Unit 7

Managing Contracts and People

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Intro

The buying of goods and service rather than "doing it yourself" is attractive when money is available, but other less flexible types of resources especially staffs time are in short supply and very good and much effort and attention is needed to manage a contracted out project successfully.

The demand of development effort fluctuates, as project come and go. It is more cost effective to employ outside (already made) s/w sometimes and new employees (developer) for new development of projects and to maintain it.

Types of Contract:

A contract for a complete s/w package should be placed and it can be done as:

(a) a tailored or bespoke system:
Created specially for customers/users

(b) an off the shelf package
A product developed for mass market

(c) Customized off the shelf (COTS) s/w:
When a core system is modified to meet the needs of client.

But, Generally, we will discuss about the following contracts here along with their advantages and disadvantages:

(A) Fixed Price Contract:

Here, a price is fixed when the contract is signed. The user knows that; if there are no changes in the contract terms, that will be the price they pay on project completion. To build such contract, a proper detailed requirement analysis must be done.

Advantages	Disadvantages
* Already known amount of expenditure (cost)	Supplier will increase price to meet contingencies (incidental expenses)
* Supplier has a motivation to work on cost-effective manner.	* difficult to modify the requirements * Threat to system quality.

(B) Time and Material Contract:

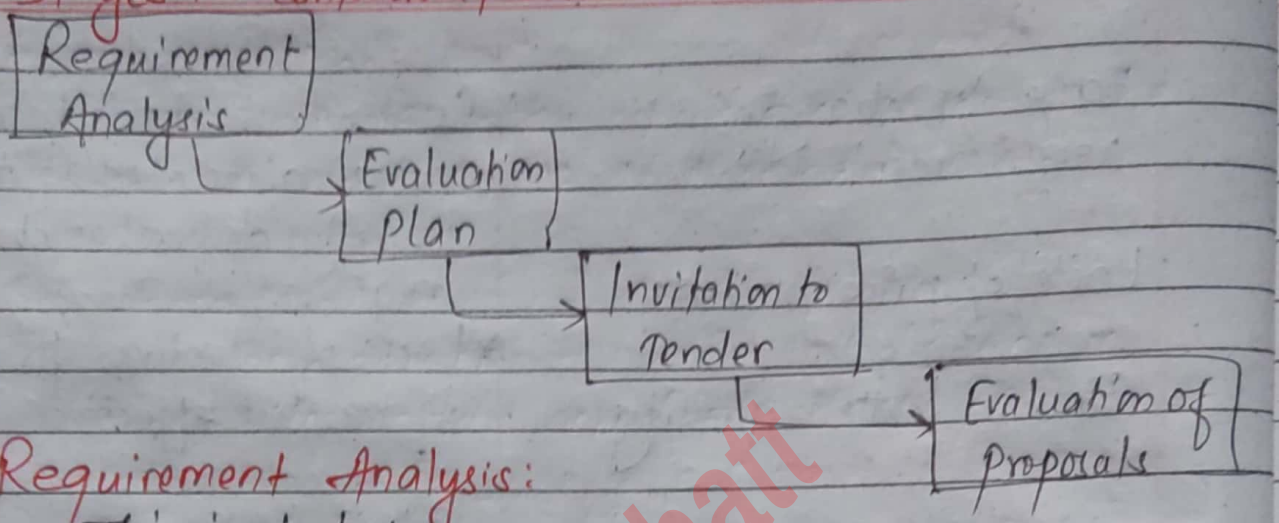
- With this type of contract, a customer is charged at a fixed rate per unit of effort. Eg: Staff per hour.
- Although the supplier provides a estimated cost of production but it can be changed anytime depending upon customers requirements and final payment may/may not differ than estimated cost.

Adv.	Disadv
Ease for changing requirements	⊗ Customer had to absorb all the risks associated if the design is poorly defined or changing regn.
Lack of price pressure	⊗ Lack of incentives for suppliers to be cost effective.
Can have better quality	

(C) Fixed Priced Per Unit Delived Contract:
The size of system to be delivered is calculated or estimated at the outset of project and that size can be estimated in no. of lines of codes but function points (FP) can be easily derived from requirements.

Adv	Disadv
Customer understands of how price is calculated	Difficulties with s/w size mgt (may need independent FP counter)
Comparability b/w different pricing schedules	For changing requirements (How do you charge?)
Suppliers incentive to be cost effective.	

Stages in Contracts: (Placement)



(A) Requirement Analysis:

This includes:

- All functions i/s o/p with necessary inputs and outputs
- Standards to be adhered (bond) with other applications
- Quality requirements. eg (Response time)
- Should state all the needs accurately as possible and avoid technical specifications of possible s/t's.

(B) Evaluation Plan:

- We need a plan on how the proposals are to be evaluated.

