

ĐỀ CƯƠNG ÔN THI MÔN KIẾN THỨC CHUYÊN NGÀNH
KỶ THI TỐT NGHIỆP NĂM HỌC 2015 – 2016
NGÀNH: QUẢN TRỊ KINH DOANH CHUẨN PSU
KHÓA: K18PSU-QTH, K17PSU-QTH (THI LẠI)

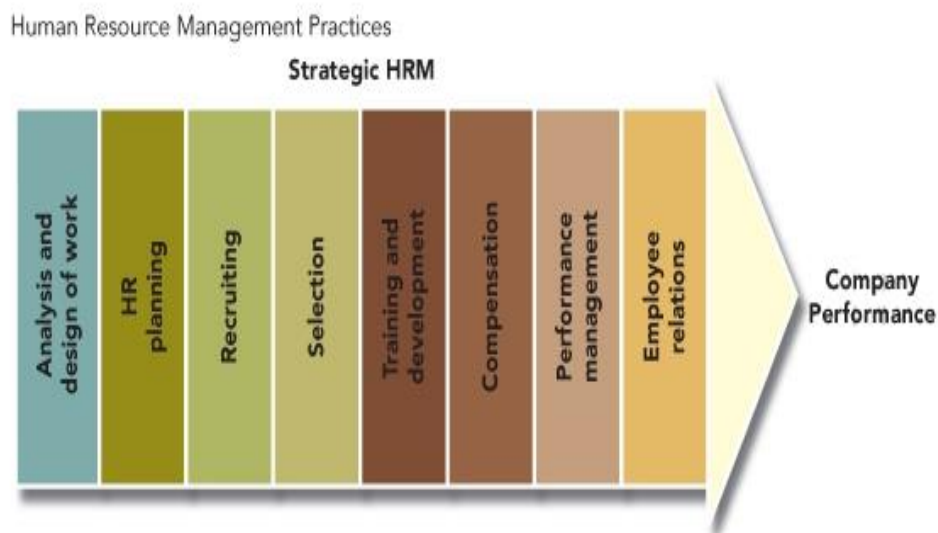
Subject 2: SPECIFIED KNOWLEDGE (2 credits)

Part 1: HUMAN RESOURCE MENAGEMENT

1) Human Resource Management

a) Definition of Human Resource Management

Human Resource Management refers to policies, practices and systems that influence employees' behaviors, attitudes and performance



- Effective HRM practices have been shown to relate to company performance by contributing to employee and customer satisfaction, innovation, productivity, and development of a favorable reputation in the community in which the firm is located.

- The HRM contribution to company performance has only recently been recognized.

b) The HRM functions

One way to think about HRM functions is to consider HR as a business within the company with three product lines:

- **Administrative Services and Transactions:** Compensation, hiring and staffing. Its emphasis is resource efficiency and service quality.

- **Business Partner Services:** Developing effective HR systems and helping implement business plans, talent management. Its emphasis is knowing the business and exercising influence – problem solving, designing effective systems to ensure needed competencies.

- **Strategic Partner:** Contributing to business strategy based on considerations of human capital, business capabilities, readiness, and developing HR practices as strategic differentiators. Its emphasis is knowledge of HR and of the business, competition, the market, and business strategies.

* The first product line – administrative services and transactions, is the traditional product the HRM has historically provided. The newer HR products – business partner services and the strategic partner, are the HR functions that are being challenged by top managers to deliver.

* The amount of time that the HRM function devotes to administrative tasks is decreasing as technology is used for many administrative purposes, and its roles as a strategic business partner, change agent, and employee advocate are increasing

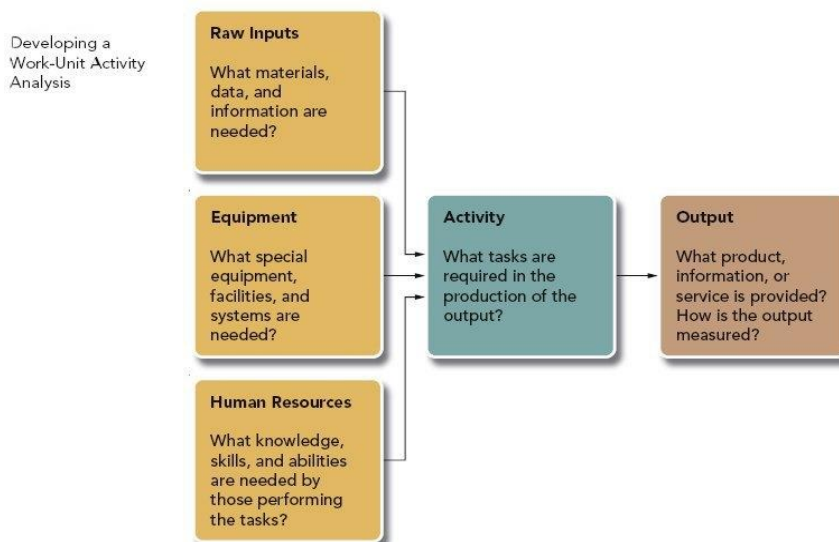
2) The Analysis And Design Of Work

a) Analyze an organization's structure and work flow process

i) Work-flow analysis

Work-flow design: the process of analyzing the tasks necessary for the production of a product or service, prior to allocating and assigning these tasks to a particular job category or person

A theme common to nearly all organizations is the need to identify clearly the outputs of work, to specify the quality and quantity standards for those outputs, and to analyze the processes and inputs necessary for producing outputs that meet the quality standards. This conception of workflow process is useful because it provides a means for the managers to understand all the tasks required to produce a high-quality product as well as the skills necessary to perform those tasks.



- Analyzing Work Outputs:

+ Work outputs are products of, or services provided by, a work unit.

+ Once outputs have been identified, it is necessary to specify the standards for the quantity or quality of these outputs.

- Analyzing Work Processes

+ Work processes are the activities that members of a work unit engage into produce a given output

- Analyzing Work Inputs:

Work inputs are the "ingredients" that go into the work processes and can be broken down into three categories

+ Raw materials consist of the materials, data, and information that will be converted into the work unit's products.

+ Equipment refers to the technology, machinery, facilities, and systems necessary to transform the raw materials into the product or service.

+ Human skills refer to the worker's knowledge, skills, abilities, and efforts necessary to perform the tasks.

ii) Organization structure analysis

Organization structure provides a cross-sectional overview of the static relationship between individuals and units that create the outputs. It is typically displayed via organizational charts that convey both vertical reporting relationships and horizontal functional responsibilities.

- Two of the most important **dimensions of structure** are centralization and departmentalization.

+ **Centralization** is the degree to which authority resides at the top of the organizational chart.

+ **Departmentalization** refers to the degree to which work units are grouped based upon functional similarity or similarity of workflow.

- Two types of **Structural Configuration** of organizational structure tend to emerge in organizations:

+ A **functional structure** employs a functional departmentalization scheme with high levels of centralization. Functional structures are very efficient. However, they tend to be inflexible and insensitive to subtle differences across products, regions, or clients

+ A **divisional structure** employs a workflow departmentalization and low levels of centralization. Because of their workflow focus, their semi-autonomous nature, and their proximity to a homogenous consumer base, divisional structures tend to be more flexible and innovative. However, they are not very efficient.

b) Analysis of work

i) The importance of job analysis

Job analysis: the process of getting detailed information about jobs.

- The Importance of Job Analysis to HR Managers

+ Job analysis has been called the building block of everything that the personnel department does.

+ Some of the human resource activities that use job-analysis information includes work redesign, human resource planning, selection, training and development, performance appraisal, career planning, and job evaluation.

- *Work redesign* – a firm will seek to redesign work to make it more efficient or effective.
- *Human resource planning* – planners analyze an organization's human resource needs in a dynamic environment and develop activities that enable the firm to adapt to change.
- *Selection* – identifying the most qualified applicants for employment.
- *Training* – trainer identifies the tasks performed in the job.
- *Performance appraisal* – getting information about how well each employee is performing.
- *Career planning* – matching an individual's skills and aspirations with opportunities that are or may become available in the organization.
- *Job evaluation* – assessing the relative dollar value of each job to the organization to set up internally equitable pay structures.

- The Importance of Job Analysis to Line Managers

+ Managers must have detailed information about all the jobs in their work group to understand the work-flow process.

+ Managers need to understand the job requirements to make intelligent hiring decisions.

+ Since the manager is responsible for ensuring that each individual is performing his or her job satisfactorily, the manager must clearly understand the tasks required in every job.

ii) Job analysis information

- A **job description** is a list of the tasks, duties, and responsibilities (TDRs) that the job entails.

- A **job specification** is a list of the knowledge, skills, abilities, and other characteristics (KSAOs) that an individual must have to perform the job.

- Sources of job analysis information

+ In general, it will be useful for the manager to go to the job incumbents to get the most accurate information about what is actually done on the job. However, the incumbents might exaggerate their job duties.

+ Managers should ask others familiar with the job, such as the supervisor, to look over any information received from the incumbents.

+ Research has shown greater agreement between supervisors and subordinates when rating general job duties than when rating specific tasks. Also, incumbents may be the best source for accurate estimates of time spent on job tasks, but supervisors may be more accurate on the importance of job duties.

+ Research is somewhat inconclusive about the relationship between the performance level of the job analyst and the job-analysis information he or she provides, but recent research has shown that effective and ineffective managers tend to give the same job-analysis ratings despite their performance level.

iii) Job analysis methods

- Position Analysis Questionnaire (PAQ)

+ The Position Analysis Questionnaire (PAQ) is a standardized job-analysis questionnaire containing 194 items representing work behaviors, work conditions, or job characteristics that are generalizable across a wide variety of jobs.

+ The 194 items are organized into six sections, and the job analyst is asked to rate each item on six scales. A computer program generates a job report based on the ratings. The six sections are:

- *information input*
- *mental processes*
- *work output*
- *relationships with other persons*
- *job context*
- *other characteristics*

+ One of the main problems with the PAQ is that it requires the reading level of a college graduate to complete the questionnaire.

- The Occupational Information Network (O*NET)

+ The U.S. Department of Labor replaced the *Dictionary of Occupational Titles* in 1998 with O*NET because jobs in the new economy were so qualitatively different from jobs in the old economy, and the DOT no longer served its purpose.

+ Instead of relying on fixed job titles and narrow task descriptions, the O*NET uses a common language that generalizes across jobs to describe the abilities, work styles, work activities, and work context required for various occupations that are more broadly defined. +

Although it is still being developed, the O*NET is already being used by many employers and employment agencies. It is also designed to help job seekers.

For more information on O*NET, visit <http://online.onetcenter.org/>

c) Design of work

Job design is the process of defining the way work will be performed and the tasks that will be required in a given job

i) Mechanistic approach

+ The mechanistic approach to job design has its roots in classical industrial engineering and focuses on designing jobs around the concepts of task specialization, skill simplification, and repetition.

+ Scientific management, one of the earliest mechanistic approaches, sought to identify the one best way to perform the job through the use of time-and-motion studies.

+ The scientific management approach was built upon in later years and resulted in a mechanistic approach that calls for the job to be designed very simply. The organization reduces its need for high-ability individuals, and workers are easily replaceable (a new employee can be trained to perform the job quickly and inexpensively).

ii) Motivational approach

+ The motivational approach to job design focuses on the job characteristics that affect the psychological meaning and motivational potential, and it views attitudinal variables as the most important outcomes of job design.

+ The prescriptions of the motivational approach focus on increasing job complexity through job enlargement, job enrichment, and the construction of jobs around sociotechnical systems.

iii) Biological approach

+ The biological approach to job design comes primarily from the sciences of biomechanics (the study of body movements), and it is usually referred to as **ergonomics**, or the concern with examining the interface between individuals' physiological characteristics and the physical work environment. The goal of this approach is to minimize the physical strain on the worker by structuring the physical work environment around the way the body works.

