MBA 737

HUMAN RESOURCES INFORMATION SYSTEM

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MODULE 1

UNIT 1 DEFINITION AND SCOPE OF HUMAN RESOURCES MANAGEMENT

CONTENTS

1.0 INTRODUCTION

This unit will take a broad look at Human Resources in context, and Over-view the trends, principles, and practices of Human Resources Management. The unit will also stress the importance of Human Resources to the attainment of organizational goals.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain what Human Resources is.

- Appreciate the importance of Human Resources in the attainment of organizational objectives.
- Identify the various elements of Human Resources Management.

3.0 MAIN CONTENT

3.1 Definition and Scope of Human Resources Management

3.2 Importance of Human Resources

The word RESOURCES embraces people, materials, machines, information, knowledge, time etc. Management entails the effective utilization of organization resources to achieve set goals. Setting and realizing set goals requires a human effort. Human efforts are critical to the success of any organization. This assertion is supported by Rensis Likert in his book. **The Human Organization.** All activities of any enterprises are initiated and determined by the persons that make that institution. Frederick Harbison (1973), put it thus: Human Resources, not capital, constitute the ultimate basis for the wealth of nations. Capital and material resources are factors of productions; human beings are the active agents who accumulate capital, exploit natural resources, build social and economic and political organization and carry forward national development.

Succinctly put, no nation can develop above the intellectual ability of its citizens.

EMPLOYEE AS A RESOURCE

People at work, according to Aina (1992), are of critical importance because most organizations' failures are failures of people. It is people who employ, promote, organize, lead, mobilize and decide which product and quality of service are to be delivered.

Killian (1976) summarized the importance of people in organizations thus:

(i) Human beings are unique in the sense that they cannot be purchased en masse.
(ii) They cannot be hoarded or warehoused.
(iii) They are perishable in that they must be used currently.
(iv) The organization, through its reputation and effort, solicits the human resource.
(v) Each individual has the option not to apply for a job, not to report for work each day, and not to expend effort.

(vi) The human resource represents both short and long range investment on the part of the organization.
(vii) The individual has the freedom to resign and the organization has certain options for discharging the individual.

From the foregoing, it is important that management recognize the uniqueness of the employee as a resource and provide the necessary impetus for it to function effectively.

3.3 Definitions of Human Resources

Management authorities have defined HRM from various perspectives:

i. Beer et al, (1984), defined human resources management (HRM) as that which involves all management decisions and actions that affect the nature of the relationship between the organization and its employees.
ii. H.T. Graham – as a range of policies institutions and procedures which enable the principles of industrial psychology to be put into practice.
iii. D.S. Beach – as the activities of recruitment and employment, manpower planning, employee training and management development, organization planning, organization development, wages and salaries, administration, health and safety, benefits and services, union management relations and personnel research.
iv. Needle (1994) - HRM involves a focus on:

    (a) Treating employee as individuals, but at the same time, developing mechanisms to integrate individuals into teams.
    (b) The careful selection, training and development of core staff.
    (c) Reward systems that stress individual performance and commitment and which are linked to employee appraisal and development.
    (d) The integration, not only of all personnel-related policies, as a meaningful whole.
    (e) Communication networks and the development of employees, preferably as individuals, but allowing for trade – union involvement as well.

3.4 Various elements of human resources Management

It is vital to review and analyse personnel requirements to ensure that the required number of employees with the required skills is available as and when needed.

3.4.1 Recruitment Selection and Engagement

Recruitment

The process of searching for prospective employees and stimulating them to apply for jobs in an organization.

Selection

Identify from those who came forward, the individual most likely to fulfill the requirements of the organization.

Engagement

Offer of appointment to those who emerge successful in the entire process.

3.4.2 Human Resource Development and Training

Training

Allows employees to acquire knowledge and skills necessary for them to satisfactorily perform their duties. This is imperative for new employees or all employees, particularly when management acquires new technology.

Development

Prepares the employees so that they can move with the organization as it develops changes and grows.

3.4.3 Compensation and Benefits

Compensation is the total package of wages and salaries, allowances and other fringe benefits, against the background of the devices for measuring and rewarding high productivity and the sanctions which are applied when performance falls below expectation (Onosode Commission, 1982).

3.4.4 Performance Management

Aina (1992) regards performance appraisal as a regular, periodic assessment by an immediate superior of how a subordinate has carried out agreed targets of his or her job during a period under review. The purpose of performance appraisal includes:

(a) To provide a basis for salary increase to employees, promotion, transfer, demotion and termination of employment.

(b) To create a forum for telling employees how they are doing and suggesting need for changes in their behaviour and attitudes.

(c) To provide a basis for coaching, counseling and training.

3.4.5 Industrial Relations

The HR department has as part of its responsibility maintaining industrial peace and organization atmosphere that will facilitate maximum corporate and individual goal attainment as well as the settlement of industrial disputes and employees grievances.

3.4.6 Personnel Records, Statistics and Research

The department is responsible for keeping various records and statistics on staff matters that may be used for so many purposes.

3.4.7 Miscellaneous Services

The HR department also provides canteen facilities, ensures a safe working environment and provides recreational facilities as well as handles enquiries.

SELF ASSESSMENT EXERCISE

i. Enumerate the importance of Human Resources to an organisation
ii. What is Human Resources Management?

4.0 CONCLUSION

In view of the critical importance of Human Resources, it is vital that management pay critical attention to the uniqueness of this resource so that management can deserve their presence and commitment.

5.0 SUMMARY

Human Resources are the wealth of nations. They are critical factors to the economic development of any nation. They are fragile, perishable and must be handled with utmost care.

Management must therefore pay special attention to these resources.

HRM is variously defined by experts in different perspectives but it is generally agreed that HRM entails:

- Careful selection, training and development of core staff.
- Reward systems that stress individual performance and commitment and which are linked to employee appraisal and development.

6.0 TUTOR MARKED ASSIGNMENTS

State and explain the elements of Human Resources Management.

7.0 REFERENCES/FURTHER READINGS

Aina, Sola (1992). Personnel Management in Nigeria; Lagos, Edition F. Communication

Harbison, Frederick H. (1973). Human Resources, as the Wealth of Nation.

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UNIT 2 AN OVERVIEW OF SYSTEM CONCEPT AND THEORY

CONTENTS

1.0 INTRODUCTION

This unit will take a cursory look at the concept and theory of systems. An attempt will be made to classify systems and state the concept of system relationships.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Define system theory and a system
- Identify system relationships
- Classify systems.

3.0 MAIN CONTENT

3.1 An Overview of System Theory and Concept

3.2 Definition of System and System Theory

A SYSTEM

Is a combination of interrelated elements organised in such a way as to ensure effective co-ordination of the sub-systems or elements to form a whole. It is designed to achieve a specific purpose.

SYSTEM THEORY

On the other hand is defined as the concepts and philosophy which provide the theoretical frame work for the development of all types of systems, including business systems, control system, electronic systems and the management information systems.

3.3 System Relationships

Since a system consists of interrelated elements which form a whole, it therefore means that a relationship must exist between the elements which are in association to form a whole. Some key examples are:

(i) Input/out relationship.
(ii) An open system.
(iii) A closed system.
(iv) Control relationship.
(v) Interconnecting activities and elements.

3.3.1 Input/Output Relationships

In many systems, there is a direct relationship between the input and output. In some cases, the expected output determines the input required to generate the output, while in some cases the output of one is the input to another. Input/output relationship is largely the basis for integrating systems to take advantage of administrative efficiency.

3.3.2 Open Systems

An open system is one that interacts with the environment with a view at collecting information on which strategic plans are based or for conducting business transactions. It readily adapts to changes in the environment in order to survive in competitive or threatening situations. Examples of an open system are: man; biological, organizational and business systems.

3.3.3 Closed Systems

These do not interact with their environment either for the exchange of information or for business transactions. They are self-contained.

3.3.4 Control Relationships

These are separately structured from the system they control. They are basically used by administrators to monitor the results and modify the state of the physical systems to which they relate.

3.3.5 Interconnecting Activities and Elements

These refer to the interconnecting relational elements of a given sub-system with other sub-systems. They are of different types, relating to physical and control relationships, information flow, data recording, data flow or data conversion.

3.3.6 Integration and Disintegration

System integration may make a system to become too complex to understand and operate. When a part of an integrated system ceases to function correctly, the entire system may be affected. A disintegrated system on the other hand is easier to administer. They are less complex and more flexible. The sub-systems are interrelated but independent. A defect in one does not disrupt the entire.

3.4 Classification of Systems

Systems are broadly classified into:

- Planning system;
- Mechanistic and organic system;
- Deterministic system;
- Probabilistic system;
- Self-organizing (Adaptive) system.

3.4.1 Planning Systems

Planning can simply be seen as “looking ahead”. It is concerned with allocating resources to specific tasks and the setting of performance standards. It is generally believed that any one who fails plan, plans to fail.

Any system designed to plan the operations of other systems is referred to as a planning system.

3.4.2 Mechanistic and Organic Systems

A mechanistic system is designed to operate on the basis of standard rules and regulations. The consequence of this is that the system has a limited ability to react to its environment. Any eventualities not included in the set conditions for action and decisions will be ignored which could lead to a complete breakdown of the entire system.

An organic system on the other hand is designed to respond to environmental influences and is able to redefine set objectives according to the situations at hand.

3.4.3 Probabilistic Systems

These are ideal for business and economic systems which are usually subjected to random influences from the internal and external environment. Since their random variation cannot be accurately predicted, we can only assess their probable behaviour.

These systems are probabilistic in nature since the output that will result from specific or given inputs cannot be accurately ascertained.

3.4.4 Adaptive (Self-Organizing) Systems

As the name suggest, these systems are adaptive in nature (i.e. they can respond to changes in their environment). They are dynamic and self-adjusting. They are therefore ideal for performance.

SELF ASSESSMENT EXERCISE

Broadly classify systems and mention their key features

4.0 CONCLUSION

Modern trends require that a business, be proactive so that it can favourably compete in the ever-changing and highly dynamic business environment. Developing a system that will adjust and re-adjust itself to respond positively to ever-changing situations is a step in the right direction.

5.0 SUMMARY

A system consists of elements which interact to form a whole and is designed to achieve a specific objective. The philosophy and framework for developing all kinds of systems is referred to as the system theory. Systems are generally classified into probabilistic, non-probabilistic and adaptive systems.

6.0 TUTOR MARKED ASSIGNMENTS

Use the human body to explain the nature of adaptive systems.

7.0 REFERENCES/FURTHER READINGS

Eyitayo et al (2001). Computer Studies for Beginners (Book 2), Ibadan; Bounty Press Limited.

Sanders, D. H and Birkin, S. J. (1982). Computers and Management in a Changing Society, USA, McGraw Hill Book Company.

UNIT 3 MANAGEMENT INFORMATION SYSTEMS (MIS) IN PERSPECTIVE

CONTENTS

1.0 INTRODUCTION

This unit will take a cursory look at MIS (Management Information Systems). The objectives, the purpose and the desirable properties of information systems will be discussed. An attempt will also be made to look at the nature and types of information.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Identify the objectives, purpose and the desirable properties of MIS.
- Identify the nature and types of information.
- Differentiate between functional and total information systems.

