

## Resource Allocation

- **Resource allocation** is the assignment of available resources to various uses. In the context of an entire economy, resources can be allocated by various means, such as markets or central planning.
- In project management, **resource allocation** or resource management is the scheduling of activities and the resources required by those activities while taking into consideration both the resource availability and the project time
- In strategic planning, resource allocation is a plan for using available resources, for example human resources, especially in the near term, to achieve goals for the future. It is the process of allocating scarce resources among the various projects or business unit
- Resource allocation may be decided by using computer programs applied to a specific domain to automatically and dynamically distribute resources to applicants.
- This is especially common in electronic devices dedicated to routing and communication. For example, channel allocation in wireless communication may be decided by a base transceiver station using an appropriate algorithm.
- One class of resource whereby applicants bid for the best resource(s) according to their balance of "money", as in an online auction business model (see also auction theory). A study by Emmanuel Yartebai Annan shows that this is highly important in the resource allocation sector.

## Creation of critical patterns

- The job pattern of an IT company engaged in software development can be seen split in two parts:
  - Software Creation
  - Software Project Management
- A project is well-defined task, which is a collection of several operations done in order to achieve a goal (for example, software development and delivery). A Project can be characterized as:

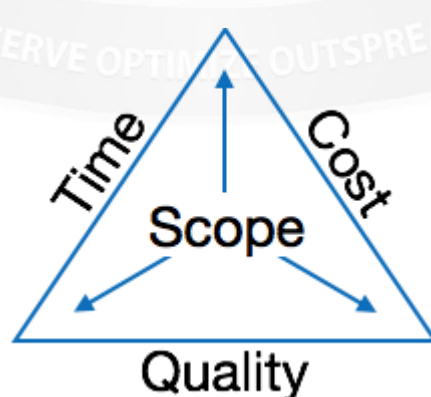
- Every project may has a unique and distinct goal.
- Project is not routine activity or day-to-day operations.
- Project comes with a start time and end time.
- Project ends when its goal is achieved hence it is a temporary phase in the lifetime of an organization.
- Project needs adequate resources in terms of time, manpower, finance, material and knowledge-bank.

### Software Project

- A Software Project is the complete procedure of software development from requirement gathering to testing and maintenance, carried out according to the execution methodologies, in a specified period of time to achieve intended software product.

### Need of software project management

- Software is said to be an intangible product. Software development is a kind of all new stream in world business and there's very little experience in building software products. Most software products are tailor made to fit client's requirements.
- The most important is that the underlying technology changes and advances so frequently and rapidly that experience of one product may not be applied to the other one. All such business and environmental constraints bring risk in software development hence it is essential to manage software projects efficiently.



- The image above shows triple constraints for software projects. It is an essential part of software organization to deliver quality product, keeping the cost within client's budget

constrain and deliver the project as per scheduled. There are several factors, both internal and external, which may impact this triple constrain triangle. Any of three factor can severely impact the other two.

- Therefore, software project management is essential to incorporate user requirements along with budget and time constraints.

### **Software Project Manager**

- A software project manager is a person who undertakes the responsibility of executing the software project. Software project manager is thoroughly aware of all the phases of SDLC that the software would go through. Project manager may never directly involve in producing the end product but he controls and manages the activities involved in production.
- A project manager closely monitors the development process, prepares and executes various plans, arranges necessary and adequate resources, maintains communication among all team members in order to address issues of cost, budget, resources, time, quality and customer satisfaction.

➤ Let us see few responsibilities that a project manager shoulders -Managing People

- Act as project leader
- Liaison with stakeholders
- Managing human resources
- Setting up reporting hierarchy etc.

### **Managing Project**

- Defining and setting up project scope
- Managing project management activities
- Monitoring progress and performance
- Risk analysis at every phase
- Take necessary step to avoid or come out of problems
- Act as project spokesperson

### **Software Management Activities**

- Software project management comprises of a number of activities, which contains planning of project, deciding scope of software product, estimation of cost in various terms, scheduling of tasks and events, and resource management. Project management activities may include:
- Project Planning
- Scope Management
- Project Estimation

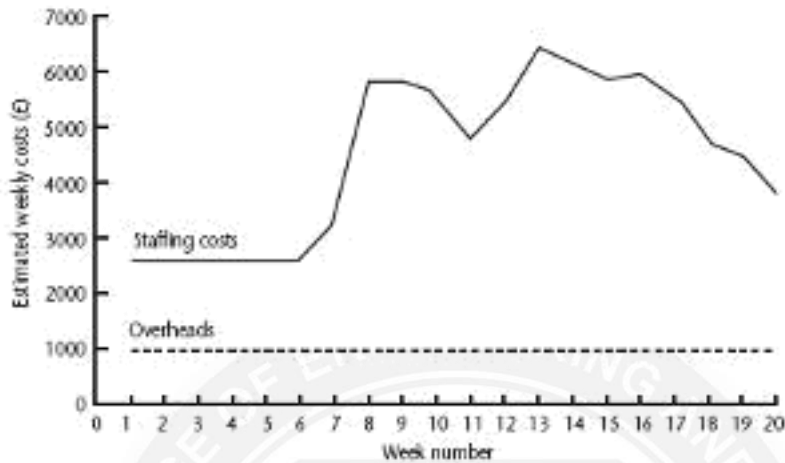
### **Cost Schedules**

Calculating cost is straightforward where organization has standard cost figures for staff and other resources. Staff costs includes not just salary, but also social security contributions by the employer, holiday pay etc. Timesheets are often used to record actual hours spent on each project by an individual. One issue can be how time when a staff member is allocated and available to the project, but is not actually working on the project, is dealt with. Overheads e.g. space rental, service charges etc. Some overheads might be directly attributable to the project, in other cases a percentage of departmental overheads may be allocated to project costs. Usage charges are some charges can be on a 'pay as you go' basis e.g. telephone charges, postage, car mileage –at the planning stage an estimate of these may have to be made.

In general, costs are categorized as follows.

- Staff Costs
- Overheads
- Usage Charges

**Cost profile**



This shows how much is going to be spent in each week. This could be important where an organization allocates project budgets by financial year or quarter and the project straddles more than one of these financial periods

**Accumulative costs**

The project manager will also be concerned about planned accumulative costs. This chart can be compared to the actual accumulative costs when controlling the project to assess whether the project is likely to meet its cost targets.