+ The biological approach focuses on outcomes such as physical fatigue, aches and pains, and health complaints.

+ The biological approach has been applied in redesigning equipment to reduce the physical demands so women can perform the jobs and to reduce occupational illnesses such as carpal tunnel syndrome.

iv) Perceptual-motor approach

+ The perceptual-motor approach to job design has its roots in the human-factors literature and focuses on human mental capabilities and limitations. The goal is to design jobs in a way that ensures that they do not exceed people's mental capabilities.

+ This approach generally tries to improve reliability, safety, and user reactions by designing jobs in a way that reduces the information processing requirements of the job.

+ This approach, similar to the mechanistic approach, generally has the effect of decreasing the job's cognitive demands.

3) Human Resource Planning And Recruitment

a) Human resource planning

The Human Resources Planning Process—The process consists of forecasting, goal setting and strategic planning, and program implementation and evaluation

i) Forecasts of labor demand

+ Labor demand can be predicted by the use of statistical techniques such as **leading indicator**, which is an objective measure that accurately predicts future labor demand.

+ Statistical planning models are useful when there is a long, stable history that can be used to reliably detect relationships among variables.

+ Statistical models are almost always complemented by subjective judgments of people who have expertise in the area.

ii) Forecasts of labor supply

+ Internal labor supply is determined by a detailed analysis of how many people are currently in various job categories, modified to reflect changes in the near future caused by retirements, promotions, transfers, voluntary turnovers, or terminations.

+ A **transitional matrix** is a table used to project internal labor supply. The matrix shows the proportion or number, of employees in different job categories at different times and how people move from one job to another in the organization and how many people enter and leave the organization. This method is best combined with judgmental methods.

iii) Forecasts of labor surplus or shortage

Once forecasts for labor demand and supply are known, the planner can compare the figures to ascertain whether there will be a labor shortage or labor surplus for the respective job categories. When this is determined, the organization can determine what it is going to do about these potential problems.

iv) Goal setting and strategic planning

- The purpose of setting specific quantitative goals is to focus attention on the problem and provide a benchmark for determining the relative success of any programs aimed at redressing a pending labor shortage or surplus.

- The goals should come directly from the analysis of labor supply and demand and should include a specific figure for what should happen with the job category or skill area and a specific timetable for when results should be achieved.

- Once the goals are established, the firm needs to choose from many different strategies available for redressing labor shortage or surpluses.

- This stage is critical because many options available to the planner differ widely in their expense, speed, effectiveness, amount of human suffering and revocability.

v) Program implementation and evaluation

- The programs developed in the strategic-choice stage of the process are put into practice in the program-implementation stage.

- A critical aspect of program implementation is to make sure that some individual is held accountable for achieving the stated goals and has the necessary authority and resources to accomplish this goal.

- Program evaluation examines results:

+ It considers whether the company has avoided any predicted shortages or surpluses.

+ It examines the programs implemented to ensure that they had the desired results and whether the programs were implemented as planned.

+ It is also crucial to examine the process in addition to the results, however. For example, ultimately, human resources planning should reduce instances of over-and- under supply of human resources. It will do this with increasing effectiveness only if forecasts and projections become increasingly accurate.

b) Human resource recruitment

i) The human resource recruitment

- Human resource recruitment is any organizational activity that is designed to affect the number of people who apply for vacancies, the type of people who apply for them, and/or the likelihood that those applying for vacancies will accept positions if offered. The goal of recruitment is to ensure that when a vacancy occurs, the organization has a number of reasonably qualified applicants to choose from

- Because of strategic differences among companies, the importance assigned to recruitment may differ. In general, however, companies have to make decisions in three areas of recruiting: Personal policies, recruitment sources and the characteristics and behaviors of the recruiter to affect both the nature of the vacancies and the nature of people applying for jobs.

- Recruitment sources: Since recruitment sources are unlimited, an organization must decide how to reach the best sources of potential employees

- Internal versus External Sources
- Direct Applicants and Referrals
- Advertisements in newspapers and periodicals
- Electronic Recruiting

ii) The human resource selection

- Personnel selection is the process by which companies decide who will or will not be allowed into organizations.

- Several generic standards should be met in any selection process:

+ Reliability: the consistency of a performance measure; the degree to which a performance measure is free from random error.

+ Validity: The extent to which a performance measure assesses all the relevant-and only the relevant-aspects of job performance

+ Generalizability: the degree to which the validity of a selection method established in one context extends to other contexts.

+ Utility: the degree to which the information provided by selection methods enhances the effectiveness of selecting personnel in real organizations.

+ Legality: All selection methods should conform to existing laws and existing legal precedents.

- Selection methods:

+ Interview

+ References, Biographical data, and application blanks

+ Physical ability test

+ Cognitive ability test

+ Personality inventories

+ Work samples

+ Honesty test and drug test

4) Employee Training And Development

a) Training

i) Designing effective training activities

The **training design process** refers to a systematic approach for developing training programs. There are six steps of this process:

1. Need assessment

- Organizational analysis
- Person analysis
- Task analysis

2. Ensuring employee's readiness for training

- Attitudes and motivation
- Basic skills

3. Creating a learning environment

- Identification of learning objectives and training outcomes
- Meaningful material
- Practice
- Feedback
- Observation of others
- Administering and coordinating program

4. Ensuring transfer of training

- Self-management strategies
- Peer and manager support

5. Selecting training methods

- Presentational methods
- Hands-on methods
- Group methods

6. Evaluating training programs

- Identification of training outcomes and evaluation design
- Cost-benefit analysis

ii) Advice for choosing a training method

- Give the large number of training methods available, it may seem difficult for a manager to choose one. One way is to compare methods. The first step in choosing a method is to identify the type of learning outcomes that you want training to influence. The next step is to consider the extent to

which the method facilitates learning and transfer of training, the costs related to development and use of the method, and its effectiveness.

- Examining **training outcomes** helps in evaluating its effectiveness. Training outcomes can be classified into four broad categories: cognitive, skill-based, affective, results, and return on investment.

+ Cognitive, or learning, outcomes measure acquisition of knowledge through paper and pencil tests or work samples.

+ Skill-based, or behavior, outcomes measure skills and behaviors through observation, work samples, or ratings.

+ Affective outcomes measure attitudes, reaction to a program, and motivation through interviews, focus groups, and attitude surveys.

+ Results outcomes measure company payoff through observation, and data from information system or performance records.

+ Return on investment (ROI) measures economic value of training through identification and comparison of costs and benefits of the program.

b) Development

i) The relationship among development, training

- **Development** refers to formal education, job experiences, relationships and assessment of personality and abilities that help employees prepare for the future while training is a planned effort to facilitate the learning of job-related knowledge, skills and behavior by employees.

- While development involves learning what is not necessarily related to one's current job, training is focused on helping employees' performance in their current job.

	Training	Development
Focus	Current	Future
Use of work experiences	Low	High
Goal	Preparation for current job	Preparation for changes
Participation	Required	Voluntary

ii) Approaches to employee development

Four approaches are used to develop employees:

- **Formal education:** include off-site and on-site programs designed specifically for the company's employees, short courses offered by consultants or universities, executive MBA programs, and university programs in which participants actually live at the university while taking classes.

- **Assessment** involves collecting information and providing feedback to employees about their behavior, communication style, or skills.

- Myers-Briggs Type Indicator
- Assessment Center
- Benchmarks
- Performance Appraisals and 360-degree Feedback Systems

- **Job Experiences**—Most employee development occurs through job experiences: relationships, problems, demands, tasks, or other features that employees face in their jobs

- Job enlargement
- Job rotation
- Transfers, Promotions, and Downward Moves
- Temporary Assignments with Other Organizations

- **Interpersonal Relationships:** Employees can also develop skills and increase their knowledge about the company and its customers by interacting with a more experienced organization member.

- Mentoring
- Coaching

SAMPLE QUESTIONS:

A. TRUE/FALSE

1. The three product lines of HR include administrative services and transactions, commercial services, and strategic partners.

FALSE

2. The amount of time that the HRM function devotes to administrative tasks is decreasing, and its roles as a strategic business partner, change agent, and employee advocate are increasing.

TRUE

3. Work-flow process is a means for the manager to understand all the tasks required to produce a number of high-quality products as well as the skills necessary to perform those tasks.

TRUE

4. Centralization refers to the degree to which work units are grouped based on functional similarity or similarity of work flow.

FALSE

5. Functional structures tend to be less flexible, but more innovative than divisional structures.

FALSE

6. The goal of recruiting is simply to generate large numbers of applicants.

FALSE

7. In personnel selection context, the degree to which a measure is free from random error refers to its reliability.

TRUE

8. Training focuses on improving employees' performance in their current jobs, while development prepares them for future jobs.

TRUE

9. On-the-job training, simulations, case studies, and business games are examples of hands-on methods.

TRUE

10. Most employee development occurs through formal education programs.

FALSE

B. MULTIPLE CHOICE:

1. Strategic HR management includes all but one of the following. Name the exception.

A. Financial planning

B. Training and development

C. Performance management

D. Recruiting talent

2. Traditionally, the HRM department was primarily a/an:

A. proactive agency.

B. finance expert.

C. employer advocate.

D. administrative expert.

3. Which of the following refers to the process of analyzing the tasks necessary for the production of a product or service prior to allocating and assigning the tasks to a particular job category or person?

A. Job design

B. Job analysis

C. Job evaluation

D. Work-flow design

4. The _____ are the activities that members of a work unit engage in to produce a given output.

A. work outputs

B. work analyses

C. work inputs

D. work processes

5. When decision-making authority resides at the top of the organizational chart, an organization is:

A. divisional.

B. mechanistic.

C. centralized.

D. decentralized.

6. The perceptual-motor approach to job design focuses on:

A. physical capabilities and limitations.

B. human mental capabilities and limitations.

C. attitudinal variables.

D. work structure.

7. The first step in the human resource planning process is:

A. forecasting labor demand and supply.

B. goal setting.

C. program implementation.

D. program evaluation.

8. _____ refers to on-the-job use of knowledge, skills, and behaviors learned in training.

A. Information absorption

B. Transfer of training

C. Cognitive adoption

D. Rationalizing

9. The four general approaches that companies use to develop employees include:

A. formal education, assessment, job experiences, and interpersonal relationships.

B. job rotation, promotion, transfer, and job sharing.

C. psychological tests, assessment centers, Myers-Briggs Type Indicator, and performance feedback.

D. business games, formal courses, team building, and assessment

10. Mentoring and coaching are two types of _____ that are used to develop employees.

A. interpersonal relationships

B. formal education programs

C. assessment exercises

D. job experiences

C. SHORT ANSWER:

1. How has the role of HRM changed in recent years? Why have these roles changed?

- The amount of time that the HRM function devotes to administrative tasks is decreasing, and its roles as a strategic business partner, change agent, and employee advocate are increasing.

- HRM roles have changed because managers see that HRM is the most important lever/ the key for companies to gain competitive advantage over both domestic and foreign competitors.

2. What are the differences among job analysis, job descriptions, and job specifications?

- Job analysis is the process of getting detailed information about jobs, and it usually includes both a job description and a job specification as an output of the process.

- Job description is a list of the tasks, duties, and responsibilities required by a job.

- Job specification is a list of the knowledge, skills, abilities, and other characteristics that a jobholder must have in order to be able to effectively do the tasks, duties, and responsibilities.

