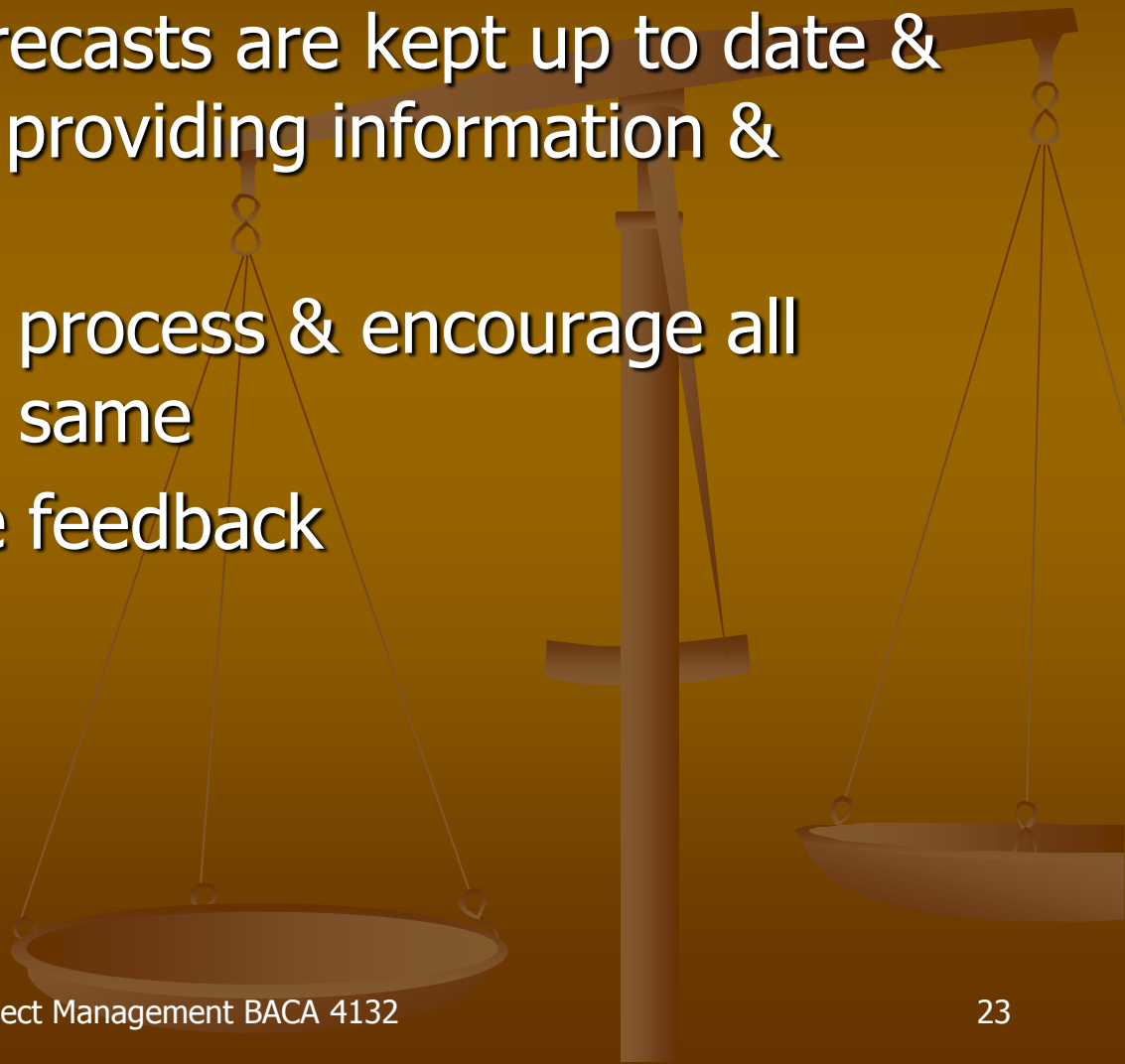
- Obj: To produce adequate documentation (prototype product / system) so that the product can be manufactured in the quantity required within the time, cost & schedule.
- PD&D:

a) System analysis, engineering & integration
b) Product design
c) Product Control (quality, cost, configuration)