3.0 MAIN CONTENT

3.1 Management Information Systems In Perspective

A Management information system is generally computer based. It is a combination of hardware, software, people, procedures and data. The system provides managers with on-demand reports and inquiry

capability as well as routine periodic report. This allows decision makers to better, more informed decisions. An essential requirement of an MIS is feedback.

3.2 The Objectives, Purpose, Importance and Properties of MIS

(a) The Objectives

The main object of MIS is to provide information to all levels of management at the most appropriate time, at an acceptable level of management and at an economical cost.

(b) The Purpose of Information

Information is critical to the day to day management of business. It provides a means for assessing the results of specific courses of action. It is essential in business operations particularly in the areas of strategic and tactical levels of management planning and control. Adequate and prompt availability of information helps reduce the risks in decision making.

(c) Importance of Information

Information is critical to success rate of business. It is the soul and the life blood of any business organization. The dynamics and competitiveness of the business environment require that managers be equipped with accurate and adequate information which must be promptly available for effective decision making process. The ability of a manager to respond to change is dependent on his ability to gather adequate information using latest technologies. This is where the Quick Response (QR) and the Just In Time (JIT) options come into play.

(d) Desirable Properties of Management Information

The essential requirements of management information are:

i. Ability to serve a useful purpose.
ii. Relevance
iii. Adequacy
iv. Currency
v. Accuracy
vi. Timeliness
vii. Must be based on the exception principle when appropriate
viii. Must be economical
ix. Must be easily understood

x. Must avoid unnecessary redundancy

3.3 The Nature and Types of Information

3.3.1 Planning Information

Planning information may be classified into:

(a) Futuristic information
(b) Information for responding to change
(c) External environmental information
(d) Internal environmental information
(e) Strategic information
(f) Operational information

(a) Futuristic Information

Futuristic information, as the name suggests, is a peep into the future. It is forward looking and predictive. It helps management to assess future situations based on established trends with a view to making proper forecasts and plans ahead of the expected situation. It is produced by the planning systems and is required at the strategic and tactical level of management planning. It is very useful in responding to change and is largely obtained from external environments.

(b) Information for Responding to Change

Proactive and frontline organizations are usually very successful because of their ability to obtain information necessary to respond to change. Such information is obtained by adopting an analytic approach tot foreseeing events before they occur. Events can be diagnosed using the insight, hindsight and foresight knowledge of the environment with a view to positively responding to changes within the environment.

(c) External Environmental Information

Information from the external environment helps management to identify threats and opportunities that may arise.

External environmental information includes:

(i) Main competitors share of market
(ii) New market opportunities
(iii) Natural economic growth rate
(iv) Manpower resources
(v) Possible threats to continuity of supplies

(vi) Technological development and their likely effects on the business
(vii) Trends in the rate of inflation
(viii) World economic climate.
(ix) Trends in demand and consumers' preferences
(x) Likely level of interest rate
(xi) Impending government legislation

(d) Internal Environmental Information

This will outline the company's profile with a view at determining its strength and weakness as well as identity areas of constraints which may limit desired courses of action.

The information obtained can be used to correct areas of deficiency and improve on the areas of strength with a view to preparation for a possible change. Examples include:

- Type of product manufactured or sold
- State of labour relations
- Type of market
- Share of the market obtained
- Quality/cost effectiveness of product
- Profitability of company
- Liquidity of company
- Sales turnover
- Discount policy
- Credit policy
- Types of process
- Main functions
- Stock policy
- Investment level
- Organization structure

(e) Strategic Planning Information

Strategic planning decisions are usually made by top level management. It helps management to exploit the company's major strengths and overcome weaknesses, with a view to achieving desired organizational rates of growth and profitability. Strategic planning involves long range projection. It requires management to devise a means of analyzing and overcoming business risk. Decisions taken at this point are known as strategic decisions which have long range consequences. More information is therefore required at this stage, among which are:

- Market intelligence information.
- Changes in technology
- Changes in the economy
- Sociological changes
- Extent of future competition
- Manpower requirement
- Government policies and plans

(f) Operational Information Planning

This is obtained by expanding the quantified strategic objectives in respect of production, sales, expenditure and stock into detailed plans for the achievement of the strategic plan. It requires the development of a tactical plan to facilitate the attainment of strategic objectives. It is basically the conversion of intention as spelled out in the strategic plan into practical realities, taking cognizance of the long range forecasting and the continuous and systematic gathering of the information.

3.3.2 Control Information

(a) Programmable Information

Information in respect of operational achievement is produced using a control system. The bulk of the information is largely obtained from budgetary control and standard costing system. It allows comparison to be made with budgeted or standard data and actual achievement. The requirements are built into programmes as standard rules. This enables routine decisions to be taken.

(b) Tactical Control Information

Examples of tactical control information include:

- Gross profit to sale
- Net profit or contribution to sales.
- The extent of deviation from budgeted sales.
- Material price and usage variance.
- Labour rate and efficiency variance.
- Stock turnover ratio.
- Average investment in stocks compared with budgets.
- Value of slow-moving and obsolete stock.
- Departmental usage of capacity ratio.
- Departmental analysis of cost of scrapped production
- Departmental analysis of ratio of cost of scrapped production to cost of good production

- Departmental analysis of labour turnover
- Cash flow statement
- Overhead expenditure variance

3.4 Differentiation of Information Systems

3.4.1 Functional Information Systems

Business organizations are generally structured on functional basis. This allows for effective use of specialists to maximize the benefit of specialization. It is therefore possible for each functional unit to create its own information system with a view to optimizing functional and organizational objectives.

3.4.2 Total Information Systems

The total information system may also be referred to as an integrated system. It is a single all-embracing system, encompassing the entire activities of the business organization.

The main objective of the system is to increase administrative efficiency while the benefits are:

- Non duplication of data
- Elimination of copying errors
- Elimination of out-phase information file
- Data input once only

Other possibilities include:

- A comprehensive databank
- Real-time processing capabilities
- Current and cumulative operating result
- The application of operational research techniques
- Time-sharing facilities, and
- Multi programming.

SELF ASSESSMENT EXERCISE

i. Mention the importance and purpose of information.
ii Mention the nature of information required for planning.

4.0 CONCLUSION

MIS is indispensable to modern business organizations. It puts information required for strategic planning and decision making process at the finger tips of managers. It is an integrated information system that covers all business activities. It is a key factor in information resource management (IRM).

5.0 SUMMARY

A Management Information System (MIS) is a computer-based information system. The system provides managers with on-demand reports and inquiry capability as well as routine periodic reports which enable decision makers to make better, more informed decision.

Management information requirement is wide and varied. It includes:

(i) Information required for planning;
(ii) Control information; and
(iii) Functional information.

6.0 TUTOR MARKED ASSIGNMENTS

State and explain the nature of functional and total information systems.

7.0 REFERENCES/FURTHER READINGS

Eyitayo et al (2001). Computer Studies for Beginners (Book 2), Ibadan, Bounty Press Limited.

Sanders, D. H and Birkin, S. J. (1982). Computers and Management in a Changing Society, USA, McGraw Hill Book Company.

UNIT 4 APPLICATION OF INFORMATION SYSTEMS

CONTENTS

1.0 INTRODUCTION

The driving force of the information system is the computer. In this unit, we shall attempt to discuss the various areas where the computer is applied.

2.0 OBJECTIVES

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

- Categorize the areas of application of the computer
- Identify the areas of application of the computer in commerce and industry

- Identify the areas of application of the computer in training and administration.

3.0 MAIN CONTENT

3.1 Application of the Computer

3.2 Broad Areas of Application

Osuagwu (1998) identified five broad areas in which the computer is applied today as:

(a) Scientific System

This is sub-classed into:

(i) General

- Engineering Design and Research
- Solving of Mathematical Equations
- Weather Prediction
- Satellite Orbiting Analysis and Prediction
- Reactor Design
- Crypto analysis

(ii) Simulation

- Flight Dynamics of Missile and Aircraft
- Economic Research
- Management Games
- Training Devices

(b) Information and Data Processing

These are classified into numerical and non-numerical. Examples are:

- Accounting
- Payroll
- Inventory control
- Billing and invoicing
- Sales analysis
- Budgetary control

(c) Control and Instrumentation System

These are sub-classed into:

(i) Control Systems

- Industrial process control
- Missile guidance systems
- Command and control of military forces
- Traffic control

(ii) Instrumentation System:

- Monitoring of laboratory experiment
- Multi-meters with automatic range setting etc.
- Digital meters and gauges
- Home robotics

(d) Computers and Communication

These include:

- Communication network control
- Message switching systems
- Electronic mail

(e) Artificial Intelligence (AI) or Human Application

These are:

- AI Systems
- Problem solving
- Adaptive (self-modifying)
- Learning system
- Pattern recognition and image
- Processing, speech or vision systems
- Expert systems
- Knowledge based systems

3.3 Computer Application in Commerce and Industry

Today it is practically impossible to secure professional jobs without demonstrating relevant computer skills.

Adesina (2002) identifies some key areas where the computer is applied in commerce and industries as:

- Commerce
- Financial modeling
- Payroll
- Stock control and inventory
- Sales ledger
- Purchases ledger
- Communication
- Computation
- Design and modeling
- Geographical information systems; and
- presentation and documentation

3.3.1 Commerce

Key application areas in which micro-computers are used are payroll preparation, stock control, word processing, network analysis, spreadsheet publishing, production control, statistical analysis, taxes and personnel management systems.

3.3.2 Financial Modeling

Financial models can be formulated for business resources, its income and expenditure. Once the models are formulated, they can be used to stimulate effects of different policies and made forecast on them. The high processing speed and accuracy of the computer will enable management to gain the advantage in using it for such processes as: leaner programming, network analysis, queuing theory, replacement analysis, investment appraisal, discounted cash flow, etc.

3.3.3 Payroll

Computer systems can be used for payroll preparation. All the necessary inputs and calculations required to produce output, such as pay-slips, credit transfer, deduction and the required management reports can easily be done using the payroll system. Systems that can easily perform this operation include the Account Manager and the MS Access.

3.3.4 Stock Control and Inventory

Records of inventory, stock records, can be programmed into the computer system. This will enable stock keeper to take inventory, update regularly, and control stock, issues and receipts, stock level and

calculation and indication as well as produce any stock management information which may be required for management decision making.

3.3.5 Sales Ledger

The computer can be used to perform all processing operations related to sales ledger system with high speed and produce output such as invoices, credit notes, aged debtors report and account balances.

3.3.6 Purchases Ledger

The computer system can be used to carry out all operations regarding a company's purchases ledger from the origin of transaction and approval of payment through to the calculation of discount, scheduling of payments, printing of cheques and credit transfers and the maintenance of suppliers' details.

3.3.7 Nominal Ledger

This will produce profit and loss statements, trial balances, balance sheets and other financial analyse obtainable from the nominal ledger.

3.3.8 Designs and Modeling

Architects, Engineers, Artists use the computer to make designs of buildings, electronic circuits, models and various structures as well as in trouble shooting.

