

Preparation of Project and ERP

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Meaning of Project

- Any undertaking with a definite starting point and defined objectives by which completion is defined .
- A project is a whole complex of activities involved in using resources to gain benefits.
- The World Bank has defined Project as an approval for a capital investment to develop facilities to provide Goods & Services.
- A Project is an appraisal for Investment with the definite aim of producing a flow of Output over a specified period of time.

Meaning of Project

- Projects partake of the following three basic attributes:
 - A course of action
 - Specific objectives and
 - Definite time perspectives.
- Every project has starting point, an end point with specific objectives.

Project Life Cycle

- The project life cycle refers to a logical sequence of activities to accomplish the project's goal or objectives.

Phases of project

- Initiation/Birth phase
- Planning Phase
- Execution phase
- Closure/Exit phase

Project Management

- Project management is a specialized branch of management capable of differentiation from other based on a variety of factors which include the organization structure, the process of planning and control, human relation etc..
- Project management deals with project identification, selection, formulation and appraisal.

Project Management Phases

- Identification
- Formulation
- Appraisal
- Selection
- Implementation
- Management

Project Identification

- It is concerned with collection, compilation & analysis of economical data for purpose of locating possible opportunities for investment
- Opportunities may be additive, complementary, breakthrough
- As an Entrepreneur, when you are searching for an idea suitable for your commitment, background & experience, do not pursue one idea at a time. Develop five or even more project ideas in parallel until one emerges so appropriate, that it begins to dominate your thoughts.

Project Identification

Project Ideas can be discovered from various internal & external sources. These may include :

- ☐ Knowledge of potential customer needs.
- ☐ Personal observation of emerging trends in demand for certain products.
- ☐ Scope for producing substitute product.
- ☐ Trade and professional magazines which provide a very fertile source of project ideas.

Project Identification

Project Ideas can be discovered from various internal & external sources. These may include :

- ☐ Departmental publications of various departments of the government.
- ☐ Success stories of known entrepreneurs or friends or relatives.
- ☐ A new product introduced by the competitor.
- ☐ Ideas given by knowledgeable persons.

Project Identification

All of these Sources put together may give a few Ideas about the possible projects to be examined as the Final Project. This Process of identifying Project Ideas is referred to as “*Opportunity Scanning & Identification.*”

Project Selection

- Project selection starts once the entrepreneur has generated few ideas of project.
- After having some ideas, these project ideas are analyzed in the light of existing economic conditions, market conditions, and the government policy and so on.
- For this purpose a tool is generated used what is called SWOT analysis.
- The intending entrepreneur analyses his strengths and weaknesses as well as opportunities/competitive advantages and threats/challenges offered by each of the project ideas.

Project Selection

- In addition the entrepreneur needs to analyze other related aspects also like raw material, potential market, labour, capital, location and forms of ownerships etc.
- Each of these aspects has to be evaluated independently and in relation to each of these aspects. On the basis of this analysis, the most suitable idea is finally selected to convert it into an enterprise. The process involved in selecting a project out of few projects is also termed as “Zeroing in Process”.

Project Selection

- ***Investment Size:***
 - assess the Economical Size of the Plant & the Total Investment required
 - Assess Financial Capability
- ***Location:*** Location chosen should have
 - Good Infrastructural Facilities
 - Transportation Facilities
 - Communication Facilities
 - Availability of Power, Water & required Labor

