



Fall 2020 Mid-Term Assignment

Information system and data processing

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(Lecturure)

Question No: 01

a) Why we define different needs before taking any task, elaborate your answer.

Ans:

- One practical application of defining needs as gaps in results is that you can now assess your needs. That is to say that you can make comparisons among your needs and use that information to guide your decisions. If you limit needs to just being those things you can't live without (i.e., oxygen, hydrogen, and carbon atoms in a few different combinations), then you can't compare needs or justify decisions about which to address first.
- Needs are not just conceptual. Needs can, and should, be measured in order to help guide our decisions. Just saying that you have a need for an iPhone doesn't really help. But when we define needs as gaps in results, then we can start to measure our needs, compare them, and use them to improve our decisions.
- We can measure gaps in results. We typically do this by measuring the desired result and subtracting the current result from it. For example, the desired result is for your staff to contact 30 new sales leads each week, but on average they only contact 15 now; the first part of your need is for 15 more contacts each week. Then you can add the purpose.
- needs as gaps in results lets you concretely explain your needs to others. Communicating our needs is vital to matching them with right satisfiers. Lewis Carroll once wrote, "If you don't know where you are going, any road will get you there." To put it another way, if you don't know what results you want to achieve, then any decision will do.
- By clearly assessing, measuring, and explaining your needs, you can guide decisions and improve the odds of selecting the best satisfiers.

b) What information is required if a person is thinking to start a specific business, also discuss different sources of information.

Ans:

- target consumer: who are they? What is their main problem? Why can't they solve it today? Why would they want to buy from you?
- Market demand: Size of the market? Trend? Growth? Barriers to entry?
- Competitors: who are they? What are they doing well / wrong? Can I be better than them in some areas?

The most important being the consumer. If there is a need / a problem not solved / a pain point for people, there is a business opportunity.

Sources Of Information

Information Sources are typically categorised into three broad categories based on their proximity to original source material:

Primary Sources:

- Are first-hand accounts or individual representations and creative works.
- Are created by those who have directly witnessed what they are describing
- Bring us as close to the original event or thought as possible without being filtered, influenced or analyzed through interpretation.
- Tend to be original documents that do not usually describe or analyze work by others.
- May be published or unpublished works.

Use Primary Sources:

- When you want to make claims or criticisms.
- As evidence for theories.
- To gain timely perspectives on a topic.

EXAMPLES:

- **General Examples:** Letters, diaries, speeches, interviews, correspondence, court cases, newspaper articles about current events.
- **History:** Transcript of speech given by Queen Elizabeth I; newsreel footage of World War II.
- **Literature:** Fiction such as Miguel de Cervantes' novel, *Don Quixote*; Shirley Jackson's short story, *The Lottery*, or poetry by Robert Frost.
- **Art:** Works by artists such as Pablo Picasso's painting, *Three Musicians*; or Michelangelo's sculpture, *David*.
- **Social Sciences:** Interview transcripts of mentally ill patients; raw, unanalyzed population data; newspaper articles about events.
- **Natural Sciences:** Analyzed results from biological study; analyzed field data collected by environmental org; original experiments or research.

Secondary Sources:

- Offer extensive and in-depth analyses of primary sources.
- Summarize, evaluate, and analytically interpret primary material, often by offering a personal perspective.
- Are not evidence, but are useful sources of different experts' views of the primary sources.
- Are one step removed from the original or primary source.
- Are published works, that list their sources of information which can be then used to locate additional information for your research.

EXAMPLES:

- **General Examples:** Textbooks, monographs (scholarly books on a single topic), encyclopedias, analyses, review articles, dissertations, theses,
- **History:** Article analyzing Queen Elizabeth I's speech; book recounting battle history of World War II; biographies.
- **Literature:** Literary critiques such as an article that examines Cervantes' writing style; paper discussing motifs in *The Lottery*.
- **Art:** Lecture given about Michelangelo's techniques; criticism or a review of Picasso's painting.
- **Social Sciences:** News commentaries; an article analyzing results of mental illness study; a book that discusses population trends over time; evaluations of social and government policy, law and legislation.
- **Natural Sciences:** Review articles that evaluates the theories and works of others; article on the environmental impact of pollution

Tertiary Sources:

- Are distillations and collections of primary and secondary sources.
- Present a summarized factual representation of information.
- Are free from biased points of view and critiques.
- Are the last documents to be published in the information cycle.
- Tend to consist of highly reliable and accurate information,
- Contain broad perspectives of topics.
- Offer a general overview of your topic and background information for your research.