3.3.9 Geographical Information System

This gathers geographical information, analyses, processes as well as documents them. This system find great use in surveying, aeronautics, air space management, atmospheric, physics, security operations and warfare for data gathering and utilization, mapping and other technicalities.

3.4 Computer Application in Training and Administration

Computer Aided Instruction (CAI) produces instructional materials in bits for learners. It helps learners to master the subject matter at their own space. This package presents the student with problems to solve, or questions to answer; it accepts the student's answer and informs the students whether each answer is right or wrong. While (CAL) Computer Aided Learning can be used to illustrate chosen parts of a course taught in the traditional way. Thus CAL is used to teach other subjects.

3.4.1 Electronic School

This is a schooling programme on the internet. All that is required here is a computer system. Once a student acquires one or has access to one, he or she can then apply to an institution of his choice. On registration, he gets a PIN card and study guide booklet. With the PIN card and access number, he can then log-on the number on the website address. The student can hook on to lectures any time, any day and anywhere.

3.4.2 Virtual Library

A Virtual Library is an e-library well stocked with current and updated materials on virtually any aspect of human learning.

3.4.3 Management and Administration

MIS (Management Information System) is playing a key role here. It provides management with all data and information necessary for decision making. Many packages are available to management in this regard. The packages can be modified to suit the need of given organization.

Examples of such packages are:

- Accounting Packages;
- Personnel Record Keeping;
- Payroll Services;
- Sale Ledger; and
- General Ledger.

3.4.4 Government

The state and federal governments use the computer in such areas as:

- Budgeting;
- Population census;
- Planning for development;
- Tax administration;
- Revenue generations; and
- Security operation.

3.4.5 Decision Making

The computer is used to gather, collate, process, store and retrieve data which are accurate, adequate and timely for the management decision making process.

3.4.6 Simulation Studies

There are times management may need to introduce new ideas and policies in administration and production. The workability of these ideas and policies are tested using simulation. In simulation, models and built up and tested to provide the necessary framework for the management decision making process. It is sometimes referred to as Management Games.

3.4.7 Office Automation

This refers to the integration of office functions through electronic processing under to save labour.

Some of the key features of office automation are:

- Word processors
- Electronic mail
- Facsimile
- Spreadsheet application
- Data sharing

3.4.8 Computers in Banks

In all forms of business transactions, there are usually returns in form of cash or cheques. These are required to be banked.

Key areas where the computer plays a role in banking operations include:

- Cheque Processing
- Bank Accounts
- Cash Dispensers, e.g. ATM
- Electronic Fund Transfer (EFT).

SELF ASSESSMENT EXERCISE

i. Mention the five broad application areas of computer.

ii. Mention the areas where computer is applied in commerce and industries.

4.0 CONCLUSION

The computer is indispensable to all professions and professionals. It is versatile and process data and information with high speed and accuracy. Current trends portend great danger for organizations which fail to become computerized.

5.0 SUMMARY

The computer plays a key role in every facet of man's endeavour today. There is no sphere or profession where the computer ahs not taken its root. This is why the age we are in now is called the Information Age and the driving force is the computer.

Computers facilitate processing of data and information with a high degree of accuracy for the management decision making process.

Today, the computer is applied in:

- Scientific applications;
- Information and data processing;
- Control and instrumentation systems;
- Communication; and
- Human applications

6.0 TUTOR MARKED ASSIGNMENTS

State and explain the key areas where the computer is applied in training and administration

7.0 REFERENCES/FURTHER READINGS

Adesina, A. I. (2002). Introduction to Computer, Lagos, Kenia Publishers

Eyitayo et al (2001). Computer Studies for Beginners, (Book 2), Ibadan, Bounty Press Limited.

Osuagwu, O.E. (1997). Industrial Computer Application Today, First Edition, Imo State, Nigeria, Oliverson Industrial Publishing House.

UNIT 5 DEFINITION AND SCOPE OF INFORMATION SYSTEMS

CONTENTS

1.0 INTRODUCTION

This unit will take a cursory look at the definition and scope of information systems. The unit will try to identify the types of information system and the need for organizations to computerized.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Define information systems
- Explain the types of information systems
- Identify the need for organizations to computerize.

3.0 MAIN CONTENT

3.1 Definition and Scope of Information System

3.2 Meaning of Information Systems

Information systems are generally designed to collect, store, process and manage the flow of information within an organization. Most information systems are computer-based while others are not. Examples

of non-computer-based information systems are the use of the typewriter to process or type documents and the use of the cabinet filing system to keep an organization's records.

Computer-based information systems have several advantages over the others.

Some of the advantages are:

- Speed of processes;
- Accuracy of work done;
- Currency of the information gathered;
- Versatility of the system
- Possibility of automation
- Storage facilities
- Security and privacy of work
- Easy accessibility
- Prompt availability of information; and
- Easy update and retrieval of data and information.

The driving force of the information system is the computer. It has a critical importance in the prompt provision of valuable information that is targeted to support management in the decision making process.

According to Osuagwu (1997), the key need for information is to reduce uncertainty, minimize risk, optimize decision, monitor operating industrial and global environment, control budget and plan for the strategic positioning of the firm. This agrees with Long's (1988) assertion that information is available resources. This explains why management every where is adopting a new attitude called **Information Resource Management (IRM).**

3.3 Types of Information Systems

There are several types of information systems which are computer-based. The prominent ones are:

- Management Information Systems (MIS)
- Decision Support Systems (DSS)
- The Expert Systems (ES)
- Data Processing Systems (DPS)
- The Business Systems (BS)

3.3.1 Management Information Systems (MIS)

The Management Information System (MIS) is computer-based. It is a combination of hardware, software, people procedure and data. The system provides managers with on demand reports and inquiry capability as well as routine periodic report.

Thus, decision makers can make better, more informed decisions. It embraces a data processing system, control system and decision making based on the facts communicated by the control system. Its primary objective is to provide information to all levels of management at the most appropriate time at an acceptable level of accuracy and at an economical cost.

3.3.2 Decision Support Systems (DSS)

These produce present information that is targeted to support management in the decision-making process. The time and energy spent in planning, forecasting, requesting and analyzing information prior to making decisions are supplied by technological innovations, colour graphics, dbase management and user-oriented query language. The use of graphic software enables managers to generate in minutes illustrative bar and pie charts which help to improve the quality of decisions made by management.

3.3.3 The Expert System

This part of the research is known as artificial intelligence (AI). It is used in varieties of activities and provides “more expert” advice necessary to support the management decision making process. The expert system is an interactive system that can respond to questions, ask for clarification, make recommendations and generally aid the decision-making process. The system, which is knowledge-based, is able to translate the knowledge of real live human experts into rules and strategies.

It is possible to diagnose illness, help financial analysts to counsel their client and geologists to explore for minerals more effectively and quickly using the expert systems.

3.3.4 Data Processing System

Data refers to all the raw or unprocessed facts and figures that relate to the organization’s clients, such as the suppliers, employees, the premises, stocks, machinery and all other operations performed by the organization.

Unprocessed data are unstructured and often voluminous and, hence, difficult to comprehend. The act of converting the unprocessed facts or data is known as data processing. When the computer is used to process data, the process is referred to as Electronic Data Processing (EDP) and data processing system involves people, procedures and equipment. It is a sequence of actions which are carried out regularly in order to maintain a steady flow of work. Safeguards are built into the system to prevent the routine from being disrupted by errors, equipment failures and other unforeseen circumstances or occurrences.

A Data Processing System (DPS) can fully automated for more effective, economical and timely processing and retrieval of process data or information.

3.3.5 The Business System

The business system is a combination of related sub-systems consisting of a series of operations arranged in a logical sequence to achieve a particular purpose as efficiently as possible. The system can be standardized whenever possible and can be integrated for more economical data processing.

It consists of several sub-systems such as:

- Production sub-systems;
- Mechanical sub-systems
- Control systems
- Stock and budgetary system and
- Administrative systems.

It requires resources to enable it to operate. Examples of such resources are:

- Personnel
- Office space
- Equipment
- Business forms and documents

3.4 The Motivation for Computerization

Computerization is viewed differently by different individuals and organizations. To some, computerization adds beauty, colour, glamour and prestige to the organization. This explains why in such organizations, executive officers and the likes could have their tables decked with computers they cannot operate. It is just a status symbol. In

many other organizations, entrepreneurs buy computers in order to support their work or business so that they could improve efficiency, meet customers' needs and be very competitive. For such organizations, the computer represents efficiency, adequacy, currency, timeliness and competitiveness.

In general, many are motivated to buy computers for the following reasons.

- Improved flow of management information for effective control, improvement of managerial performance, timeliness and accuracy of information flow.
- Cost benefit analysis
- Volume of data to be processed by the company.
- Complexity of the system chosen
- Company's image as a result of the installation of computer
- Development time and relative use of resources

SELF ASSESSMENT EXERCISE

i. State and explain the various types of information systems.
ii. Enumerate the need for business enterprises to computerize.

4.0 CONCLUSION

Information systems have come to stay. They are now indispensable in the modern business world.

The ability of businesses to survive the turbulent nature on the environment and maintain a competitive level while remaining a float depends largely on its ability to adopt veritable information systems.

5.0 SUMMARY

Information systems are either computer-based or non-computer-based. Whether computer-based or not, information systems are generally designed to collect, store, process and manage the flow of information within an organization. Information systems are all embracing, encompassing all the activities of the business organization. It can be integrated for more efficient and economical data processing.

Examples of information systems are:

- The Expert Systems (ES).
- The Decision Support Systems (DSS).

- The Management Information Systems (MIS).
- The Data Processing Systems (DPS).
- The Business Systems (BS).

6.0 TUTOR MARKED ASSIGNMENTS

What is an information system and what are its limitations?

7.0 REFERENCES/FURTHER READINGS

Owolabi, K. S. (2006). Handbook of Computer, Lagos, Pragmatic Educational Press.

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MODULE 2

UNIT 1 DEVELOPING A COMPUTER-BASED INFORMATION SYSTEM

CONTENTS

1.0 INTRODUCTION

This unit will attempt to define a system and critically look at the stages involved in systems development.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Define a computer-based information system
- Identify the stages of system development
- Explain the concept of the packaged system

3.0 MAIN CONTENT

3.1 Developing a Computer-Based Information System

3.2 Understanding what a System is

The word system has many connotations. It may be used to refer to many sets of activities that form a whole. Some systems are natural while others are man-made. Common examples of systems are:

- Solar system;
- Transport system;
- Heating system;
- Nervous system;
- Social system;
- Jury system;
- Electoral system, etc

From the above, we can define a system as a set of objects or elements which are connected or associated so as to form a whole, designed to achieve a purpose.

3.2.1 Computer-Based Information Systems

For this purpose, we shall be concerned with information systems that are computer-based.
Introducing a computer-based information system requires a careful prognosis. It will require management trying to identify its strength and weakness in relation to fellow competitors as well as a cursory look at problems and opportunities that may present themselves with a view to taking some corrective measures that will move the organization forward.

3.3 Phases of System Development

The stages involved in the development of a computer-based information system are:

- System initiation and preliminary investigation
- System analysis
- Designing the system
- Developing the software system
- Documenting the system
- Maintaining the system.