3. List six dimensions covered by the position analysis questionnaire.

The six dimensions include: Information input, Mental processes, Work output, Relationships with others, Job context, Other characteristics

4. List the methods that are used by companies to select their applicants

There are several selection methods:

- Interview
- References, Biographical data, and application blanks

- Physical ability test
- Cognitive ability test
- Personality inventories
- Work samples
- Honesty test and drug test

5. Define and discuss six steps in training design process.

There are six steps of the process:

- Needs assessment – includes organizational analysis, person analysis, and task analysis.
- Ensuring employees' readiness for training – includes attitudes and motivation and basic skills.
- Creating a learning environment – includes identification of learning objectives and training outcomes, meaningful material, practice, feedback, observation of others, and administering and coordinating the program.
- Ensuring transfer of learning – includes self-management strategies and peer and manager support.
- Selecting training methods – includes presentational methods, hands-on-methods, and group methods.
- Evaluating training programs – includes identification of training outcomes and evaluation design, and cost-benefit analysis.

Part 2: OPERATION AND SUPPLY CHAIN MANAGEMENT

1) Strategy And Sustainability

a) Operations and Supply Chain Management (chapter 1)

i) What is Operations and Supply Chain Management

Operations and supply management (OSM) is defined as the design, operation, and improvement of the systems that create and deliver the firm's primary products and services. OSM is concerned with the management of the entire system that produces a good or delivers a service.

b) Strategy and Sustainability (chapter 2)

i) Productivity measurement

Productivity is a common measure of how well an organization is using its resources. In its broadest sense productivity is outputs divided by inputs.

$$\text{Productivity} = \frac{\text{Outputs}}{\text{Inputs}}$$

Productivity is called *relative measure*. In other words, to be meaningful, it needs to be compared with something else. Productivity can be made in two ways. First, a company can compare itself with similar operations within its industry, or it can use industry data when such data are available. Another approach is to measure productivity over time within the same operation.

Partial productivity: the ratio of output to a single input.

Multifactor productivity: the ratio of output to a group of inputs.

Total factor productivity: the ratio of all outputs to all inputs.

2) Manufacturing And Service Processes

a) Strategic Capacity management (chapter 3)

i) Capacity management in operations (exercise)

Best operating level is the level of capacity for which the process was designed and this is the volume of output at which average unit cost is minimized.

Capacity utilization rate

An important measure is the capacity utilization rate, which reveals how close a firm is to its best operating level:

$$\text{Capacity utilization rate} = \frac{\text{Capacity used}}{\text{Best operating level}}$$

Example

if our plant's best operating level were 500 cars per day and the plant was currently operating at 480 cars per day, the capacity utilization rate would be 96 percent.

$$\text{Capacity utilization rate} = \frac{480}{500} = 0.96 \text{ or } 96\%$$

ii) Determining capacity requirements (exercise)

Typically determining capacity requirements is done according to the following steps:

1. Use forecasting techniques to predict sales for individual products within each product line.
2. Calculate equipment and labor requirements to meet product line forecasts.
3. Project labor and equipment availabilities over the planning horizon.

Example

AlwaysRain Irrigation, Inc., would like to determine capacity requirements for the next four years. Currently two production lines are in place for bronze and plastic sprinklers. Three types of sprinklers are available in both bronze and plastic: 90-degree nozzle sprinklers, 180-degree nozzle sprinklers, and 360-degree nozzle sprinklers. Management has forecast demand for the next four years as follows:

	YEARLY DEMAND			
	1 (IN 000s)	2 (IN 000s)	3 (IN 000s)	4 (IN 000s)
Plastic 90	32	44	55	56
Plastic 180	15	16	17	18
Plastic 360	50	55	64	67
Bronze 90	7	8	9	10
Bronze 180	3	4	5	6
Bronze 360	11	12	15	18

Both production lines can produce all the different types of nozzles. Each bronze machine requires two operators and can produce up to 12,000 sprinklers. The plastic injection molding machine requires four operators and can produce up to 200,000 sprinklers. Three bronze machines and only one injection molding machine are available. What are the capacity requirements for the next four years? (Assume that there is no learning.)

Solution

Plastic	Year 1	Year 2	Year 3	Year 4
Demand for plastic sprinklers	97	115	136	141
Percentage of capacity used	48.5%	57.5%	68.0%	70.5%
Machine requirements	.485	.575	.680	.705
Labor requirements	1.94	2.30	2.72	2.82

Bronze	Year 1	Year 2	Year 3	Year 4
Demand for bronze sprinklers	21	24	29	34
Percentage of capacity used	58.3%	66.7%	80.6%	94.4%
Machine requirements	1.75	2.00	2.42	2.83
Labor requirements	3.50	4.00	4.84	5.66

iii) Using decision trees to evaluate capacity alternatives (exercise)

A **decision tree** is a schematic model of sequence of steps in a problem and the conditions and consequences of each step.

Decision tree helps understand problem and helps find solution

Decision trees are composed of decision nodes with branches:

- + Squares represent decision points;
- + Circles represent chance events;
- + Branches from decision points show the choices available to the decision maker;

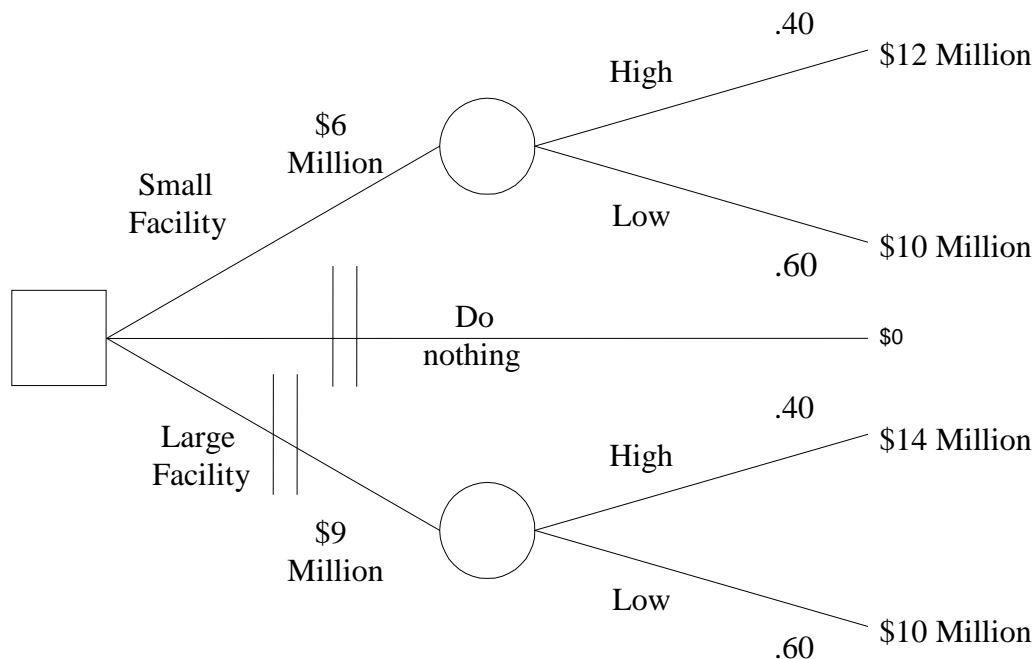
Branches from chance events show the probabilities for their occurrence

Example

Expando, Inc., is considering the possibility of building an additional factory that would produce a new addition to their product line. The company is currently considering two options. The first is a small facility that it could build at a cost of \$6 million. If demand for new products is low, the company expects to receive \$10 million in discounted revenues (present value of future revenues) with the small facility. On the other hand, if demand is high, it expects \$12 million in discounted revenues using the small facility. The second option is to build a large factory at a cost of \$9 million. Were demand to be low, the company would expect \$10 million

in discounted revenues with the large plant. If demand is high, the company estimates that the discounted revenues would be \$14 million. In either case, the probability of demand being high is .40, and the probability of it being low is .60. Not constructing a new factory would result in no additional revenue being generated because the current factories cannot produce these new products. Construct a decision tree to help Expando make the best decision.

Solution



Solution

For the small facility: $NPV = .40 (\$12 \text{ Million}) + .60 (\$10 \text{ Million}) - \$6 \text{ Million} = \4.8 Million

Do nothing: $NPV = \$0$

For the large facility: NPV = .40(\$14 Million) + .60(\$10 Million) - \$9 Million = \$2.6 Million

Therefore, build the small facility.

3) Production process (chapter 4)

a) Organizing production process

Project layout: the product remains in a fixed location. Manufacturing equipment is moved to the product. Example: construction sites (house, highway and bridge)

Workcenter (job shop) layout: similar equipment or functions are grouped together. Example: all drilling machines in one area and all stamping machines in another.

Manufacturing cell layout: a dedicated area where products that are similar in processing requirements are produced. Example: Motorola forms manufacturing cells to build and test engine control systems for John Deere tractors.

Assembly line: work processes are arranged according to the progressive steps by which the product is made. Example: Assembly of toys, appliances, automobile, etc.

Continuous process: assembly line only the flow is continuous such as with liquids.

b) Assembly – line design (exercise)

Terminology

Workstation cycle time: Workstation cycle time is the time between successive units coming off the end of an assembly line.

Task: The work performed at each station is made up of many bits of work, termed tasks. The total work to be performed at a workstation is equal to the sum of the tasks assigned to that workstation

Assembly-line balancing: Assigning all tasks to a series of workstations so that each workstation has no more than can be done in the work station cycle time, and so that the unassigned (idle) time across all workstations is minimized.

Precedence relationship: The problem is complicated by relationships among tasks imposed by product design and process technologies. This is called the precedence relationship, which specifies the order in which tasks must be performed in the assembly process.

The steps in balancing an assembly line

Step 1: Specify the sequential relationships among tasks using precedence diagram. The diagram consists of circles and arrows. Circles represent individual tasks; arrows indicate the order of task performance.

Step 2: Determine the required workstation cycle time (C), using the formula

$$C = \frac{\text{Production time per day}}{\text{Required output per day (in units)}}$$

Step 3: Determine the theoretical minimum number of workstations (N_t) required to satisfy the workstation cycle time constraint using the formula (round up to the next highest integer)

$$N_t = \frac{\text{Sum of task times (T)}}{\text{Cycle time (C)}}$$

Step 4: Select a primary rule by which tasks are to be assigned to workstations, and a secondary rule to break ties.

Step 5: Assign tasks, one at a time, to the first workstations until the sum of the task times is equal to the workstation cycle time, or no other tasks are feasible because of time or sequence restriction. Repeat the process for Workstation 2, Workstation 3, and so on until all tasks are assigned.

Step 6: Evaluate the efficiency of the balance derived using the formula

$$\text{Efficiency} = \frac{\text{Sum of task time (T)}}{\text{Actual number of workstations (N}_a\text{)} \times \text{Workstation cycle time (C)}}$$

Step 7: If efficiency is unsatisfactory, rebalance using a different decision rule

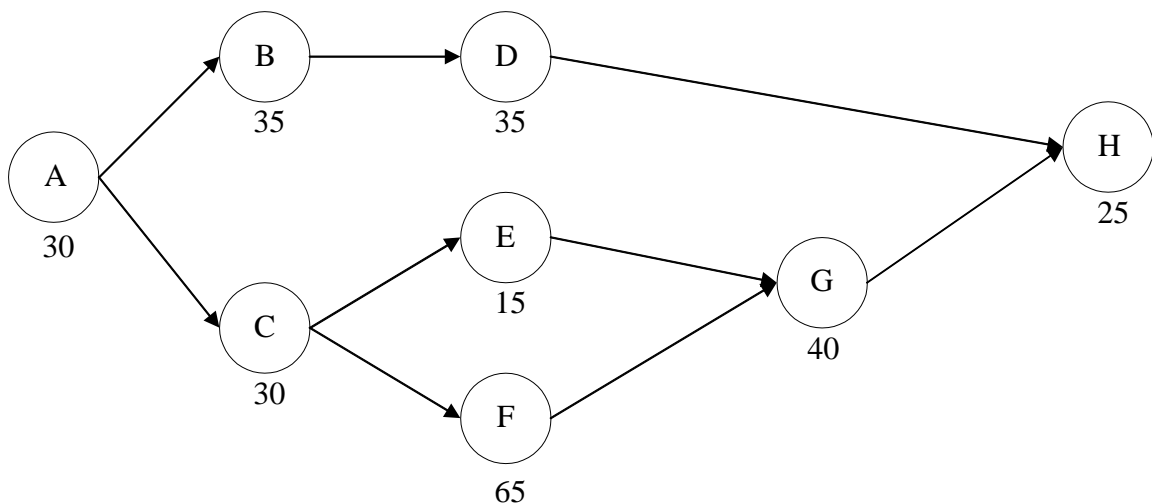
Example

The desired daily output for an assembly line is 360 units. This assembly line will operate 450 minutes per day. The following table contains information on this product's task times and precedence relationships:

TASK	TASK TIME (SECONDS)	IMMEDIATE PREDECESSOR
A	30	—
B	35	A
C	30	A
D	35	B
E	15	C
F	65	C
G	40	E, F
H	25	D, G

- Draw the precedence diagram.
- What is the workstation cycle time?
- Balance this line using the largest number of following tasks. Use the longest task time as a secondary criterion.
- What is the efficiency of your line balance?