  It can be done as:

  - Reading proposals thoroughly
  - Site visits
  - * Interviews
  - * Practical tests etc

- ~~Also, payments system to be evaluated as all the payments should be done by the end of every specific tasks.~~

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(C) Invitation To Tender: (ITT)
- Here, the bidder makes an offer in response to ITT.
- Acceptance of offer creates a contract
- Customer may need further information that should be provided.

(D) Evaluation of Proposals:
- Proposals are evaluated and scored against selection and award criteria as: excellence, impact, quality and efficient for implement.

Typical terms of Contract:

(a) Form of Agreement:
Eg: Is this a contract for sale or lease or a license to use o s/w? Can license be transferred?

(b) Definition: All the terminologies used in contract should be defined. eg: suppliers, user, application etc

(c) Goods and Services to be Supplied: Equipments & services s/w to be supplies.
Eg: documentation, installation, maintainance agreements etc

(d) Ownership of s/w:
(i) Can client sell s/w to others?
(ii) Can supplier " " " "
(iii) Does supplier retains copyright? etc

(e) Time Table of activities:
Proper, clear schedule of project to be completed. Used for both supplier and user.

(f) Environment:
Where equipment to be installed? Who is responsible for various aspects of site prep??
Eg: Electricity supply

(g) Customer Commitments:
Providing access, supply info of the project

(h) Acceptance Procedures (i) Standards to be met
(j) Project and quality mgt (k) Price and Payment method

Contract Management:
The contract mgt includes:
* Progress Reporting
* Decision Points [can be ~~released~~ linked to release of payments to contractor]
* Variations to the Contract [How changes to requirement be dealt?]
* Should include agreements about customer and supplier relationship and are to be managed.
  * Quality Reviews
  * Changes to Requirement

Acceptance

- When the work is completed, the customer now does the acceptance testing.
- The contract may limit how long acceptance testing can take so the user must be organized to carry out this testing before time limit for requesting correction expires.

Managing People and Organizing Teams:

@ Intro:

- The people involved in ICT system development and implementation to work in cooperation with others and should be managed them as individuals or in groups depending upon their skills and need.
- Peoples are the organizations most important assets.
- Mainly focuses on
  - (*) staff selection (*) staff development
  - (*) " motivation (*) well being staff during course of project.

(b) Understanding Behaviour:

- Effective and sensitive mgt. of staff comes only from experience.
- So, the identification and handling of people as well as their behaviour is very much important aspect of project mgt.
- Should focus on discipline and organizational behaviour

Can be done through following approaches:

(a) Positivist Approach

(*) Based on development of system and discipline of org. theory.

"If A is situation, then B is likely to result".

(b) Interprehivist Approach (~~to~~ Interpreting):

(*) More qualitative and view each and every consumption situations as unique and non-predictive.

(c) Organizational Behaviour: (OB)

(i) Intro (Background):

- In late 19th and early 20th century, Fredrick Taylor attempted to analyse the most productive way of doing manual tasks.

Basic objectives of Taylor are:

(*) Select best man for job

(*) Instruct them on best method

(*) Give incentives in the form of higher wages to best workers.

- OB research found out that the state of minds of people helps in better productivity.

Later two theories (X and Y) were labelled by Donald Megregor.

Theory X Holds:

(*) Average human has innate (natural) dislike to work.
(*) People tend to avoid responsibility
(*) Therefore, there is need of coercion, direction and control.

Theory Y Holds:

(*) Work is as natural as rest or play.
(*) The average human can learn to accept and further seeks to responsibility
(*) In humans, the exercise capacity of imagination and other creative qualities is widely distributed.

(ii) Selecting right person for job:

- We need to select such person for the job who can affect the productivity of project.
- Anyone who can communicate well and have good experience and skills.
- Generally we use Recruitment Process for selecting person for job.

Requirem

- Recruitment shows the right and required details of the candidate. Who is actually suitable to do job well?
- Can have access to skills rather than experience.

a (*) Creates job specification
b. (*) Creates job holder profile
c. obtain applicants
d. Examine CV's
(e) Interviews
(f) Other Procedures

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(iii) Instruction in the Best Methods:

- Decisions need to be made about whether a new comers can more effectively pick up technical expertise on the job or on formal training course.
- Team leader should aware of need of to assess continually to the training needs of their team members.
- Training should'd not be abonded
- Reviews and Inspections should be carried out.

(iv) Motivation:

- An important role of manager is to motivate the people working on project.
- It is a complex issue but it appears to be different based on:
  - Basic needs (food, sleep, clothing etc)
  - Personal needs (respect, self-esteem)
  - Social needs (to be accepted as a part of group)

(v) Working In Groups:

- Most s/w engineering is a group activity as most of the s/w projects cannot be completed by one person working alone.
- Group interaction is the key determinant of group performance.
- Flexibility in group composition is limited as people at same page (level) should work in group for better productivity.

