UNIT TWO

Evaluation of Management Thoughts

Objectives: At the end of this unit you should be able to:

- Describe and appreciate the development of management and the early practices, outlooks and assumptions of management.
- Describe, and define the different theories, principles, and concepts of the classical management school of thought.
- Describe and differentiate the human relation theories and the behavioral science theories.
- Describe and differentiate the different modern management approaches: quantitative, systems and contingency approaches.

2.1 Brief history of management

The need for management has been in evidence ever since the appearance of complex tasks which required the involvement of two or more people for their performance. So, there is no doubt that management is as old as history itself. Constructing pyramids in Egypt, providing the Phoenician ships with all the necessary materials, developing Babylonian commerce, constructing the temples of Israel, erecting the obelisks of Axum, operating governments in the city states of ancient Greece, equipping and sustaining Hannibal's army during his war against the Romans, building roads to the distant reaches of the Roman Empire, propagating and preserving the Christian faith, supervising medieval feudal domains, constructing the rock-hewn churches of Lalibela, governing colonies on the part of the European colonizers in a distant hemisphere, etc. All demanded some degree of skill, art and understanding of the management of institutions, organizations or activities.

The recorded use of organized management goes back to 5000BC when the agricultural revolution had taken shape. These irrigation civilizations, "were not only one of the great ages of technology, but it represented also mankind's most productive age of social and political innovation." As stated by Peter.

Egyptians were aware of the importance of planning, organizing and controlling since 4000BC. They applied these management functions when they construct the pyramids during 2900 BC. The pyramid required 100,000 men working 20 years. It covered 13 acres of land and used 2.3 million blocks each weighting an average of 2.5 tones. All these resources are utilized and efforts of all these people were organized towards the attainment of the goal through the application of management principles and practices.

In general the following management practices were practiced at different times and by different people as presented below.

A. Samuerians used written rules and regulations for governance from about 3000BC to 2300Bc.
B. Egyptians used management practices to construct pyramids from about 3000 BC to around 900 BC.
C. Babylonians used extensive set of laws and policies for governance from about 2800BC to around 50BC.
D. Greeks used different governing systems for cities and state administrations from about the year 1000BC to around 100 AD.
E. Chinese used extensive organization structure for government agencies and the arts from about the year 1000BC to around 1200AD.
F. Romans used organization structure for communication and control from about the year 700BC to about 550 AD.
G. Venetians used organization design and planning concepts to control seas from the year 500AD to around the year 1600 AD.

The writings of Socrates and Plato discussed the universality of management and specialization. Alexander the great used a staff organization extensively in his military conquests during 336BC to 323 BC. The Roman Empire showed an outstanding expertise in general administration, political, military and judicial judgment issues, using communications and centralized control. They developed a well-defined organizational structure that greatly facilitated communication and control.

Industrial Revolution during the 19th century has contributed a lot towards the development of management theories and their implementation. The industrial Revolution has been associated with different issues applicable in management. They are:

1. **Specialization**: - which is associated with the division of labor.
2. **Standardization**: - Maintenance of uniformity of tasks to produce identical goods in millions of units.
3. **Synchronization**: - Harmony and integrity of organizational activities can be achieved through the coordination and blending of all elements at one place.
4. **Concentration**: - Human and material concentration at the factory from different places.
5. **Maximization:** - Emphasized efficiency and optimum returns on investment of capital, labor and time.
6. **Centralization**: - Control and policy decision be made at the top while operational decisions are made in a decentralized form at the operational level

The evolution of management thought as a science from the practice of management art took many years. Some of the various management thoughts that developed through the years are comprehensive in scope, while others tend to be relatively confined to specialized areas. Some are closely related to each other, while others have little or no relationship among them. Some tend to extend the development of previously held concepts, while others basically take portion of different schools of thought and along with new core ideas, design a composite new approach. Still some other branch out in new directions employing new concepts and tools. In spite of the evolutionary developments, the systematic study of management is largely a product of the 20th century.

Many writers categorize the theories that evolved through time in to three major categories: The Classical Management School of thought, The Neo-Classical School of thought and The Modern Management Approaches. Before we are going to discuss about these three schools of thought let us discuss about the contributions of the pioneers of management: Robert Own, Charles Babbage, Andrew Ure, Adam Smith and Peter Drucker. They are referred to as the early contributors or pioneers to the modern management schools of Management.

2.2 The Early Management Pioneers

1. **Robert Own (1771-1858): -** He was a manager of several cotton mills at New Lanark, Scotland, during the early 1800's. He advocated that managers should not only tell workers what to do, but also why. He stated that improving the condition of employees could eventually lead to increased production and profits. He stressed the fact that a manager's best investment was in the workers or "vital machines" as he called them because an enlightened worker is a better worker. He openly rated an employee's work on a daily basis. His Philosophy could be considered as prelude to the development of the behavioral approach to management.

   Robert own has:

   - Believed that workers deserved respect and dignity
   - Implemented better working conditions
   - Set a higher minimum working age for children
   - Introduced rating an employees work on a daily basis
   - Provides meals for employees
   - Reduced working hours
   - Believed giving more attention to workers would pay off in increased output
   - Believed as best investment was in workers or "vital machines"

2. **Charles Babbage (1792-1871): -** He was a British professor in mathematics. His major contribution is the introduction of science and mathematics in the manufacturing

operations. He was the proponent of the division of labor and intelligent organization of workers. He stressed that the application of scientific principles to work processes would both increase productivity and lower expenses. According to him decisions must be based upon investigation and accurate knowledge rather than opinions and intuition. He anticipated the mechanization of time and motion study: minimum number of motions and minimum time in order to simplify the operations and reduce costs.

