



Assignment # 01

- Subject : Information System and Data processing
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1) Define organization; also explain the structure of an organization by giving an example of a well known organization. (Note: every student should take the example of different organization from another).

Ans: Organization:

An **organization** or **organisation** is an entity, such as a company, an institution, or an association, comprising one or more people and having a particular purpose.

The word is derived from the Greek word *organon*, which means tool or instrument, musical instrument, and organ.

- **Structure:**

Main article: Organizational structure

The study of organizations includes a focus on optimising organizational structure. According to management science, most human organizations fall roughly into four types:^[citation needed]

- **Committees or juries**
- **Ecologies**
- **Matrix organizations**
- **Pyramids or hierarchies**

- **Committees or juries:**

These consist of a group of peers who decide as a group, perhaps by voting. The difference between a **jury** and a **committee** is that the members of the committee are usually assigned to perform or lead further actions after the group comes to a decision, whereas members of a jury come to a decision. In **common law** countries, legal juries render decisions of guilt, liability and quantify damages; juries are also used in athletic contests, book awards and similar activities. Sometimes a selection committee functions like a jury. In the Middle Ages, juries in continental Europe were used to determine the law according to consensus among local notables.

- **Ecologies:**

This organizational structure promotes internal **competition**. Inefficient components of the organization starve, while effective ones get more work. Everybody is paid for what they actually do, and so runs a tiny business that has to show a **profit**, or they are fired.

- **Matrix organization:**

This organizational type assigns each worker two bosses in two different hierarchies. One hierarchy is "functional" and assures that each type of expert in the organization is

well-trained, and measured by a boss who is super-expert in the same field. The other direction is "executive" and tries to get projects completed using the experts. Projects might be organized by products, regions, customer types, or some other schemes.

- **Pyramids or hierarchical:**

A hierarchy exemplifies an arrangement with a leader who leads other individual members of the organization. This arrangement is often associated with basis that there are enough imagine a real pyramid, if there are not enough stone blocks to hold up the higher ones, gravity would irrevocably bring down the monumental structure. So one can imagine that if the leader does not have the support of his subordinates, the entire structure will collapse.

Hierarchies were satirized in *The Peter Principle* (1969), a book that introduced *hierarchiology* and the saying that "in a hierarchy every employee tends to rise to his level of incompetence."

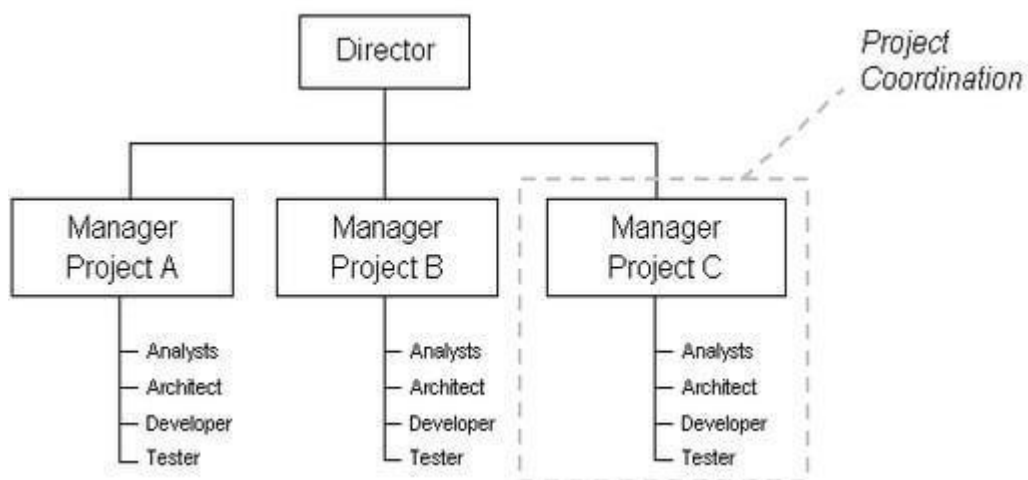
- **Example:**

Project-based structure:

Highly dynamic and creative companies – such as software developers, [architecture](#) firms, special industrial equipment installation projects and event organization companies – typically use this structure. It's characterized

by a series of specialized employees, ready to compose a work team as needed.

In each project, these collaborators report to a different **leader**. Once they complete the project, a manager assigns them a new project and leader.



2) Explain System Development Life Cycle; also explain different types system development life cycle.

Ans: System Development Life Cycle:

The systems development life cycle (SDLC) is a conceptual model used in project management that describes the stages involved in an information system development project, from an initial feasibility study through maintenance of the completed application. SDLC can apply to technical and

non-technical systems. In most use cases, a system is an IT technology such as hardware and software. Project and program managers typically take part in SDLC, along with system and software engineers, development teams and end-users.



- **Types:**

- Waterfall Model.
- V-Shaped Model.
- Evolutionary Prototyping Model.
- Spiral Method (SDM)
- Iterative and Incremental Method.
- Agile development.



3) Explain Incremental model and Spiral; also explain main difference between spiral and incremental model ?

Ans:

- **Incremental Model**

- In incremental model the whole requirement is divided into various builds.
- Each module (independent units) passes through the requirements, design, implementation and testing phases.
- The incremental build model is a method of software development where the product is designed, implemented and tested incrementally until the product is finished.
- Each subsequent(coming after something in time) release of the module adds function to the previous release.
- The process continues till the complete system is achieved.

- **Spiral Model:**

- Spiral model is an evolutionary software process model which is a combination of an

iterative nature of prototyping and systematic aspects of traditional waterfall model.

- Difference Between Spiral Model and Incremental:**

A iterative model is a way to describe a SDLC as a sequence of consecutive steps.

A spiral model is a way to implement a iterative model, where each iteration follows a waterfall-like model. With each iteration, the product is updated, more features are added etc.

Properties of Model	Iterative/Incremental Model	Spiral Model
1. Planning in early stage	Yes	Yes
2. Returning to an earlier phase	Yes	Yes
3. Handle Large Project	Not Appropriate	Appropriate
4. Detailed Documentation	Not much	Yes
5. Cost	Low	Expensive
6. Requirement Specifications	Beginning	Beginning
7. User Involvement	Intermediate	High
8. Risk Involvement	Low	Medium-High
9. Testing	After every iteration	At the end of the engineering phase
10. Overlapping Phases	Yes(Parallel development exists)	No
11. Objective	Rapid development	High Assurance
12. Team size	Moderate size tea, <input type="checkbox"/>	Large team

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