3.3.1 System Initiation and Preliminary Investigation

Impetus for change can come from sources internal or external to the company. This would lead management to identifying problems and opportunities that may arise.

The sources which are internal to the system are:

- The Analyst
- The User
- The Management
- The Lawyer
- Personnel,

While sources which are external are:

- The Customer
- Government
- Competition
- The Auditor
- Unions

Opportunities that may arise include:

- How to increase productivity
- How to improve management decisions
- How to strengthen control over a system
- How to improve customer service.

These opportunities may prompt management to empower the analyst to tackle the problem of developing a system that will put the business at a competitive edge.

With clearly defined terms of reference, the analyst will then try to differentiate between the symptoms and the actual problem and then ensure that what the system is intended to do is clearly defined. This is referred to as problem definition.

With a clearly defined problem, the analyst can then proceed to carry out the feasibility study. That is find out whether it is possible to produce a system, given cost and time limitations to produce a system that will meet the set objectives. This stage seeks to determine the feasibility of

carrying out the project. The information obtained in the course of the investigation must be measured against the following criteria:

- Technical feasibility – can a computerized solution be provided?
- Operational feasibility – is there a solution that will be workable in the user's organization?
- Cost feasibility – can the user afford the cost of the system under consideration?
- Legal feasibility–is there any conflict between the system under consideration and the company's ability to discharge its legal obligation?
- Schedule feasibility–can the system be operational within an acceptable time frame?

In addition to the above, the analyst will need to take the following into consideration:

- How long will it take? (the schedule)
- How much will it cost? (the budget)
- Who will be needed? (the personnel)
- What benefit will the new system bring along? (the benefit)

The analyst can now write his feasibility report for management to make a decision.

Based on the feasibility report, management may decide:

- To do nothing
- To modify the existing system
- To develop a new system.

Once a decision is taken, the **System Team** is then assembled. The system team will consist of one or more analysts, and a representative of each concerned department.

3.3.2 System Analysis Phase

The main abject of this phase is to appraise the existing system with a view to preparing detailed requirements for the new system in the language which can be understood by the project sponsor and the would-be user.

The first step in this regard is Data Gathering/Fact Finding. The main object of this stag is to:

- Have detailed knowledge of the way things are done now in the current system
- Have detailed understanding of data required by the current system
- Produce a list of problems with the current system and the particular requirements of the new system.

The sources of study facts could be any of the following:

- **External sources:** e.g. software houses, journals, computer manufacturers, computer user groups etc.

- **Studying existing system:** This will help the analyst with a clear picture of the current system with a view to improving on its deficiency in the new system.

- **Written materials:** e.g. job description, policy statement, financial statement, staff studies, budget, forecast, etc.

- **The method or techniques** used to gather data will include:

- Written materials
- Interview
- Use of questionnaire
- Observation and
- Sampling.

Whatever method used, the data gathered must be valid and reliable. The data gathered can then be analyzed to obtain the following:

- Objectives of the system
- Output – content and uses
- Input required to generate the output
- Type of records and files and how they are kept.
- Processing of input to produce output
- Volume and growth potential of data
- What is the context within which the system operates?
- What controls are put into place?
- The equipment required
- Cost of running the present system
- When must certain activities be carried out or completed?

3.3.3 System Design Phase

This phase will establish a general design plan referred to as preliminary design or detail design which presents specific information on the design of output, input, processes, file processing and data bases.

The analyst will be guided by the following principles:

- Suitability
- Reliability
- Simple design
- Ease of use, and
- Being economical

In addition to the above, the overall plan must take cognizance of:

- Output design
- Input design
- Process design
- Storage methods and file structure
- Technology platform
- Procedures and timing and
- Safeguard procedures.

3.3.4 Software Development Phase

The role played by the analyst here is determined by:

- Organization policy
- Management style
- The size and nature of project and
- The analyst's preference

Essentially, he plays the role of a liaison officer, co-ordinating between the programmers and other interested parties, especially the users.

The Software Development Process consists of:

(a) Program Design

Converts systems design to the design of program module. That is, it refines the design done at the design stage.

(b) Coding

This involves the writing of the program modules that represent the design in a suitable programming language. The choice of language used will depend on the organization.

(c) Testing

This involves compiling, planning test data, code testing, and documentation testing. The purpose of this phase is to detect and remove design and coding errors.

The test plan includes consideration for assignment of responsibilities, user participation, test conditions, test data, the testing schedule, computer time and test documentation. Test documentation is useful to plan the testing, to measure testing progress, and to document the result of testing.

Program testing consists of:

- Unit testing
- System testing and
- Volume testing.

3.3.5 Documenting the System

System documentation includes:

- System flow chart for each part of the system
- File specification showing the layout of each file
- The expected maximum and minimum file sizes and the media used.

It must also include the timing and sequence of running different parts of a system as well as instruction for using the system.

3.3.6 Implementing the System

This entails getting the system set to run smoothly. This is important and challenging. This is why it is important that the plan for delivery installation and change-over of system must be stated before the implementation phase.

System implementation involves the following steps:

- Ordering and acquisition
- Equipment conversion
- File conversion and set up
- Staff training
- System testing
- System conversion and
- System evaluation or post-implementation review.

3.3.7 System Maintenance Phase

System maintenance is carried out to keep the systems in good working order.
It entails:

- **Corrective Maintenance:** rectifies design, coding and implementation errors
- **Adaptive Maintenance**: adjusts to changing environmental conditions
- **Perfective Maintenance:** making the system perfect, enhances performance or maintainability and
- **Preventive Maintenance:** anticipates and forestalls potential problems.

3.4 Packaged Systems

These are "off-the-shelf" packages. They are standard packages designed by software manufacturers and programmers for general use. They are designed with global needs of organizations in mind. They are usually cheaper and more reliable than a custom-built system.

Examples of such general-purpose packages are:

- Word processing packages
- Spreadsheet packages and
- Database packages.

Advantages of a packaged system are:

- It is less expensive
- It take less time to implement
- It has few errors since a lot of testing must have been done on it
- It is already in use in many companies
- Fewer technical staff are required for development
- Upgrade versions will be available from the vendor.

Despite the above advantages, some organizations still prefer to develop software in-house because:

- It will satisfy unique requirements
- It will minimize change to business procedure or policies
- It will meet the constraints of existing systems
- It will meet the constraints of existing technology and
- It will utilize new technology for which a packaged system does not exist.

SELF-ASSESSMENT EXERCISE

i. State and briefly explain the phases of system development.
ii. Explain why some organization still prefer custom-built software packages despite the advantages of off-the-shelf packages.

4.0 CONCLUSION

Perfection, efficiency and promptness which are the hallmark of modern businesses are the main features of computer based systems. This is why organizations that desire to be in the fore front and maintain a high level of competitiveness must adopt a computer-based system.

5.0 SUMMARY

A **system** refers to a collection of elements which are connected together to form a whole and designed to achieve a goal.

Not many systems are computer-based, but the one considered here is a computer-based information system.

Designing or developing a computer-based system involves the following phases:

- System initiation and preliminary investigation
- System analysis
- Designing the system
- Developing the software system
- Documenting the system
- Implementing the system and
- Maintaining the system.

Though many off-the-shelf packaged software are available, many organizations still prefer the in-house custom-built type.

6.0 TUTOR MARKED ASSIGNMENTS

Enumerate and explain five main features of the data analysis stage.

7.0 REFERENCES/FURTHER READINGS

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UNIT 2 THE USE OF MS EXCEL TO PROGRAMME THE PAYROLL

CONTENTS

1.0 INTRODUCTION

This unit will treat the application package MS Excel with specific reference to its use as a payroll system

2.0 OBJECTIVES

At the end of this unit, you would be able to:

- Work with the Excel
- Create and use formula functions
- Use the Excel to create a payroll system.

3.0 MAIN CONTENT

3.1 The Use of MS Excel to Prepare the Payroll

MS Excel stands for Microsoft Excel. It is an electronic worksheet program for entering data, organizing data, calculating data, analyzing data and reporting financial and other documentary data.

3.2 Features of the MS Excel

The main features of the MS Excel are:

- **Worksheet** - for entering, analyzing, and calculating data
- **Charts** - for representing data graphically.
- **Databases** - for managing large amounts of information.

- **Macros** - for automating test and customizing MS Excel
- **Advanced Formatting and Graphics**- for creating printed and outline reports.

3.2.1 The Worksheet

Is a document that can turn disorganized information into well ordered data. Data are organised into lettered columns and numbered rows forming a grid of cells. All kinds of dates and times can be entered on the work sheet. Cells can be moved or copied in work sheets by dragging them with the mouse.

When **dragging,** one simply points to the border around the cell or cells selected and drag to the new location.

Cell-fill Handle will usually appear as a small box on the lower-right corner of the selected cells. By dragging the fill handle, one can copy the contents of the first cell to the other cells selected. If the first contains a date or time, dragging the fill handle creates a series of value instead of copying the same rate or time into each cell. For instance, if "April" is selected, dragging two cells to the right will enter "May and June" into these cells to create the other column tiles.

With the formula displayed on the formula bar on the worksheet, one can make series of calculations such gross pay, net pay, monthly sale total etc. If the data are changed, the total is automatically recalculated to reject the change.

A worksheet can be small, large, very large or complex. It has up to 256 columns and 16,384 rows.

3.2.2 Sorting Data

Data can be re-organized by using the SORT COMMAND on the data menu to sort data alphabetically and/or numerically.

3.2.3 Linking Worksheet

When the need arises to share data between worksheets, the worksheets can be linked so that data in one can be used in another. When the data in one changes, the other also changes. One way to create a link is to copy the cell you want the linked cell to refer to, switch to the other worksheet, select the past special command from the edit menu and select paste link.

3.2.4 Formatting a Worksheet

It is possible to create your worksheet by using the formatting options to emphasize information and create more effective reports. The standard tool bar contains formatting options such as bold, italic, alignment and cell borders.

3.2.5 Previewing and Printing a Worksheet

Selecting the **print** command from the **file menu** and choose the **print preview** command from the file. Choose the "set up" button to change page size and orientation, create headers and footers and specify whether to print gridlines, column headings etc. Choose the **print** button to print your worksheet.

3.2.6 Starting and Performing Simple File Operations on the MS Excel

(a) To Load MS Excel

- Move the mouse pointer to the start icon at the button left of the screen
- Click the left button on the **start** icon
- Click on **programs**
- Move the mouse pointer to the right to select MS Excel
- Wait as the program loads.

(b) Creating a New Document (Ctrl + N)

- Click on file menu
- Choose New
- Select Blank Document
- Click **Ok**

(c) Data Entry Using a Worksheet

When you start Microsoft Excel, it displays a new worksheet, and you can start entering your data in the **active cell.** The **active cell** is identified by its **heavy border.** The left side of the formula bar displays the cell reference for the active cell. A cell reference consists of the letter of the cell's column and the cell's row number.