EXAMPLES:

- Encyclopedias, dictionaries, handbooks, guides, directories, classification systems, chronologies, and other factbooks.

Question No: 02

What is organization? Explain different types of organization in detail.

Ans:

organization refers to a collection of people, who are involved in pursuing defined objectives. It can be understood as a social system which comprises all formal human relationships. The organization encompasses division of work among employees and alignment of tasks towards the ultimate goal of the company.

It can also be referred as the second most important managerial function, that coordinates the work of employees, procures resources and combines the two, in pursuance of company's goals.

Process of Organization

- **Step 1:** Determination and classification of firm's activities.
- **Step 2:** Grouping of the activities into workable departments.
- **Step 3:** Assignment of authority and responsibility on the departmental executives for undertaking the delegated tasks.
- **Step 4:** Developing relationship amidst superior and subordinate, within the unit or department.
- **Step 5:** Framing policies for proper coordination between the superior and subordinate and creating specific lines of supervision.

Organization is a goal oriented process, which aims at achieving them, through proper planning and coordination between activities. It relies on the principle of division of work and set up authority-responsibility relationship among the members of the organization.

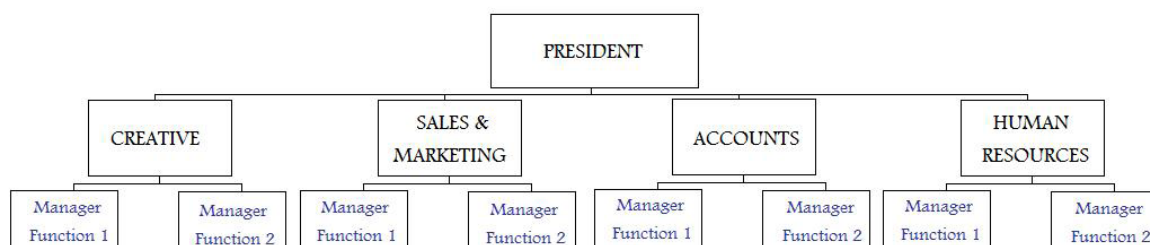
types of organization

1. Functional Organization:

Project Management training for the PMP exam covers the functional organization, the most commonly used organization type. In a functional organization structure, the organization is grouped into departments where people with similar skills are kept together in forms of groups; e.g., sales department, marketing department, finance department, etc. This helps organizations enhance the efficiencies of each functional group.

All authority (i.e., budget allocation, resource allocation, decision-making, etc.) belongs to the functional manager in a functional organization. Resources in functional organizations report directly to the functional manager. The functional manager reserves the authority to release resources based on their subject matter expertise. When the project ends, the resources are returned to the functional manager again for routine work.

Project managers typically do not exist in this type of organization structure; if this position exists, the role of the project manager will be very limited. The project manager may have the title of a coordinator or an expeditor.

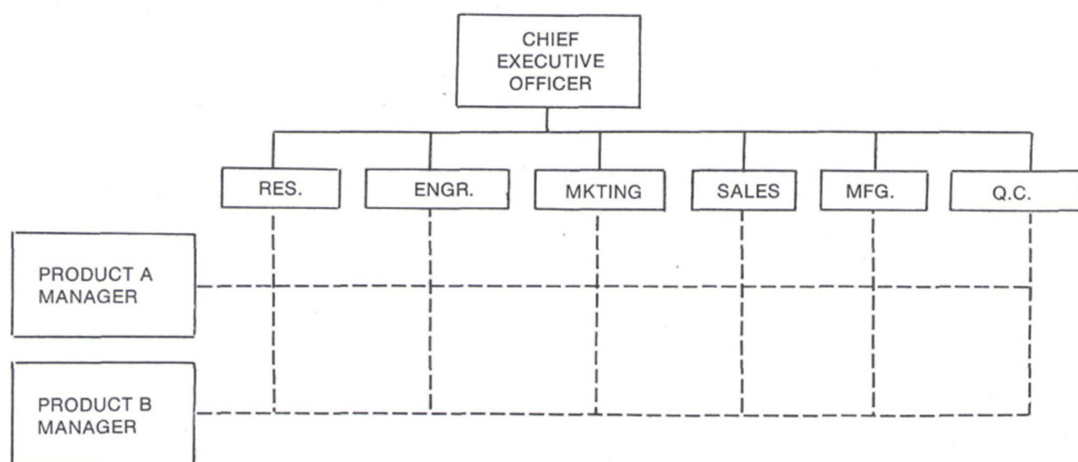


2. Matrix Organization:

The matrix organization structure is a combination of two or more types of organizational structures, such as the projectized organization structure and the functional organization structure. This combination can help organizations improve efficiency, readiness, and market adaptation. This type of structure is most suitable for organizations operating in a dynamic environment; they often can respond faster to market or customer demand while decreasing the lead time to produce a new product.

