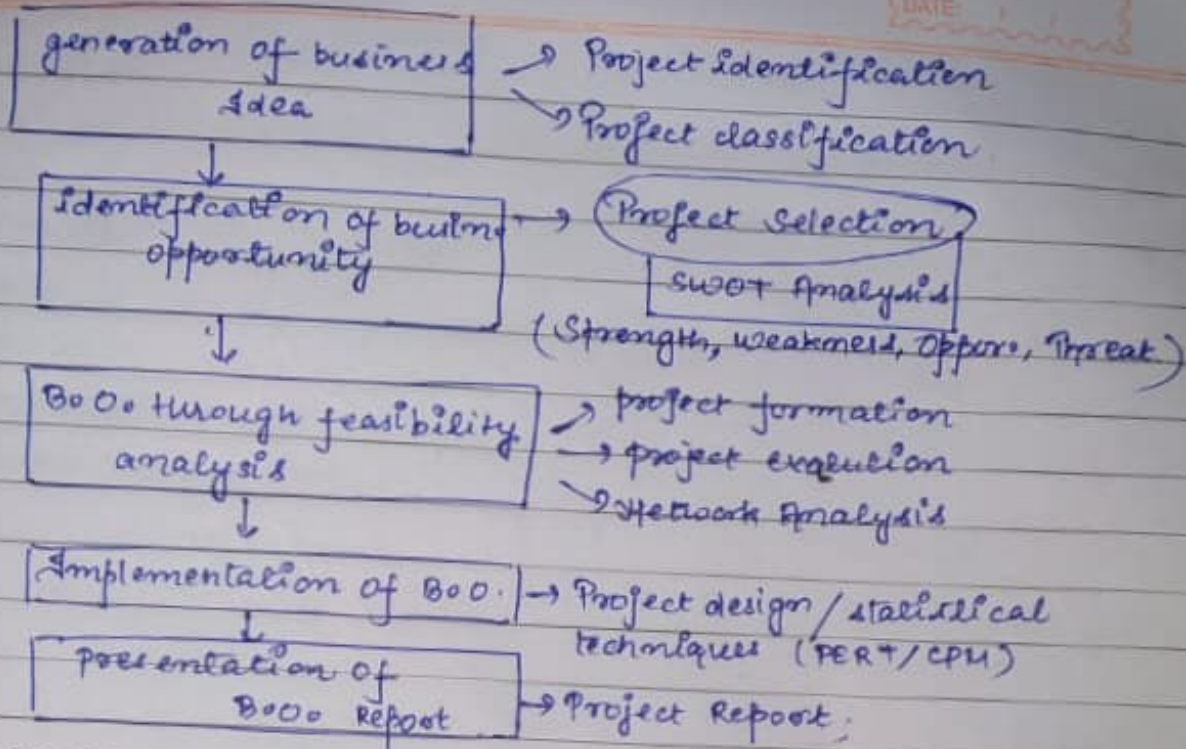
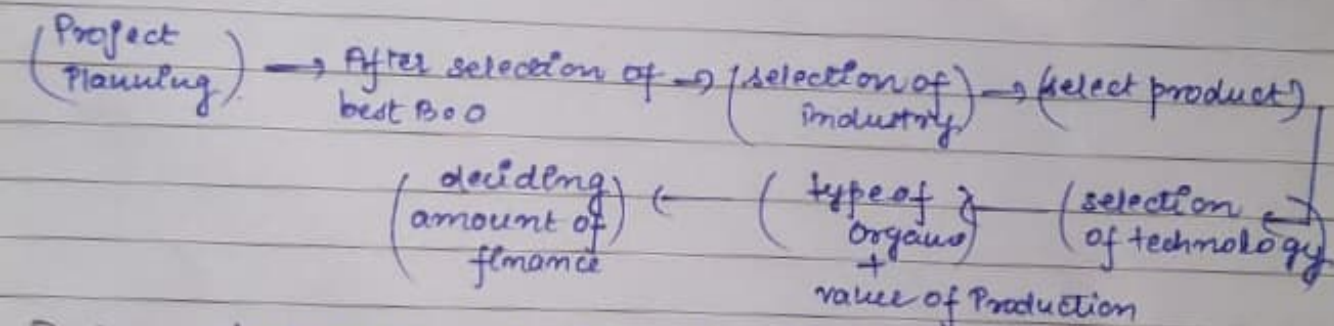


Project Management :-Project stages :-

Project → to be performed with well defined objectives

↓
Schedule Budget

- Project can differ in size, nature, objectives, complexity.
- proposal involving capital investment for the purpose of developing facilities to provide goods & services.
- allocation & generation of resources, generation of resources, goods & services.

