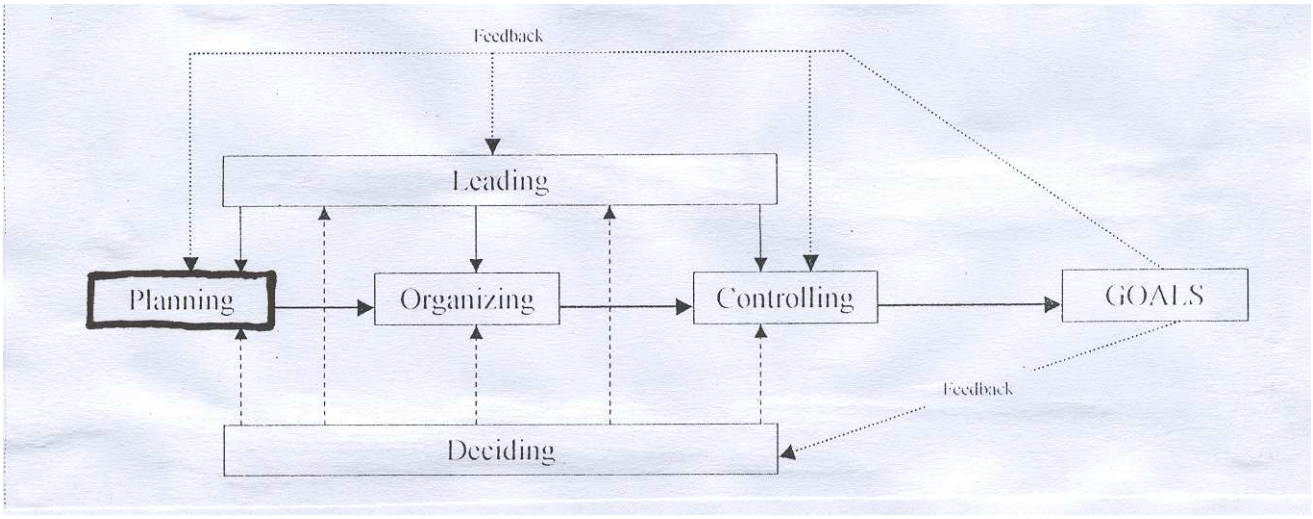
Lecture 4 – Planning



The Planning Function	
The Elements of a Plan	The Process of Planning
Objectives	Analysis of current situation Forecasting of future development Setting of objectives
Actions + Resources	Generating alternative ways of reaching the goals Selection of the best alternative Planning for its implementation
Implementation	Monitoring the course of implementation Revising the plans

Decision-making function

Objectives
- they specify future conditions that are deemed satisfactory (by the organization itself and also by the environment).
- objectives should be *measurable*;
- management initiates planning to determine the *priority* and *timing* of objectives;

Actions
- the specified, preferred means to achieve the objectives;
- planned courses of action are called *strategies* and *tactics*;

Resources
- are constraints on the courses of action;
- a plan should specify the kinds and amounts of resources required, as well as the potential sources and allocations of those resources.

Implementation
- a plan must include ways and means to implement the intended actions;
- involves the assignment and direction of personnel to carry out the plan.

1. Setting the Objectives

You can make better plans if you can predict the future.

- realistic objectives can be set;
- feasible course of action can be planned;
- resource costs can be minimized;

⇒ no major corrections will be needed in the future.

Methods of forecasting the future:

Time horizon	Forecasts are used for:
Long-range (3+ years)	planning research and development
Intermediate-range (1 – 3 years)	capacity planning; workforce planning establishing goals and quotas for salespeople
Short-range (less then 1 year)	production operations scheduling