He laid considerable emphasis on specialization, work measurement, discovery of imposed methods for the purpose of cost reduction, optimum utilization of machines and tools and wage incentives. Expensive training time could be reduced, and the constant repetition of each operation would improve the skills and efficiency of workers. He focused his attention on efficiencies of production, placed great faith in division of labor & intelligent organization workers, advocated the application of mathematics and science to such problems as the efficient use of facilities and materials in the manufacturing operations. His work was a forerunner to both classical and quantitative management perspectives. He contributed to management theory by evolving the principles of cost accounting and the nature the relationship between various disciplines. He also invented a calculating machine which he called a "difference machine". He advocated that workers should receive a fixed pay depending upon the nature of their work, and that they should get bonus for any improvement they suggested for increasing productivity.

3. Adam Smith (1723-1790):- he was known as the father of political economy; he had deep insight into the management functions. He wrote a book entitled "An Inquiry into the Nature and Causes of the Wealth of Nations" in 1776. He stressed that the division of labor increases productivity by increasing the skill and dexterity of the worker and saving time which is commonly lost in changing the type of work.

4. Andrew Ure (1778-1857): -He recognized the importance of human resources. He provided workers with tea at work breaks, medical treatment and sickness payments. Own and Ure saw the importance of human beings in producing products. Workers were considered to be more than simply cogs or a factor of necessary inputs. Workers were the livelihood of factories and, if treated well could perform excellently.

Learning Activity 1

Answer the following questions on the spaces provided below each question.

1. What contributes for the emergency and development of management theories?

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2. Who are considered as the pioneers to the management theories? Indicate also their contribution to the modern management

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3. What is the role of industrial revolution towards management theories?

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2.3 Classical management school of thoughts

The Classical Management School of thought has three branches which feed on the same underlying principles. These branches are:

1. Scientific Management School of Thought
2. Administrative Theory of Management
3. Bureaucratic Organization.

2.3.1. Scientific Management theory

Scientific management arose in part from the need to increase productivity. It was introduced in the United States in the 20th century with the objective of increasing productivity. This is due to the short supply of skilled labor. Hence, it sought to determine scientifically the best methods for performing any task, and for selecting, training and motivating workers.

This was a new philosophy and attitude toward the use of human effort. It emphasized maximum output with minimum effort through the elimination of waste and inefficiency at the operative level. Some of the important proponents of this thought were the following:

1. Frederick Winslow Taylor (1856-1915)

He was an American, who was starting as a daily laborer at the Medieval Steel works and rose through ranks to become a Chief Engineer. He is known as "the father of Scientific Management". He criticized the methods of traditional management which were composed of the following elements:

a. Subjective or intuitive evaluation- decisions were based on feelings, opinions and traditional past experience.
b. Jobs were performed by rule of thumb, rather than standard times and methods
c. The prevalent practices were assumed to be correct and no efforts were made to introduce new and novel techniques of management.
d. Training at least, was under an apprentice system and no formal techniques of skill and professional development existed.
e. Management was considered as a group of overall supervisors rather than a group performing unique duties.

He based his managerial system on production- line time studies. Instead of relying on traditional work methods, Taylor implements scientific management and developed the following principles. He believed that management's principle should be to secure the maximum prosperity for the employer and employees.

a. The development of a true science of management so that the best method for performing each task could be determined- standardization of activities through determining the optimum work pace and elimination of the rule of thumb.
b. The scientific selection of the workers, so that each worker would be given responsibility for the task for which he or she was best suited- controlling and selecting.
c. The scientific education and development of the worker- importance of training.
d. Division of responsibility between management and workers i.e. the responsibility of managers is to make decisions and the responsibility of workers is to execute the decisions.
e. Intimate, friendly cooperation between management and labor. Mutual interdependence between management and the worker was a common message he expressed. Successful performance should be rewarded.
f. Breaks down each job into its components and designed the quickest and best methods of operation for each part of the job. This helps to achieve specialization which will help to achieve the efficiency of workers.
g. Considering workers as rational or economic beings, he introduced an economic incentive method known as "differential rate system". It encourages employers to pay more productive workers at a higher rate than others. Differential rate system is a compensation system involving the payment of higher wages to more efficient workers.

h. His major concern was increasing efficiency in production: to lower costs, to rise profits, to increase pay for workers through their higher productivity. And hence, science is applied to increase efficiency, cooperation and motivation.

Taylor also contended that in order for these principles to succeed, "a complete mental revolution" on the part of management and labor was required. Rather than quarrel over whatever profits there were, they should both try to increase production; by so doing, profits would be increased to such an extent that labor and management would no longer have to compete for them. Taylor believed that management and labor had a common interest in increasing productivity.

2. Henry L Gantt (1861-1919)

He had worked with Taylor on several projects. But after he began to work on his own as a consulting industrial engineer, Gantt reconsidered Taylor's incentive system.
Abandoning the differential rate system as having too little motivational impact, Gantt came up with a new idea. Every worker will have a minimum wage plus those who finished a day's assigned work load would win a 50cents for that day. Then he added a second motivation. The supervisor would earn a bonus for each worker who reached the daily standard, plus an extra bonus if all the workers reached it. This, Gantt reasoned, would spur a supervisor to train workers to do a better job. This incentive method is known as "Task plus Bonus System".

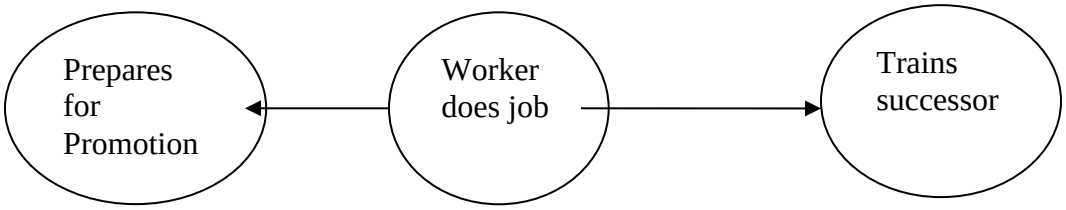
Gantt also built upon Owne's idea of rating an employee's work publicly. Every worker's progress was recorded on individual bar charts-in black on days he or she made the standard, in red when he or she fell below. Going beyond this, Gantt originated a charting system for production scheduling which is known as the "Gantt chart". This is still in use today.