Solution



b. $C = \text{production time per day} / \text{required output per day} =$

$$C = \frac{450}{360} = 1.25 \text{ (or 75 seconds)}$$

c.

Work station	Task	Task time	Idle time
I	A	30	0
	C	30	
	E	15	
II	F	65	10
III	B	35	0
	G	40	
IV	D	35	15
	H	25	

$$\text{Efficiency} = \frac{T}{N_a C} = .917 \text{ or } 91.7\%$$

4) Project (Chapter 7)

a) Definition of project management

A project may be defined as a series of related jobs usually directed toward some major output and requiring a significant period of time to perform.

Project management can be defined as planning, directing, and controlling resources (people, equipment, materials) to meet the technical, cost, and time constraints of the project.

i) Network-Planning Models

(1) Critical Path Method (CPM) (exercise)

Here is the procedure for scheduling a project. In this case, a single time estimate is used because we are assuming that the activity times are known.

Step 1: Identify each activity to be done and estimate how long it will take to complete each activity.

Step 2: Determine the required sequence and construct a network diagram. First, identify the immediate predecessors associated with an activity.

Step 3: Determine the critical path.

Step 4: Determine the early start/finish and late start/finish schedule.

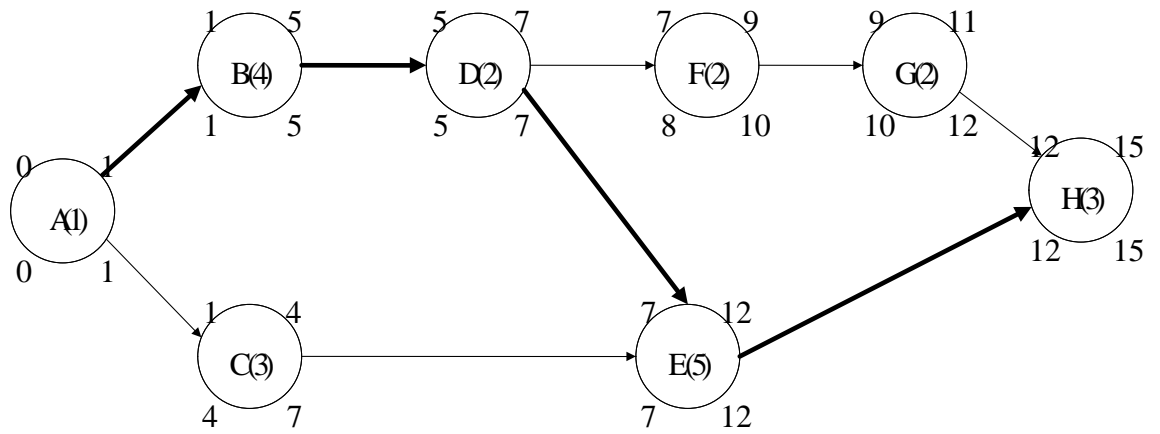
The difference between the late start time and early start time is the slack time.

Example

ACTIVITY	IMMEDIATE PREDECESSOR	TIME (WEEKS)
A	—	1
B	A	4
C	A	3
D	B	2
E	C, D	5
F	D	2
G	F	2
H	E, G	3

- Draw the network.
- What is the critical path?
- How many weeks will it take to complete the project?
- Which activities have slack, and how much?

Solution



- b. A-B-D-E-H, also shown in the network above as the bold path.
 c. 15 weeks, $1+4+2+5+3$.
 d. C, 3 weeks; F, 1 week; and G, 1 week.
- (2) Time-cost models and project crashing (exercise)

The procedure for project crashing consists of the following five steps.

Step 1: Prepare a CPM – type network diagram. For each activity this diagram should list

Normal cost (NC): the lowest expected activity costs

Normal time (NT): the time associated with each normal cost

Crash time (CT): the shortest possible activity time

Crash cost (CC): the cost associated with each crash time.

Step 2: Determine the cost per unit of time (assume days) to expedite each activity.

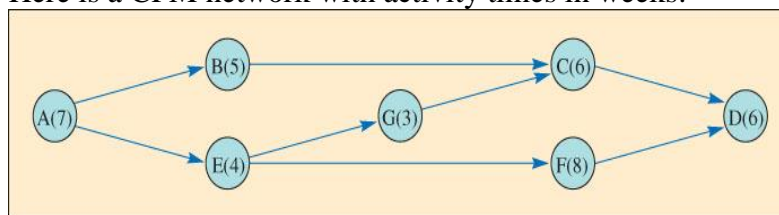
$$\text{Slope} = \frac{\text{CC} - \text{NC}}{\text{NT} - \text{CT}}$$

Step 3: Compute the critical path.

Step 4: Shorten the critical path at the least cost.

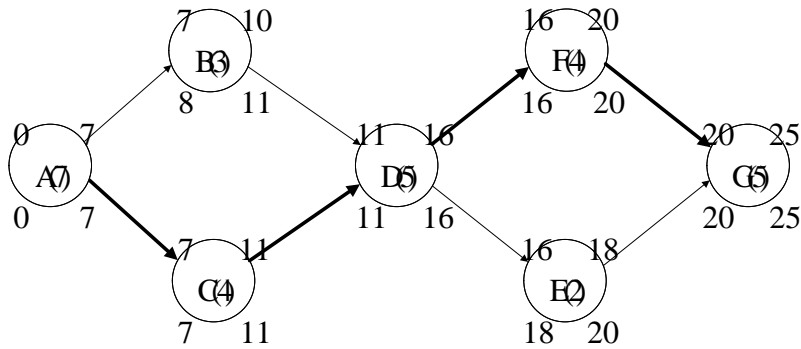
Example

Here is a CPM network with activity times in weeks:



- a. Find the critical path. How many weeks will the project take to complete?
 b. Determine which activities have slack time and how much
 c. The following table shows the normal times and the crash times, along with the associated costs for each activity.
 d. If the project is to be shortened by four days, show which activities, in order of reduction, would be shortened and the resulting cost.

Solution



- a. A-C-D-F-G. It takes 25 weeks to complete the project.
 b. B and E have slack time. B has 1 week, E has 2 weeks
 c.

Activity	Normal Time (NT)	Crash Time (CT)	Normal Cost (NC)	Crash Cost (CC)	NT-CT	Cost/day to expedite
A	7	6	\$7,000	\$8,000	1	\$1,000
B	3	2	5,000	7,000	1	2,000
C	4	3	9,000	10,200	1	1,200
D	5	4	3,000	4,500	1	1,500
E	2	1	2,000	3,000	1	1,000
F	4	2	4,000	7,000	2	1,500
G	5	4	5,000	8,000	1	3,000

Step	Activity to crash	Cost to crash	Days saved
1	A	\$1,000	1
2	C	1,200	1
3	D (or F)	1,500	1
4	F (or D)	1,500	1

b) Supply and demand planning

i) Demand management and forecasting (chapter 11)

(1) Simple Moving Average (exercise)

When demand for a product is neither growing nor declining rapidly, and if it does not have seasonal characteristics, a moving average can be useful in removing the random fluctuation for forecasting. The formula for a simple moving average is

$$F_t = \frac{A_{t-1} + A_{t-2} + \dots + A_{t-n}}{n}$$

F_t : Forecast for the coming period; A_{t-1} : Actual occurrence in the past period

n : Number of periods to be averaged

A_{t-2} , A_{t-3} , ... and A_{t-n} : Actual occurrences two periods ago, three periods ago, and so on up to n periods ago.

Example

Historical data:

MONTH 1	MONTH 2	MONTH 3
100	90	105

Use simple three-month moving average, find the forecast sales for Month 4.

Solution

$$F_5 = (100 + 90 + 105)/3 = 99$$

(2) Weighted Moving Average (exercise)

Whereas the simple moving average gives equal weight to each component of the moving average database, a weighted moving average allows any weights to be placed on each element, providing, of course, that the sum of all weights equals 1.

$$F_t = w_1A_{t-1} + w_2A_{t-2} + \dots + w_nA_{t-n} \quad ; \quad \sum_{i=1}^n w_i = 1$$

w_1, w_2, \dots, w_n : Weight to be given to the actual occurrence for the period $t - 1, t - 2, \dots, t - n$ repetitively.

n : Total number of periods in the forecast

Example

A department store may find that in a four-month period, the best forecast is derived by using 40 percent of the actual sales for the most recent month, 30 percent of two months ago, 20 percent of three months ago, and 10 percent of four months ago. If actual sales experience was

MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5
100	90	105	95	?

Solution

$$F_5 = 0.40(95) + 0.30(105) + 0.20(90) + 0.10(100) = 97.5$$

Suppose sales for month 5 actually turned out to be 110. Then the forecast for month 6 would be:

$$F_6 = 0.40(110) + 0.30(95) + 0.20(105) + 0.10(90) = 102.5$$

(3) Exponential Smoothing (exercise)

Only three pieces of data are needed to forecast the future: the most recent forecast, the actual demand that occurred for that forecast period, and a smoothing constant alpha α .

$$F_t = F_{t-1} + \alpha(A_{t-1} - F_{t-1}) \quad 0 \leq \alpha \leq 1$$

Where

F_t = The exponentially smoothed forecast for period t

F_{t-1} = The exponentially smoothed forecast made for the prior period

A_{t-1} = The actual demand in the prior period

α = The desired response rate, or smoothing constant

Example

Assume that last month's forecast F_{t-1} was 1050 units. If actually were demanded was 1000 units, $\alpha = 0.05$. The forecast for this month would be:

$$F_t = F_{t-1} + \alpha(A_{t-1} - F_{t-1}) = 1050 + 0.05(1000 - 1050) = 1047.5 \text{ units}$$

(4) Measurement of Error (exercise)

Standard error

Standard error is discussed in the section on linear regression in this chapter. Because the standard error is the square root of a function, it is often more convenient to use the function itself. This is called the mean square error or variance.