Project → can be defined as → non routine & no repetitive & as a combination of inter related activities to achieve a specific objective.

→ Project may be defined as systematically & scientifically evolved work plan devised to achieve a specific objective within specific period of time.

Objective is to create, expand & develop certain facilities in order to use the production of goods & services.

Project Classification

(Health)

- 1) quantifiable project and non-quantifiable project.
- 2) Sectoral projects → agriculture related.
- 3) Techno-economic projects
 - factor oriented
 - causation oriented
 - magnitude oriented
- 4) financial institution
 - new project
 - expansion
 - modernisation
 - welfare project
 - services project
 - R.S.D. project
 - educational project.
 - Diversification

Quantifiable project & Non-quantifiable Project

↓
quantitative assessments of benefits can be made.

↓
(Health, education & defence)

[Industrial development, power generation, mineral development]

Sector Project :- Indian Planning Commission

- IPC → agriculture allied sector
→ Irrigation & power sector
→ Industry & mining sector
→ Transport & communication sector
→ Social service sector
→ Miscellaneous sector.

Techno Economic Projects →

- * ~~factor~~ factor intensity oriented based on
 - Capital intensive
 - Labour intensive
- * causation oriented classification based on
 - demand based
 - raw material based
- * magnitude oriented → size of investment form
 - large
 - Medium scale project.

Economic activities division -

- Division
- 0 → agriculture, forestry, hunting & fishing
 - 1 → quarrying
 - 2 & 3 → Manufacturing
 - 4 → construction
 - 5 → electricity, gas, water & sanitary services
 - 6 → commerce
 - 7 → Transport, storage & communication
 - 8 → services
 - 9 → activities adequately described

Project Identification - screening of idea

- Preliminary evaluation
- selecting most feasible & promising project
- ensuring success of an enterprise by finding out optimum opportunities for investment.

additive opportunities
(utilize resources without doing any change)

↓
Complementary opportunities
(Introducing new idea in existing structure)

↘
Break through
(change is very drastic & create risk)

- condensing project idea & shape into realistic form.
- choose right lines of business with opportunity selecting through environment/technology/idea exploration.

② Present business exploration.

③ selection of project

→ decision making

(Tools) → Environmental analysis

→ SWOT Analysis

→ Resource analysis

→ Opportunity analysis

Project Selection SWOT analysis

Strength/weakness

Inside Organisation

opportunities/threat

Outside Organisation

Strength → what positive aspects company enjoy in its business time.

Weakness → which area are causing concern.

Opportunities → How can be company be more innovative?
what are new market & upcoming trends?

Threat → 1) Are there any new competitors emerging in industry.
2) Economical condition / unfavourable regulation.

Selection of Project

(Internal Factor)

financial strength
experience, personnel,
functional department

(External Factor)

→ demand of consumers
→ Raw material
→ technological aspect
→ demographic factor
→ social-culture, political
legal factor.

SWOT Analysis

SWOT
org. environment.

Strength	Weakness	Opportunities	Threats
→ availability of infrastructure.	→ Non availability of raw material.	→ good Mkt population.	→ Recession short- age of power, water, fuel.
→ skilled manpower.	→ scarcity of resources	→ availability of appropriate technology.	→ climate change, customer changes tastes & preferences
→ good inventory	→ low managerial expertise.	→ favourable govt policies	→ technological obsolescence
→ quality control	→ Inadequate train- ing.	→ cultural environ- ment.	→ Political instability,
→ Brand image	→ Outdated techno- logy	→ good relation with suppliers	→ tough competition
→ efficient Manag.	→ Lack of delegation of authority.		→ economic depression.