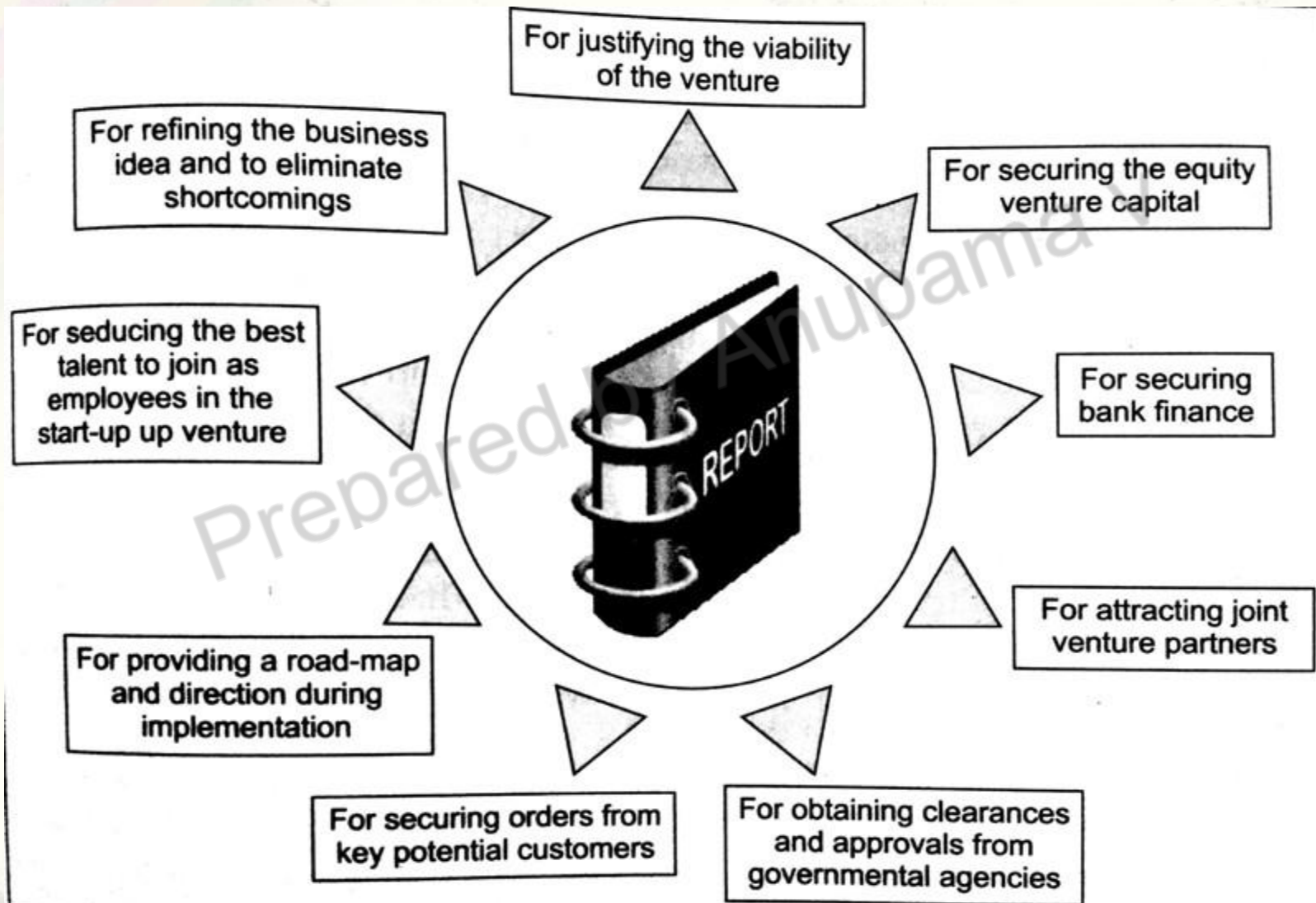
Project Selection

- ***Technology:***
 - Should not necessitating Foreign Technical Collaboration.
 - Product with a proven technology
- ***Plant & Machineries:***
 - assess the availability of High Quality Plant & Machineries
 - should not compromise on the Quality of the Equipment
- ***Marketing:*** The Success of any Enterprise finally depends on Marketing Capability of ones Goods / Products / Services.

Project Report

- A project report or a business plan is a written statement of what an entrepreneur proposes to take up.
- It is a kind of guide frost or course at action what the entrepreneur hopes to achieve in his business and how is he going to achieve it.
- A project report serves like a kind of big road map to reach the destination determined by entrepreneur.
- A well evolved course of action devised to achieve the specified objectives within a specified period of time. It is like an operating document.

Need and Significance of Report



Contents of Project Report

- Cover Page
- Table of Contents
- Executive Summary
- Company Information & Industry
- Product or Service (Technical plan)
- Marketing plan
- Manufacturing/Operating Plan

Contents of Project Report

- Management Team (Organizational Plan)
- Project Timeline (Network Analysis)
- Critical Risk & Assumption
- Social Plan
- Exit Strategy
- Financial Plan
- Conclusion
- Appendix