The mean absolute deviation (MAD)

MAD is computed using the differences between the actual demand and the forecast demand without regard to sign. It equals the sum of the absolute deviations divided by the number of data points, or, stated in equation form,

$$\sum_{i=1}^n |A_t - F_t| \quad [9.11]$$

$$MAD = \frac{\quad}{n}$$

t = Period number; n = Total number of periods

A = Actual demand for the period; F = Forecast demand for the period

$| \quad |$ = A symbol used to indicate the absolute value disregarding positive and negative signs

Tracking signal (TS)

A tracking signal is a measurement that indicates whether the forecast average is keeping pace with any genuine upward or downward changes in demand. A tracking signal (TS) can be calculated using the arithmetic sum of forecast deviations divided by the mean absolute deviation:

$$TS = \frac{RSFE}{MAD}$$

Example

MONTH	DEMAND FORECAST	ACTUAL	DEVIATION	RSFE	ABS. DEV.	SUM OF ABS. DEV.	MAD*	TS = $\frac{RSFE}{MAD}$
1	1,000	950	-50	-50	50	50	50	-1
2	1,000	1,070	+70	+20	70	120	60	.33
3	1,000	1,100	+100	+120	100	220	73.3	1.64
4	1,000	960	-40	+80	40	260	65	1.2
5	1,000	1,090	+90	+170	90	350	70	2.4
6	1,000	1,050	+50	+220	50	400	66.7	3.3

*For month 6, $MAD = 400 \div 6 = 66.7$.

†For month 6, $TS = \frac{RSFE}{MAD} = \frac{220}{66.7} = 3.3$ MADs.

c) Inventory control (chapter 13)

i) Inventory Systems

(1) A Single-Period Inventory Model

A single period inventory model is used to identify the amount of inventory to purchase given a perishable good or single opportunity to purchase.

Example: Newspaper; overbooking of airline seats or hotel rooms, ordering of fashion items, any type of one-time order (T-shirts for a sporting event)

(2) Multiperiod Inventory Systems

Multi-period inventory systems are designed to ensure that an item will be available on an ongoing basis through the year. There are two general types of multiperiod inventory systems:

Fixed-order quantity models (EOQ, and Q-model): Event triggered

Fixed-time period models (P-model): Time triggered

ii) Fixed-Order Quantity Models (exercise)

Fixed-order quantity models attempt to determine the *specific point*, R , at which order will be placed and the *size of that order*, Q . The order point, R , is always a specified number of units. An order of size Q is placed when the inventory available (currently in stock and on order) reaches the point R . **Inventory position** is defined as the on-hand plus on-order minus backordered quantities.

Total annual cost = Annual purchase cost + Annual ordering cost + Annual holding

$$TC = DC + \frac{D}{Q}S + \frac{Q}{2}H$$

cost Or

TC = Total annual cost; D = Demand (annual); C = Cost per unit

Q = Quantity to be ordered (the optimal amount is termed the *economic order quantity* – EOQ – or Q_{opt})

S = Set up cost or cost of placing an order; R = Reorder point; L = Lead time

H = Annual holding and storage cost per unit of average inventory ($H = iC$, where i is the percent carrying cost)

$$Q_{opt} = \sqrt{\frac{2DS}{H}}$$

Reorder point, R , is simply: $R = \bar{d}L$

Where \bar{d} = Average daily demand (constant); L = Lead time in days (constant)

Example

Find the economic order quantity and the reorder point, given Annual demand (D) =

1,000 units ; Average daily demand (\bar{d}) = 1,000/365 Ordering cost (S) = \$5 per order; Holding cost (H) = \$1.25 per unit per year Lead time (L) = 5 days; Cost per unit (C) = \$12.50. What quantity should be ordered?

Solution

The optimal order quantity is: $Q_{opt} = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2 \times (1,000) \times 5}{1.25}} = \sqrt{8000} = 89.4$ (units)

$$R = \bar{d}L = \frac{1,000}{365} \times 5 = 13.7$$
 (units)

The reorder point is:

Round to the nearest unit, the inventory policy is as follows: When the inventory position drops to 14, place an order for more 89 more.

The total number annual cost will be

$$TC = DC + \frac{D}{Q}S + \frac{Q}{2}H = 1000(12.5) + \frac{1000}{89}5 + \frac{89}{2}1.25 = \$ 12,611.81$$

(1) Establishing Safety Stock Levels

Safety stock is defined as the amount of inventory carried in addition to the expected demand. In normal distribution, this would be the mean.

(2) Fixed-Order Quantity Model with Safety Stock (exercise)

The reorder point is then set to cover the expected demand during the lead time plus a safety stock determined by the desired service level. Thus, *the key difference between a fixed-order quantity model where demand is known and one where demand is uncertain*

is in computing the reorder point. The reorder point is: $R = \bar{d}L + z\sigma_L$

R = Reorder point in units; \bar{d} = Average daily demand

L = Lead time in days; σ_L = Standard deviation of usage during lead time

z = Number of standard deviations for a specified service probability

The term $z\sigma_L$ is the amount of safety stock. $\bar{d} = \frac{\sum_{i=1}^n d_i}{n}$ where n is the number of days

The standard deviation of the daily demand is $\sigma_d = \sqrt{\frac{\sum_{i=1}^n (d_i - \bar{d})^2}{n}}$

Standard deviation of a series of independent demands:

$$\sigma_L = \sqrt{\sigma_1^2 + \sigma_2^2 + \dots + \sigma_L^2}$$

Safety stock calculation: $SS = z\sigma_L$

Example

Consider an economic order quantity case where annual demand $D = 1,000$ units, economic order quantity $Q = 200$ units, the desired probability of not stocking out $P = 0.95$, the standard deviation of demand during lead time $\sigma_L = 25$ units, and lead time $L=5$ days. Determine the reorder point. Assume that demand over is a 250 workday year.

Solution

In our example, $\bar{d} = \frac{1,000}{250} = 4$, and lead time is 15 days. We use the equation

$$R = \bar{d}L + z\sigma_L = 4(15) + z(25)$$

In this case z is 1.64. Completing the solution for R , we have

$$R = 4(15) + 1.64(25) = 60 + 41 = 101 \text{ units}$$

This says that when stock on hand gets down to 101 units, order 200 more.

Example

Daily demand for a certain product is normally distributed with a mean of 60 and standard deviation of 7. The source of supply is reliable and maintains a constant lead time of six days. This cost of placing an order is \$10 and annual holding cost are \$0.5 per unit. There are no stock out costs, and unfilled orders are filled as soon as the order arrives. Assume sales occur over the entire 365 days of the year. Find the order quantity and reorder point to satisfy a 95 percent probability of not stocking out during the lead time.

Solution

$\bar{d} = 60$	$S = \$10$
$\sigma_d = 7$	$H = \$0.50$
$D = 60(365)$	$L = 6$

The optimal order quantity is

$$Q_{opt} = \sqrt{\frac{2DS}{H}} = \sqrt{\frac{2 \times (60) \times (365) \times 10}{0.50}} = \sqrt{876,000} = 936 \text{ units}$$

$$\sigma_L = \sqrt{\sum_{i=1}^L \sigma_d^2} = \sqrt{6(7)^2} = 17.15$$

$P=95\% \rightarrow z$ is 1.64. $R = \bar{d}L + z\sigma_L = 60(6) + 1.64(17.15) = 388 \text{ units}$

REVIEW

True/False Question

1. The triple bottom line considers evaluating the firm against social, economic, and environmental criteria.

TRUE

2. Capacity can be defined as the ability to hold, receive, store, or accommodate.

TRUE

3. If the sum of the task times required to produce a product is 80 minutes and the cycle time for the same product is 15 minutes, the theoretical minimum number of workstations is 8 using the assembly-line balancing procedure.

FALSE

4. The critical path in a CPM analysis is always the shortest path through the network.

FALSE

5. A tracking signal (TS) can be calculated using the arithmetic sum of forecast deviations divided by the MAD.

TRUE

6. For every forecasting problem there is one best forecasting technique.

FALSE

7. The fixed-order quantity inventory model is more appropriate for important items such as critical repair parts because there is closer monitoring and therefore quicker response to a potential stockout.

TRUE

8. Fixed-order quantity inventory models are "time triggered."

FALSE

9. Fixed-time period inventory models are "time triggered."

TRUE

10. Fixed-order quantity inventory systems determine the order point, R and the order quantity, Q values.

TRUE

Multiple-Choice Question

1. Using the assembly-line balancing procedure, which of the following is the required cycle time if the production time in minutes per day is 480 and the required output per day in units is 50?
 A. 0.104
 B. 50
C. 9.6
 D. 480
 E. Cannot be determined from the information above
2. A simple project listing of five activities and their respective time estimates are presented below:

Activity	Immediate Predecessor	Time in Days
A	None	1
B	A	2
C	A	1
D	B and C	3
E	D	2

Using CPM, which activities make up the critical path?

- A. A, C, D, E
B. A, B, D, E
 C. A, C, B, D, E
 D. A, D, E
 E. None of the above
3. A simple project listing of five activities, their predecessors and their respective time estimates are presented below:

Activity	Immediate Predecessor	Time in Days
A	None	3
B	A	2
C	A	1
D	B and C	3
E	D	4

Using CPM, what is the Latest Finish Time for the last activity in this project

- A. 10 days
 B. 7 days
 C. 8 days
D. 12 days
 E. 9 days
4. A company wants to forecast demand using the simple moving average. If the company uses four prior yearly sales values (i.e., year 2007 = 100, year 2008 = 120, year 2009 = 140, and year 2010 = 210), which of the following is the simple moving average forecast for year 2011?
 A. 100.5
 B. 140.0
C. 142.5
 D. 145.5
 E. 155.0
5. A company wants to forecast demand using the simple moving average. If the company uses three prior yearly sales values (i.e., year 2008 = 130, year 2009 = 110, and year 2010 = 160), which of the following is the simple moving average forecast for year 2011?
 A. 100.5
 B. 122.5
C. 133.3
 D. 135.6
 E. 139.3
6. . If the best operating level of a piece of equipment is at a rate of 400 units per hour and the actual output during an hour is 300 units, which of the following is the capacity cushion?
A. 33 percent
 B. 75 percent
 C. 90 percent
 D. 100 percent
 E. 133 percent
7. If the actual output of a piece of equipment during an hour is 500 units and its best operating level is at a rate of 400 units per hour, which of the following is the capacity utilization rate?
 A. 0.75
 B. 1.00
C. 1.25
 D. 1.33
 E. 100
8. If it takes a supplier four days to deliver an order once it has been placed and the standard deviation of daily demand is 10, which of the following is the standard deviation of usage during lead time?
 A. 10
B. 20
 C. 40

- D. 100
E. 400
9. A company has recorded the last six days of daily demand on a single product they sell. Those values are 37, 115, 93, 112, 73, and 110. The time from when an order is placed to when it arrives at the company from its vendor is 3 days. Assuming the basic fixed-order quantity inventory model fits this situation and no safety stock is needed, which of the following is the reorder point (R)?
- A. 540
B. 270
C. 115
D. 90
E. 60
10. A company is planning for its financing needs and uses the basic fixed-order quantity inventory model. Which of the following is the total cost (TC) of the inventory given an annual demand of 10,000, setup cost of \$32, a holding cost per unit per year of \$4, an EOQ of 400 units, and a cost per unit of inventory of \$150?
- A. \$1,501,800**
B. \$1,498,200
C. \$500,687
D. \$499,313
E. None of the above

Part 3: STRATEGIC MANAGEMENT

1) Introduction And Overview

a) The definition of strategy and its importance

A company's strategy consists of the competitive moves and business approaches management has developed to attract and please customer, complete successfully, capitalize on opportunities to grow the business, respond to changing market conditions, conduct operations, and achieve performance objectives.

Element of a company's strategy:

- How to attract and please customers.
- How to compete against rivals.
- How to position the company in the marketplace and capitalize on attractive opportunities to grow the business.
- How to best to respond to changing economic and market conditions.
- How to manage each functional piece of the business.
- How to achieve the company's performance targets.

b) Charting a company's direction: vision and mission, objectives and strategy

i) Stage 1: Developing a strategic vision, a mission, and a core values

A strategic vision describe "Where we are going"- the course and direction management has charted and the company's future product customer-market-technology focus

- Top management's views about the company's direction and future product-customer-market -- technology focus are shaped by its views of the external industry and competitive environment and the internal situation and constitute a strategic vision for the company.

