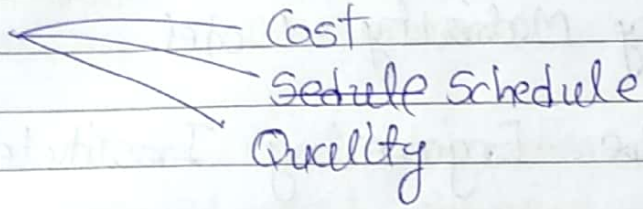
Unit :- 1.

(1.1)

→ Characteristics of project :-

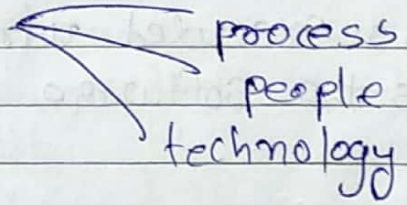


→ when all these three meets or exceeds the expectations then we can say that the project is successful.

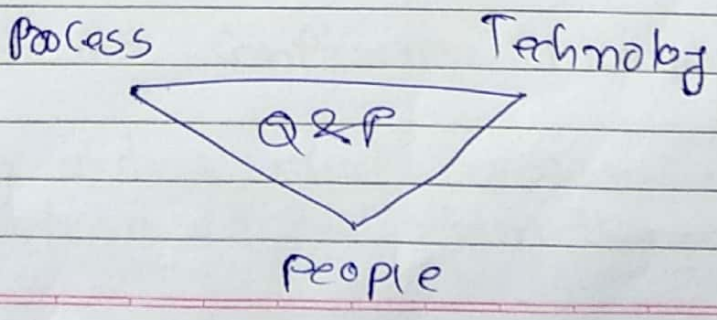
→ for a project to succeed, a key success parameter is a set of process followed in project.

→ High quality and productivity (Q & P) can be viewed as the main aims of a project have high Q&P.

→ Q&P of an organization depends on three factor.



- This relation sometimes called quality triangle.
- also known as Deming triangle.



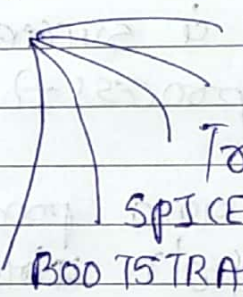
1.2 Capability Maturity Model for Software :-

- CMM → Capability Maturity Model

  SEI → Software Engineering Institute

- CMM is process a framework specifices some characteristices.

- May framework are available for software processes, including



→ Maturity level in CMM :-

- The range of results that can be expected in a project when it is executed using software process of an org is the software process capability.

- The actual result achieved

* level 2 KPA Goal:-

1. Requirement Management:- RR.

- In ature that the requirement are properly documented and changes of requirement are meny properly with respect to specific project.

2. Software project planning. SPP

- In ature that proper planing is done for a project which may include extrention an list of class that can be perform with proper planning and the documentation is available for SPP.

3. Software Quality Attribute. SQA

- It focus on revieco and adit that can be carry out and Identifing the leble of apply process of the project. It also include the quality Attribute Actility with that proper planing and action for the project fail senario. at the and of quality Attribute you are able to astablish standard process of specific project.

4. Software Confication management. SCM

- In antyer that program and document must be control, from the program and document

identify the changes manage it and plan acoding to the changes to configer the software in the targeted environment.

5. Software Project Tracking Overside SPTO

- It ensure that during project exicution the actual performance of the project is evaluated with respect to provided project plan & if any variation are than the appropriate action with respect to project plan. ot available for project.

6. Software Subcontract Management SSM

- Software subcontract is part of develapment process, which reduce the efforts of the software development tracking the fetures of anothe organization at that time you need to apply the KPA. in this Contract is done between contracter and subcontracter with the list of comitment from both side. If comitment is not reflecting in your atual performance than contract may be break.

* Goal for level 3 RPM :-

1. Organization Process level ~~focus~~ OPF

- If In that we check the defination activity execute properly In plan menor of the organization.

2. Organization Process Defination OPD

- It requires that the process and define that documented properly so that any person of the organization is able to use that process.