Qualitative approach to forecasting

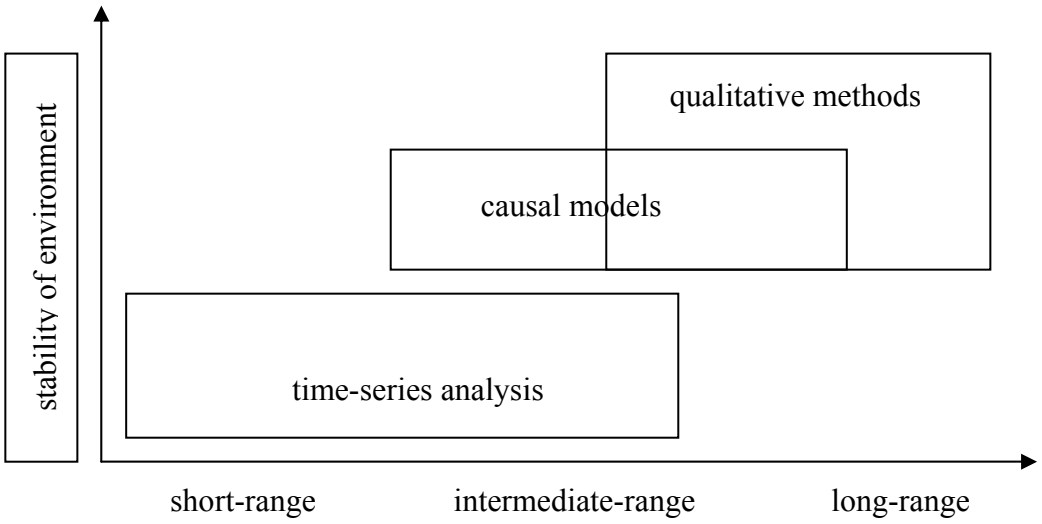
- Delphi method
- estimates of salespeople
- consumer panels
- historical analogy

Quantitative approach to forecasting

- time series analysis = extrapolative methods
  - naïve model
  - averages
  - exponential smoothing
- causal methods = to suggest causes of behavior of independent variables
  - regression
  - econometric models

How to select the best forecasting model

!!! You must balance the cost of obtaining better forecasts against the benefit of the improved decision.

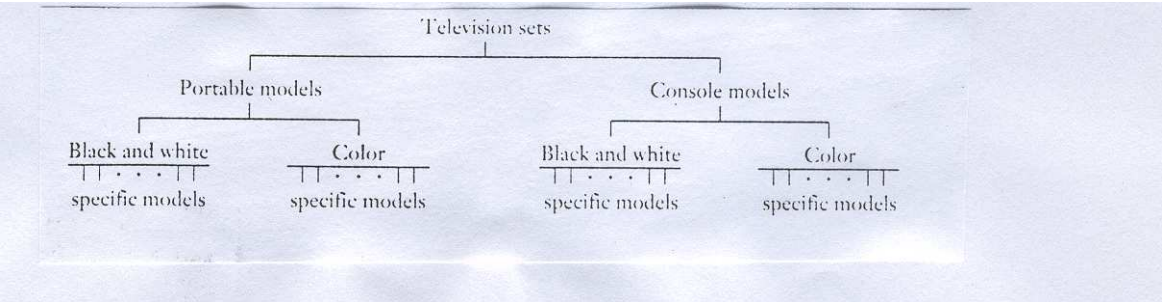


2. Planning for Resources

a) ***capacity planning*** = is used to evaluate the capacity requirements and to plan the best way to make capacity available

- feasibility – internal capacity bust be within the capability of the operations system
- optimality – least costly way to meet the capacity needs ⇒ EFFICIENCY

⇒ planning for the adjustment of production variables within a given planning time horizon (e.g. work-force size, hours worked per day, inventory, etc.)

