

Designing IT Organization and IT Infrastructure

Introduction

- IT organizational design determines how effectively IT resources are positioned to support business goals.
- A well-designed IT organizational model ensures IT resources are **closely aligned to the rest of the business** so they can be **responsive and efficient**.

Introduction

- The IT organization structure should **serve the purpose of the IT department** depending on its strategy, needs and constraints
- IT managers must select the most appropriate structure based on sound justification and based on explicit coverage of their needs.

Introduction

- Take the example of a company whose sales department and production department both work well as separate units. Yet they need to communicate about customer needs and have not been organized to do so: Company performance suffers as a result.
- Then take the example of a company that wants to grow by acquiring new customers. Yet its sales team is rewarded for customer retention instead: Again, company performance is compromised as a result.

IT Organizational Design

- IT Organization Design is a broader and more comprehensive concept than mere organizational chart or structure.

IT Organizational Design

Criteria	Organization chart	Organization Design
Nature	An output in a diagram or chart	A process that produces not only the organization chart, but also the supporting justification and details
Driver	Driven by the laws and regulations	Meets the laws and regulations but driven by Vision, Mission, Strategy, Goals and objectives
Scope	Focus on structure and the static part of the IT department	Focus on requirements, structure and behavioral (how it works) aspects of the IT department

IT Organizational Design

Criteria	Organization chart	Organization Design
Flexibility	Tends to be stable, with minimal changes	Flexible and reacts to changes in its drivers and requirements
Communication	Defines hieratical communication paths and reporting	Defines all communication paths (horizontal and vertical), roles and functional responsibilities
Integration	All variations need to be aligned with its static form	Integrated and aligned with business goals and environmental changes

IT Organizational Design

- In designing an organization, it is very tempting to move into crafting the required sections, assigning managers, and distribute the current staff or planned staff over the identified sections.

IT Organizational Design

- However, we have to keep in mind that the IT organization design process is systematic, well thought and logical.
- It moves from high-level requirements that emerge from the objectives and goals, into clear factors that affect the design, and then carries on to build the design itself incrementally with multiple iterations of designing and validating until the process reaches an appropriate design.

IT Organization Design Goals

- Alignment to strategic directions of the organization
- Solve problems resulting from structure inefficiencies
- Eliminate job conflicts
- Minimize errors and deficiency resulting from human behavior
- Clarify uncertainty regarding the hierarchy and distribution of work and responsibilities
- Enable the ability of predicting results by minimizing the personal behavior options

IT Organization Design Activities

- The purpose of this process is to change the current IT department structure into the one that fits the purpose {being vision, strategy, goals, etc...}.
- The input to this process is a management decision to initiate it.
- The output of it is an actionable plan to implement the change or the decision to abort this exercise.

IT Organization Design Process

Input	Steps	Output
Initiation from the IT manager to apply the IT Organization Design process	<ol style="list-style-type: none">1. Validation of the need to change2. Identify critical design factors3. Construct a candidate design4. Transform into actual design5. Plan for implementation	New Organization Structure and how to implement it

The Flow Chart of the process

● Task

IT Organization Design Activities

● Step 1 – Validate the Need for Change

- Some IT departments are well established and mature. Thus, before spending time and effort in collecting data, and creating organizational design, it is important to validate that the IT department needs this exercise. That is why this step is vital at the beginning.

IT Organization Design Activities

● Step 1 – Validate the Need for Change

- Following are the steps to validate the need for IT Department restructuring or re-design:
 - 1. Conduct self assessment of the IT organization
 - 2. Record all problems, issues, unmet objectives and slippage
 - 3. Conduct customer satisfaction assessment (see sample template on BB)
 - 4. Conduct cause-effect analysis, where problems are analyzed to find the real causes
 - 5. If there are real causes related to the organization structure, proceed. (see sample template on BB)
 - Otherwise, there is no need to continue this exercise!