3. Training Programming TP

- In identfy the any type of training it require the any rool of the team an if yes then it contains the planing of training with respect to an in project.

4. Intigrated Software Management ISM

- It is the optional but whenever any process intigrated the any process at that time this RPA is applicable.

5. ~~Peer Review~~ PR

5. Software Product Engineering — SPE

- It focus on engineering task with respect to bringing of the project to organization process, consistancy of project and other remaining activity of the project up to an of the engineering task of over organization

6. Peer Review — PR

- It ensure that peer review activity is carry out properly so that we are able to identify require sppost and follow activity with respect to new standard process of the organization.

7. Intergroup Codination — Ic

- It is a optional but whenever we have multiple engineering group for perticular project at that time cordination of group and because of that the KPA is applicable.

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* Goal for level 4 KPA:-

1. ~~Quantity~~ Process Management QPM
Quantitative

- In ensure that Capability of the orgnization process I is easy to implement the quntityly aproach and It is employeed to set the quentity goal for the procoses.

2. Software Quality Management SQM

- It required the project set its quentity goal with sutuble plan of achiving this goal it also mantion the actual process to coords achiving the quality goals by maseing the product quality and the priority of that quality.

* Goals for level 5 KPA:-

1. Defect Prevention DP

- It requires that the defect priventton can be done pro actively by systematicaly anallzing the pcosies of defect and the method to allmeting of those cozes.

2. Technology Change Management TCM

- It focus on the pro active Introduction of Technology In the orgenization for providing quality and productivity with respect to

normal practice aproce the orgemization.

3. Process change Management PCM

- it's required that process improvement of a large section is require in the orgemization

(*) Software Capability Assessment Process / Method

- Software capability Evaluation usualy take place at the request of someone outside the orgemization.

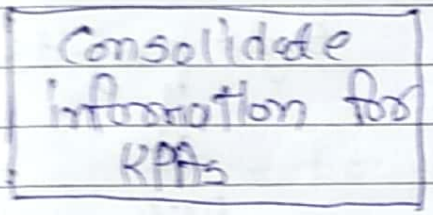
- The approach that orgemization use for the assessment is known as CBA-IPI. Core based apoiser for internal process improvement. in this assessment method group of technical person represlonting that different function.

- This group identify as a fun (functional area represlontative).

- The assessment is carryout by assessment team in this team nearly 6 to 10 experience person from the orgemization and sei authorised lead assesson is asses the assessment process.

- During the period of assessment team members collect the information for the software process of the organization the source of the info. are netessity questionnaires, interviews and documentation.

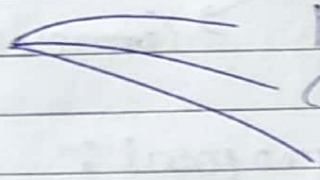
Consolidation Process



(1.9) proposals and Contracts:-

- Contract contains general terms and conditions and the specific terms for a particular project after providing some software service might be specified in a proposal for that project.