The authority of a functional manager moves vertically downwards, and the authority of the project manager moves sideways. Since these authorities flow downward and sideways, this structure is called the matrix organization structure. In a matrix organization structure, employees may report to many managers, and some from one section may report to one boss while the rest report to a different boss.

When you receive project management training, you'll learn more details about the three types of matrix organizations, and how the project manager's power differs depending on the type. Below we provide a summary.



3. Strong Matrix:

In a strong matrix structure, the project manager enjoys more power than the functional manager. For example, the project manager has a say in the allocation of resources.

4. Weak Matrix:

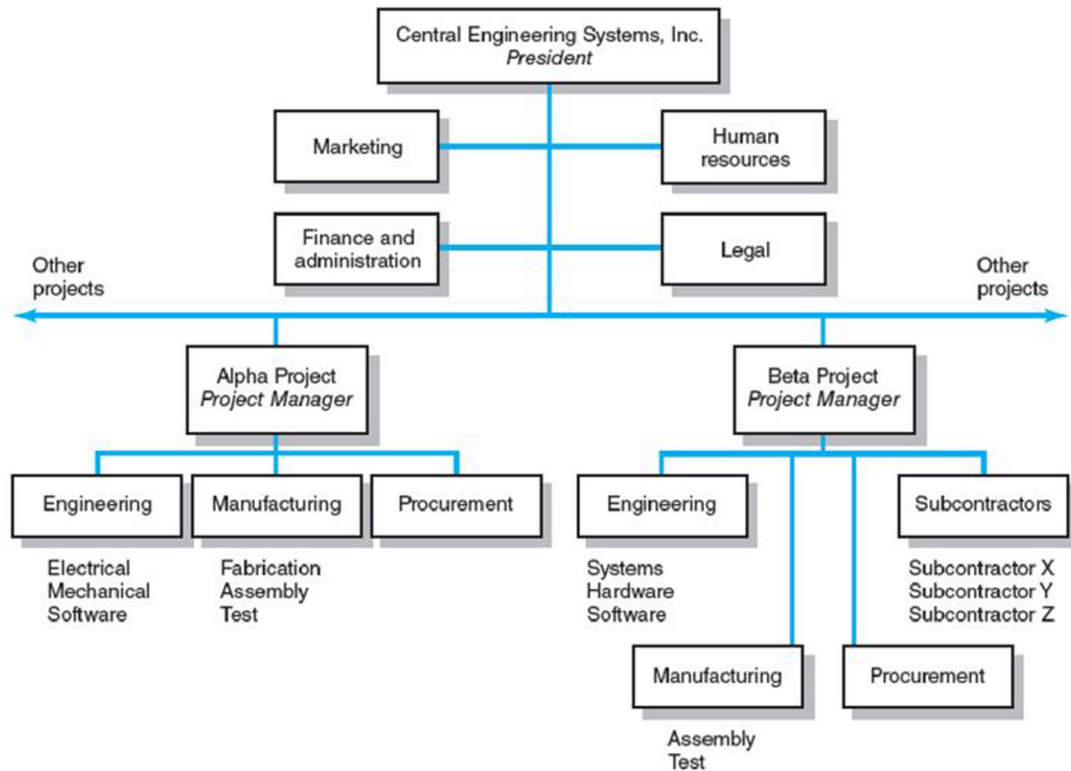
In a weak matrix structure, a project manager works like a project coordinator or project expeditor. A project coordinator has some say in the allocation of resources, while a project expeditor serves only as a point of communication between the customer and team. Overall, in a weak matrix, the functional manager reigns supreme.

5. Balanced Matrix:

In a balanced matrix, both have equal power. Resources working on a project can face communication difficulties due to the lack of clarity on whom to report.

6. Projectized Organization:

A projectized organization is the ideal organization type for a project manager. Project managers are the real bosses here, with the freedom to apply your expertise and have a say in the proceedings. However, once a project is delivered, project managers become redundant. There is no job security in this type of organization.