# Process of designing a project

- Establish & agree the aims of the project
- Determine a budget
- Decide the level of innovation required
- Write an outline brief or specification
- Define a team or supplier specification
- Consider & decide what PM tools & IS you will use
- Draw-up a short list of external agencies or creative providers to ensure proper selection process
- Decide method of team or agency selection. For large projects invite formal presentation
- Ensure proper legal documentation & processes re used
- Select an internal team & agree on clear responsibilities by asking what they are good at & what they prefer to be doing within the project

- Identify & agree clear project accountability
- Communicate & explain plan to all involved & seek agreement
- Ensure plans & forecasts are kept up to date & communicated by providing information & progress reports
- Enjoy the creative process & encourage all involved to do the same
- Give good positive feedback



# 2a) System analysis, engineering & integration

- System studies
- Functional analysis
- Functional design of the system / product
- Coordination & integration of detailed designs
- Functional & engineering (electrical, mechanical interfaces) between subsystems / components of the product.

## 2b) Product design

- Obj: Detailed engineering design & development functions needed to translate the functional systems design into specification drawings & other documents (used to manufacture, assemble, install & test product).

## 2c) Product control

- Product quality control (through specialist & procedure)
- Product cost control (value engineering practice)
- Product configuration control (design freeze practice for baseline design). Satisfying a customer's dd by creating a product which is composed by a no. of pre-developed components, hence the need for "right-the first-time" configuration. Cos. loose 2-3% of revenue in rework & penalty costs due to errors made in the initial product configuration
- Engineering change control practices
- Documentation control practices

# Situational

- Normally a large share of these functions will be assigned to PO together with adequate staff when the product is new, unusual / little confidence can be carried by a operation units (internal engineering departments). Therefore the decision is to outsource.
- Fig. 7.3 pg.162 large technical staff assigned to PO

# 3.Product Manufacture

- Obj: To purchase materials & components, fabricate, assemble, test & deliver the equipment to complete the project.
- It can be carried out by the established manufacturing departments internally / to outsource.
- PM must be able to integrate this function to PD&D, else it will cause project failure.

# 4. Purchasing & Subcontracting

- "Make or buy" decisions.
- Procurement functions (delivery of materials, equipment, documents, service on schedule within cost & budget).
- Contractual commitments

# 5. Product Installation, Testing & Field Support

- Sometimes, field operations are a part of the project.
- It includes on site (on field) installation, testing for verification of the operations functions & durational service support.

# Assignment of Persons to the PO

- Small number of assigned personal to PO. The benefits will gain are:

a) Emphasis the responsibility of each functional departments / staff for their contribution.
b) Retain maximum degree of specialized functional department.
c) Increase flexibility of functional staffing.
d) Avoid unnecessary cost (overhead in payroll).
e) Minimize reassignment problems.
f) Enhance performance of PM (rather supervisory on large staff).

# Project Team Members

1. **Project Manager** (You are here)
2. Project Engineer (R&D, PD&D, lead in engineering department)
3. Contract administrator
4. Project controller (project supervisor, project coordinator)
5. Project accountant
6. Manufacturing coordinator
7. Purchasing & subcontracting coordinator
8. Field project manager (field project supervisor, field project coordinator)