+ Well-conceived visions are specific to a particular organization; they avoid generic, feel-good statements like "We will become a global leader and the first choice of customers in every market we choose to serve" – which could apply to any of hundreds of organizations.

+ Top management's views and conclusions about the company's direction and the product-consumer market-technology focus constitute a strategic vision.

ii) The importance of communicating the strategic vision

- Effectively communicating the strategic vision down the line to lower-level managers and employees is as important as the strategic soundness of the journey and destination for which top management has opted.

- Winning the support of organization members for the vision nearly always means putting “where we are going and why” in writing, distributing the statement organization wide, and having executives personally explain the vision and its rationales to as many people as feasible

- An engaging and convincing strategic has enormous motivational value.

iii) Developing a company mission statement

The chief concern of a strategic vision is with the company’s future strategic course; a company’s mission statement usually deals with a company’s present business purpose.

- Some companies prefer the term business purpose to mission statement, but the two phrases are essentially conceptually identical and are used interchangeably.

- Company mission statements almost never say anything about where the company is headed, the anticipated changes in its business, or its aspirations. The mission statement of most companies say much more about the enterprise’s present business scope and purpose.

- Ideally, a company’s mission statement is sufficiently descriptive to:

- Identify the company’s products or services.
- Specify the buyer needs it seeks to satisfy.
- Specify the customer groups or markets it is endeavoring to serve.
- Specify its approach to pleasing customers.

- Occasionally, companies state that their mission is to simply earn a profit. This is misguided – Profit is more correctly an objective and a result of what a company does.

iv) Linking the strategic vision and mission with company values

- By values or core values, we mean the beliefs, traits, and ways of doing things that management has determined should guide the pursuit of its vision and mission.

- Company values statements tend to contain between four and eight values, which ideally, are tightly connected to and reinforce the company’s vision, strategy, and operating practices.

- Company managers connect values to the strategic vision in one of two ways:

a. In companies with long-standing and deeply entrenched values, managers go to great lengths to explain how the vision is compatible with the company’s value set, occasionally reinterpreting the meaning of existing values to indicate their relevance in pursuing the strategic vision.

b. In new companies or companies with weak or incomplete sets of values, top management considers what values, beliefs, and operating principles will help drive the vision forward.

c. The extent to which company values translate into actually living the values varies widely. At one extreme values become the company’s genetic makeup—its DNA. At the other extreme values are simply window dressing.

2) Core Concepts And Analytical Tools

a) Evaluating a company’s external environment

i) The strategically relevant components of a company’s macro environment

- A company’s macro-environment includes all relevant factors and influences outside the company’s boundaries; by relevant, we mean these factors are important enough that they should shape management’s decisions regarding the company’s long-term direction, objectives and business model

- The factors and forces in a company’s macro-environment that have the biggest strategy shaping impact typically pertain to the company’s immediate industry and competitive environment – competitive pressures, the actions of rival firms, buyer behavior and supplier related considerations

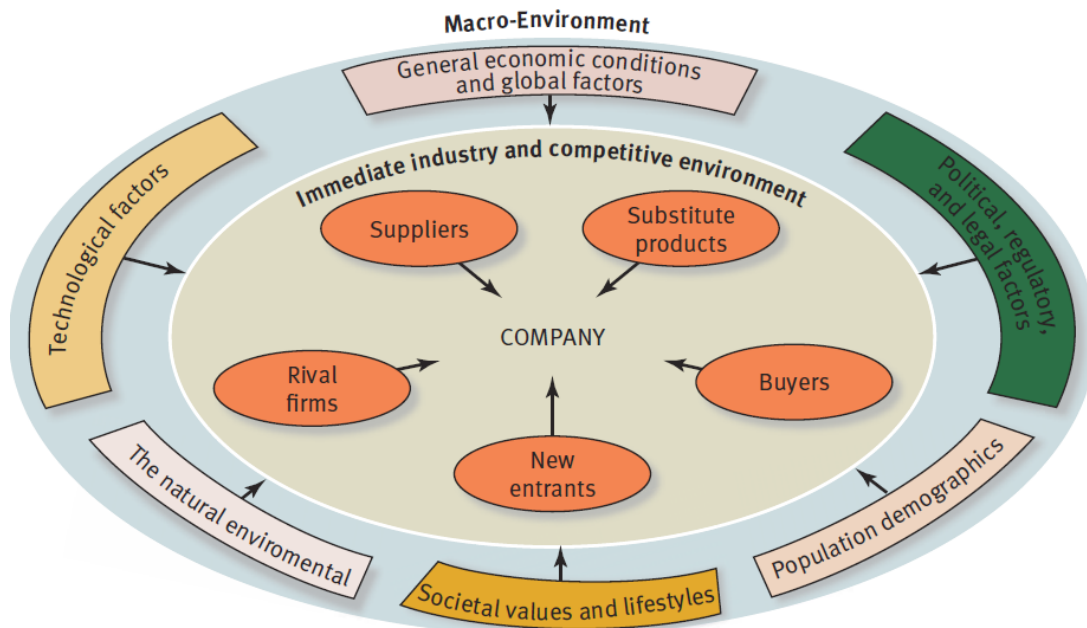


Figure 2.1. - The Components of a Company's Macro-Environment

ii) Assessing the company's industry and competitive environment

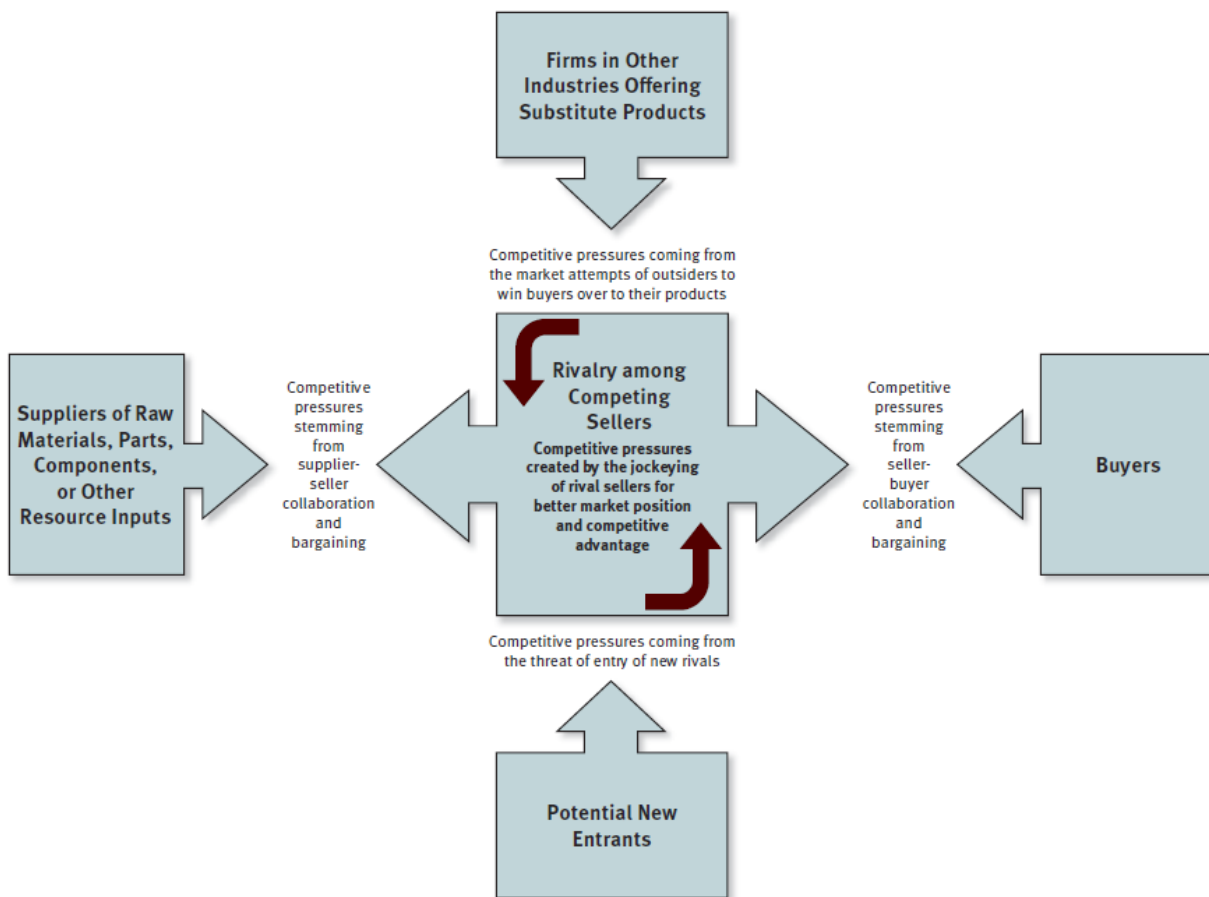
Thinking strategically about a company's industry and competitive environment entails using some well-validated concepts and analytical tools to get clear answers to seven questions:

1. Do the dominant economic characteristics of the industry offer sellers opportunities for growth and attractive profits?
2. What kinds of competitive forces are industry members facing and how strong is each force?
3. What forces are driving industry changes, and what impact will these changes have on competitive intensity and industry profitability?
4. What market positions do industry rivals occupy—who is strongly positioned and who is not?
5. What strategic moves are rivals likely to make next?
6. What are the key factors of competitive success?
7. Does the industry outlook offer good prospects for profitability?

iii) Issue 2: Evaluating the strength of the industry's competitive forces

- The nature and subtleties of the competitive forces operating in a company's industry are never the same from one industry to another and must be wholly understood to accurately form answers to the question, "Where are we now?"

-The most powerful and widely used tool for assessing the strength of the industry's competitive forces is the five-forces model of competition.



a. Competitive Force of Buyer Bargaining Power

- Whether seller-buyer relationships represent a weak or strong competitive force depends on:
 - + whether some or many of the buyers have sufficient bargaining leverage to obtain price concessions and other favorable terms and conditions of sale
 - + the extent and competitive importance of seller-buyer strategic partnerships in the industry
- Factors affecting buyer bargaining power can create competitive pressures: The leverage that certain types of buyers have in negotiating favorable terms can range from weak to strong.
- Even if buyers do not purchase in large quantities or offer a seller important market exposure or prestige, they gain a degree of bargaining leverage in the following circumstances:
 - If buyers' costs of switching to competing brands or substitutes are relatively low – buyers who can readily switch brands or source from several sellers have more negotiating leverage than buyers who have high switching costs.
 - If the number of buyers is small or if a customer is particularly important to a seller – the smaller the number of buyers, the less easy it is for sellers to find alternative buyers when a customer is lost to a competitor.
 - If buyer demand is weak – weak or declining demand creates a “buyer’s market” and shifts bargaining power to buyers .
 - If buyers are well-informed about sellers' products, prices, and costs – the more information buyers have, the better bargaining position they are in.
 - If buyers pose a credible threat of integrating backward into the business of sellers – companies
- Not all buyers of an industry's product have equal degrees of bargaining power with sellers and some may be less sensitive than others to price, quality, or service differences.

b. Competitive Force of Substitute Products

- Companies in one industry are vulnerable to competitive pressure from the actions of companies in another industry whenever buyers view the products of the two industries as a good substitute.

- Just how strong the competitive pressures are from sellers of substitute products depends on three factors:

- + Whether substitutes are readily available and attractively priced.

- + whether buyers view the substitutes as being comparable or better in terms of quality, performance, and other relevant attributes.

- + Whether the costs that buyers incur in switching to the substitutes are high or low.