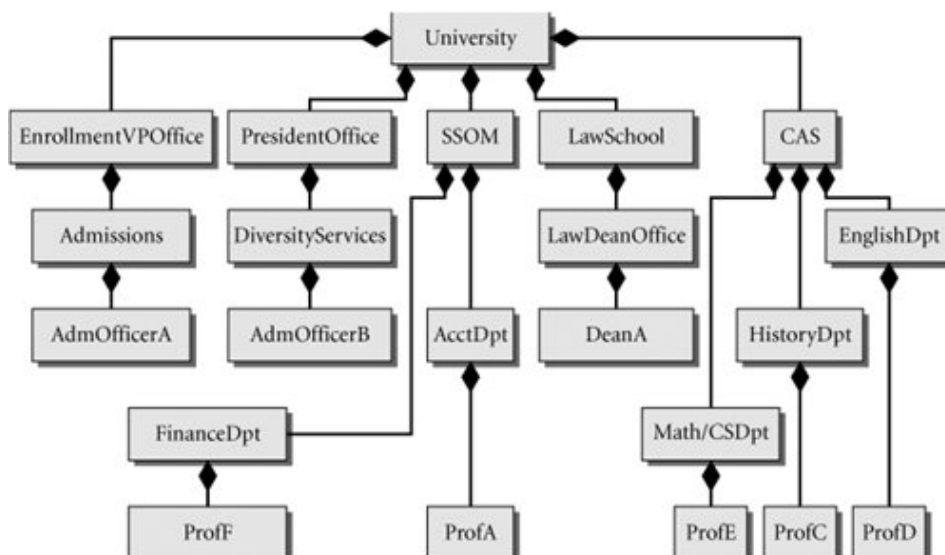


7. Composite Organization:

A composite organization blends the functional, matrix, and projectized types of organizations. A composite is just two or more models that are adapted for a special project, for simplicity, or to keep power in check. Most modern businesses are of the composite type.

Two examples to help describe composite organizations are below:

- An organization may deliver one project in a Balanced Matrix way, while another is being performed in a Functional way. They also have yet another project that's being done as Projectized.
- A Functional organization needs a small building, and the organization has the capability to construct the building itself. This would become a Composite organization because the organization creates a separate project team to complete this task.



Question No: 03

What are the difference between Data and Information? Give detail with proper examples and explanations.

Ans:

Data:

- Data is typically available in huge volumes, and describes individual and unarguable facts. Details of individual connection requests are an excellent example of data, because they're simple statements of fact and aren't open to discussion.
- Data are understood differently in different sectors. In the basic form, data are different symbols and characters whose meaning only becomes clear when they connect with context. Collecting and measuring observations generates data. Usually machines sent, receive and process data. The confusion between data and information often arises because information is made out of data. In addition, data often gets interpreted as facts in the context of the colloquial meaning and are therefore regarded as information.

Examples of Data:

- When students get admission, in colleges or universities, they have to fill out an admission form. The form consists of raw facts i.e student's name, father name, and address, etc. The idea of collecting this data is, to sustain the records of the students throughout their study period.
- During the census, governments gather the data of all citizens of a country. The government stores this data permanently, to make use of it for diverse purposes at different times.
- Different organizations carry out surveys to identify the opinions of the people about their products. In these surveys, people also convey their ideas and opinions about diverse issues. The organizations use these ideas and opinions as data for the enhancement of their products also.

Information:

- Information is produced when a series of data points are combined to answer a simple question. For instance, sticking with our biometrics example, your height and weight can be combined to produce a BMI score, which can then be plotted onto a chart to determine whether you fall within the normal range for your country. Note that although this is a far more useful output than the raw data, it still doesn't directly inform a specific action.
- Data reaches a more complex level and becomes information by integrating them to a context. Information provides expertise about facts or persons. Example of information: The information about a date of birth still has very little value when it is unknown to which person it belongs. By adding more information like the name, the linked information creates knowledge about a person.

Examples of Information:

- If we desire to find out, a list of all students who exist in Lahore, we will apply some processing on this data, this processing will provide us the desired list. This list is a form of processed data and will be called information.
- The data stored in a census is used to produce a different kind of information. For example, the government can also use it to discover the total number of graduates in the country or literacy rate in the country and also use the information in vital decisions to advance the literacy rates.
- An organization can use the view of the people as data. Then process it to produce information about its concern. For example, it can know how many people like or dislike its product. The organization can use this information for the perfection of its product.

Thank you!