3. Frank B. Gilbreth (1868-1924) and Lillian M. Gilbreth (1878-1972)

Known as the Gilberths, they made their contribution to the scientific management movement as a husband and wife team. They were collaborated on fatigue and motion studies, process charts, flow diagrams and merit rating systems for employees. Frank work as a bricklayer and worked his way up the managerial ladder. As a bricklayer, he studied the body motion of the bricklayer which causes fatigue that reduces productivity. In Frank's perception, motion and fatigue were intertwined-every motion that was eliminated also reduced fatigue.

The motion study aims at finding out the most commercial motions for each task, thus upgrade performance and reducing fatigue. Both Gilbreths argued that motion study would raise worker morale because of its obvious physical benefits and because it demonstrated management's

concern for the worker. Lillian focused her attention on ways of promoting the welfare of the individual worker. To Lillian the aim of scientific management is to help workers reach their full potential as human beings. They developed a three-position plan of promotion that was intended to serve as an employee- development program as well as a morale booster.



Thus, every worker would always be a doer, a learner, and a teacher would continually look forward to new opportunities.

Contributions and Limitations of Scientific Management Theo

a. Contributions

1. Scientific management advocates the importance of management as a means of increasing productivity through division of work and expertise.
2. The efficiency techniques of scientific management increase the awareness as to the efficient and rational movement of tools and physical materials to accomplish tasks.
3. Scientific selection and development of workers has created recognition as to the importance of both ability and training in increasing worker effectiveness.
4. The importance given to work design encouraged managers to seek the 'one best way" of getting a job done.
5. It provides a rational approach to solve organizational problems and pointed the way to the professionalization of management.
6. The advent of automation and the use of robots to do a variety of jobs ranging from welding machine pistons to dusting crops.

7. Limitations

1. Increases in productivity led to layoffs or change in piece rate that left workers producing more output for the same income.
2. It emphasizes employees as a rational and economic being therefore act in a manner best suited to satisfy their economic and physical needs. This overlooked the social needs of workers as a member of a group. Financial gain, while significant, is not the only thing that matters to workers.
3. They overlooked the human desire for job satisfaction.
4. They overlook the importance of working conditions as a means of encouraging employees towards higher productivity.

Criticisms of Scientific Management

Scientific management is criticized be other scholars as follows.

1. Lack of people orientation. Scientific management treats people as a cog in a machine, as a rational and economic being rather than as a social being.
2. Depersonalized industrial atmosphere. Workers were treated as a cog in a machine of production. Workers were thought of without emotion which can be manipulated just like machines.
3. Exploitation. The incentive methods used by scientific management; differential rate payment system and task plus bonus system create unhealthy pressure upon workers. It forced employees to contribute the maximum he/she can.
4. Useless Prefabricated technique. Managers become subject to rules and discipline as much as workers. Taylor tried to eliminate arbitrary decision making and personal exercise of authority.
5. Shop management technique. Scientific management emphasizes the shop level management than the total organization management.
6. A bag of Unoriginal Ideas. It is thought as his Taylor's ideas as overrated and overemphasized.

2.3.2. Classical Organization Theory

It is an early attempt, pioneered by Henri Fayol, to identify principles and skills that underlie effective management. It grew out of the need to find guidelines for managing complex organizations as factories. Classical organization theory is reclassified in to two management theories: Administrative Management theory and Bureaucracy.

2.3.2.1 Administrative Management Theory.

It is founded by Henri Fayol (1841-1925). He is known as the founder of classical management school not because he was the first to investigate managerial behavior but because he was the first to systematize it. Fayol was a contemporary of Taylor, and it is important to note that, while Taylor was basically concerned with organizational functions, Fayol was interested in the total organization- problems faced by top managers of large organizations.

Fayol believed that "with scientific forecasting and proper methods of management, satisfactory results were inevitable." He said that management is a skill like any other fields of studies- practice and experience would be helpful only to those who already had the innate qualities of a manager. This is against the belief that "managers were born, not made". Fayol believed that management could be thought- once its underlying principles were understood and a general theory of management was formulated.

Fayol divide business operations into six activities, all of which were closely dependent on one another in developing a science of management. These activities were:

1. Technical- producing and manufacturing products
2. Commercial- buying raw materials and selling products
3. Financial- acquiring and using capital
4. Security- protecting employees and property
5. Accounting- recording and taking stock of costs, profits, and liabilities, keeping balance sheets, and compiling statistics; and
6. Managerial- planning, organizing, staffing, directing and controlling.

Fayol's primary focus was on this last activity-managerial. Because he felt managerial skills had been the most neglected aspect of business operations. He defined managing in terms of five functions: planning, organizing, commanding, coordinating, and controlling.

- **Planning** means devising a course of action that will enable the organization to meet its goals;
- **Organizing** means mobilizing the material and human resources of the organization to put the plans into effect;
- **Commanding** means providing direction of employees and getting them to do their work;
- **Coordinating** means making sure that the resources and activities of the organization are working harmoniously to achieve the desired goals;
- **Controlling** means monitoring the plans to ensure that they are being carried out properly.

Fayol has developed management principles which we take for granted today in management practices. They are:

1. **Division of Labor/work**. The more people specializes, the more efficiently the can perform their work. This principle is epitomized by the modern assembly line. It is applicable to both technical and managerial work.
2. **Authority.** Managers must give orders so that they can get things done. While their formal authority gives them the right to command, mangers will not always compel obedience unless they have personal authority (such as relevant expertise) as well. Authority is a combination of official and personal power composed of intelligence, experience, moral worth, past service, etc. Authority should match responsibility.
3. **Discipline.** Members in an organization need to respect the rules and agreements that govern the organization. To Fayol, disciplines will result from good leadership at all levels of the organization, fair agreements) such as provisions for rewarding superior performance), and judiciously enforced penalties for infractions.
4. **Unity of Command**. Each employee must receive instructions about a particular operation from only one person. Fayol believed that when an employee reported to

more than one superior, conflict in instructions and confusion of authority would result, authority will be undermined, discipline will be in danger, order disturbed, and stability threatened.

