

Organizational Structures

Objectives

- Organization and Team Structures
 - Department Structures
 - Team Structures
- Coordination Dependencies
 - Tools Used for managing dependencies
- Dispersed & Virtual Teams
 - Advantages
 - Challenges

Organization and Team Structures

- Departments
 - Criteria: Staff Specialization, Product Lines, Categories of Customers, Geo. Location
 - Banking, Embedded application, Telecom
 - Verticals
- Projects and Teams
 - Every department several projects
 - Each project has a separate team of developers

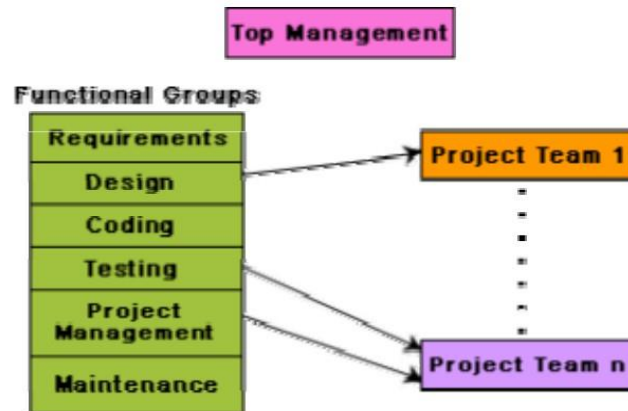
Department Structure - How is a department organized into Teams?

Team Structure - How are project teams structured?

Department Structure

- Functional Format
- Project Format
- Matrix Format

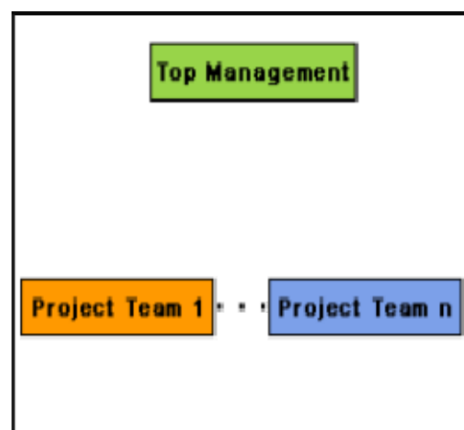
- **Functional Format**



- Developers are divided into functional groups
- specialization and experience
- Database, Networking, Req. Analysis, Design, Testing.
- Different projects follow borrow developers from corresponding functional group.
- Upon completion ,developers are returned to the respective functional groups
- Partially completed product passes from one team to another
- Documents
- Mandates production of good quality documentation

Project Organization

- Designed for realizing task-oriented teams.
- At the start of every project, a set of developers are assigned to it.
- Developers remain with the project until the completion of the project.
- Same team carries out all the project activities.



Functional vs Project Format

- Team members do not meet- Communication Gap
- Users prefer project team because they have a group dedicated to it
- Project team members build up familiarity
- Maintenance Activities

Functional Advantages:

- Ease of Staffing
- Production of good quality documents
- Job Specialization
- Efficient handling of the problems associated with manpower turnover
- Career Planning

Matrix Format

- Extension of functional format
- Provide advantage of both functional and Project structures
- Pool of functional specialists is assigned to different projects as needed
- The member assigned to a project has to report to both the managers (functional and project)
- Weak or Strong
- Depending upon the relative authority of the functional managers and the project managers
- Strong – Functional Managers authority
- Weak – Project Managers authority

Disadvantages:

- Multiplicity of authority – Conflicts
- In Strong Matrix Organization
 - Frequent shifting of workers
 - Firefighting mode
 - Tackle Crisis

Team Structure

- Denotes
 - Reporting
 - Responsibility
 - Communication Structures (in Individual projects)
- Different project different styles
- Team Structures
 - Chief Programmer
 - Democratic
 - Mixed Team Organization

Chief Programmer Team

- Senior Member provides technical leadership
 - Brooks- “ The design activity should be carried out by a small team to maintain design consistency”
 - Productive – by support from other members
 - Partitions the tasks (coding, testing, documentation) to team members
- Advantages
- More efficient for completing simple and small projects
 - Quickly work out design, assign-code, test
- Disadvantages
- Authority- Lower Team Morale
 - Decisions by himself
 - Subject to single point of failure
 - Danger of information overload.

Democratic Team

- Does not enforce any formal team hierarchy
- Decisions are taken based on discussions
- Free to discuss
- Members of team provide technical leadership at different times
- Offers high morale & job satisfaction

- Less productive compared to Chief Programmer
- Small teams- Effective (5-6).Larger Team-Chaotic

Mixed Control Team

- Software Development Companies
- Extremely popular
- Ideas of both democratic and chief programmer team structure
- Both hierarchical and democratic setup
- Suitable for large teams

