E-D Unit-3

Project Management :-

generation of business idea → Project identification
→ Project classification

↓

Identification of business opportunity → Project selection
→ SWOT Analysis (Strength, weakness, Opportunity, Threat)

↓

BOO through feasibility analysis → project formation
→ project execution
→ Network Analysis

↓

Implementation of BOO → Project design / statistical techniques (PERT/CPM)

↓

Presentation of BOO Report → Project Report

Project stages :-

(Project Planning) → After selection of best BOO → (selection of industry) → (select product)

(selection of technology) → (type of organisation + value of Production) → (deciding amount of finance)

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

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

Quantifiable project & Non-quantifiable Project →

Quantifiable → quantitative assessments of benefits can be made.

Non-quantifiable → (health, education & defense)

[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 →

* ~~fixed~~ factor intensity oriented based on → capital intensive
  → labour intensive
* causation oriented classification based on → demand based
  → raw material based
* magnitude oriented → size of investment → large
  form → 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	Complementary opportunities	Break through
(utilize resources without doing any change)	(introducing new idea in existing structure)	(change is very drastic & create risk)

→ conceiving project idea & shape into realistic form.
→ choose right lines of business with opportunity selecting through ⇒ environment / technology / idea exploration.
① Present business exploration.
② 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 current 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 competitor emerging in industry.
2) Economical condition / unfavourable regulation.

Selection of Project

(Internal factor)	(External factor)
financial strength, experience, personnel, functional department	→ demand of consumers → Raw material → technological aspect → demographic factor → Social-culture, political legal factor.

SWOT analysis — SW OT — org. environment.

Strength	Weakness	Opportunities	threats
→ availability of infrastructure. → skilled manpower. → good Inventory → quality control → Brand image → efficient Manag.	→ Non availability of raw material. → Scarcity of resources → Low managerial expertise. → Inadequate training. → Outdated technology → Lack of delegation of authority.	→ good Mkt population. → availability of appropriate technology. → favourable govt policies → cultural environment. → good relation with supplies	→ Recession shortage of power, water, fuel. → climate change, customer changes tastes & preferences → technological ~~obsolescent~~ obsolescence → Political instability, tough competition economic depression.

*SWOT Matrix

	S	W	
use strength to take adv. of O opportu	SO Maxi-max	W-O mini-max	→ overcome weakness to take advantage of opportunity
use T. strength to avoid threat	ST maxi-min	TW mini-min	→ minimize threat & avoid weakness

Project formulation → concerned with devo of project idea to arrive an investment decision.
→ analysis to achieve project objectives with min. exp & adequate resources.

① feasibility analysis
② Techno Economic Analysis
③ Project Design & Network analysis
④ Input analysis
⑤ Financial Analysis
⑥ Socio-Cost Benefit analysis
⑦ Pre-investment analysis

FTPFSP

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, Producer, competitor 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 method technique — Critical Path Method.
→ 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 cashflow
→ 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 & consultancies.

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 (SICs)

granding & providing direct financial to industries & smallscale industries.

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

→ some financial institution provides

- development activities
  - → Infrastructure facilities
  - → assistance for raw material.
- promotional activities
  - → 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
  - → location of Project
  - → availability of Input
  - → Manufacturing technology selected for project
  - → availability of Infr. facilities
- financial aspect
  - → availability of funds from various sources
  - → income & expo
- economic aspect
  - → requires raw material anticipated sales probable profit
- Organisational aspect
  - → structure
  - → environment
  - → Recruitment
  - → training

→ sequencial + logical planning of project
→ defines interrelationship of activities
→ monitors progress of project
→ examine critical activities & critical path
→ critical path - activities requiring more focus or 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 Methods)

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

CPM consists of → all activities
→ time for completion
→ how one activity is s/ted to previous & next.

→ longest path is critical path.
→ Its called critical cause all activities should be done in proper time so that project delay na ho!

⇒ ① → ② → ③ → (A)
activity activity

⇒ ① → ② → ③ → (B)
event event event

⇒ ① → ② → ④ → ⑤ → (C) ending point of two or more activities
event event node
③ → ④

⇒ ① → 5 days → ② → 10d → ③ → 5d → ⑥
① → 5d → ④ → 20d → ⑤ → 10d → ⑥

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)
(estimation)

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

→ Appraisal Methods

- Payback Period
- Average rate of return (ARR)
- Net Present value
- IRR Internal Rate of Return Method

Discount cashflow Techniques

- Net Present value
- IRR (Internal Rate of Return)

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 = | present value − benefit cost stream |

NPV

Conventional

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

B_t → represents cash inflow in periods 0, 1, 2, — n.

C_0 → initial investment

or

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

Non-conventional

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

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

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

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 — n)

C_t → cash outflows (0, 1, 2, — n)

r = desired rate discount

If —

NPV ≥ 0 → accept project.

else

NPV < 0 → reject

Internal Rate of Return (IRR)

→ rate at which NPV is equal to 0.

→ Internal return generated by project.

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

L → lower disc (NPV +ve)

H → higher disc (NPV → -ve)

aggregated discounted cash inflows

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

↓ 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 (all aspects)
- → economic
- → Technical
- → financial
- → Managerial
- → Production

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

Contents of Project Report

① General Info → Info project, charact & apps.
② Location → location of project, locational adv.
③ Land & building → land area, construction, cost of constr.
④ ~~Promoters~~ Promoters → education, qualifs, work experience.
⑤ Plant & Machinery → details of technical tools, equipment, machinery.
⑥ Raw material → req. 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.