Formulation of Project Report

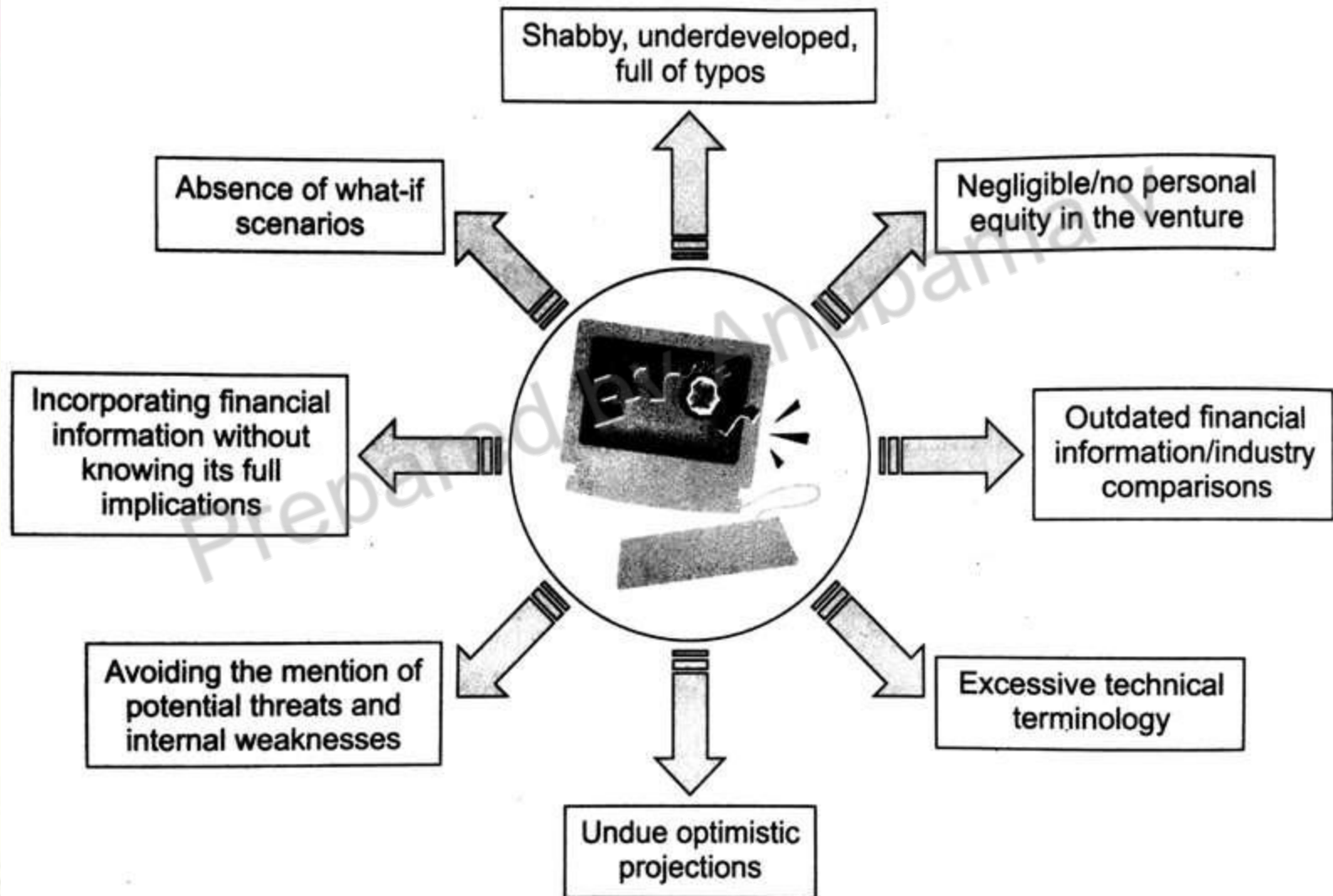
Project Formulation includes following steps:

- General information
- Project description
- Market potential
- Capital costs and sources of finance
- Assessment of working capital requirements
- Other financial aspects
- Economical and social variables
- Project implementation

Planning Commission Guidelines For Project Report Preparation

1. General Information
2. Preliminary Analysis of Alternatives
3. Project Description
4. Marketing Plan
5. Capital Requirements and Costs
6. Operating Requirements and Costs
7. Financial Analysis
8. Economic Analysis

Errors in Project Report



Enterprise Resource Planning

- Enterprise resource planning system is a fully integrated business management system covering functional areas of an enterprise like Logistics, Production, Finance, Accounting and Human Resources. It organizes and integrates operation processes and information flows to make optimum use of resources such as men, material, money and machine.
- Enterprise resource planning promises one database, one application, one user interface

Enterprise Resource Planning

ERP delivers a single database that contains all data for the software modules, which would include:

- ***Manufacturing:*** Engineering, bills of material, scheduling, capacity, workflow management, quality control, cost management, manufacturing process, manufacturing projects, manufacturing flow.
- ***Supply chain management:*** Order to cash, inventory, order entry, purchasing, product configuration, supply chain planning, supplier scheduling, and inspection of goods, claim processing, and commission calculation.
- ***Financials:*** General ledger, cash management, accounts payable, accounts receivable, fixed assets.

Enterprise Resource Planning

- ***Project management:*** Costing, billing, time and expense, performance units, activity management.
- ***Human resources:*** Human resources, payroll, training, time and attendance, rostering, benefits.
- ***Customer relationship management:*** Sales and marketing, commissions, service, customer contact and call center support, Data warehouse and various self-service interfaces for customers, suppliers, and employees.
- ***Access control :*** user privilege as per authority levels for process execution Customization - to meet the extension, addition, change in process flow.

ERP Characteristics

- ***Flexibility***: An ERP system should be flexible to respond to the changing needs of an enterprise.
- ***Modular & Open***: ERP system has to have open system architecture.
- ***Comprehensive***: It should be able to support variety of organizational functions
- ***Beyond The Company***: It should not be confined to the organizational boundaries.
- ***Best Business Practices***: It must have a collection of the best business processes applicable worldwide.

Features of ERP

- ERP provides multi-platform, multi-facility, multi-mode manufacturing, multi-currency, multi-lingual facilities.
- It supports strategic and business planning activities, operational planning and execution activities, creation of Materials and Resources.
- ERP covering all functional areas like manufacturing, selling and distribution, payables, receivables, inventory, accounts, human resources, purchases etc.
- ERP performs core activities and increases customer service, thereby augmenting the corporate image.
- ERP bridges the information gap across organizations.
- ERP is the solution for better project management.