5. **Unity of Direction**. Those operations or group of activities within the organization that have the same objective should be directed by only one manager using one plan. For example, the personnel department in a company should not have two directors, each with a different hiring policy.
6. **Subordination of individual interest to the Common Good**. In any undertaking, the interest of employees should not take precedence over the interests of the organization as a whole. When the interests of the two (organization as a group and employees) are found to differ, management must reconcile them.
7. **Remuneration**. Compensation for work done should be fair to both employees and employer.
8. **Centralization**. Decreasing the role of subordinates in decision making is centralization; increasing their role is decentralization. Fayol believed that managers should retain final responsibility but also need to give their subordinates enough authority to do their jobs properly. The problem is to find the best amount of centralization in each case.
9. **The Hierarchy/Scalar chain**. The line of authority in an organization - often represented today by the neat boxes and lines of the organization chart - runs in order of rank from top management to the lowest level of the enterprise. It represents the chain of superiors.
10. **Order**. Materials and people should be in the right place at the right time. People in particular should be in the jobs or positions most suited for them. "A place for everything (every one), and everything (every one) in its/his/her place."
11. **Equity**. Managers should be both friendly and fair to their subordinates. Loyalty and devotion should be elicited from personnel by a combination of kindliness and justice on the part of managers when dealing with subordinates.
12. **Stability of Staff/tenure**. A high employee turnover rate is not good for the efficient functioning of an organization. Finding unnecessary turnover to be both the causes and the effect of bad management. Fayol points out its dangers and costs. Employees should be encouraged to establish loyalty to the organization and to make a long term commitment.
13. **Initiative**. It is conceived of as the thinking out and executing of a plan. Since it is one of the keenest satisfactions for an intelligent man to experience, Fayol advices managers to "sacrifice personnel vanity" in order to permit subordinates to exercise it.

Subordinates should be given the freedom to conceive and carry out their plans, even though some mistakes may result.

14. **Esprit de Corps**. Promoting team spirit will give the organization a sense of unity. To Fayol, even small factors could help to develop this spirit. He suggested, for example, the use of verbal communication instead of formal, written communication whenever possible. This principle states that "in unity there is strength".

These principles focused on the organization as a whole, not on a single segment of it. Fayol was the first to view management as being made up of functions. He emphasized rationalism and logical consistency (Terry and Franklin; 1997:22-23).

2.3.2.2 Bureaucratic management theory

Reasoning that any goal- oriented organization consisting of thousands of individuals would require the carefully controlled regulation of its activities, the German sociologist **Max Weber (1864-1920)** developed a theory of bureaucratic management that stressed the need for a strictly defined hierarchy governed by clearly defined regulations and lines of authority. He carried out empirical analysis of church, government, the military, and business organizations. This led him to the belief that hierarchy, authority and bureaucracy (including clear rules, definition of tasks, discipline, etc.) lie at the foundations of all social organizations. (Donnelly, 1995:247). For Waber, the ideal organization was a bureaucracy whose activities and objectives were rationally thought out and its divisions of labor explicitly spelled out. Weber also believed that technical competence should be emphasized and that performance evaluations should be made entirely on the basis of merit.

We often think of 'bureaucracies" as vast, inflexible organizations that prefer impersonal efficiency to human values and needs. But much like scientific management theorists, Weber sought basically to improve the performance of socially important organizations by making their operations models of predictable productivity. Bureaucracy was characterized by:

1. **Division of labor/work**. With division of labor each job will be well defined, clearly understood, and routine procedures observed.
2. **Well defined hierarchy of authority**. Each manager has a clearly defined relationship with other managers and subordinates; the relationships follow a hierarchy. The superior-subordinate relationship is clearly defined.
3. **Formal selection procedures**. Selection and promotion should be based upon technical competence and excellence. Promotion should be either based on seniority or merit or both. Employees must be protected against arbitrary dismissal. Rigid and equitable selection criteria are used to hire candidates for vacant jobs.

4. **Detailed rules and regulations**. Each employee relies on specific rules, policies and procedures to guide behavior. Favoritism is minimized through the impersonal application of rules, policies, discipline and rewards.
5. **Impersonal relationships between people**. Rational and objective standards should be applied and rewards should be based on efficiency rather than nepotism or family connections. People are assigned to departments and jobs on the bases of their qualifications rather than on the bases of personal relationships and attachments. In general relationships are formal rather than informal.
6. **Career track for employees**. Management should define the career track path to all the employees. Employees need not to stay in the position they acquire at present but they want to be transferred to a better position or job. Management should define how this is possible, the requirements at each position and the path to reach there.
7. **Distinct separation of Members' organizational and personal lives**. The personal and organizational lives of organizational members should be clearly separated. What these employees are expected to behave in the organization is different from what they are doing outside the organization. They should be evaluated on the bases of their performance on their particular job not on the bases of their personal live.

Weber's description of bureaucracy became the design prototype for the structure of most of today's large organizations. According to Waber authority can be exercised:

1. Based on the quality (charisma) of the leader.
2. Through precedent and usage by virtue of the status and the position they have achieved or inherited.

Contributions and Limitations of Classical Organization Theory

a. **Contributions**

2. The concepts that management skills apply to all types of group activity have, increased in importance today- in schools government and other organizations.
3. Principles underlie effective managerial behavior and that these principles can be thought also continues to be valid**.**

b. Limitations

1. **It was appropriate for the past than the present when it is relatively stable and** predictable environment. For example; formal authority, especially when it is applied arbitrarily- are less acceptable by better educated employees. If they are dissatisfied they do not leave the organization like the past.
2. Principles are to general for today's complex organizations. In modern companies specialization has increased to the point where the lines of authority are sometimes blurred. For example; the maintenance engineer may take orders from the plant manager and the chief engineer**.**

Contributions

Classical management theories have contributed the following.