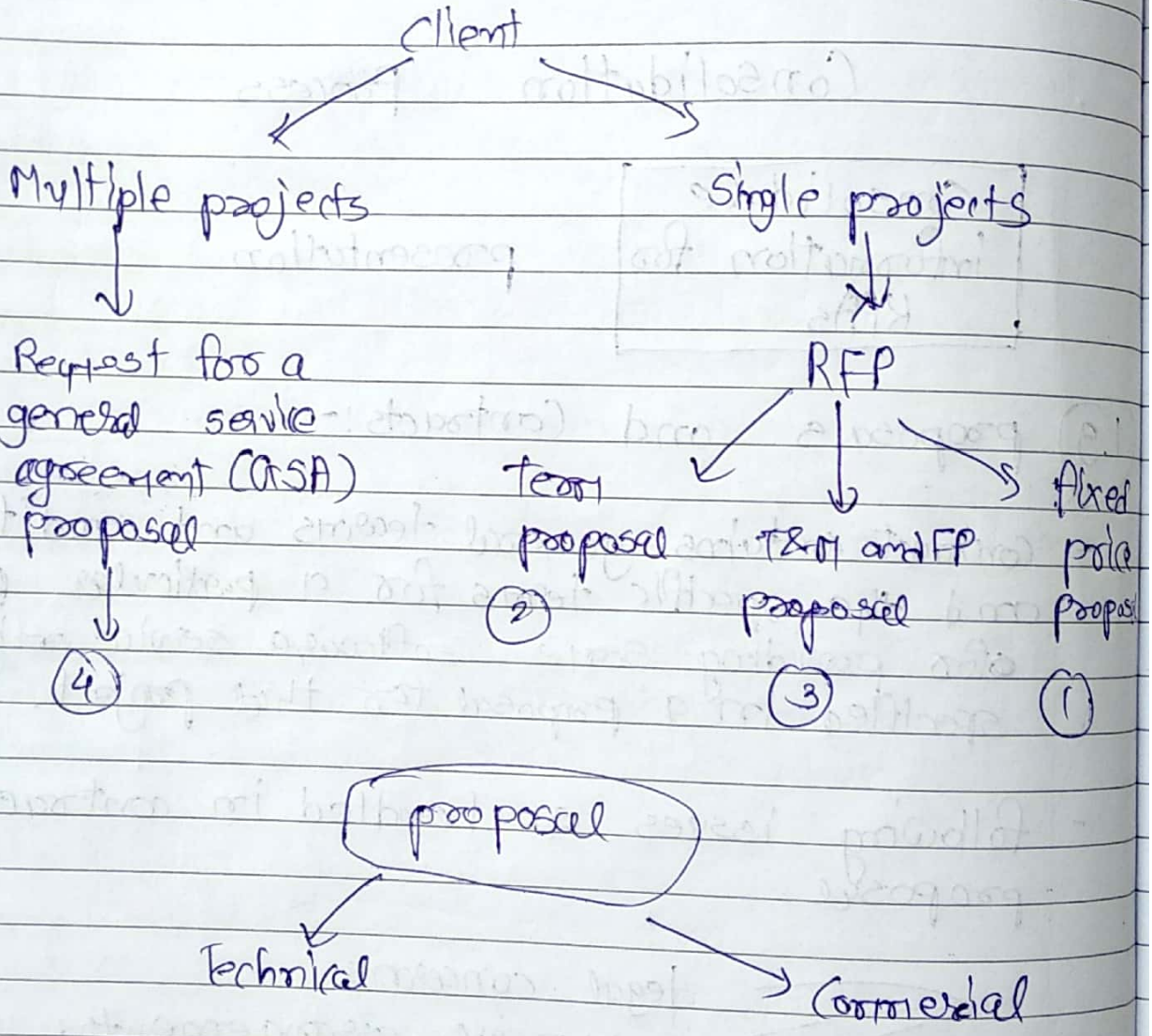
- following issues are handled in contract and proposal.



→ Customer and Vendor Interaction:-

- based on customer requirement, different models are used.

→ models ← Fixed - price Model
Time and materials model
Time and materials and fixed price model



→ included in technical part of proposal :-

1. Technical description
2. Assumption
3. Proposed solution
4. Effort estimation
5. Project schedule
6. Customer responsibility
7. Penalty for timely delivery

(8) Risk management
(9) Requirement change
(10) of the requirement and issue

- economic aspects ← pricing details
  Payment schedule
- proposal is generally prepared by the project leader.

→ The contract:-

- A contract is a legal document and generally covers areas not directly related to software development.
- "letter of intent"

→ Type of clauses are included in contract:-

- Scope of service
  estimation
  Rates and payments
  Hardware and software
  confidentiality
  Security
  Rights on data
  non solicitation
  warranty
  limitation of liability
  Indemnity

→ service-level agreements:-

- beside these options, these are clauses on jurisdiction, arbitration, termination of contract, payments defaults.