SWOT Matrix

use strength
to take
adv of oppo

	S	W	
		SO	WO
T	ST	maxi-max	mini-max
	TW	maxi-mini	mini-mini

Overcome weakness
to take advantage
of opportunity

DATE

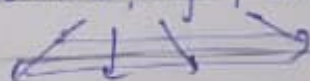
use strength
to avoid
threat

minimize threat &
avoid weakness

Project Formulation

concerned with dev of project idea
to arrive an investment decision.

analysis to achieve project objective
with min exp & adequate resources.



① Feasibility analysis

② Techno Economic Analysis

③ Project Design & Network analysis

ETP & ESP

④ Input analysis

⑤ Financial Analysis

⑥ Socio-Cost Benefit Analysis

⑦ Pre-Investment analysis

Project Formulation

① Feasibility Analysis

first stage of project formulation

screening of internal & external constraints

Project idea seems to be feasible or not.

Examination to see whether go for a
detail investment proposal or not

② Techno-economic Analysis

- choice of optimal technology.
- define economy of project idea.
- estimation of demand & market. → Market, Size, Products, Competitors etc.
- Provide the platform for detailed project design.

③ Project design & Network Analysis

- involve detailed work plan of project & its estimated time.
- involve different activities & sequence of events i.e. interrelated with each other.
- Time allocated for each activity.
- activities & events are present through Network diagram (PERT & CPM).
- ↓
Programme evaluation - critical Path
method technique
- reveal the proper time to reveal the proper time to implement project with available resources.

④ Input Analysis

- identification, quantification & evaluation of input requirement.
- define input required for all activities.
- evaluate the feasibility of project with adequate supply of inputs.

⑤ Financial analysis

- estimation of project cost of funds required for project
- analytical tools are used. → discounted cash flow
→ cost volume
→ Ratio analysis
- find out whether the project will generate income.

⑥ Cost benefit analysis

- analyse real contribution of project.
- overall worth is considered.
- enumeration & evaluation of all relevant cost.

⑦ Pre-investment analysis

- whether to accept the project or reject.
- selection of Project appraisal, looking for project sponsoring body & implementation body & constraints.

financing of Project —

financial institutions

- Industrial finance Corporation of India (IFCI)
- Small Industries development Bank of India (SIDBI)
- Industrial development Bank of India (IDBI)
- National small Industries corporation (NSIC)
- Small Industrial development Corporation (SIDCS)
- State financial Corporation (SFC)

expanding & providing direct financial to industries & small scale industries.

- NSIC providing common facilities through prototype development & training centre.

→ Some financial institution provides

development activities

promotional activities

- | | |
|--|--|
| <ul style="list-style-type: none">→ Infrastructure facilities→ assistance for raw material. | <ul style="list-style-type: none">→ Preparation of feasibility reports→ Edps→ Industrial potential survey. |
|--|--|
- Technological upgradation & Modernisation services to industry.
 - development of industrial area.

Project Appraisal

- Assessment of a project in terms of its economic, social & financial variability.
- Involves investigation of economic, technical organisation, financial, market & managerial aspects of project.

Technical aspect

financial aspect

economic aspect

Organisational aspect

- location of project
- availability of input
- Manufacturing & technology selected for project
- availability of infra-facilities

- availability of funds from various sources
- income exp

- requires raw material
- anticipated sales
- probable profit

- structure
- environment
- Recruitment
- training

- sequential + logical planning of project
- defines interrelationship of activities
- monitors progress of project
- examine critical activities & critical path
- critical path - activities requiring more focus as special attention.
- It helps & plans alternative ways to reduce time & cost related to work project.