1. Laid the foundations for later developments in management theory.
2. Identify key management processes, functions and skills that are still recognized as such today.
3. Focused attention on management as a valid subject of scientific inquiry.

Limitations

Classical management theories have the following limitations.

1. More appropriate for stable and simple organizations than for today's dynamic and complex organizations.
2. Often prescribed universal procedures that are not appropriate in some settings.
3. The theory viewed employees as tools rather than resources

Learning Activity 2

Answer the following questions.

1) Who are the contributors of Scientific Management?

   _____

   What are the main contributions of these management theoreticians?

   _____

2) What are the factors taken as motivators? And what are the motivation tools used by the different contributors?

   _____

3) List and define the principles contributed by Henry Fayol.

   _____

4) List and define the principles contributed by Max Weber

   _____

5) Difference between scientific and classical organization theories?

2.4 The Neo-Classical School of Management Thoughts

2.4.1 The Human Relations Movement - Elton Mayo and His associates

"Human relations" is frequently used as a general term to describe the ways in which managers interact with their subordinates. When "employee management" stimulates more and better work, we have effective human relations in the organization; when morale and efficiency deteriorate; human relations in the organization are ineffective. To create effective human relations, managers must know why employees act as they do and what social and psychological factors motivate them.

To understand the effects of human relations a famous series of studies of human behavior in work situations was conducted at the Western Electric's Hawthorn plant near Chicago from 1924 to 1933. These studies eventually became known as the Hawthorne Studies. The studies began as an attempt to investigate the relationship between the level of lighting in the workplace and the productivity of workers- the type of question Fredrick Taylor and his colleagues might well have addressed.

In some of the early studies, the Western Electric researchers divided the employees into test groups and control groups. The test groups were subjected to deliberate changes in lighting, and the control groups remained constant lighting through the experiments. This was conducted to determine the effects of physical facilities on the productivity of employees.

In a new set of experiments, a small group of workers was placed in a separate room and a number of variables were altered: wages were increased, rest periods of varying lengths were introduced, and the workday and workweek were shortened. The researchers, who now acted as supervisors, also allowed the groups to choose their own rest periods and to have a say in other suggested changes. Again the results were ambiguous. Performance tended to increase over time, but it also rose and fell erratically.

In these and subsequent experiments, Mayo and his associates decided that financial incentives, when these were offered, were not causing the productivity improvements. They believed that a complex chain of attitudes had touched off the productivity increases. Such as:

- Group pride that motivated them
- Sympathetic supervision
- Employees' belief that management was concerned about their welfare and supervisors paid special attention to them.
- Informal work group-the social environment of employees- has a positive influence on productivity.
- Group pressure, rather than management demands, frequently had the strongest influence on how productive workers would be.

To Mayo, then, the concept of "social man"- motivated by social needs, wanting rewarding on-the-job relationships, and responding more to work-group pressures than to management control- was necessary to complement the old concept of "rational man" motivated by personal economic needs.

Elton Mayo and his associates join the study in 1927 as a consultant. His research concluded that social norms of the group to be the key determinants of individual work behavior. The research leads in an era of organizational humanism. Managers would no longer consider the issue of organization design without including effects on work groups, employee attitudes and manager-employee relationships. The Hawthorn Experiment was undertaken into four phases: Illumination Experiments, Relay Assembly Test Group, Interviewing program, and the bank wiring observation Room Experiment.

Phase I. Illumination Experiments

This was carried out in the Hawthorn Electric Plant to test the effects of illumination on productivity. For this two groups were created: the test group and the control groups as stated above. The intensity of lighting fluctuates overtime to the test groups and remained controlled to the control group. The engineers had expected individuals output to be directly related to the intensity of light. However, the results of the experiments were in contradiction to their expectations. Productivity tended to increase in both test and control groups every time the lighting condition is improved in the test groups.

Phase II. Relay Assembly Test Group

Here again two groups of six female telephone relay assemblers were put under close observation in separate rooms. In one room the conditions were changed/ altered and in the other they were not. In the first room friendly atmosphere were established and the following changes were made: rest periods, hot lunches, work time shortened, the task was simplified, financial incentives were offered and workers were allowed to make decisions. It was made for two years. The conclusion was "special attention" and "treatment" caused people to increase their efforts.

Phase III. Interviewing Program

This research covered more than 21,000 employees for three years to find out the reasons for increased productivity. Its focus was on human relations rather than on physical working conditions. People were encouraged to say what they feel freely. In this research, the importance of informal groups' was recognized.

Part IV. The Bank wiring Observation Room Experiment

14 male workers were formed in to a small work group and intensively observed for seven months in the bank wiring room. The men were engaged in the assembly of terminal banks for

the use in telephone exchanges. The employees in the group were paid in the regular way depending on the efficiency rating plus a bonus based on average group effort.

Conclusion of the experiment was "employees were not only economic beings, but social and psychological beings as well". "Human relations" is the act of motivating people in organizations in order to develop teamwork which effectively fulfills their needs and achieves organizational goals". Keith Davis. Important points of this definition can be point out as follows:

1. It strives to create a positive work environment in which people can simultaneously fulfill their own needs as well as those of the organization.
2. The focus is on people.
3. The ultimate goal of creating sound human relations is to help workers to be more productive, not just happier. It is essentially concerned with motivating people to peak performance.
4. It seeks to build human cooperation toward organizational goals in an effective way, i.e. with minimum inputs in relation to outputs. It is an action oriented process.