Features of ERP

- ERP provides complete integration of systems not only across departments but also across companies under the same management.
- ERP allows automatic introduction of the latest technologies like Electronic Fund Transfer (EFT), Electronic Data Interchange (EDI), Internet, Intranet, Video conferencing, E-Commerce etc.
- ERP eliminates most business problems like material shortages, productivity enhancements, customer service, cash management, inventory problems, quality problems, prompt delivery etc.
- ERP provides intelligent business tools like decision support system, Executive information system, Data mining and easy working systems to enable better decisions.

Benefits of ERP

- Gives Accounts Payable personnel increased control of invoicing and payment processing and thereby boosting their productivity and eliminating their reliance on computer personnel for these operations.
- Reduce paper documents by providing on-line formats for quickly entering and retrieving information.
- Improves timeliness of information by permitting posting daily instead of monthly.
- Greater accuracy of information with detailed content, better presentation, satisfactory for the auditors.

Benefits of ERP

- Improved cost control.
- Faster response and follow-up on customers.
- More efficient cash collection, say, material reduction in delay in payments by customers.
- Better monitoring and quicker resolution of queries.
- Enables quick response to change in business operations and market conditions.
- Helps to achieve competitive advantage by improving its business process.

Benefits of ERP

- Improves supply-demand linkage with remote locations and branches in different countries.
- Provides a unified customer database usable by all applications.
- Improves International operations by supporting a variety of tax structures, invoicing schemes, multiple currencies, multiple period accounting and languages.
- Improves information access & management throughout the enterprise.

Functional Areas of Operation

- Marketing and Sales (M/S)
- Supply Chain Management (SCM)
- Accounting and Finance (A/F)
- Human Resources (HR)
- **Business functions:** Activities specific to a functional area of operation

Functional Areas of Operation (cont'd.)

Functional area of operation	Marketing and Sales	Supply Chain Management	Accounting and Finance	Human Resources
Business functions	Marketing a product	Purchasing goods and raw materials	Financial accounting of payments from customers and to suppliers	Recruiting and hiring
	Taking sales orders	Receiving goods and raw materials	Cost allocation and control	Training
	Customer support	Transportation and logistics	Planning and budgeting	Payroll
	Customer relationship management	Scheduling production runs	Cash-flow management	Benefits
	Sales forecasting	Manufacturing goods		Government compliance
	Advertising	Plant maintenance		

Figure 1-1 Examples of functional areas of operation and their business functions

Functional Areas of Operation (cont'd.)

- Functional areas are interdependent
 - Each requires data from the others
- Better integration of functional areas leads to improvements in communication, workflow, and success of company
- **Information system (IS):** Computers, people, procedures, and software that store, organize, and deliver information

Business Processes

- Collection of activities that takes one or more kinds of input and creates an output that is of value to customer
 - Customer can be traditional external customer or internal customer
- Thinking in terms of business processes helps managers to look at their organization from the customer's perspective

Functional Areas and Business Processes of a Very Small Business

- Example: A fictitious coffee shop
 - Examine business processes of the coffee shop
 - See why coordination of functional areas helps achieve efficient and effective business processes
 - Look at how integration of the information system improves the business

Marketing and Sales

- Functions of Marketing and Sales
 - Developing products
 - Determining pricing
 - Promoting products to customers
 - Taking customers' orders
 - Helping create a sales forecast

Marketing and Sales (cont'd.)

- Marketing and Sales tasks for the coffee shop
 - Formal recordkeeping not required
 - Need to keep track of customers
 - Product development can be done informally
 - Good repeat customers allowed to charge purchases—up to a point
 - Records must show how much each customer owes and his or her available credit

Marketing and Sales (cont'd.)