Network Analysis

- activity
- event
- Network diagram
- critical path

CPM (Critical Path Method)

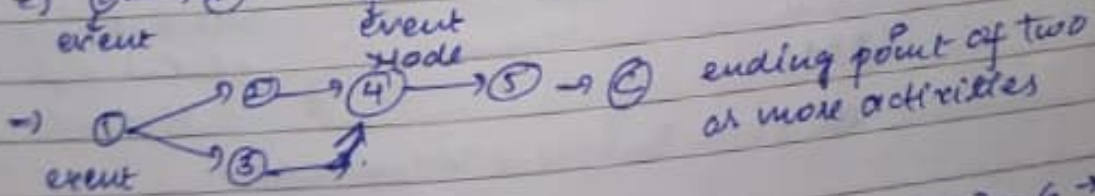
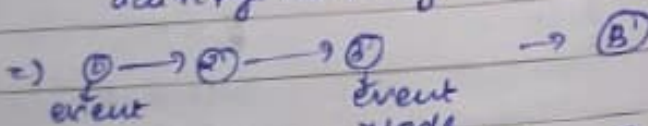
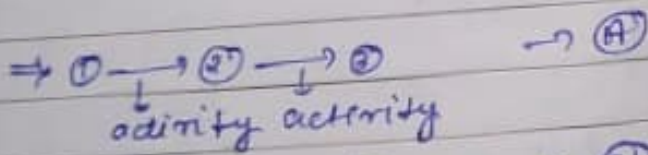
→ used for complex projects with the large no. of activities.

CPM consists of

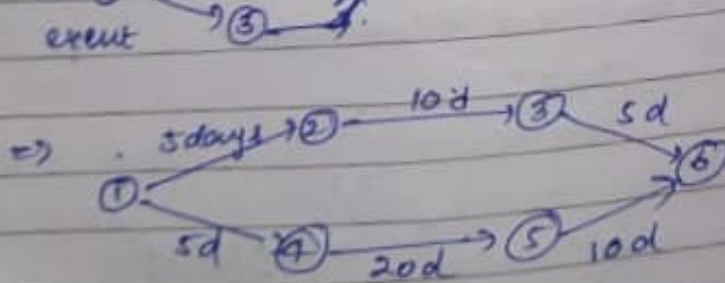
- all activities
- time for completion
- how one activity is related to previous & next.

→ longest path is critical path.

→ It's called critical cause all activities should be done in proper time so that project delay is no!



ending point of two or more activities



1-2-3-6 → 20 days

1-4-5-6 → 35 days

longest path
critical path

PERT (Program Evaluation Review Technology)

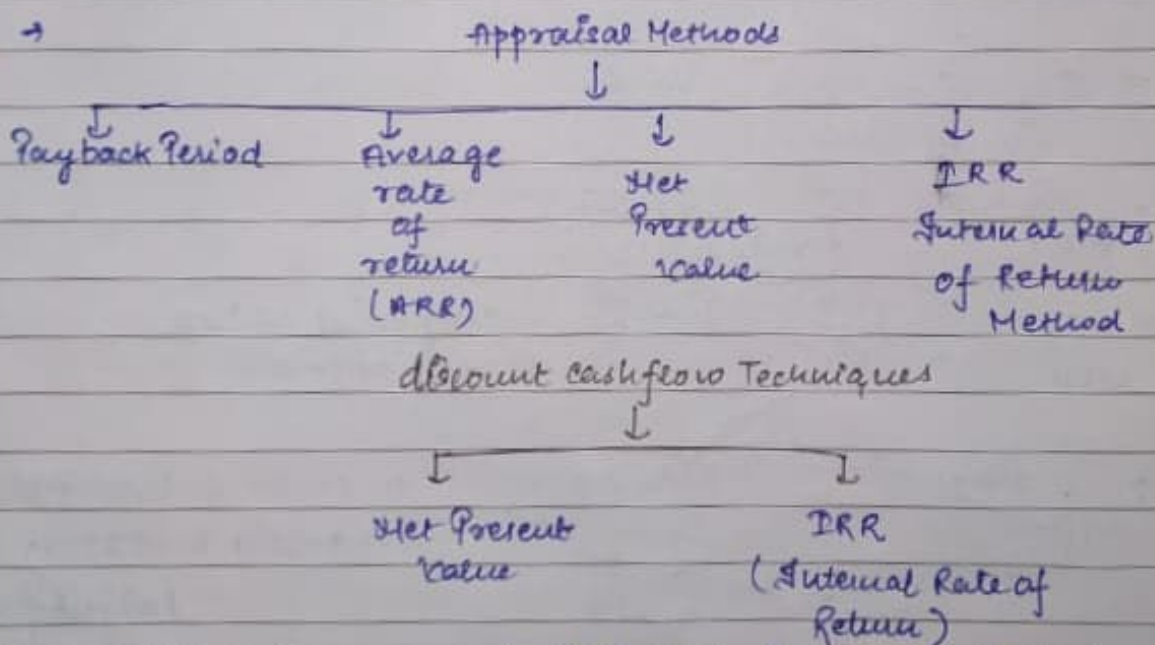
- project managing chart tool.
- scheduling, organising & co-ordinating tasks within a project.