(d) How to Save a Document (Ctrl + S)

- Click on file menu

- Select Save **As**
- Type in the file name in the file name box
- Click Save

(e) Closing the Active Window (Ctrl + W)

- Save your job
- Click on file menu
- Click on Close

(f) Selecting a Number of Cells (Range)

- Place the cell pointer at the first cell
- Hold down the **shift** + **down arrow key** to highlight the range

(g) Setting Column Width

- Select the column
- Click the **format menu**
- Select column
- Click on **width**
- Type in the column width
- Click **Ok.**

(h) Inserting Columns and Rows

- Select a **cell range**
- Include at least one cell in each of the columns or rows you are inserting
- Choose Insert Menu
- Select Columns or Rows

(i) Deleting Columns and Rows

- Select the range of A1 -----C1 or A1----A4
- Click **Edit Menu**
- Select **Delete**
- Click on **Entire Column** or **Row**
- Click **Ok**

(j) Formatting a Cell to Currency

- Select the cells

- Click **Format Menu**
- Click on cells
- Click on number tab
- Select number tab (under this there is

(a) currency
(b) percentage
(c) text label).

- Click **Ok.**

(k) How to Use Special Currency Symbols

- Select the cells you want to format
- Click format menu
- Select cell
- Click number tab
- Click **Custom** in the **Category** box
- In the type box, select a custom, in number format
- Click at the beginning of the custom number format
- On the numeric key pad, hold down Alt key and type the ASCI, code for the currency symbol, e.g.

To enter	Alt
¢	0162
£	0163
¥	0165

- Click **Ok**

(l) Protecting a Sheet

- Open the workbook
- Switch to the sheet you want to protect
- Click Tools Menu, select Protection and then click on Protect Sheet.
- To prevent changes to cells on worksheet, select **Content Check** box
- Type a **password** and click **Ok.** Re-type the password in the **Re-type Password to Proceed** dialogue box, then click **Ok.**
- Retype the password in **the Re-enter Password** box and click **Ok.**

3.3 Creating and Using Formula Functions

A formula is a set of instructions designed to perform a specific calculation and generate a single value. To create a formula in Excel, precede the desired calculation with the equal sign (=). An efficient way

of writing formulas is to enter the numbers into the cell and to construct formulas which refer to those cells. For example, if you enter 6 in (A1) cell A and 70 in cell A2 and = A1, * A2 in cell A3, the value is 420. It will appear in cell A3. If the value of cell A, and/or cell A2 is changed, Excel will automatically recalculate and change the value of A3

3.3.1 Order of Arithmetic Operations

Parentheses ( )	1st
Exponential * *	2nd
Multiplication and Division	3rd (performed in the order in which they occurred)
Addition and Subtraction	4th (left to right).

3.3.2 Using Functions

Functions are standard formulas used to perform calculations.

They are of different types. Cursor areas are:

- Logical
- Financial
- Mathematical
- Statistical, etc.

A function can be used by itself or in combination with other formulas or functions.

It starts with an equal sign (=) and generally has two components:

- The function name or the abbreviation of it.
- The argument which consists of required data enclosed in parentheses. e.g = Sum (A1 -----A10)

Sum is the function name, the range A1----A10 is the argument.

Other examples are:

=	Average (C2----C12)	gives average of numbers
=	Max (B1 ----B15)	display the highest value
=	Min (B1----B15)	display the least value
=	VAR (B2-----B8)	gives the variance
=	STD (B2----B8)	gives the standard deviation.

3.4 Using the Excel to Create a Payroll System

Before the Excel can be used to create a payroll system, one must first identify the components of a payroll.

A typical payroll may consist of the following:

- Personnel serial or employment number
- Name of personnel
- Basic salary per month
- Transport allowance (T/A)
- Housing allowance (H/A)
- Leave bonus (LB)
- Over-time pay (OT)
- Medical allowance (MA)
- Meal subsidy (MS)
- Productivity allowance/pay (PS)
- Night allowance (NA)
- Loan
- Tax deduction
- Gross pay
- Total deduction (TD)
- Net pay
- Remark.

These can now be fitted into the Excel worksheet as shown in Fig. 1

Fig. 1 Payroll for ABC Company Nig. Ltd.

Book 1																
S/N	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1.	Name	Basic salary	T/A	H/A	LB	OT	MA	MS	PS	N A	Tax deduction	Loan deduction	Gross pay	TD	Net Pay	Remark
2.	J. A. OKE	50,000	5,000													
3.	P. O. DAVIES	45,000	5,000													
4.	S. O. OGUN	55,000	6,000													
5.	G. O. SAM	60,000	7,000													
6.	P. T. SEAN	35,000	4,000													
7.	K. E. ADE	40,000	5,000													
8.	V. J. SINO	70,000	10,000													
9.	W. E. WADE	65,000	8,000													
10.	O. O. ODION	75,000.00	12,000													

To calculate, the Gross pay (M) is given as

M = sum (B_2 -----J_2)
The Net pay (O) is given as

$O = [Sum (B_2 \text{-----} J_2) – Sum (K_2 \text{-----} L_2)]$
$= [M – Sum (K_2 \text{-----} L_2)]$

If any of the figures in column (B --- J) is altered, Excel automatically re-calculates and puts the new figure in M as the case may be.

If the transport allowance for instance is calculated as a percentage of the basic salary, say 10%, then

$C = (10/100) * B$
$= O.1 * B$

Thus, the Accountant is saved time of preparing a new payroll every month. He simply edits the payroll system with new data if any, and then prints out.

SELF ASSESSMENT EXERCISE

From the table below

	A	B	C	D	E	F	G	H
1	8	9	10	7	11	13	12	14

Determine:

(i) Average value
(ii) Maximum value
(iii) Minimum value

4.0 CONCLUSION

The nature of Excel enables it to be used to enter data, organise data, calculate data, analyse data and reporting functional and other documentary data. The Excel worksheet can be used to create a payroll system instead of incurring an extra-task of packaged payroll system.

5.0 SUMMARY

MS. Excel is an electronic spreadsheet designed to manipulate data for the purpose of analyzing, forecasting and generation of graph. They are usually two dimensional array of cell into which data are keyed in for processing. These cells are arranged into rows and columns, each of which has two coordinates.
Excel has several in-built functions that can be used make to calculation automatically.

6.0 TUTOR MARKED ASSIGNMENTS

How do you carry out the following operation on MS Excel?

(i) Delete row A1, A2, A3, A4 and A5
(ii) Copy text
(iii) Delete column
(iv) Insert row

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Owolabi, K. S. (2006). A Handbook on Computer with Computer Dictionary, Lagos, Pragmatic Educational Press

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UNIT 3 DEVELOPING A PERSONNEL DATABASE

CONTENTS

1.0 INTRODUCTION

This unit will look at the concept of Database (DBase) Systems with specific reference to creating and using a Personnel Dbase.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain the concept of Dbase.
- Identify the advantages of using a Dbase system.
- Demonstrate how to create and use a Personnel Dbase.

3.0 MAIN CONTENT

3.1 Developing a Personnel Database

3.2 The Concept of a Database System

A database is a single, organised collection of structured data, stored with a minimum duplication of data items so as to provide a consistent and controlled pool of data. A database is an integrated collection of

inter-rated data that is designed to serve several applications within an organization. It covers the following areas of application.

- Database technology
- Database management system (DBMS) software
- Dbase IV programming language
- Fourth generation software development tools
- Structured Query Language

Dbase is dynamic and evaluable. It is deterministic and archival in nature and is good for maintaining historical data.

There are three broad typologies of Dbase. These are:

- Relational
- Network and
- Hierarchical model

A database is made operational by a DBMS (Data Base Management System). The DBMS is a concept software which constructs, expands and maintains the database. It provides the interface between the user and the data in the base. It also allocates storage, maintains indices so that any required data can be retrieved and so that separate items of data in the base can be cross-referenced.

The structure of data is dynamic and can be changed as needed. The DBMS maintains data in the base by:

- Adding new records
- Deleting dead records
- Amending records.

In addition, it also provides facilities for different types of file processing. It can:

- Process a complete file (serially or sequentially
- Process required records (selective sequentially or randomly).
- Retrieve individual records; and
- Retrieve related records or related data with records.

The functions of the DBMS include:

- To protect the data against unauthorized access
- Safeguarding data against corruption
- Providing recovery facilities after a hardware or software failure.

It also keeps statistics of the use made of the data in the base. This allows redundant data to be kept in a readily accessible form so that time is saved.

The main characteristics of DBMS include:

- It is designed to serve transactions throughout the organization
- It removes duplication of files
- Reduces in processing time, and processing personnel
- Provision is made to share the same records between different programs.
- A great deal of programming time is saved
- Information supplied is more valuable
- It requires high calibre or experienced and specialized personnel.

As a result of the importance attached to database, a manager is appointed to oversee the affairs of the section. His functions include:

- Having sound knowledge of the structure of database and the DBMS
- Being thoroughly conversant with the organization, its system and the information needs of managers
- Ensuring that the data in the base meet the information needs of the organization.
- Ensuring that the facilities for retrieving data and for structuring reports are appropriate to the needs of the organization.
- Having responsibility for the documentation of the data dictionary
- Having responsibility for documenting manuals for users, describing the facilities the database offers and how to make use of them
- Supervision of addition of new data
- Ensuring the security of the database
- Periodic appraisal of the data held in the base to ensure that it is complete, accurate and not duplicated.

3.3 The Benefits of the Database Environment

Database can be integrated. This is made possible by DBMS software. Examples of the DBMS software are: IMS, DBASE III TOTAL, IDMS, IDMS/R, DLI, SYSTEM 2000, RAMUS, ADABAS INGRESS, SQL/DS, Encompass, Dbase I – IV, Fobase, Clippers and Oracle.

Some of the benefits derivable from the Database environment include:

- Greater access to information
- Minimizing of Data Redundancy

- Software development made easier
- Removing the processing constraints of traditional files

3.4 Creating and Using a Personnel Dbase

3.4.1 Starting Dbase IV

- Switch on your computer
- At the DOS prompt, type CD\DBASE
- Press ENTER (wait; after a while you see the Dbase II Screen, control centre).

NB: To do this, the Dbase must have been installed in your system.

At the control centre, which is the navigational centre of DBASE IV, you can perform the following:

- Create Dbase files
- Use a Dbase files or view
- Display and edit specific data
- Create, view and update queries
- Design and use data entry forms
- Prepare and print reports and marking labels
- Design and run applications
- Manage your file.

3.4.2 Creating a Database File Structure

The first thing to do here is to define the database. That is, plan its structure. To do this, one will first identify the data to be stored of personnel profile. The data required include name, and employment status and records.

Some terms which must be taken cognizance of are:

- **Field** - is the smallest unit of a file. It is where information is being stored in a file.
- **Records** – a group of related fields
- **File** – contains related records.