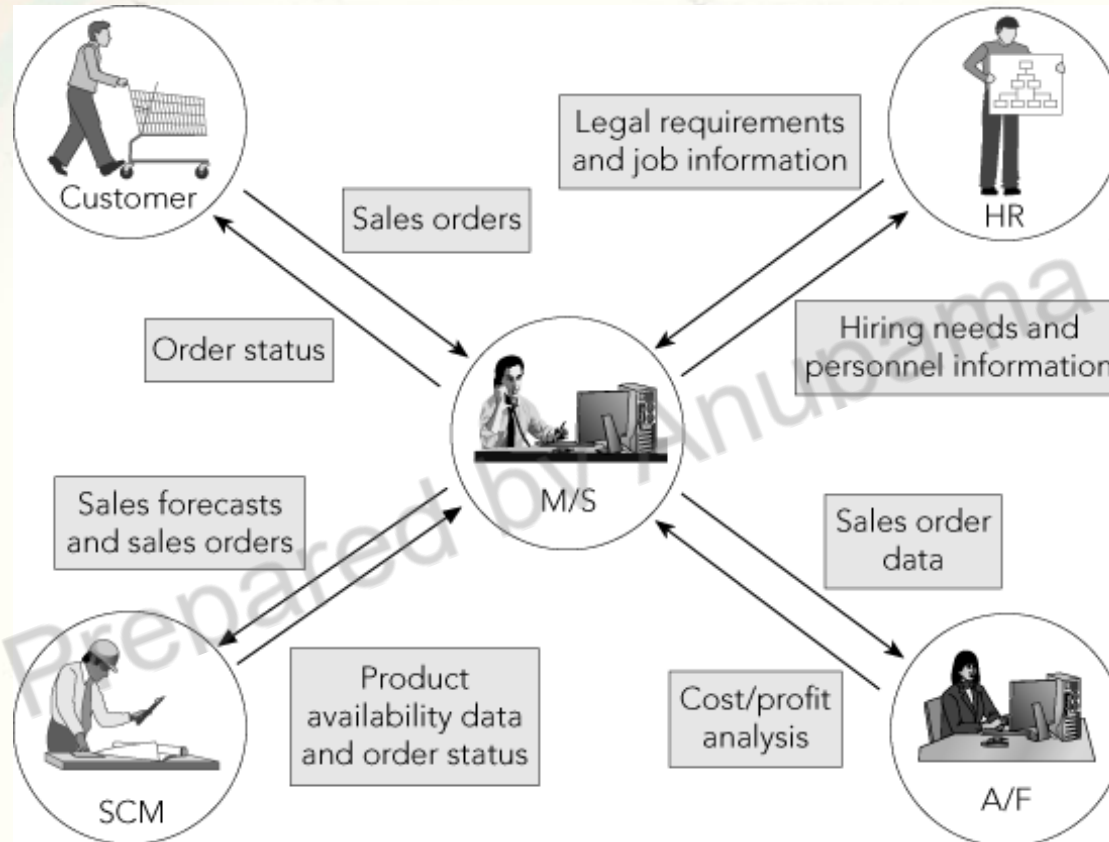


Figure 1-4 The Marketing and Sales functional area exchanges data with customers and with the Human Resources, Accounting and Finance, and Supply Chain Management functional areas

Supply Chain Management

- Supply chain management (SCM) is the active management of supply chain activities to maximize customer value and achieve a sustainable competitive advantage.
- It represents a conscious effort by the supply chain firms to develop and run supply chains in the most effective & efficient ways possible.
- Supply chain activities cover everything from product development, sourcing, production, and logistics, as well as the information systems needed to coordinate these activities.

Supply Chain Management

- Needs information from various functional areas
- Production plans based on information about product sales (actual and projected) that comes from Marketing and Sales
- With accurate data about required production levels:
 - Raw material and packaging can be ordered as needed
 - Inventory levels can be kept low, saving money

Supply Chain Management

- Functions within Supply Chain Management
 - Making the coffee (manufacturing/production)
 - Buying raw materials (purchasing)
- Production planning requires sales forecasts from M/S functional area
 - **Sales forecasts:** Analyses that attempt to predict the future sales of a product

Supply Chain Management (cont'd.)

- Production plans used to develop requirements for raw materials and packaging
 - Raw materials: Bottled spring water, fresh lemons, artificial sweetener, raw sugar
 - Packaging: Cups, straws, napkins
- SCM and M/S must choose a recipe for each coffee product sold

Supply Chain Management (cont'd.)

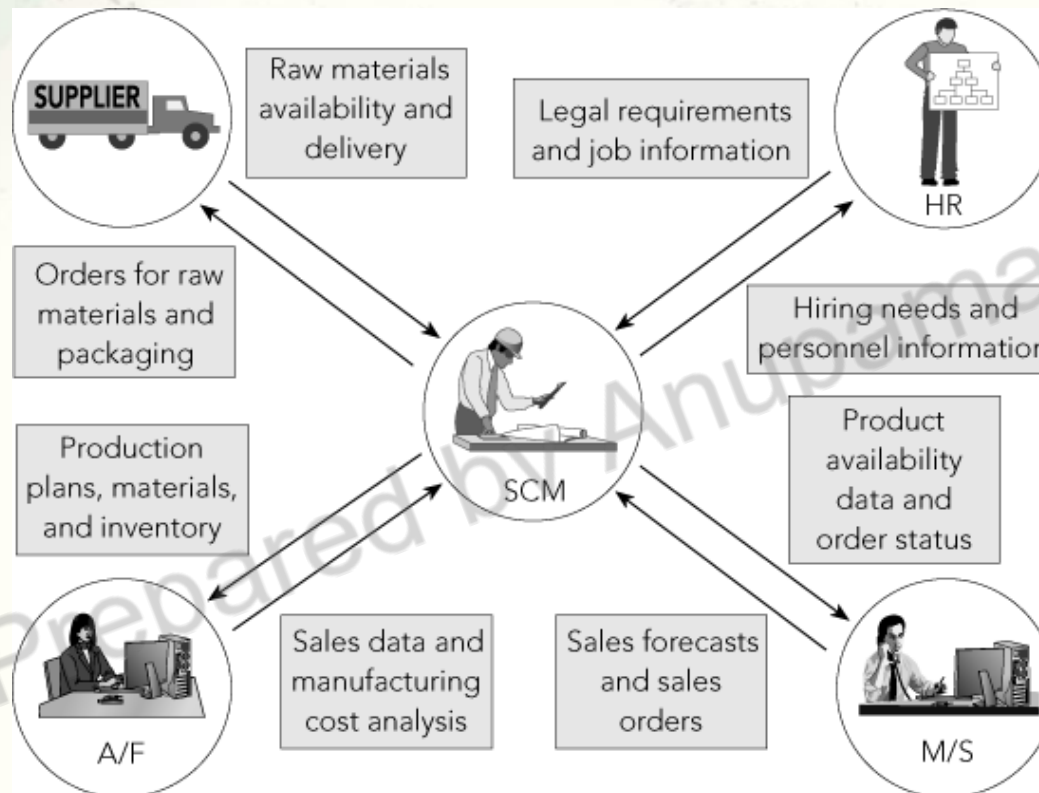


Figure 1-5 The Supply Chain Management functional area exchanges data with suppliers and with the Human Resources, Marketing and Sales, and Accounting and Finance functional areas