components —

- 1) optimistic time → every activity looks +ve & should be completed on time.
- 2) Pessimistic time → activity (complicated) + can't be completed on time.
- 3) Most likely time → activity (neutral) + equal probability to complete project on time.

Project Evaluation (Project financial appraisal)

- analysis of costs and benefits of project (estimation)
- identifies expected cost & benefits of Project
- examines real cost.
- examines alternative investment opporto with allocation of funds. (distribution)



- Discounted Techniques → evaluate & select investment project.
- capital budgeting techniques → eg. company to decide whether to buy a new machine.
 - refined & realistic
 - represent the recovery of original investment & a return on capital invested.
 - Time adjusted techniques
 - determine a criteria to start a project.

NPV → defines as excess of present value of project inflows over that of outflow.

$$NPV = \text{present value} - \text{benefit cost stream}$$

NPV

↓

Conventional

$$NPV = \frac{B_1}{(1+r)^1} + \frac{B_2}{(1+r)^2} + \dots + \frac{B_n}{(1+r)^n} - C_0$$

↓

Non-Conventional

(cash outflows takes place over ~~the~~ more than one year).

B_t → represents cash inflow in periods $0, 1, 2, \dots, n$.

C_0 → initial investment

$$NPV = \sum_{t=1}^n \frac{B_t}{(1+r)^t} - C_0$$

$$NPV = \frac{B_0}{(1+r)^0} + \frac{B_1}{(1+r)^1} + \dots + \frac{B_n}{(1+r)^n}$$

$$\left(\frac{C_0 + C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \dots + \frac{C_n}{(1+r)^n} \right)$$

or

$$NPV = \sum_{t=0}^n \frac{B_t}{(1+r)^t} - \sum_{t=0}^n \frac{C_t}{(1+r)^t}$$

B_t → cash inflows ($0, 1, 2, \dots, n$)

C_t → cash outflows ($0, 1, 2, \dots, n$)

r = desired rate discount

If —

$$NPV \geq 0 \rightarrow \text{accept project.}$$

else

$$NPV < 0 \rightarrow \text{reject}$$

Internal Rate of Return (IRR)

→ rate at which NPV is equal to 0.

→ internal return generated by project.

$$IRR = \frac{(1 + (H-L) \times NPV_{at L})}{NPV_L - NPV_H}$$

}

$L \rightarrow$ lower disc ($NPV_{at L}$)

$H \rightarrow$ higher disc ($NPV_{at H}$)

aggregated discounted cash inflows

$$NPV = \sum_{t=1}^n \left(\frac{B_t}{(1+IRR)^t} \right) - C_0 = 0$$

↓
aggregate initial investment.

Project Report

a document that provides detail on the overall status of the project or specific aspects of the projects process & performance.

assess (estimates) → demand of proposed product.
→ investment & operational cost
→ estimates expected profitability of project.

Project report covers

- economic
- Technical
- financial
- Managerial
- Production

} all aspects

- after identification, selection of a project, entrepreneur works on formulation of a feasibility report.
- written document abt project containing ~~very~~ relevant data.

Contents of Project Report

- ① General Info → info project, character & apps.
- ② Location → location of project, locational adv.
- ③ Land & building → land area, construction, cost of constr.
- ④ ~~Promoter~~ Promoter → education, qualifs, work experience.
- ⑤ Plant & Machinery → details of technical tools, equipment, machinery.
- ⑥ Raw material → reqs of raw material, prices, sources.
- ⑦ Production process → description of process of production.
- ⑧ Man Power → staff, skilled & semi-skilled labour, sources of man power.
- ⑨ Market → Market position, trends, anticipated demands.
- ⑩ Financial Implications → project cost, fixed & working capital, profitability.