We can now create a database consisting of **Personnel Records.**

The field and field attributes are shown below:

Number	Field name	Field Type	Width	Index
1.	Staff number	numeric	6	N
2.	Staff name	character	60	N
3.	Date of employment	numeric	8	N
4.	Date of birth	numeric	8	N
5.	Status	character	30	N
6.	Department	character	20	N
7.	Phone number	numeric	12	N
8.	Basic salary p/m	numeric	6	N
9.	Highest qualification	character	5	N
10.	Area of Specialization	character	20	N
11.	Responsible to	character	30	N
12.	Marital status	character	10	N
13.	Year of graduation	numeric	4	N

We can now (a) create a database called **Personnel**

From the control centre, carry out the following:

- The word <create> in the data panel is highlighted. Press ENTER
- Type "staff number", the first field name
- Press **C** to select character field type.
- Type **6** as the width of the field.
- Press **ENTER**
- Press **E** to select index number
- You have now specified the first field. Type in the remaining lines from the table file structure above.
- Check to see that your results match the table and correct your errors
- Press **ENTER**. This terminates the procedure and you are presented with a box that states: **"SAVE AS"**
- Type **"PERSONNEL"** as the file name
- Press **ENTER**, and then the following prompt appears:
  Input data record now?
  Yes No
- Press **N** for No and you are returned to the control centre.
- (b) Print the file structure. To print your file structure:
- Press **Shift + F2** They return you to the database utility
- Press **ENTER** and move the cursor to the **LAYOUT Menu**
- Print Database Structure is highlighted, press **ENTER**

This selects the option.

- Highlight **Begin Printing**
- Press **ENTER** This prints the structure.
- To return to the control centre
- Press **F10**
- Select the **EXIT** option
- Select **Abandon Changes and Exit**. Press **ENTER** and you will be returned to the control centre.

3.4.3 Keeping and Maintaining a Database

(a) Entering data

Staff No.	Staff Name	Date of Employment	Date of Birth 01	Status	Dept.	Phone No.	Qualification	Area Of Specialization	Responsible To	Marital Status
001	S. J. AIRE	01/02/99	10/1/60	Accountant	Accounts	08021323467	B. Sc, MBA	Finance	Dir. Finance	Married
002	P.E. Reach	15/05/02	12/6/58	Personnel Officer	Personnel	08033267881	B.A, MPP	Personnel Psychology	Personnel Manager	Married
003	O.A. Olumide	01/01/03	3/5/65	Supervisor	Production	08034778171	HND	Spinning	Production Manager	Single
004	J. B. Dinyo	07/07/03	12/12/66	Tech. Officer	Production	08057837781	ND	Elect. Inst.	Production Manager	Single
005										

006										
007										
008										

The table above contains the record that can now be entered into the file called:

PERSONNEL as follows:

- Highlight **PERSONNEL** on the data panel
- Press **F2** and an Edit screen appears
- Type **S. J. Aire** as the first staff name
- Press **ENTER**
- Type **01/02/99** as date of employment
- Press **ENTER**
- Type **10/01/60** as date of birth
- Type **Accountant** as status
- Press **ENTER**
- Press **ENTER**
- Type **Accounts** as Dept.
- Press **ENTER**
- Type **08023334671** as Phone Number
- Press **ENTER**
- Type **B.Sc, MBA** as Qualification
- Press **ENTER**
- Type **Finance** as specialization
- Press **ENTER**
- Type **Director Finance** as responsible to
- Press **ENTER**
- Type **Married** as marital status
- Press **ENTER**
- Repeat the steps to enter the rest of the records
- Press **CTRL** + **END** to exit and save the last record and then re-display the control centre.

After entering all the data, you can perform any of the following operations:

- Browse through your data
- Edit your records
- Add new records]
- Mark a record for deletion
- Delete marked record
- Organise your data by indexing or sorting.

3.4.4 Querying Your Database

A query in database means a request for data.

- Exit to the control centre
- Move the cursor to **CREATE** on the **Queries Panel**
- Press **ENTER** and the query design screen appears
- Define the input file, in our case. Select **ALT + L** to open the Layout Menu. **Add file to query** is highlighted
- Press **ENTER** and a window listing the available database file opens
- Highlight the desired file name, **PERSONNEL DBF**
- Press **ENTER** to select the file. The windows close and a file skeleton appears. List all the fields in the **PERSONNEL DATABASE**

You can select your desired output fields.

- Press **ALT + E** to open the **Exit Menu**
- Press **CTRL+ S** to select **Save Changes and Exit** and a new window opens with the message **SAVE AS**
- Respond by typing the query name
- Type Per Prof as the file name
- Press **ENTER** to enter the query name

This will appear under the queries panel.

- To view the output by your query highlight **"Per Prof"**
- Press **F2** to browse screen appears with a view of your data
- Press **ESC** to return to the control centre

3.4.5 Creating a Report

- At the control centre, select PERSONNEL Database Press **ENTER**
- Press **U** to select use file
- Highlight **<create>** in the report panel
- Press **ENTER**
- Press **ESC** to chose the **Layout menu** so you can see the entire **Personnel screen**
- To define the field, press **ALT + L** to open the Layout Menu
- Highlight **QUICK Layout**
- Press and a new menu appears
- Highlight **Column Layout** and press **ENTER.** A set of headers for all fields appears at the page. **Select Header**, Bands and strings of **X's** (for character fields) or **A's** (for numeric fields) appear in the Detail Band.

- To type a report header; press **TAB** twice to move to the centre of the page
- Type **"PERSONNEL PROFILE"**
- Press **ENTER** when you finish
- To preview the report, press **ALT + P** to open the **Print Menu**
- Highlight **View Report** on the screen
- Press **ENTER** to issue the command

The screen appears. Press the **SPACE BAR** until you have viewed the last screen or **ESC** to exit the report display

- To save your data, press **ALT + E** to open the **Exit menu**
- Press **S** to highlight **Save Changes and Exit**
- A prompt appears **SAVE AS**. Type **STAFF PROF**
- Press **ENTER** to complete the operation

3.4.6 Printing the Report

- From the control centre, highlight the report **STAFF PROF**
- Press **ENTER** and a menu window opens
- Highlight **print report** option
- Press **ENTER**. The printer control window opens
- Highlight **Begin Printing**
- Press **ENTER** to start printing

SELF ASSESSMENT EXERCISE

i. What is a Database?
ii. State the benefits of the database environment

4.0 CONCLUSION

A database is dynamic and evaluable. A data base is deterministic and archrival in nature and is good for maintaining historical data.

5.0 SUMMARY

A database is a mechanized, formally defined, centrally controlled collection of data in the organization. It is made operational by DBMS which provide facility for retrieving data, generating reports, revising data, definition, updating data and building applications.

Its objective is centralized control of operational data to reduce redundancy and inconsistency in stored data, minimize conflicting requirements and enforce security restriction, standards and data independence.

6.0 TUTOR MARKED ASSIGNMENTS

Outline how to perform the following operations:

1. Start a Dbase IV
2. Edit your Dbase
3. Print your Dbase report

7.0 REFERENCES/FURTHER READINGS

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UNIT 4 APPLICATION OF THE COMPUTER IN MANPOWER PLANNING

CONTENTS

1.0 INTRODUCTION

This unit will attempt to look at the objectives and purpose of manpower planning. It will also discuss the process and importance of manpower planning with special reference to the use of the computer in gathering the necessary and relevant data.

2.0 OBJECTIVES

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

- Explain the meaning and objectives of manpower planning
- Use the computer in the manpower planning process
- Identify the problems of manpower data

3.0 MAIN CONTENT

3.1 Application of the Computer in Manpower Planning

3.2 The Meaning and Objectives of Manpower Planning

Manpower planning is a process for determining and assuring that an organization will have an adequate number of skilled and experienced persons available at the right time and place, performing jobs which meet the needs of the organization and which provide satisfaction for the workers involved. It is a dynamic process with implications for

education, recruitment, training, wages structure and manpower utilization patterns.
It usually involves three inter-related concepts.

- **Work Demand** – Analyze, review and produce the manpower required by the organization to achieve its objectives.

- **Work Supply** – Predict the action required to ensure that the manpower needs are available.

- **Linkage Between Work Supply and Demand** – Design the interaction between demand and supply, so that skills are utilized to the best advantage and that the legitimate aspirations of the individuals are taken into consideration.

Manpower planning is carried out by government, private and public organizations as a result of:

- Future personnel needs
- The need for an organization to cope with the changes of competitive forces, technology. etc.
- Organizational needs of highly skilled and experienced personnel
- Management succession
- The needs of an organization to make strategic plans in view of the competitive nature of the business environment
- The need to provide foundation for personnel functions such as recruitment and selection

Manpower planning represents the basic strategic planning device of personnel management. It enables management to forecast future manpower resources against present manpower resources and developing strategies to cope with the gap between the two. HRM strategy is directly linked to the corporate objectives of the enterprise.

There are obvious examples where a change in business strategy leads to corresponding change in personnel strategy. Survival in a recession may depend on either cutting back on operation or developing new areas of operation. The IBM (Case I) is a good example [Needle (1994)]

Other features which may be called for avocation in HRM strategies are:

- Different product market
- Culture change and changing circumstances
- The state
- The economy

- Technological changes
- The labour force
- Organizational size, structure, goals and ownership

The above features are clearly explained in the Perkin Engine Group (Case II) and the British Airways (Case III)

3.3 The Use of Computers in the Manpower Planning Process

Manpower planning is an all-embracing process. It is carried out at the Macro (i.e. national) and Micro (i.e. state or organizational) level. In the words of D. J. Bartholomew (1976), there are obvious benefits to a society which can arrange for its people to be employed in ways which are socially profitable and personally rewarding. The full input of this statement is that manpower planning is not only of critical importance to the nation but also to the individuals that make up the nation. As Harbison put it, human resources, not capital, nor income or materials constitute the ultimate basis for the wealth of the nation. With this in view, concerted efforts must be made to ensure the availability of skilled and adequate manpower to fit into the various sectors of the economy and national life. Developing the manpower is tantamount to developing the nation.

The manpower planning at the national level revolves round.

- The determination of the nation's manpower need in all occupations.
- Formulation of programmes of manpower development through university expansion, training, scholarship and fellowship.
- Dealing with unemployment policies and the optimum utilization of manpower resources of the nation

To carry out the above objectives will require:

- The generation of manpower data
- That we promote the development of employed manpower
- That we create employment opportunities and expand training facilities
- The maintenance of a national register high level manpower and securing optimum utilization of manpower resources.

At the micro or organizational level, manpower planning policy revolves around enterprises' economic goals and desirable social goals such as:

- The need for greater, more creative contributions to the productivity in the face of rising cost and stiffer competition
- The need for more broadly skilled manpower at the top level of the organization and suitable executive succession
- The need to plan and assimilate changes in status, work and relationship of employees

To realize the above objectives the following question will certainly deserve an answer

- What numbers of employees by type are needed to meet our organizational objectives?
- Do we have such employees within the organization?
- What numbers of people, by type, must be recruited by time period?
- How should these employees be allocated to the various units within the organization?
- What is the best way to recruit and select the required personnel to assure the best quality for the positions available?
- What type of education and training are required to satisfy the needs of the organization and the individuals?

These questions can easily be answered if a databank which dynamic, evaluable, deterministic archival and historical in nature is available. The database will consist of an up to date data on the nations

- Demographic birth rate
- Death rate
- Stock and flow of manpower
- Statistics of labour mobility
- Analysis of labour utilization
- Movement from infancy to school
- Movement from school to employment
- Mortality rate
- Retirement
- Graduates from the higher institutions para using a computer- based data management system such as the DBASE IV, it becomes easier to make projections of manpower needs, manpower availability, and manpower utilization as well as labour mobility which are critical to the manpower planning process.