- As a rule, the lower the price of substitutes, the higher their quality and performance, and the lower the user's switching costs, the more intense the competitive pressures posed by substitute products

c. Competitive Force of Supplier Bargaining Power

- Whether supplier-seller relationships represent a weak or strong competitive force depends on:

- + The extent to which suppliers are able to shape the terms and conditions of sales of the items they supply to an industry, and

- + The nature and extent of supplier-seller collaboration.

- How Supplier Bargaining Power Can Create Competitive Pressures: When the major suppliers to an industry have considerable leverage in determining the terms and conditions of the item they are supplying, they are in a position to exert competitive pressures on one or more rival sellers.

- The factors that determine whether any of the suppliers to an industry are in a position to exert substantial bargaining power or leverage are fairly clear-cut:

- If the item being supplied is a commodity that is readily available from many suppliers,

- The ability of industry members to switch their purchases from one supplier to another or to switch to attractive substitutes,

- if certain inputs are in short supply,

- if certain suppliers provide a differentiated input that enhances the performance, quality, or image of the industry's product,

- Whether certain suppliers provide equipment or services that deliver cost-savings to industry members in conducting their operations,

- The fraction of costs of the industry's product accounted for by the cost of a particular input

- Whether industry members are major customers of suppliers

- Whether it makes good economic sense for industry members to integrate backward and self-manufacture items they have been buying from suppliers.

d. Competitive Force of Potential New Entrants

A second factor concerns whether the likely entry candidates face high or low entry barriers. The most widely encountered barriers that entry candidates must hurdle include:

- The presence of sizable economies of scale in production or other areas of operation – When incumbent companies enjoy cost advantages associated with large-scale operation, outsiders must either enter on a large scale or accept a cost disadvantage and consequently lower profitability.

- Cost and resource disadvantages not related to scale of operation – Aside from economies of scale, industry incumbents can have cost advantages that stem from experience/learning curve effects, the possession of proprietary technology, partnerships with the best and cheapest suppliers, and low fixed costs.

- Strong brand preferences and high degree of customer loyalty – In some industries, buyers are strongly attached to established brands, making it more difficult for a newcomer to break into the marketplace.

- High capital requirements – The larger the total dollar investment needed to enter the market successfully, the more limited the pool of potential entrants.

- The difficulties of building a network of distributors or retailers and securing adequate space on retailers' shelves.

- Restrictive regulatory policies – Government agencies can limit or even bar entry by requiring licenses and patents.

- Tariffs and international trade restrictions – National governments commonly use tariffs and trade restrictions to raise entry barriers for foreign firms and protect domestic producers from outside competition.

- The ability and willingness of industry incumbents to launch vigorous initiatives to block a newcomer's successful entry.

e. The Competitive Force of Rivalry among Competing Sellers

- Rivalry intensifies when competing sellers are active in launching fresh actions to boost their market standing and business performance.

- Rivalry is stronger in industries where competitors are equal in size and capability.

- Rivalry is usually stronger in slow-growing markets and weaker in fast-growing markets.

- Rivalry is usually weaker in industries comprised of so many rivals that the impact of any one company's actions is spread thinly across all industry members. Likewise, it is often weak when there are fewer than five competitors.

- Rivalry increases when buyer demand falls off and sellers find themselves with excess capability and/or inventory.

- Rivalry increases as it becomes less costly for buyers to switch brands.

- Rivalry increases as the products of rival sellers become more standardized.

- Rivalry is more intense when industry conditions tempt competitors to use price cuts or other competitive weapons to boost unit volumes.

- Rivalry increases when one or more competitors become dissatisfied with their market position.

- Rivalry increases when strong companies outside acquire weak firms inside the industry and launch aggressive, well-funded moves to transform their newly acquired competitors into major market contenders.

iv) Issue 3: The impact of the changing driving forces on an industry

(1) The concepts of industry driving forces

Driving forces are the major underlying causes of change in industry and competitive conditions

(2) Identifying an industry's driving forces

Many developments can affect an industry powerfully enough to qualify as driving forces. Some are unique and specific to a particular industry situation, but most drivers of change fall into one of the following categories:

- Changes in an industry's long-term growth
- Increasing globalization
- Emerging new Internet capabilities and applications
- Changes in who buys the product and how they use it
- Product innovation
- Technological change and manufacturing process innovation
- Marketing innovation
- Entry or exit of major firms
- Diffusion of technical know-how across more companies and more countries
- Changes in cost and efficiency
- Growing buyer preferences for differentiated products
- Regulatory influences and government policy changes
- Changing societal concerns, attitudes, and lifestyles

v) Issue 4: Determining the position of the industry rivals

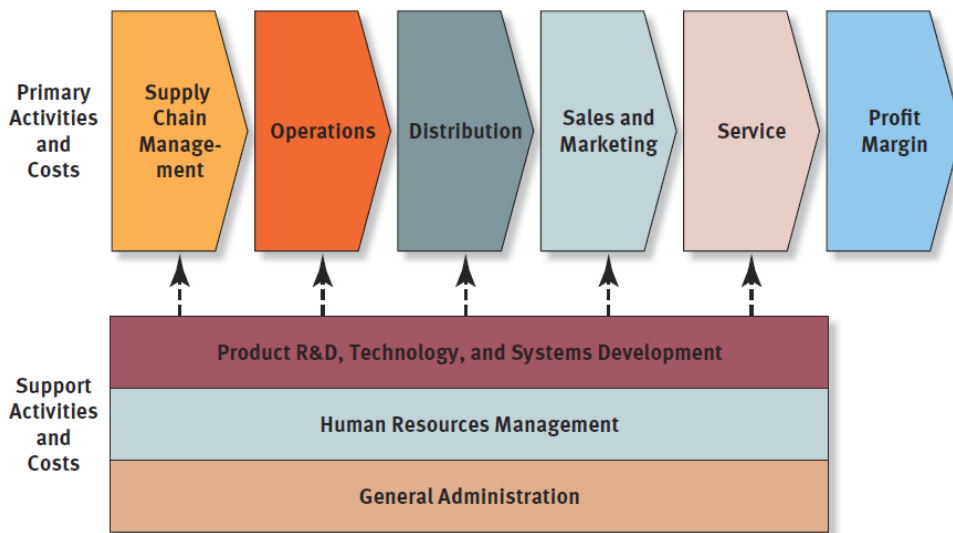
(1) Using strategic group maps to assess the positioning of key competitors

Strategic group mapping is a technique for displaying the different market or competitive positions that rival firms occupy in the industry.

-A strategic group consists of those industry members with similar competitive approaches and positions in the market.

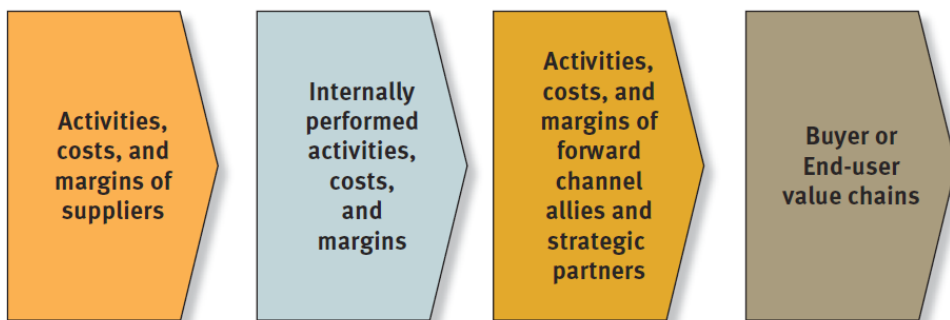
(2) The value of strategic group maps

- Strategic Group maps are revealing in several respects.
 - + The most important has to do with identifying which rivals are similarly positioned and are thus close rivals and which are distant rivals. Generally speaking, the closer strategic groups are to each other on the map, the stronger the cross-group competitive rivalry tends to be.
 - + Not all positions on the map are equally attractive. Two reasons account for why some positions can be more attractive than others:
 - Industry driving forces may favor some strategic groups and hurt others.
 - Competitive pressures may cause the profit potential of different strategic groups to vary.
- vi) Issue 6: The definition of the industry key success factors (KSFs)**
 - Key success factors are the strategy elements, product attributes, competitive capabilities, or intangible assets with the greatest impact on future competitive success in the marketplace. The answer to three questions helps identify an industry's key success factors:
 - + On what basis do buyers of the industry's product choose between the competing brands of sellers? That is, what product attributes are crucial?
 - + Given the nature of the competitive forces prevailing in the marketplace, what resources and competitive capabilities does a company need to have to be competitively successful?
 - + What shortcomings are almost certain to put a company at a significant competitive disadvantage?
 - b) Evaluating a company's resources, cost position and competitiveness**
 - i) Issue 2: Determining the important resources and capabilities**
 - Common types of valuable resources and competitive capabilities that management should consider when crafting strategy include:
 - A skill, specialized expertise, or competitively important capability
 - Valuable physical assets
 - Valuable human assets and intellectual capital
 - Valuable organizational assets
 - Valuable intangible assets
 - An achievement or attribute that puts the company in a position of market advantage.
 - The competitive power of a company's strength is measured by how many of the following four tests it can pass:
 - + Is the resource really competitively valuable?
 - + Is the resource strength rare – is it something rivals lack?
 - + Is the resource hard to copy or imitate?
 - + Can the resource strength be trumped by substitute resource strengths and competitive capabilities?
 - ii) Issue 3: Assessing the competitiveness of the company's cost structure and customer value proposition**
 - (1) Company value chains**
 - A company's value chain identifies the primary activities that create customer value and related support activities
 - The value chain consists of two broad categories of activities:
 - + Primary activities: foremost in creating value for customers
 - + Support activities: facilitate and enhance the performance of primary activities



(2) The value chain system for an entire industry

Supplier-Related Value Chains A Company's Own Value Chain Forward Channel Value Chains



- Suppliers' value chains are relevant because suppliers perform activities and incur costs
- Forward channel and customer value chains are relevant because:
 - + The costs and margins of a company's distribution allies are part of the price the end user pays
 - + The activities that distribution allies perform affect the end user's satisfaction

iii) Issue 4: Comparing the competitive strength with key rivals

- Make a list of the industry's key success factors and most telling measures of competitive strength or weakness.
- Assign a weight to each measure of competitive strength.
- Rate the firm and its rivals on each factor.
- Sum the strength ratings on each factor to get an overall measure of competitive strength for each company being rated.
- Use the overall strength ratings to draw conclusions about the size and extent of the company's net competitive advantage or disadvantage and to take specific note of areas of strengths and weaknesses.

3) Crafting A Strategy

a) The five generic competitive strategies

i) Low – cost provider strategies

-A low-cost leader's basis for competitive advantage is lower overall costs than competitors. Successful low-cost leaders are exceptionally good at finding ways to drive costs out of their businesses.

-A company has two options for translating a low-cost advantage over rivals into attractive profit performance:

- + Option 1: use the lower-cost edge to underprice competitors and attract price-sensitive buyers in great numbers to increase total profits

- + Option 2: maintain the present price, be content with the current market share, and use the lower cost edge to earn higher profit margin on each unit sold

-When a Low-Cost Provider Strategy Works Best:

A competitive strategy predicated on low-cost leadership is particularly powerful when:

- + Price competition among rival sellers is especially vigorous
- + The products of rival sellers are essentially identical and suppliers are readily available from any of several eager sellers

- + There are a few ways to achieve product differentiation that have value to buyers

- + Most buyers use the product in the same ways

- + Buyers incur low costs in switching their purchases from one seller to another

- + Buyers are large and have significant power to bargain down prices

- + Industry newcomers use introductory low prices to attract buyers and build a customer base

- The Pitfalls of a Low-Cost Provider Strategy

- + Perhaps the biggest pitfall of a low-cost provider strategy is getting carried away with overly aggressive price cutting and ending up with lower, rather than higher, profitability. A low cost/low price advantage results in superior profitability only if (1) prices are cut by less than the size of the cost advantage or (2) the added value gains in unit sales are large enough to bring in bigger total profit despite lower margins per unit sold.