Accounting and Finance

- Functions within Accounting and Finance
 - Recording raw data about transactions (including sales), raw material purchases, payroll, and receipt of cash from customers
- **Raw data:** Numbers collected from sales, manufacturing and other operations, without any manipulation, calculation, or arrangement for presentation

Accounting and Finance (cont'd.)

- Data from Accounting and Finance used by Marketing and Sales and Supply Chain Management
 - Sales records are important component of sales forecast
 - Sales forecast is used in making staffing decisions and in production planning
 - Records from accounts receivable used to monitor the overall credit-granting policy of the coffee shop

Accounting and Finance (cont'd.)

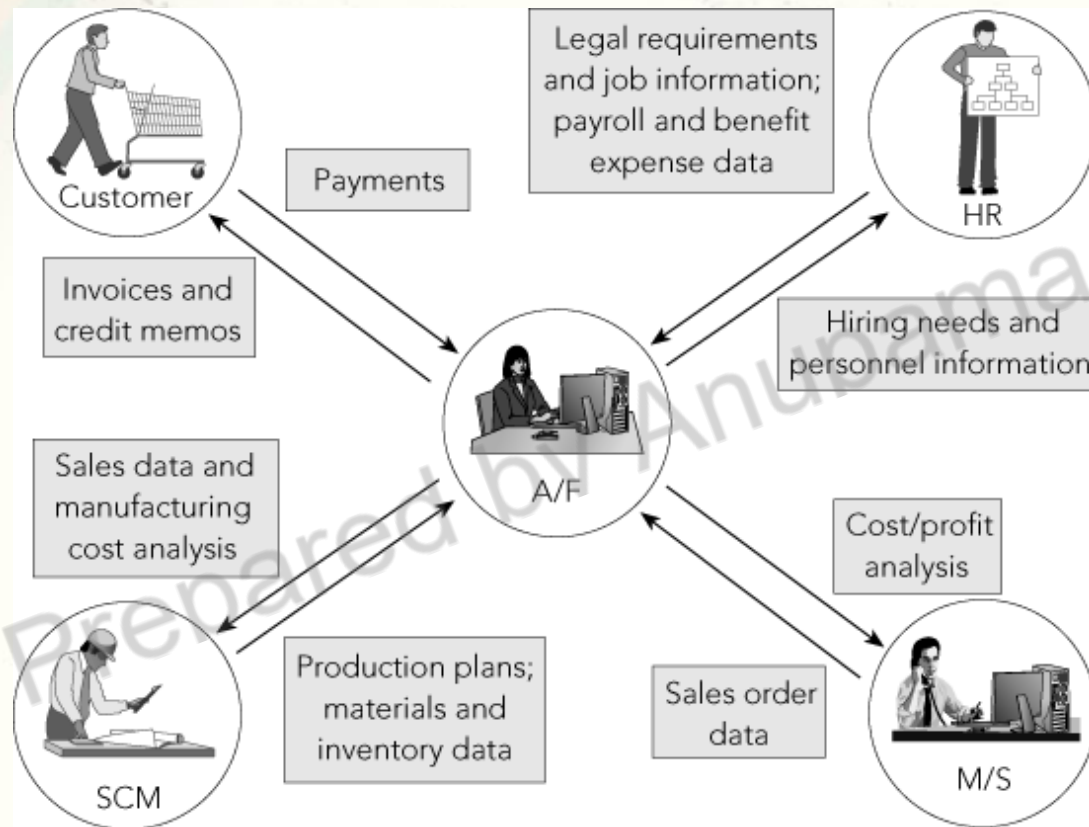


Figure 1-6 The Accounting and Finance functional area exchanges data with customers and with the Human Resources, Marketing and Sales, and Supply Chain Management functional areas

Human Resources

- Functions of Human Resources
 - Recruit, train, evaluate, and compensate employees
- HR uses sales forecasts developed by the individual departments to plan personnel needs
- Systems integrated using ERP software provide the data sharing necessary between functional areas

Human Resources (cont'd.)