# PT Concept

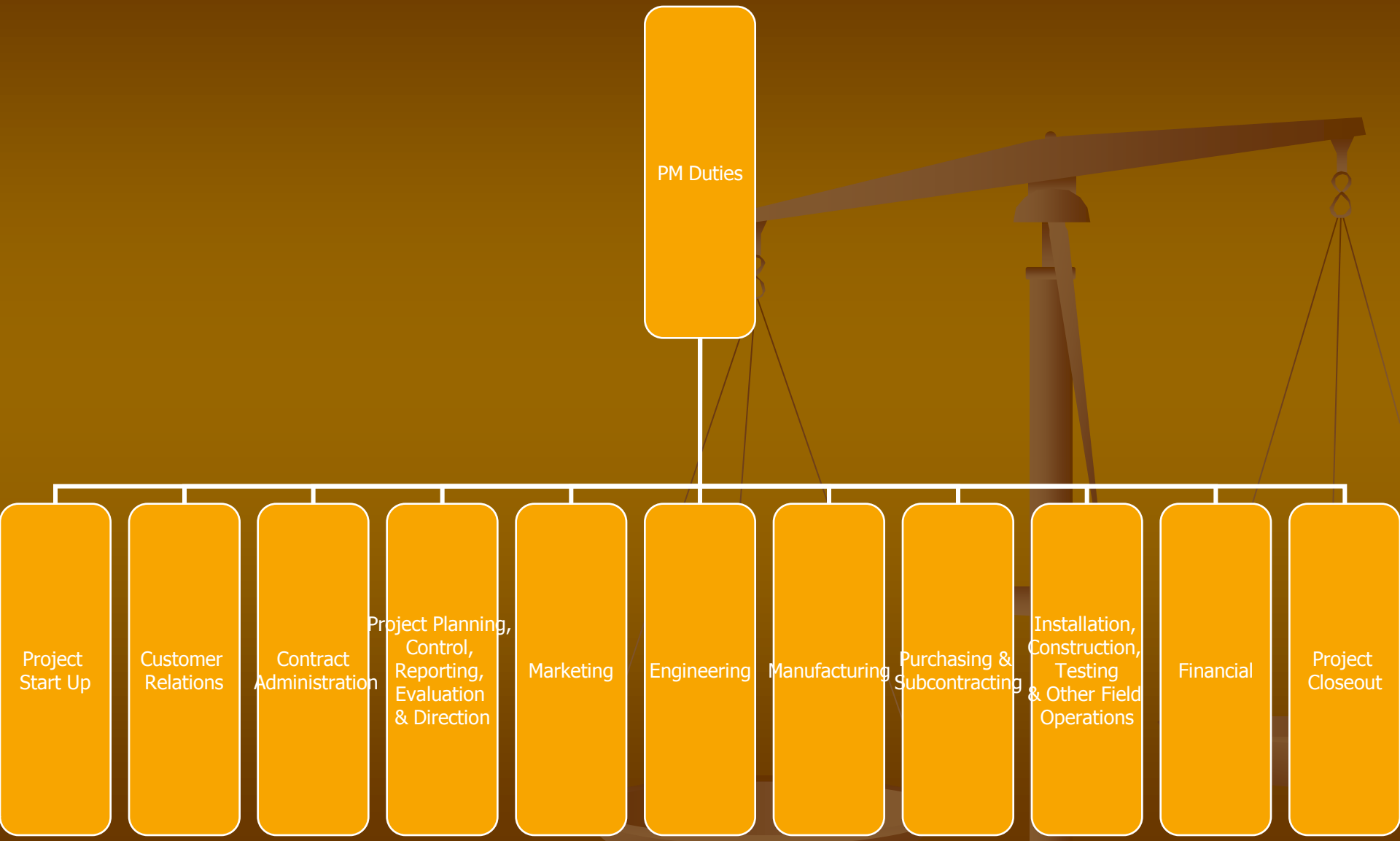
- All persons holding responsibilities for direct contributions to the project = PT member. Either internally of externally.
- Internally = PO/PT
- Externally = vendors, suppliers, contractors, consultants, architect.

# …PT Concept

- In order to build an effective PT, PM should:

1. create awareness of membership, develop *team spirit*.
2. Identification of PT members & definition of the *role & responsibility*.
3. Clearly stated & understood *project objectives*.
4. An achievable project *plan & schedule*.
5. Reasonable *rules* (working procedure).
6. *Leadership* by PM

# 5.2 PM Duties


PM Duties
Project Start Up
Customer Relations
Contract Administration
Project Planning, Control, Reporting, Evaluation & Direction
Marketing
Engineering
Manufacturing
Purchasing & Subcontracting
Installation, Construction, Testing & Other Field Operations
Financial
Project Closeout

# 5.5 Other Key People's Duties

- Functional Project Leader / Task Manager (according to functional basis)
- Project Engineer
- Contract Administrator
- Project Controller
- Project Accountant
- Manufacturing Coordinator
- Field Project Manager