- + A second big pitfall is not emphasizing avenues of cost advantages that can be kept proprietary or that relegate rivals to playing catch-up.

- + A third pitfall is becoming too fixated on cost reduction

ii) Broad differentiation strategy

-The essence of a broad differentiation strategy is to be unique in ways that are valuable to a wide range of customers.

-Successful differentiation allows a firm to:

- + Command a premium price for its product

- + Increase unit sales

- + Gain buyer loyalty to its brand.

- Differentiation strategies tend to work best in market circumstance where:

- + Buyer needs and uses of the product are diverse

- + There are many ways to differentiate the product or service and many buyers perceive these differences as having value

- + Few rival firms are following a similar differentiation approach

- + Technological change is fast-paced and competition revolves around rapidly evolving product features

- Pitfalls to Avoid in Pursuing a Differentiation Strategy

- + Attempts at differentiation are doomed to fail if competitors can quickly copy most or all of the appealing product attributes a company comes up with.

- + the company's differentiation strategy produces a ho-hum market reception because buyers see little value in the unique attributes of a company's product.

- + overspending on efforts to differentiate the company's product offering, thus eroding profitability

- + Over differentiating so that the product quality or service level exceeds buyers' needs

- + Trying to charge too high a price premium

iii) Focused (or market niche) strategies

-A focused strategy based on low cost aims at securing a competitive advantage by serving buyers in the target market niche at a lower cost and lower price than rival competitors.

-A focused strategy based on differentiation aims at securing a competitive advantage by offering niche members a product they perceive is better suited to their own unique tastes and preferences.

- A focused strategy aimed at securing a competitive edge based either on low cost or differentiation becomes increasingly attractive as more of the following conditions are met:
 - +The target niche is big enough to be profitable and offers good growth potential
 - + Industry leaders do not see that having a presence in the niche is crucial to their own success
 - + It is costly or difficult for multi-segment competitors to put capabilities in place to meet specialized needs of the target market niche and at the same time satisfy the expectations of their mainstream customers
 - + The industry has many different niches and segments
 - + Few, if any, other rivals are attempting to specialize in the same target segment
 - + The focuser has a reservoir of customer goodwill and loyalty
- Focusing carries several risks such as:
 - + The chance that competitors will find effective ways to match the focused firm's capabilities in serving the target niche
 - + The potential for the preferences and needs of niche members to shift over time toward the product attributes desired by the majority of buyers
 - + The segment may become so attractive it is soon inundated with competitors, intensifying rivalry and splintering segment profits

iv) Best-cost provider strategy

- Best-cost provider strategies are a hybrid of low-cost provider and differentiation strategies that aim at satisfying buyer expectations on key quality/features/performance/service attributes and beating customer expectations on price
- When a Best-Cost Provider Strategy Works Best
 - +A best-cost provider strategy is very appealing in markets where buyer diversity makes product differentiation the norm and where many buyers are also sensitive to price and value
- The Danger of an Unsound Best-Cost Provider Strategy
 - +The danger of a best-cost provider strategy is that a company using it will get squeezed between the strategies of firms using low-cost and differentiation strategies.
 - + To be successful, a best-cost provider must offer buyers significantly better product attributes in order to justify a price above what low-cost leaders are charging.

b) Strategies for competing in international markets

i) Strategy Options for Entering and Competing in Foreign Markets

(1) Export Strategies

- Using domestic plants as a production base for exporting goods to foreign markets is an excellent initial strategy for pursuing international sales.
- With an export strategy, a manufacturer can limit its involvement in foreign markets by contracting with foreign wholesalers experienced in importing to handle the entire distribution and marketing function in their countries or regions of the world.
- Whether an export strategy can be pursued successfully over the long run hinges on the relative cost-competitiveness of the home-country production base.
- An export strategy is vulnerable when:
 - +Manufacturing costs in the home country are substantially higher than in foreign countries where rivals have plants
 - +The costs of shipping the product to distant foreign markets are relatively high
 - +Adverse fluctuations occur in currency exchange rates

(2) Licensing Strategies

- Licensing makes sense when a firm with valuable technical know-how or a unique patented product has neither the internal organizational capability nor the resources to enter foreign markets.
- Licensing also has the advantage of avoiding the risks of committing resources to country markets that are unfamiliar, politically volatile, economically unstable, or otherwise risky.

-The big disadvantage of licensing is the risk of providing valuable technological know-how to foreign companies and thereby losing some degree of control over its use

(3) Franchising Strategies

- Franchising is often better suited to the global expansion efforts of service and retailing enterprises.
- Franchising has much the same advantages as licensing.
- The franchisee bears most of the costs and risks of establishing foreign locations while the franchisor has to expend only the resources to recruit, train, support, and monitor franchisees.
- The big problem a franchisor faces is maintaining quality control.
- Another problem that may arise is whether to allow foreign franchisees to make modifications in the franchisor's product offerings so as to better satisfy the tastes and expectations of local buyers

(4) Establish a subsidiary in a foreign market

- Companies pursuing international expansion may elect to take responsibility for the performance of all essential value chain activities in foreign markets.
- Companies that prefer direct control over all aspects of operating in a foreign market can establish a wholly owned subsidiary
 - +Acquisition – quicker option and might be the least risky and cost effective means of entry
 - + Internal Development – requires experience and strong global position

(5) Using International Strategic Alliances and Joint Ventures to Build Competitive Strength in Foreign Market

- The strategic appeal of cooperative arrangements between domestic and foreign companies:
 - Gaining better access to attractive company markets
 - To capture economies of scale in production and/or marketing
 - To fill gaps in technical expertise and/or knowledge of local markets
 - To share distribution facilities and dealer networks, and to mutually strengthen each partner's access to buyers
 - Cross border allies can direct their competitive energies more toward mutual rivals and less toward one another
 - When companies wanting to enter a new foreign market conclude that alliances with local companies are an effective way to establish working relationships with key officials in the host country government.
 - Alliances can be a particularly useful way for companies across the world to gain agreement on important technical standards
- What makes cross-border alliances an attractive strategic means of gaining the above types of benefits is that entering into alliances and strategic partnerships allows a company to preserve its independence
- The Risks of Strategic Alliances with Foreign Partners: Alliances and joint ventures with foreign partners have their pitfalls.
 - +Allies typically have to overcome language and cultural barriers and figure out how to deal with diverse operating practices.
 - + It is not unusual for partner to discover they have conflicting objectives and strategies, deep differences of opinion about how to proceed, or important differences in corporate values and ethical standards.
 - + Tensions build up, working relationships cool, and the hoped-for-benefits never materialize.
 - + The recipe for successful business alliances requires many meeting of many people working in good faith over a period of time to iron out what is to be shared, what is to remain proprietary, and how the cooperative arrangements will work

ii) Corporate strategy: diversification and the multi-business company

A diversified company has many industries. The task of crafting a diversified company's overall corporate strategy falls squarely in the lap of top-level executives and involves four distinct facets:

- Picking new industries to enter and deciding on the means of entry.

- Pursuing opportunities to leverage cross-business value chain relationships into competitive advantage.
- Establishing investments priorities and steering corporate resources into the most attractive business units.
- Initiating actions to boost the combined performance of the corporation's collection of businesses.

Sample questions

I. Choose the best answer to following sentence. Write "T" for True sentence and "F" for False sentence:

1. Strategic vision describe "How are we going to get there".
2. The potential new entry can encounter entry barrier that is high degree of customer loyalty
3. In order to link the strategic vision and mission, the manager should build functional group to oversee productivity of employees.
4. Company's strategy is only business plan.
5. The mission statement give the company its own identity.
6. The business strategy show what are product, business service of company
7. The Customer always want high quality product and dominant service, the supplier want to sell good with high price and limit company's opportunity to find better deals
8. Key success factor and driving force are same.
9. Franchising has much the same advantages as licensing.
10. Suppliers' value chains are relevant because suppliers perform activities and incur costs

II. Choose the best answer to following sentences by circling A, B, C or D:

1. In the company value chain, which activity belongs to the primary activities?

A. Human resources	B. Administration
C. Sales and marketing	D. R&D
2. The major underlying causes of changes in the macro-environment of an industry and competitive conditions are called as what?
 - A. Dominant economic characteristics
 - B. Five competitive forces
 - C. Key success factors
 - D. Driving forces
3. When the supplier bargaining power is stronger?
 - A. There are a few supplier of a particular input
 - B. Seller switching costs to alternate suppliers are low
 - C. Good substitute input exist or new ones emerge
 - D. Both B & C
4. Competitive pressures stemming from buyer bargaining power tend to be weaker when
 - A. the number of buyers is small, such that each customer's business tends to be particularly important to a seller.
 - B. buyer demand is growing slowly or maybe even declining.
 - C. the costs incurred by buyers in switching to competing brands or to substitute products are relatively high.
 - D. buyers are well informed about sellers' products, prices, and costs.
5. Which of the following is not generally a "driving force" capable of producing fundamental changes in industry and competitive conditions?
 - A. Changes in the long-term industry growth rate
 - B. Increasing globalization of the industry
 - C. Product innovation and technological change
 - D. Ups and downs in the economy and in interest rates.
6. Which of the following conditions generally raise the barriers to entering an industry?

- A. Low levels of brand loyalty on the part of customers and the presence of more than 20 rivals in the industry.
 - B. Rapid market growth, low buyer switching costs, and weak brand preferences and customer loyalty.
 - C. Product offerings that are pretty much standardized from rival to rival.
 - D. High capital requirements, difficulties in building a network of distributors-retailers and securing adequate space on retailers' shelves, and the likelihood that industry incumbent will strongly contest the efforts of new entrants to gain a market foothold.
7. The key success factors in an industry
- A. are the strategy elements, intangible assets, and competitive capabilities that most affect industry members' abilities to prosper in the marketplace.
 - B. are determined by the industry's driving forces.
 - C. hinge on how many different strategic groups the industry has.
 - D. depend on how many rivals are trying to move from one strategic group to another
8. Important reasons for a company to consider diversification include _____
- A. a desire to avoid putting all of its "eggs" in one industry basket.
 - B. diminishing market opportunities and stagnating sales in its principal business.
 - C. opportunities to leverage existing competencies and capabilities by expanding into businesses where these same resources are key success factors and valuable competitive assets.
 - D. All of these.
9. A company's strategy consists of
- A. actions to develop a more appealing business model than rivals.
 - B. plans involving alignment of organizational activities and strategic objectives.
 - C. offensive and defensive moves to generate revenues and increase profit margins.
 - D. competitive moves and approaches that managers have developed to grow the business, attract and please customers, conduct operations, and achieve targeted objectives
10. A creative, distinctive strategy that delivers a sustainable competitive advantage is important because
- A. without a proven strategy a company is likely to fall into bankruptcy.
 - B. without a competitive advantage a company cannot have a profitable business model.
 - C. a strategy that yields a competitive advantage over rivals is a company's most reliable means of achieving above-average profitability and financial performance.
 - D. a competitive advantage is what enables a company to achieve its strategic objectives

III. Answer the questions:

1. Draw a typical value chain for an entire industry. What are basic difference between analyzing Value chain of entire industry and value chain of specific company
2. Explain the difference between Key success factor and Driving force.
3. A well-conceived strategic vision helps prepare a company for the future. True or false? Explain and justify your answer.
4. What is the difference between a mission statement and a strategic vision?
5. Identify at least five common driving forces and briefly explain how each one can produce important changes in industry and competitive conditions.