IT Organization Design Activities

● Step 2 – Collect Critical Design Factors

- The Purpose of this step is to gather the information/factors affecting the organization design in order to base the IT department design on solid grounds.
 - These factors can be quantitative or qualitative according to their nature, which affects the activities
- For that, the IT department should collect this information based on facts. Step three (3) and step four (4) depend on them to construct the organization structure design.

IT Organization Design Activities

● Step 2 – Collect Critical Design Factors

● Quantitative Factors

- 1. Define the different location categories and their numbers (i.e. HQ 1, small location 1 in Uganda etc)
- 2. Identify the needed services at each location and specify if the IT department is currently providing these services or planning to provide them in the future. This will help determining the requirements to provide the planned services.

IT Organization Design Activities

● Step 2 – Collect Critical Design Factors

● Quantitative Factors

- 3. Prioritize and assess the **services** in terms of:
- a. **Importance:** High, medium or low, taking into account the customer opinion on it and the IT perspective as well because some customers may not fully understand the importance of a service until they lose it!
- b. **Remote:** Can the service be provided remotely or not
- c. **Demand:** The expected number of service requests per day
 - 4. Estimate the average time for providing the service based on the associated roles.

IT Organization Design Activities

● Step 2 – Collect Critical Design Factors

● Qualitative Factors

- 1. Determine the planned management style (Autocratic, Consultative, Participative, or empowering/Delegating). This will help in determining the level of supervision and section level structure.

IT Organization Design Activities

● Step 2 – Collect Critical Design Factors

● Qualitative Factors

- 2. Identify the stage in the life cycle of the IT department (Starting, building, Stabilizing, mature). This in combination of the management style will determine the basic characteristics of the IT Organization structure:
 - **Starting:** The IT organization is very young or very small (2-3 people)
 - **Building:** The IT organization is at the beginning of its first expansion, It is being established, and there is a considerable demand on systems, infrastructure services and IT people

IT Organization Design Activities

● Step 2 – Collect Critical Design Factors

● Qualitative Factors

- **Stabilizing:** IT Processes are being applied, most of the infrastructure systems have been created, and the IT department is looking for a structure that best suits the maintenance and support demand together with the demand for project and new systems
- **Mature:** Processes are optimized, stability achieved, minor problems and issues are arising.
- 3. Identify constraints of time, money, and people.

IT Organization Design Activities

● Step 3 - Construct a candidate design

● Coverage

- Depending on the strategy for the implementation, this step can cover:
 - 1. The existing services only, if there is no immediate plans for expansion
 - 2. The existing and planned services together, where implementation will be done immediately in one shot for both existing and new services

IT Organization Design Activities

- Step 4 – Transform into Actual Design
- Step 5 – Plan for Implementation
 - The purpose of this step is to plan to achieve the actual design. The planning covers each of the following:
 - Recruiting Vs Firing
 - Time table
 - Current Staff changes in roles and positions
 - Logistics and formal approvals
 - Documenting, Communicating and formalizing the new design
 - Establishing the reporting of the IT department to the upper level of management

Overview of IT Organizations

● IT Vision and Mission

- The purpose of the IT department represented by its vision and mission statements has direct influence on the recommended IT organization design activities.

Overview of IT Organizations

● Vision

- Most IT Organizations/Departments are looking for providing a quality professional service for its customers.
- They aim to achieve customer satisfaction and support the business of the entity they belong to it.

Overview of IT Organizations

● Vision

- "To be a service based entity that provides quality and professional services to the internal organization users"
- "Enhance the services on a national level and be a model for cultural improvements by increasing the computer usage, the Internet, the awareness of IT, training and reduce piracy"
- "To provide the best possible services with quality, professionalism and on time, resulting in happy and satisfied end users"
- "To provide service and support for the all the business departments"

Overview of IT Organizations

● Mission

- Very few IT Organizations/Departments are differentiating its vision statement from the mission statement.
- However, those who do, have a mission statement stating a goal to achieve short-term plans and objectives.