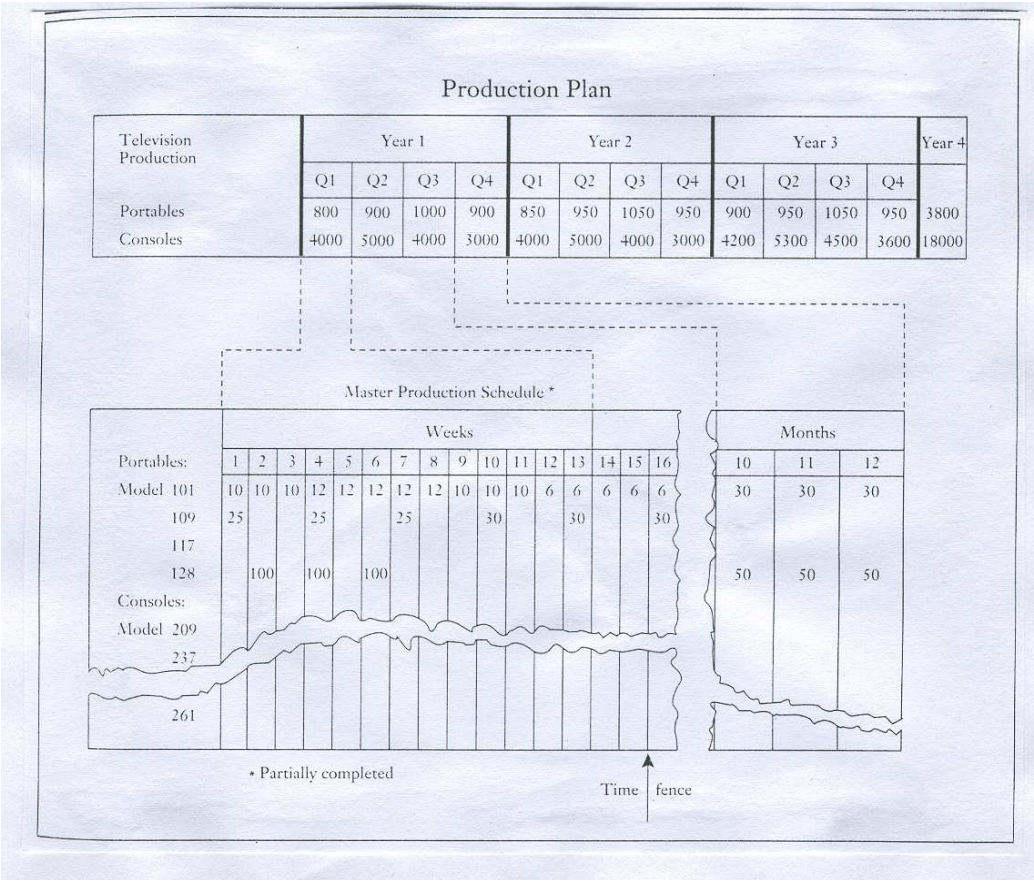


2 approaches:

- **top-down** = total capacity needs are set first and the planner then devises the best mix of variables to meet the capacity
- **rough-cut** = the planning starts at the lower level and capacity requirements are only then aggregated.

b) production planning

- production plan
- master production schedule = stats what is to be produced, how many are to be completed, and when they are to be completed.

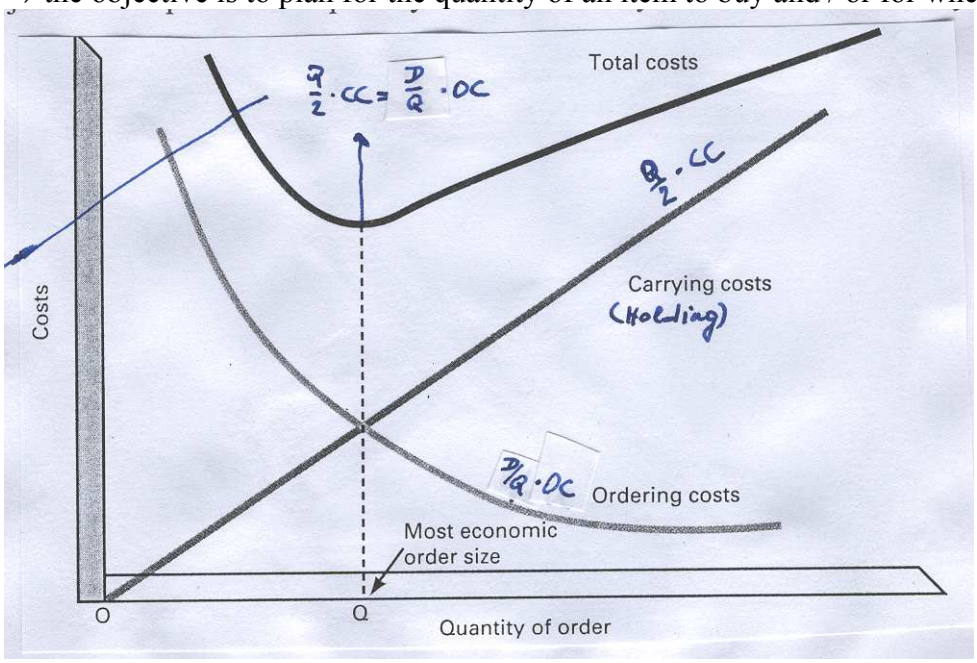


Television Production	Year 1				Year 2				Year 3				Year 4
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
Portables	800	900	1000	900	850	950	1050	950	900	950	1050	950	3800
Consoles	4000	5000	4000	3000	4000	5000	4000	3000	4200	5300	4500	3600	18000