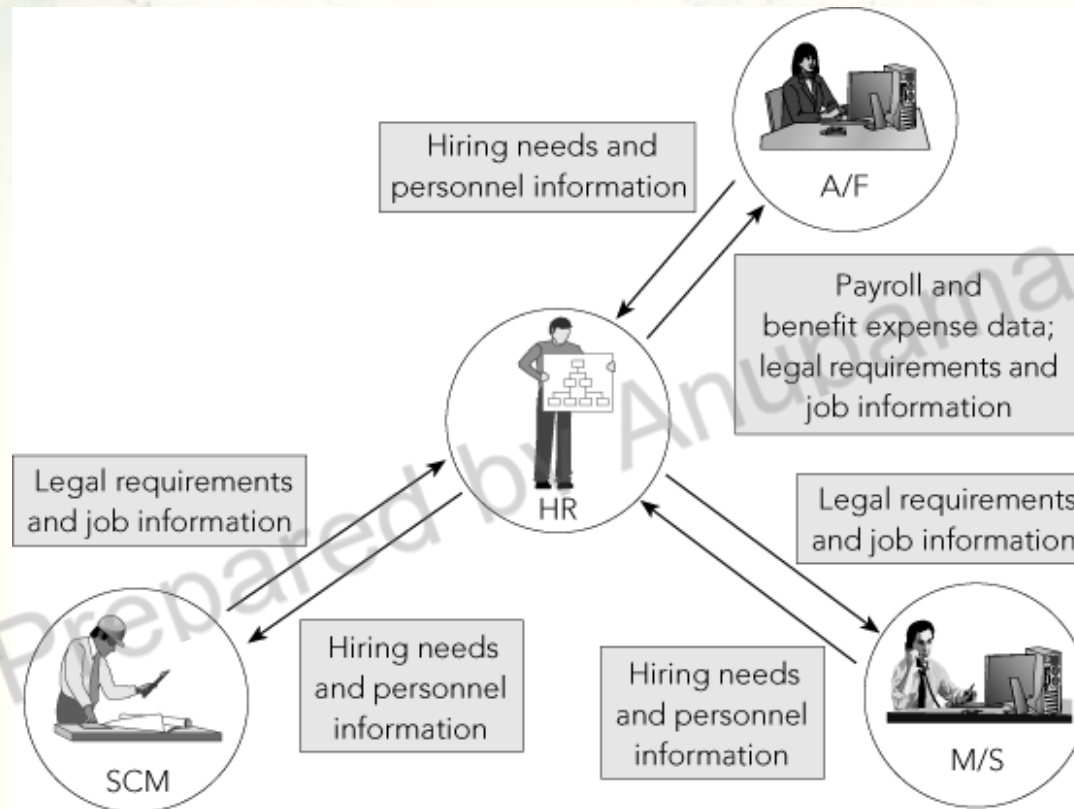


Figure 1-7 The Human Resources functional area exchanges data with the Accounting and Finance, Marketing and Sales, and Supply Chain Management functional areas

Network Analysis

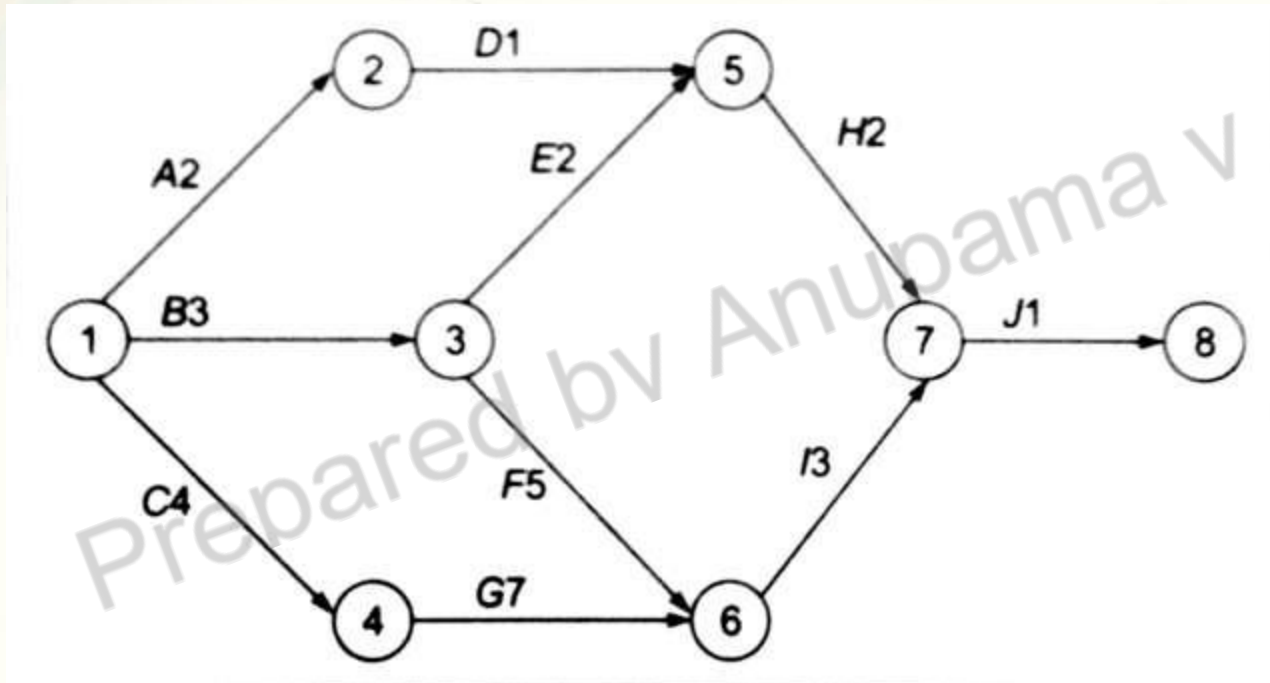
- A network diagram represents the various activities of a project.
- An event/node marks the begin/end of an activity.
- An activity is represented by a straight line arrow.
- There can be only one activity between 2 nodes.
- A dummy activity is a hypothetical activity which does not require any type of resource. And duration is 0.