Overview of IT Organizations

● Mission

- The mission statement encourages and directs the daily actions of the IT staff toward the achievement of the most important and aspired objectives.
- It is usually focused, specific, simple and easy to remember.
 - “Achieve customer satisfaction”
 - “Execute the yearly plan”
 - “Meet or exceed each customer expectation in each service”

IT Services

- The IT department exists to provide services to its customers.
- These services vary in nature and importance, and they require different skill sets from its providers.

IT Services

- The IT services are very important because they:
 - Form the relation between the IT departments and its customers
 - Shape the structure of the IT department
 - Coupled with scale and demand, they justify the budget
 - Drive resource requirement and IT staff development

Services from a customer perspective

Category	Services
Project Management	<ul style="list-style-type: none">•Business process support•Automation•Tools and utilities•Office tools•Applications
Help Desk-Desktop Support	<ul style="list-style-type: none">•Hardware•Operating systems•Office tools and applications support•Personal Applications•User Training

Services from a customer perspective

Category	Services
Help Desk-Connectivity	<ul style="list-style-type: none">•Telecommunications•Internet/Intranet•Email•Printing Storage
Help Desk- Business Applications Support	<ul style="list-style-type: none">•Issues•Management Reports•Integration•Applications•Data and information

Services from a customer perspective

Category	Services
Indirect Services	<ul style="list-style-type: none">•Quality•Security•Reliability•Availability•Performance enhancement•Disaster recovery•Procurement•Sourcing and supplier management

IT Functions

- Functions carried out to develop, deliver and support the services
- The IT Organization functions form the basis of the IT organization design. They are the building blocks of the department sections and processes performed by the IT staff.
- The focus on functions is important because functions provide specialization and visibility to the IT work.
- Unlike processes, they provide the how-to, and they span multiple functions, sections and IT staff members.

Comparison Between IT Functions and IT Processes

Criteria	IT Function	IT Processes
Answers	What need to be done	How it will be done, by whom and when
Nature	High level description of a group of related and similar tasks or activities	As set of ordered steps or activities to achieve a defined purpose or output
Performed by	A role, specialist	A group of people who are involved in the process
Grouping	Similar functions are grouped based on nature, subject specialty and the needed skills	Grouping of activities depend on the purpose of the process

Comparison Between IT Functions and IT Processes

Criteria	IT Function	IT Processes
Output	Fulfillment of a job description or a responsibility	Defined purpose
Combination	Can be combined or further broken down depending on the demand or limitations	Each process is atomic and independent. Two processes cannot be combined, however, complex activities can be further broken down for simplicity but not as a response to demand or low resources

Comparison Between IT Functions and IT Processes

Criteria	IT Function	IT Processes
Resources	As less as possible, also might be fulfilled by multiple people of the same role	Spans anyone who is involved or affected by the process
Integration	Designed to be as less interdependent on each other	Integrates multiple activities, many people from different sections to achieve the purpose

Comparison Between IT Functions and IT Processes

Criteria	IT Function	IT Processes
Importance	IT functions are the principles by which processes are designed and implemented. They solve special cases and situations where there is no identified process or when the process conditions differ.	Processes have specific purpose and conditions, if the conditions differ (or an exceptional situation appears), the process will not be adequate to solve the situation. Then, people refer to the basic principles of work: the IT functions.

IT Functions

- When designing an IT organization, the design process maps each supported function explicitly to an organization structure role that fulfills it.
- The design process also groups the IT functions according to similarity of work, specialization and domain experience.
- It does not however, link, map, or group the IT Functions to the recommended structure.

IT Functions

- The design process can simply list the IT Functions.
- However, listing them without a solid reference and categorization will lead to duplication and redundancy, along with confusion and difficulty to manage, grasp and update them.
- The solution to the listing issue is framing. If we frame the dimensions and the aspects of the IT functions, we can then use a solid reference.
 - A reference that captures and categorizes systematically and clearly any IT function.

Lessons Learned

- Why conducted?