Contributions and Limitations of the Human Relations Approach

a. Contributions

1. It stresses the importance of social needs to increase productivity, rather than assuming productivity almost exclusively as an engineering problem.
2. It is concerned with workers – the vital machine, like Robert Owen's teaching.
3. It spotlights the importance of a manager's style.
4. More attention is given to teaching people management skills, as opposed to technical skills.
5. It leads to a new interest – group processes and group rewards the individual treatments and reward.

b. Limitations

1. The concept of 'social man" does not describe completely individual in the workplace.
2. The social environment is taken as a major determinant of workers productivity; however, it is only one of the several interacting factors that influence productivity. Salary levels, organizational structure and culture, and labor management relations also play a part, which makes productivity and worker satisfaction more complex than originally thought.
3. The correspondence between satisfaction and absenteeism and job turnover seem lower than expected.
4. The correlation between dissatisfied workers and those who quit is smaller than one might assume.

In conclusion, there seem to be at least two reasons why it is difficult to study the relationship between job satisfaction and performance or productivity.

1. Job satisfaction is largely an emotional response to one's work, and emotional factors, in addition to involving numerous variables, are hard to measure in any terms sufficiently precise to satisfy the requirements of social-scientific study.
2. It is difficult to separate the issue of job satisfaction from the equally complex issue of job motivation.

4.2. Behavioral Science Approach

Initial human relations studies tended to concentrate on employee satisfaction and morale implying thereby direct connection between morale and productivity. Later on behavioral science approach through its objective and scientific research of individual behavior and motivation indicated that relationship between morale and productivity was oversimplified. Behavioral science movement was a further refinement of human relations movement and it covered much wider scope in interpersonal roles and relationships. Earlier human relations experts were referred as cow sociologists. Contented workers were considered productive workers just as contented cows would give more milk.

The behavioral science school of management thought started 1940 and it gave special attention on understanding individuals and their interpersonal relations. Abraham Maslow developed a need hierarchy to explain human behavior within an organization. Psychologists brought into limelight many aspects of rational behavior the sources of motivation and the nature of leadership. F. Herzberg and Victor Vroom proposed motivational models explaining the causes of human behavior and motivation in business. Douglas McGregor explained certain basic assumptions about the human element and put forward two managerial styles, Theory X representing classical views of management and organization, and Theory Y representing neo-classical or modern views of management and organization. Sociologists and psychologists have contributed a lot to behavioral science school of management thought. These contributions in the field of human resource development have influenced remarkably the concepts of organization and management. Management has now recognized the need for integrating employee interests with those of the organization.

The behavioral science has provided modern management with a more objective, systematic and scientific understanding of one of the most puzzling and critical factors in the process of management- the man or the woman behind the machine. An organization based on the human element is essentially a social system and not merely techno-economic system. The knowledge of individual and group behavior enables us to develop suitable work atmosphere or situation which will increase productivity as well as employee satisfaction. We can build training programmes for workers and managers with the help of behavioral science.

Human relations, together with the behavioral sciences constitute the neo-classical theory of management which opened the door for deliberate shift from bureaucratic to participative and democratic leadership or managerial style. The classical theory reflected almost all aspects of Theory X, whereas the neo-classical theory of management reflected almost all the facets of Theory Y. Maslow, Muntisburg, Mayo, Roethisberger, Herzberg, and whitehead, are the leading proponents of the neo-classical theory.

Contributions and Limitations of the Behavioral Science School

a. Contributions

1. Behavioral scientists have made enormous contributions to our understanding of individual motivation, group behavior, interpersonal relations at work and the importance of work to human beings.
2. Their findings have enabled mangers to become much more sensitive and sophisticated in dealing efficiently with subordinates.
3. They offer new insight in such important areas as leadership, conflict resolution, the acquisition and use of power, organizational change, and communication.

b. Limitations

1. The models and theories proposed by behavioral scientists are seen by many mangers as too complicated or abstract to be useful or relevant to their specific problems.
2. Because human behavior is so complex, behavioral scientists often differ in their recommendations for a particular problem, making it difficult for managers to decide whose advice to follow.

Learning Activity 4

Answer the following questions on the spaces provided.

1. What are the conclusions of Human Relation theory? What is considered as a motivator?

_____

2. What do the behavioral scientists contribute towards management theories?

_____

3. What is the difference between the classical management school of thought and the Neo-classical management school of thought?

_____

4. Any difference between the Human relationists and Behavioral Scientists approaches?

_____

_____

2.4. Modern Management Theories

Modern management theories indicate further refinement, extension and synthesis of all the classical and neo-classical approaches to management. These trends started after 1960 and we have three streams under the modern management theory.

1. Quantitative approach to management, i.e., operations research.
2. Systems approach to management and,
3. Contingency approach to management. We will now deal with these streams.

2.4.1. Quantitative Approach to Management (Operation Research)

Process management school centered on the function of a management. Human relations and behavioral sciences emphasized the human aspects of an organization and its management. However, quantitative approach to management (developed after 1950) alone could offer systematic analysis and the solution to many complex problems faced by management in the real world. The quantitative school of management is also called operations research or management science. New mathematical and statistical tools are now applied in the field of management, particularly in decision making on complex problems. More commonly used four techniques are linear programming, game theory, queuing (waiting lines theory), simulation and probability. Together, these quantitative decision making tools are called operations research science. Production scheduling, replacement of capital equipment, inventory control, plant location, transportation problems, strategic planning, long range planning and many other complex managerial problems are being solved today with the active help of operations research and computers. Operations research, computer and management information system are the modern tools of management decision making programmes. Management scientist, with the help of mathematics, statistics and high-speed electronic computer, can now construct mathematical models containing as many as one thousand simultaneous equations.