3.3.1 The Manpower Planning Process

The Manpower planning process involves:

(a) Goals and Plans of the organization

As started earlier, the HRM strategies are built around the overall corporate strategies and plans. The plans, may be short, medium or long range. In setting goals and plans the under listed factors are considered:

- Analysis and evaluation of the environmental influences
- Identification of the organization internal strength and weakness
- Creation of organization-: specific objectives and plans for achieving these objective
- Communication with key members of the organization involved in the planning process.

(b) Kill Inventory

Takes an up-to-date inventory of the profile of personnel currently within the organization. This can be done easily by means of a computer- based system.

(c) Manpower Forecasting

This involves the determination of manpower supply and demand at the end of a given period. With this information at hand, it becomes possible to predict the manpower requirement.

This information can easily be obtained from the databank.

(d) Implementation strategy

This basically involves the translation of the manpower plans into action. This will entail the process of recruitment, selection, placement, performance appraisal, promotion, training, motivation and compensation.

(e) Audit and Adjust Step

Simply compare the outcome with goals set. Should any variance exist, the entire process is revisited.

3.4 Problems of Manpower Data

The gathering, compilation, processing, storage and retrieval will depend not only on the technique used but also on the availability of good national statistics.

Until recently, when the National Census Board released the preliminary result of the 2006 population which put Nigeria population at over 140 million, the actual population of Nigeria was not known. The

consequence of this is that demographers and manpower planners merely did guess work. In addition to this, it is generally observed that individuals in Nigeria could play a multiple role. For instance, it is possible for a Nigerian, a single individual, to be a student, an employee as well as an employer of labour.

The International Labour Organization took cognizance of this problem and recommended the Bachue model in man-planning. The model involves a very sophisticated computer processing and it relies on input of statistics, computer programming, econometrics and behavioural science.

SELF ASSESSMENT EXERCISE

i. Why is it necessary to carry not manpower planning?
ii. Enumerate the relevant information required to generate a computer based data field necessary to the manpower planning process.

4.0 CONCLUSION

Manpower planning is a continuing process and should be sufficiently long range. It should involve those affected and must continuously be appraised to determine its effectiveness.

5.0 SUMMARY

Manpower planning represents the basic strategic planning devices of personnel management or Human Resources Management (HRM). It enables management to forecast future manpower requirements against current manpower resources and developing strategies to cope with the gap between them.

In Nigeria, the major problems confronting manpower planners is the non-availability of actual national population statistics and the fact that single individuals in Nigeria could assume multiple roles. The Bachue model if adopted is expected to curb or reduce the problem. It is expected also that the 2006 National Population Census will produce the actual national statistics for demographers and planners to use.

6.0 TUTOR MARKED ASSIGNMENTS

State and explain the features of the man-power planning process.

7.0 REFERENCES/FURTHER READINGS

Aina, Sola (1992). Personnel Management in Nigeria – A work Centered Approach. Lagos. Edition F. Communications

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Adesina, A. I. (2002). Introduction to Compute, Lagos; Kenia Publishers

UNIT 5 RECRUITMENT AND SELECTION MADE EASY

CONTENTS

1.0 INTRODUCTION

This unit will look at the concept of recruitment and selection and how networks of computers could make this process relatively easy.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain the concept of recruitment and selection
- Demonstrate the need to create opportunity for open competition.
- Explain the roles played by networks of computers in the process of recruitment and selection.

3.0 MAIN CONTENT

3.1 Recruitment and Selection Made Easy

3.2 The Concept of Recruitment and Selection

The concept of recruitment and selection can be aptly referred to as **people processing**. It is a function of the Human Resources Manager to fulfill the organization's demand for labour within a given labour market.

This function is realized through the processes of recruitment, selection and training. This is done in most cases within the framework of a

manpower plan. This process is not all the time smooth as the labour market may act as a total constraint to the extent that severe labour shortages in a given area may cause management to rethink its plans. In other cases, when the labour market operates as a partial constraint, an attempt will be made to entice workers away from existing jobs by offering them attractive pay packages and opportunities for career development. The consequence of this is a high level of mobility among certain groups with scarce skills in otherwise depressed labour markets.

The process of recruitment entails searching for prospective employees and stimulating them to apply for jobs in an organization, while selection is the process of choosing and matching a potential employee from among those recruited with the requirements and rewards inherent in a given job.

As a prelude to recruitment and selection, the HR department must first carry out what is referred to as a pre-procurement process. This process entails the identification of needs within the organization (i.e. a vacancy). Two key features of the pre-procurement processes are:

(i) Job Description

Describes the actual demands of the job, the designation and grade of the post, the division in which it is supervised and other role relationships as well as the summary of the main activities of the job.

(ii) Person Specification

Gives an impression of the kind of person likely to be able to fit the requirement of the job. Such specification or attributes will include:

- Impact on people
- Qualification
- Brains and abilities
- Motivation
- Adjustment, etc

With the above in view, management can then decide whether to recruit internally through promotion or transfer or to recruit externally. If the decision is in favour of recruiting externally, management must then place advertisement in media that can reach its target audience.

The advert will entice prospective candidates for selection. The candidate selected can then be placed and given some **induction training.**

3.3 Creating Opportunities for Open Competition

The aim of a selection interview is to find the best match among the candidates for a particular job. Selecting the best man has been a formidable problem to recruitment officers around the world. This is because of the complex nature of man. An individual may score well in the written and oral interview and yet be unproductive. On the other hand, a person may perform poorly in the exam and yet become an asset to the organization.

In view of the above, it is imperative that management should create a level playing field for all potential candidates for employment. This can be achieved through:

(a) Adequate Publicity

Make job openings and requirements public so that prospective employees have a reasonable opportunity to know about them.

(b) Opportunity to Apply

Interested candidates should have a chance to make their interest known and to receive consideration.

(c) Realistic Standards

Qualification standards must be reasonably related to the job to be filled and must be applied impartially to all who make their interest known.

(d) Absence of Discrimination

The standards used must contain factors which relate only to ability and fitness for employment.

(e) Ranking on the Basis of Ability

Candidates are evaluated and ranked according to their ability and fitness for the job.

(f) Knowledge of Results

The public must be able to find out how the process works and anyone who believes that the process has not been applied properly in his own case must have a chance for redress.

3.4 The Use of the Computer in the Process of Recruitment and Selection

The main features of the recruitment and selection process are:

(a) Job description
(b) Person specification
(c) Application form
(d) References
(e) Test results
(f) Group selection.

Items (a) through (d) can be programmed into the computer's template, so that candidates with access to the computer can apply.

Apart from applying through the Net, candidates may be required to apply in person with their handwritten applications or send their applications to a given address within a specific time period.

The medium used to advertise the job opportunity should have afforded all interested candidates the opportunity to know. Some of the media that can be used to reach a wide audience within the labour market are:

- National dailies
- Local newspapers and magazines
- Electronic media,. e.g. radio and TV
- The Net

The advertiser must ensure that the mode of application is specified. Common modes are:

- Applying through the website
- Applying in writing by post
- Appling in person with handwritten application.

The aspect we are concerned about here is applying through the website.

The advertiser can build into templates in its website a format which all interested applicants must fill. The format must contain the key criteria for ranking of prospective candidates. Some of the criteria are:

- Age of applicant
- Sex
- Marital status
- Qualification and grade

- Job experience
- Motivation
- Inter-personal relationship
- Expression, etc.

With devices such as this, the HR department can carry out a pre-listing of candidates for the final selection.

As a matter of courtesy, the HR department may choose to acknowledgement via the Net, the receipt of all applications. The acknowledgement may read: "We acknowledge the receipt of your application letter which is currently receiving attention". This can be sent within minutes to the e-mail boxes of all the applicants.

Where high premium is placed on age, qualification, sex, job experience and marital status, the system can be programmed to sort automatically those who met the laid-down standards. These are those who would be invited for the selection interview. The result for the pre-interview screening and the interview can be checked via the Net by all those who applied. This eliminates the issue of bias.

Some of the major advantages of this system is that:

- It eliminates the cumbersome process of reading and sorting application letters.
- It eliminates writing and mailing letter to all qualified candidates for interview
- Frees most personnel to attend to other demanding tasks
- Enables applicants to know their performance
- Eliminates bias.

SELF ASSESSMENT EXERCISE

i. ABC company wishes to give all intending and prospective employees a level playing field to compete for the vacant position in the company. Mention and explain the factors to be considered.
ii. Explain how the computer can play a key role in the recruitment and selection process.

4.0 CONCLUSION

Personnel selection is a key aspect of the personnel function which must be handled with care. An efficient approach to personnel selection is one that is systematic and embodies the basic principles and techniques

of personnel selection. A good example is the use of a network of computers in the recruitment and selection process.

5.0 SUMMARY

Recruitment is the process of searching for prospective employees and stimulating them to apply for jobs in an organization, while selection is the process of matching the ability and potentials of an interviewee with the requirements and rewards inherent in a particular job.

Though no selection process is 100% effective, it is possible to reduce the problems inherent in recruitment and selection through the process of using computers.

6.0 TUTOR MARKED ASSIGNMENTS

Explain the concept of recruitment and selection.

7.0 REFERENCES/FURTHER READINGS

Aina, Sola (1992). Personnel Management in Nigeria – A Work Centered Approach. Lagos. Edition F. Communications

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MODULE 3

UNIT 1 HARNESSING THE BENEFITS OF THE INTERNET

CONTENTS

1.0 INTRODUCTION

This unit will take a cursory look at the concept, features, facilities and benefits of the Internet to the HR department and the organization as a whole.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain the meaning and scope of the Internet
- Identify the features, facilities and resources of the Internet
- Explain the benefits and problems of the Internet

3.0 MAIN CONTENT

3.1 Harnessing the Benefits of the Internet

3.2 The Meaning and Scope of the Internet

The word "INTERNET" means International Network. It is a global collection of many different types of computers and computer networks that are linked together. It is also referred to as a network connection of many computer networks based on a common addressing system and communication protocol called TCP/IP (Transmission Control Protocol/ Internet Protocol.

The Internet allows individuals to exchange information with other computers and computer users anywhere in the world. The physical layer of the Internet connects users on telephone, satellite and cable TV networks, local area networks (LAN) and wide area networks (WAN).

The Internet is the sum of all private networks connected to it. Adesina (2002) describes the Internet thus:

- The world's current largest computer network, allowing or facilitating free exchange of information between one computer user and many others.
- A vast information super highway, enabling computers of all kinds to communicate directly like parts of a giant global computing machine.
- A web of different machines in different networks with different users.
- A research support and information retrieval mechanism
- A massive communication medium
- A network of networks based on the Transmission Control Protocol / Internet Protocol (TCP/IP).
- A community of people who use and develop those networks
- A collection of resources that can be reached from those networks.
- The fastest and most reliable means of data transfer.

The Internet connects millions of individual computers together through:

- Leased line method, or
- Dial up Access method.

In the leased line method, an Internet host is linked to a service provider through a permanently connected telephone line while the dial up access

is the method by which an Internet host is linked by means of personal computer equipped with modem and communication program.

3.3 Features of the Internet

The features of the Internet involve:

- **Real Time Information, Retrieval and Transfer**

This enables communication in real time. For instance, the e-mail can be sent and received from any location in no time.