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(VI) Becoming a Team:

Described as basic 5 steages of development.

(a) Forming: Everyone in group should know each other and try to set up ground rules for behaviours

(b) Storming: Working method of group should be established so that no any conflicts arise b/w members to overtake leadership

(c) Norming: Conflict should be settled and feeling of group identity should emerge

(d) Performing: Do your tasks that are on your hand

(e) Adjouring: (रवाना होना) adjoure group disbands.

(Vii) Decision Making:

Decisions can be catogosized as:

(*) Structured

Relatively simple, routine decisions where rules can be applied in a ~~family~~ fairly straight forward way.

(*) Unstructured

More complex and often requires a degree of creativity

Barriers of Good decision making:

(*) Inter personal conflicts

(*) Risky shifts. (High risk of making bad decision in group than in individual)

(VIII) Leadership

- Leadership depends on respects, not on title or status
- There should be both, technical and managerial leader
- A career path based on technical competence should be supported.

Leadership styles

- Task oriented : Focus on work & on hand
- People oriented : Focus on relationships, where there is uncertainity about the way of doing job
- Reduce Uncertainity : Focus on people oriented tasks

Organizational Structure:

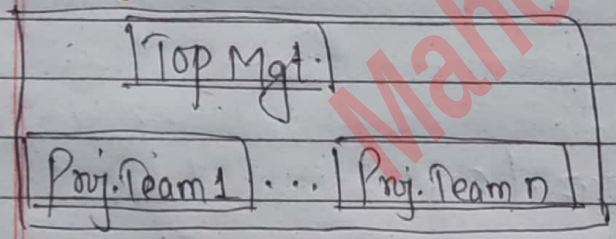

Fig: Project Org. Structure

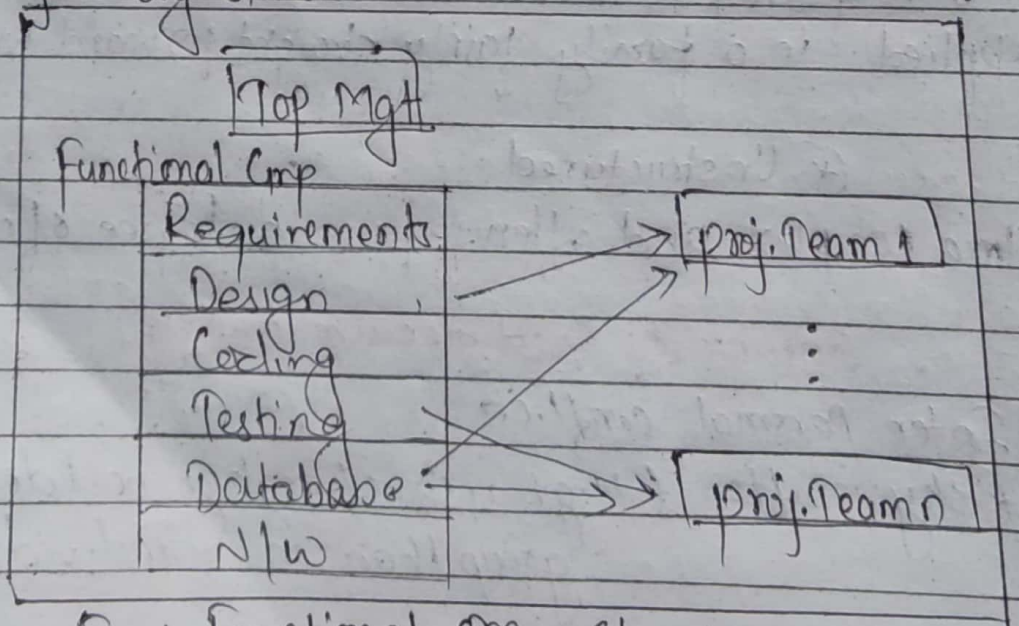

Fig: Functional org. Structure

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Conclusions:

Some of the imp. point that have been made in this chapter are:

* People may be motivated by money, but not by other things
* Both staff selection and identification of training needs to be done in an orderly structure.
* Thoughtful job design can increase staff motivation
* Group working is more effective with some types of activities
* Different types of leadership are needed in different situations.

Further Exercises:

(A) An org. has detected low job satisfaction in following deparments:
* system testing group * help desk * computer batch input
How can these jobs be redesigned to give more job satisfaction?

(B) For a request of job specification:
(a) Write job holders profile of a set of persn, who would be able to fulfill the specification in terms of quality, qualification and experience.

(C) If you have been involved recently in a group activity or project, try and categorize each participant according to Belbin classifn. (etc)

These are the activities you/we/manager can do while managing contracts and peoples.

E-N-D