(1.4) Requirement Specification and Management:-

- major activity:-

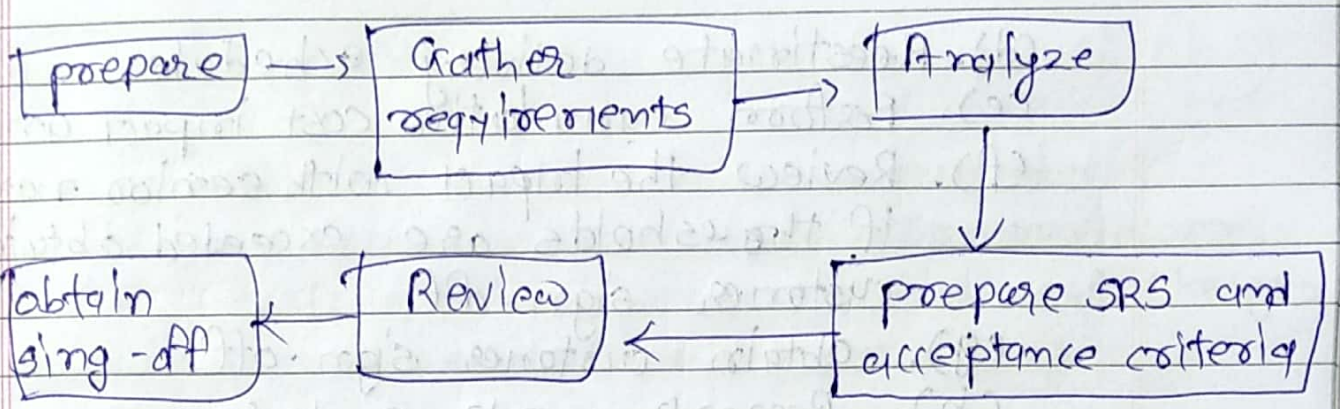
1. Requirement analysis and specification
2. Requirements change management
3. Requirement traceability management

① SRS is document is primary output of this phase.

- focus ← problem analysis
  product description

- problem analysis ← preparing
  Gathering requirements } group
  Analysis

- product description ← preparing SRS
  Reviewing it obtaining the final sign-off from the customer.



(2). changes in requirements can come at any time during the life of a project or after that.

- basic goal :-
  control requirement changes and ~~an~~ minimize their effect on the project.

- aspects :-

  (i) Agreement with the customer about how to deal with ~~to~~ the changes.
  (ii) process of actually making the chnges.

- project leader is primarily responsible for executing this process.

- steps RCM process :-

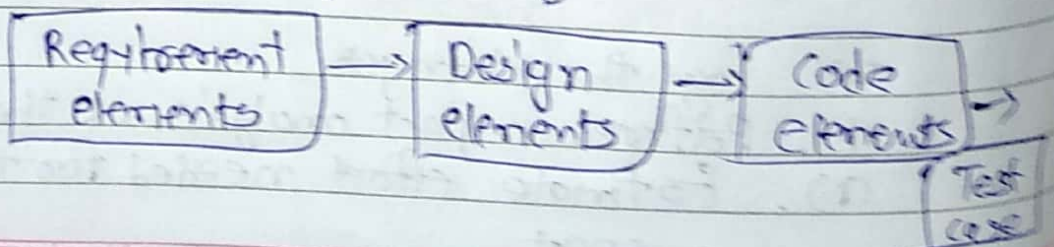
  (a). log the changes
  (b). Perform impact analysis on the work products
  (c). Estimate effort needed for the change respect.

(d). Reestimate delivery schedule.
(e). Perform cumulative cost impact analysis.
(f). Review the impact with senior management if thresholds are exceeded obtains customer sign-off.
(g). Obtain customer sign-off.
(h). Record work products.

(3). ← forward
backward

- forward that is possible to trace a requirement to elements in the outputs of later phases in the life cycle.
- backward that is possible to trace elements in the output of various stages back to requirements.
  - useful during change,
- traceability matrix:-
  - at Infosys this mapping is maintain.

traceability mapping



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- Useage of matrix :-

- Helps trace/trace all requirements
- providing a mechanism for reviewer.
- Impact analysis when requirement changes
- Help in demostrating customer.