Some of the areas where these techniques are extensively used are the following:

a. **Linear Programming***:* - Used in calculating, how best to allocate scarce resources among competing uses.
b. **Queuing theory: -** Is useful in planning the optimum number of service stations in order to minimize the service cost as well as the customers waiting time.
c. **Inventory modeling:** - Mathematical models have been built for establishing the optimum inventory levels of raw materials and finished goods, and how much to order at a time and when.
d. **Regression analysis:** - This involves predicting relationships among two or more variables
e. **Simulation:** - This involves building a model which simulates the problem under study and many solutions to the problem under different values of decision variables are obtained by using a computer and the best solution is selected.

f. **Preventive control and replacement problems:** - These problems involve maintenance and replacement of parts.
g. **Competitive problems and Problems of Game theory:** - The game theory techniques have been extensively used in military planning & decision making by evaluating the possible actions of the "enemy" and then formulating the best responses.

The developments of models to represent a system under study requires the skills of many branches of knowledge such as mathematics, statistics, engineering, economics, physical sciences, behavioral sciences, and cost accounting as well as management expertise. Of course, these mathematical models must represent the real world for best results. Operations research teams constitute team work of diverse specialist and analysts. They are directly attached as staff members to top management in planning and decision making.

Management science represents the use of the scientific method to facilitate management planning and decision making. This approach emphasizes the use of mathematical techniques and models in solving many complex management problems. These quantitative tools and methodologies, known as operations research techniques are designed to aid in decision making relating to operations and production. According to Lindsay, these techniques assist the management for improving their decisions by:

- Increasing the number of alternatives that can be considered
- Assisting in faster decision making based upon objective analysis of available information.
- Helping management in evaluating the risks and results of different courses of action
- Helping to bring into optimum balance the many diverse elements of a modern enterprise.

The technique generally involves the following 4 steps.

a. A mathematical model is constructed with variables reflecting the important factors in the situation to be analyzed.
b. The decision rules are established and some standards are set for the purpose of comparing the relative merits of possible courses of action.
c. The empirical data is gathered which would relate to the parameters in the goal utility.
d. The mathematical calculations are executed so as to find a course of action that will maximize the objective function or the goal utility.

2.4.2. Systems Approach to Management

The systems approach to management and organization indicates a new stream of management thought under modern theory of management. Since 1950, we have a period of refinement, extension and synthesis of management thought and practice. While the behavioral and quantitative schools were developing new concepts and techniques of management, a new direction in management thought appeared which is usually called as the systems approach. Basically, it took up where the process management school left off in attempting to unify management theory. It stresses the interrelatedness and interdependence of all activities within an organization. It includes operations research, behavioral science, sociotechnical systems, management information systems and industrial dynamic.

Industrial engineering, time and motion study, operations research (called management science) and systems analysis have refined and streamlined scientific management. Similarly, we have parallel growth and refinement in personnel management and industrial relations. The human relations approach is itself now refined and we have adopted more objective and value-free approach to understand persons in organizations. This was due to increasing use of psychology, psychiatry in the investigation of human behavior in organizations. The greatest influence upon current management thought is of course, due to adoption of system approach to our organizations and management.

The systems approach was developed only after 1950. It is the recent contribution to management thought. It was stimulated by the development operations research. Modern theory considers an organization as an adaptive system which has to adjust to changes in its environment. An organization is now defined as a structured process in which individuals interest (act and react) for attaining objectives. Classical theory defined organization as the structure of relationships, power, objectives, roles, activities, communications, and other factors that exist when persons work together. It represented only mechanistic structure. Neo-classical theory defined organizations as a group of people with a common objective and emphasized only the humanistic approach.

i. What is System?

The word system is derived from Greek word meaning to bring together or to combine. A system is a set of inter-connected and interrelated elements or component parts to achieve certain goals. When relating systems to organizations, a system is an established arrangement of components which leads to the accomplishment of particular objectives as per plan. This definition has three significant parts:

1. Every system is goal-oriented and it must have a purpose or objectives to be attained. The objective provides the basis for evaluating functions performed within the system.
2. In designing the system we must establish the necessary arrangement of components. This is nothing but organizing function management.
3. Inputs of information, material and energy are allocated for processing as per plan so that the outputs can achieve the objective of the system productivity and satisfaction.

Generally there are three basic inputs that enter the processes of a system: information (technology), energy (motive power) and materials to be transformed into goods.

a. If the output is service, materials are not included in the inputs
b. If we have a manufacturing company, outputs are goods or materials.
c. If we have a consulting firm, output is information or advice.
d. If we have a power generating company, output is energy.

The systems approach to management attempts to view the organization as a unified, purposeful system composed of interrelated parts. Managers should look at an organization as a whole and as a part of the larger, external environment, rather than dealing separately with the various segments of an organization. This system forces managers to recognize that organizations are systems made up of interrelated parts and that a change in one part affects other parts.

ii. Some Key Concepts

The following are some of the basic concepts of systems approach:

a. Subsystems: The parts that make up the whole of a system are called subsystems. And each system in turn may be a subsystem of a still larger whole. System has a hierarchy of levels i.e. for every system there is a super system and subsystems within it. This indicates the existence of structure of a system.

b. Synergy: Means that the whole is greater than the sum of its parts. In organizational terms, synergy means that as separate departments within an organization cooperate and interact, they become more productive than if each had acted in isolation. Each system is a whole which is greater than the sum of its parts.

c. Open and closed systems: A system is considered an open system if it freely interacts with its environment: it is considered a closed system if it does not freely interacts. All organizations interact with their environment, but the extent to which they do so varies.

d. System Boundary: Each system has a boundary that separates it from its environment. In a closed system, the system boundary is rigid; in an open system, the boundary is more flexible**.** Open system has boundaries but they are not rigid. The boundaries are however reasonably tight and often fuzzy.

e. Flow/transformation: A system has flows of information, materials and energy (including human energy). These enter the system from the environment as inputs (raw materials), undergo transformation process within the system (operations alter them), and exit the system as output (goods and services). System transforms inputs into outputs.

f. Feedback: As operations of the system proceed, information is feedback to the appropriate people or perhaps to a computer so that work can be assessed and if necessary, corrected.

g. Environment: An organization is a subsystem of its broader environment. Elements of environment include persons, physical resources, climate, economic and marketing conditions, attitudes, competition, and laws. An organization and its environment are inter-dependent. The environment of an organization provides inputs, i.e., resources and opportunities and limits which determine the nature of success of an organization. The output is goods and services desired by its environment. The activities of an organization must be acceptable to the environment. An organization has also a feedback. The environment reacts to the output of an organization. On this reaction, the environment determines its future inputs into the organization.