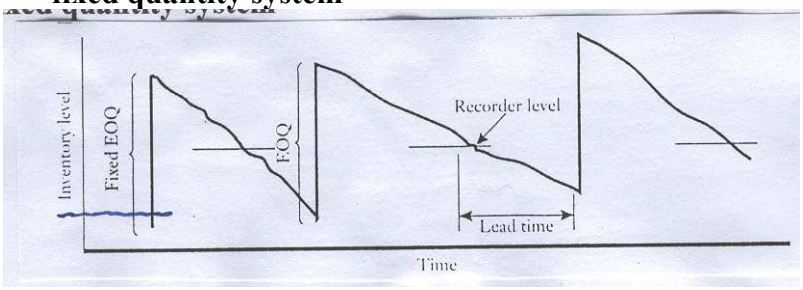
c) ***materials planning (inventory planning)***

- inventory = any idle resource held for future use.
- item = each unique entity that the company identifies (e.g. different types of materials, parts, …).
- reasons to hold inventory
  - to help level the production schedule;
  - to help respond to customer demands;
  - protection from the error of underestimating demand;
  - allows for processes to run at different paces;

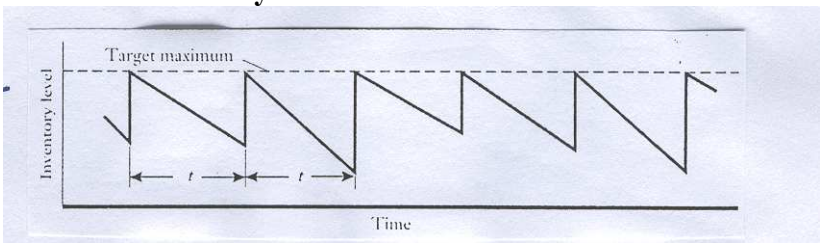
⇒ the objective is to plan for the quantity of an item to buy and / or for when to buy it.



- independent-demand systems
  - **fixed quantity system**



  - **fixed interval system**



  - **maximum-minimum system**

    The inventory is reviewed at fixed intervals and an order is placed only if the inventory is found to be below the minimum level.

- dependent-demand systems
  - **materials requirement planning**

- JIT system

d) planning for human resources

⇒ the objective is to plan the right number of qualified people into the right job at the right time.

- planning for skills and abilities
- planning for number of employees
- method of HRP
  - **skills inventory** = to consolidate information about the organization's human resources. The information is used as an input.
  - **ratio analysis**
    - **productivity ratios** = workload / number of people
    - **personnel ratios** = the relationships among the number of employees in various jobs or job categories;
    - **organizational vitality index** = promotable / not promotable.

⇒ plans for succession, promotion, layoffs and hiring people.

e) planning for finance

- planning for financial inputs
  - **costing**
  - **budgeting**
- planning for financial results
  - **break-even analysis**
  - **cash forecast**
  - **pro forma balance sheets**
  - **pro forma income statements**

f) planning for time (scheduling)

- time dimension is very important dimension of planning;
  - **Gannt chart**
  - **network analysis**

Assignment 4

Reading for Lesson 4:

ROBBINS, S. P. *Management.* 4th ed. New Jersey : Prentice Hall, 1994. (ORG 126)

- ☐ Chapter 7, pp. 185 – 203
- ☐ Chapter 9, pp. 241 – 268

Review questions for Lesson 4

1. Define planning, state its purpose and define types of plans.
2. What are contingency factors and how do they affect planning?
3. What are objectives of planning, what are the three possible types of relationship between multiple objectives?
4. Contrast traditional objectives setting and MBO.
5. What are the techniques to assess the environment?
6. Contrast incremental and zero-base budgeting.
7. Discuss important techniques of operational planning.