Critical Path Method

Table 8.2

Task	Time (days)	Required Predecessor(s)
A	2	-
B	3	-
C	4	-
D	1	A
E	2	B
F	5	B
G	7	C
H	2	D,E
I	3	F,G
J	1	H,I

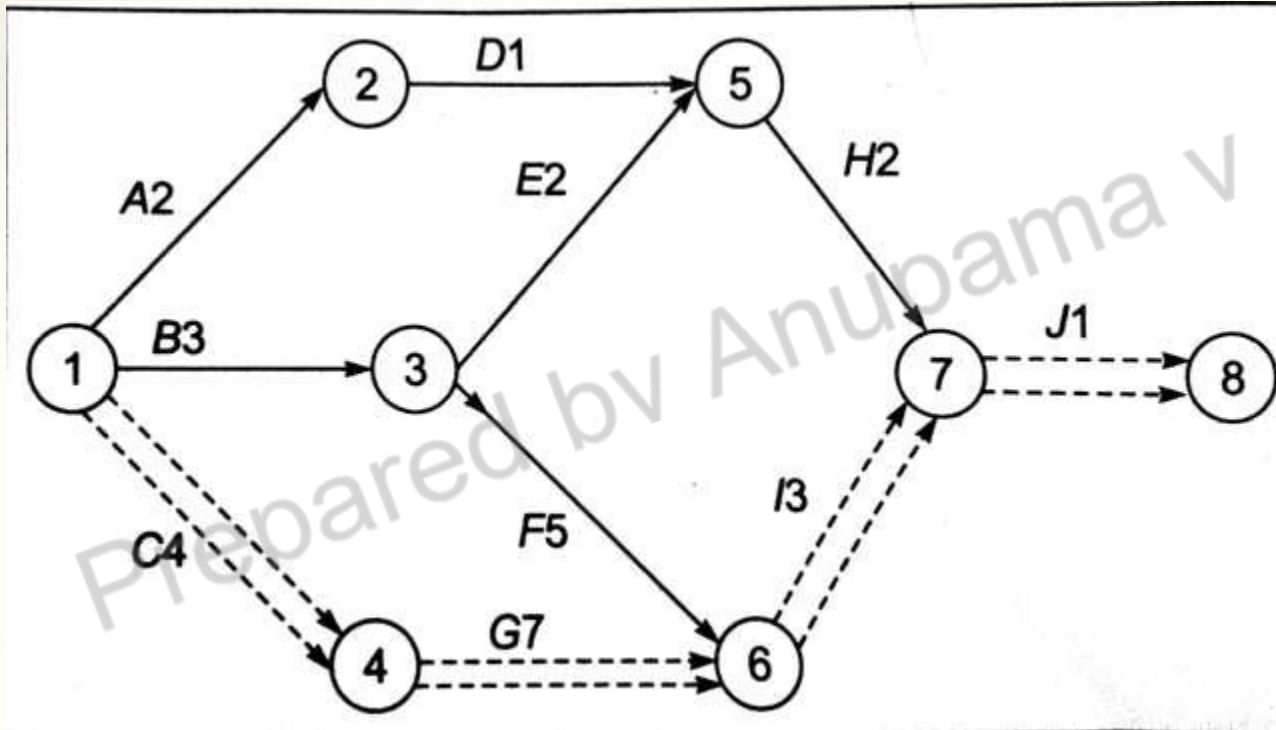
Critical Path Method



Critical Path Method

Path	Duration (in days)
1-2-5-7-8 (ADHJ)	$2 + 1 + 2 + 1 = 6$
1-3-5-7-8 (BEHJ)	$3 + 2 + 2 + 1 = 8$
1-3-6-7-8 (BFIJ)	$3 + 5 + 3 + 1 = 12$
1-4-6-7-8 (CGIJ)	$4 + 7 + 3 + 1 = 15$

Critical Path Method



PERT: Programme Evaluation & Review Technique

- PERT is applied in projects where the duration of various activities cannot be predicted with certainty.
- Similar to CPM.
- Suitable for R&D projects.

PERT: Programme Evaluation & Review Technique

- PERT calculates 3 time estimates for each activity based on their past activity.
 - Optimistic time estimate t_o : shortest time estimates
 - Pessimistic time estimates t_p : longest time estimates
 - Most likely time estimate t_m : highest probability of occurrence.
- Mean time(t_e) = $(t_o + 4t_m + t_p)/6$

Types of Project Report

- Status Report
- Risk Report
- Board/ Executive Report
- Resource Report

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