A system may be open or closed, simple or complex, abstract (consists of ideas and concepts) or concrete (consists of physical characteristics). Systems theory provides a framework within which we can plan actions and anticipate both immediate and far-reaching consequences; at the same time, it allows us to understand unanticipated consequences as they may develop.

iii. Systems Approach Applied to an Organization

An organization as a system is composed of subsystems. It is composed of the following subsystems.

1. Goals and Values; which includes the objectives and purposes of an organization. An organization is goal-oriented. It consists of people with a purpose.
2. Technical Subsystem; which includes using knowledge, techniques, equipment and facilities in the transformation process.
3. Psychosocial Subsystem; includes individuals and group dynamics.
4. Structural Subsystem; it refers to the way in which the tasks are divided and coordinated in the organization and people working together on interrelated activities.
5. Managerial Subsystem; It refers to the managerial activities in an organization such as planning, organizing, motivating, communicating, and controlling the overall efforts directed towards set goals.

When systems approach is applied to organization, we have the following features of an organization as an open adaptive system. Katz and Kahn identified the following common characteristics of open system.

1. Importation of Energy. An open system receives energy (inputs) from the environment.
2. The through-put. An open system transforms the energy (inputs) it receives from the environment into an output.
3. The Output. The inputs are transformed into outputs.
4. System as a cycle of events.
5. Negative Entropy. Entropy means decline, death and disorganization of an organization. Negative entropy is a situation that restores the death, decline or disorganization of an organization.
6. Inputs of information. An open system uses information as an input to process its activities.
7. Steady State. In a dynamic environment organizations need to be flexible so that they can survive and continue as a going concern. Open system has the ability to adjust with the changing environment and maintain stability.
8. Differentiation. An organization is intentionally differentiated i.e. there is division of labor that groups activities into homogenous parts.
9. Integration and coordination. Activities differentiated in to homogenous parts are not surviving alone unless they are integrated and coordinated. Hence, activities must be integrated and coordinated to achieve common objectives.
10. Equifinality. It means that organizations can reach at the same point through a variety of paths.

2.4.3. Contingency Approach to Management

It was found that behavioral approaches worked in some situation, but not in all. The same was true for quantitative approaches. Neither of these approaches could claim universal applications in the real world situations. This was more apparent since 1970. Many management experts now believe that systems-based theory could solve the quantitative/behavior dilemma. Open and adaptable systems approach is called Contingency Approach. A business organization is now regarded as an open and adaptive system which alone can cope with the increasing complexity and changing environmental influences. Contingency or Situational approach seems better suited to lead management out of the present management theory jungle.

Systems approach emphasizes that all subsystems of an organization along with the super system of environment are interconnected and interrelated. Contingency approach analysis and understands these interrelationships so that managerial actions can be adjusted to demands of specific situations or circumstances. Thus, contingency approach enables us to evolve practical answers to the problems demanding solutions. Organization design and managerial actions most appropriate to specific situation will have to be adopted in order to achieve best possible result under the given situation.

Hence, we cannot have universal principles of organization and management appropriate to all situations and in all environments. In other words, there is no one best way (as advocated by Taylorism) to organize and manage. Decentralization as well as centralization can work under a given set of situations. Even bureaucracy can work under certain circumstances and it has not totally outlived its utility. Similarly, democratic or participative managerial style may not be fit in certain situations and we may have to adopt tight control under certain circumstances. Leadership style to be adopted always depends on the situation and not merely on leadership qualities and characteristics of the followers. Motivation through financial incentives can work wonder if, the environment is favorable. We cannot say that non-financial incentives can work in any situation or environment.

In short, "it all depends" on a number of interrelated internal and external factors, is the solution for every problem. If the condition is A, the action X may be considered most effective. However, if the condition is B, then action Y should be used. Contingency approach should be a realistic view in management and organization. Thus, partners of management and organization operating in matured economics may not deliver rich dividend when adopted in developing countries.

This is the first serious attempt to explain the phenomenon of organization-environmental exchange. It is against the "one best way" and "universal approaches" and gave emphasis on "situational variables". Its primary concern is on the external determinants of management and organization structure and behavior. It shows the relationship between/among various organizational variables.

Contingency approach strongly asserts that there is no prescribed managerial action or organizational design that is appropriate for all situations. The design and managerial action depends on the situation or it is contingent on the situation or circumstances. The best organization structure and management action depends on the situation. It seeks to understand the interrelationships within and among subsystems as well as between the organization and its environment and to define patterns of relationships or configurations of variables. It emphasizes the multivariable nature of organizations and attempts to understand how organizations operate under varying conditions and specific conditions (circumstances).

Learning Activity 5

Answer the following questions on the spaces provided.

1. What is a system? And what are the basic concepts of a system?

_____

_____

2. What is the best management solution according to the contingency approach?

_____

_____

3. What is the contribution of the quantitative theories of management?

_____

_____

4. What are the possible areas where the management science approach can be applied?

_____

_____

Summary

There is no "one best theory" of management or organization. Situation decides the pattern of organization and management most appropriate in practice. Each of the managerial functions must consider the situational factors and the effect of interrelations of formal and informal organizations, condition of work and individual differences.

No theory replaces any other preceding theory. All the theories have their own strengths and weaknesses and their principles, concepts and theories are still applicable. However, the question is how to apply these principles, concepts and theories.

Answer the following questions

1. What are the limitations of scientific management?

_____

2. Discuss the contributions made by Henry Fayol to management thought.

_____

3. Discuss the systems theory in relation to an organization.

_____

4. List the principles of Scientific Management.

_____