- **Global Access**

The Internet can be accessed from anywhere in the world as long as a connection to a local provider can be established.

- **Interactive Graphic User Interface (GUI)**

  The Internet presents information in user-friendly mode, e.g. www pages are formatted with brilliant graphics and texts providing a very enabling environment for information dissemination.

- **Dynamic**

  The Internet is constantly being updated, providing users with current state-of-the art technologies and information.

3.4 Internet Facilities and Resources

The services of the Internet are listed below:

- **Electronic Mail**

  This is a worldwide service and system for sending and receiving electronic mail (e-mail). It represents a large portion of all Internet traffic.

  The e-mail is a messaging system that allows you to send mails, communiqués and reports to users on the Internet. It also allows for the creation of a group mailing list where mail sent to one address will cause the information to be distributed to all members of the group. The mailing list can be used to disseminate textual information such as office memos and reports to a number of people at a time.

- **Electronic News**

This is mainly distributed through the use-net news system.
Usenet news is distributed on a variety of levels from local distribution to the news server on the local machine to world distribution to all other usenet news systems in the world. Usenet news groups can be thought of as bulletin board systems where users posting to a certain group can inform all other readers of that newsgroup. Each group concentrates on its own specific topic. Usenet news is also a way to receive up-to-date information on exciting news.

- **Information Access**

This is an electronic information system available on the net and includes the Gopher. The Web Area Information Services (WAIS) provide much of the information on the Internet in a readily accessible format. There are also other non-standard information services developed specifically by certain institutions.

- **Gopher**

This is a menu-based system. It provides interconnected links between files on different computers around the internet. The files are linked as a series of directories around the Gopher Menu located on other computers.

The Gopher provides access to text documents.

- **World Wide Web (WWW)**

This is a hypertext-based information service. It provides access to multimedia and complex documents and data bases. The information is presented in form of web pages. The web is a very effective method of providing information. This is because of its visual impact and advanced features. It also provides access to other services such as Gopher, Usenet news, file transfer, remote connectivity as well as special access to data on the local network.

The web can be used as a complete presentation media for information on a company's products, services and corporate activities. Other facilities include:

- E-commerce
- Shopping
- Trading
- E-learning

- On-line technical support
- Entertainment
- News
- Discussions
- Internet chart
- Demonstration, etc.

- **Access and Control**

The Internet is used by people from various backgrounds, interests and personalities Professionals and non-professionals use it:

- To send or receive e-mail
- To engage in on-line conversation
- As bulletin board
- To play games
- To send interactive messages
- To do file transfers.

3.5 The Benefits and Problems of the Internet

3.5.1 Benefits of the Internet

Today's world is information-driven. This is why this age is commonly referred to as the information age.

A major component of the information age is the Internet. The benefits of the Internet include:

(i) Communication

This allows people to share ideas, problems and solutions among themselves. This is in consonance with the popular maxim "a problem shared is a problem solved". Communication, they say, is the soul of business.

(ii) New Business Opportunities

The dynamism and the turbulence inherent in the business world informed the need for investors and entrepreneurs to search for new and innovative ideas with a view to improving the net-worth of the organization.

(iii) Product Analysis

First-hand reports and information can be obtained on the Internet in respect of the functionality and viability of a product currently on test or that one may wish to purchase.

(iv) Market Analysis

Market surveys concerning a new product or service idea can be obtained on the net.

(v) Expert Advice and Help

Experts are readily available on the net to render sometimes true advice and help with problems you might have.

(vi) Recruitment of New Employees

Job lists and resources are available on-line for prospective employers. Resume can be posted to the usenet groups to inform the availability of new skills.

(vii) Cost-Effective Document Transfer

Hypertext documents provide an effective method to present information to subscribers or the general populace. Organizations may choose to create web documents and register their sites with large websites to improve on the availability of the documents to a larger client base. This provides global advertisement opportunities.

Other benefits of the Internets include:

- Rapid information access
- Creating a client base
- Library services
- Recreation and entertainment
- Access to Databanks and research information
- Receiving regular updates on topics of interest.

3.5.2 Problems of the Internet

The negative aspects of the internet include:

- Transmission of pornographic materials
- Deliberate infection of computers with viruses

- Illegal transfers in banks
- Currency counterfeiting
- Theft of intellectual property rights
- Recipes for crime
- Fraud
- Contact forum for hate group
- Addictions.

SELF ASSESSMENT EXERCISE

i. What are the benefits of the Internet?
ii. Identify and explain the key resources and facilities of the Internet

4.0 CONCLUSION

The business world is moving at a fast pace. To keep abreast and stay afloat, individuals and organisations must embrace the "8th wonder of the information age" – the Internet.

5.0 SUMMARY

The Internet is the world's current largest computer network allowing or facilitating free exchange of information between the computer user and many others. It is the fastest and most reliable means of data transfer with lots of benefits to individuals and organisations. It is a key product of the information age.

6.0 TUTOR MARKED ASSIGNMENTS

Clearly describe what the Internet is all about.

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UNIT 2 THE CONCEPT AND PRACTICE OF DATA PREPARATION AND PROCESSING

CONTENTS

1.0 INTRODUCTION

This unit will treat the concept practice and scope of data preparation and processing. It looks at the personnel and methods and examines some cases of data processing.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain the concept, practice and scope of data processing
- Identify methods and cases of data processing.
- Identify the personnel involved in data processing

3.0 MAIN CONTENT

3.1 The Concept and Practice of Data Preparation and Processing

3.2 The Concept, Practice and Scope of Data Processing

Data processing refers to all the activities necessary to convert raw data into useful information that can be used in the management decision making process.

The processing of data follows a cycle of events such as data gathering, processing, outputting, formatting, storage, controlling etc.

Data could be numeric, alphabetic and alphanumeric. They consist of constants and variables.

Data can be structured. That is, they are organised in a given format, commonly referred to as data structures. Data structures are broadly classified into:

(a) Arrays

Similar data whose individual elements can be identified by integer indices. Arrays can be one-dimensional or two-dimensional. They can be expressed in matrix form of rows and columns. Examples of arrays are stacks, shelves and queues.

(b) Records

This is collection of unrelated data items about an object. A record consists of data of different types for one person or object. A collection of similar records form a file.

A **file** may be classified as **master file** or a **transaction file**. A **master file** consists of a group of related records of employee file, suppliers file etc. A master file can be periodically updated with current status of each record in the file. A transaction file on the other hand is a collection of data relating to a business transaction. It contains details, relating to wages, e.g. payroll file. It can be collected for a period of time and processed in batches.

(c) Stacks

A stack is a form of list in which all insertions and deletions are made at an end. When an item is added into a stack, we say that we push it into the stack and when we remove an item, we say that we pop it from the stack. Data are added to the top of a stack and are also removed from the top. Hence the acronym LIFO (Last in, first out).

(d) Queues

Data are added to the end of a queue but removed from the front. The term FIFO is used to describe queues because the first datum in is the first datum out.

(e) Chains

Are string of records each of which are connected to another record by means of a pointer held within the record and provide the address of the next record of the chain. Chain records are contiguous.

(f) Rings

Are strings of records linked by pointers in a similar way to a chain, but with the final record pointing back to the head of the ring. Rings may be either one-way or two-way and may intersect with other rings.

3.3 Methods and Techniques of Processing Data

Methods used in processing data include:

(i) Manual data processing
(ii) Mechanical data processing
(iii) Electronic data processing.

The Manual Data Processing

Is done without the aid of complex machines. It involves the use of mathematical tables and is suitable for dealing with very few data. Boredom, fatigue and limited knowledge may lead to errors as the volume of data increases.

The main advantages of Manual Data Processing are:

- It is cheap to operate
- It does not rely on electricity
- It does not require buying of packages or writing of programs
- It is economical, where data are not voluminous.

The disadvantages are:

- It is prone to errors
- Information cannot be accessed in time
- There is delay in processing.

Mechanical Data Processing

This makes use of simple machines like calculators, cash registers, accounting machines and typewriters. This method is faster and more accurate than the manual method.

Electronic Data Processing

This uses the computer and other electronic devices. It keeps records in magnetic tapes and disks. A program is needed for the processing. The process is able to cope with very large data. It is processed within a very short time with great accuracy, reliability and efficiency.

Its main advantages are:

- It is very fast
- It is reliable
- Information is easily accessed
- It reduce monotony and fatigue

Its demerits include:

- It is expensive
- Training has to be provided
- Information can easily be corrupted or overwritten
- Infrastructures and other accessories are required.

3.3.1 Processing Techniques

The techniques of processing data include:

- Batch processing
- Real-time processing
- Integrated processing
- Time sharing
- On-line processing

(a) Batch Processing

Here, transactions are allowed to accumulate into batches of suitable sizes and then each batch is stored and processed. Delays usually result here because the result of processing a particular item of data will not be known until the results of the batch are known, e.g. the payroll system.

(b) Real-time Processing

In this case, data are processed so quickly such that the result of processing is immediately known. The input is random and diverse and comes from remote locations, e.g. the airline seat reservation system.

(c) Integrated Processing

This consists of more than one processing technique. For instance, batch and real-time processing can be carried out simultaneously on the computer.

(d) Time Sharing

This technique allows many people to have access to use a particular computer facility almost at the same time. The user may have one or more terminals installed in his own premises or at remote locations, all of which are linked to the computer which has the ability to process large amounts of data from multiple sources concurrently and respond with useful output quickly.

(e) On–Line Processing

This involves source data being transmitted over a communication link to the central processing unit. The CPU, on receipt of the source data, will carry out data validation checks on the data and then process automatically without human intervention.

3.3.2 Stages of Data Processing

The processing of data involves the following stages:

(a) Gathering

This involves the collection of data from reliable and related sources. The cost, speed and accuracy with which data are collected are very important. The integrity of the data determines the validity or otherwise of the processed data. That is, information is as reliable as its data.

(b) Preparation

Data collected are verified and validated to ensure that they are correct and are capable of being processed.

(c) Input

Data collected are usually stored on the computer until they are needed.

The storage may necessarily make use of records and files.

(d) Processing

The computer receives commands to process the available data. The instructions are carried out within microseconds and display the results on the screen.

(e) Output

Is the meaningful outcome of the processed data. The main features of the output are:

- **Format** – shows how the output would appear
- **Total and Sub-totals** – applicable only for numerical fields

- **Selection Criteria**

These should indicate conditions for selection, e.g. employment interviews should indicate the minimum cut off point for short-listing.

- **Storage**

Results can save and retrieve for subsequent cycles and information processing activities.

- **Controlling**

This unit fetches instructions from main storage interprets them and issues the necessary signals to the components

3.4 Personnel and Cases of Data Processing

3.4.1 Personnel Involved in Data Processing

Organizations that develop and run their application software usually have a department carved out specifically for data processing. The department is headed by the Data Processing Manager (DPM) who is responsible for the overall running of the department.

Other personnel employed in the department include:

- **The System Analysts**

They concern with planning how work is done on the computer. They study details of existing operations and submit a plan of the computerized version of the work.

- **The Programmers**

They are the ones who write programs according to the requirements of the system flow diagram.

- **Operation Managers**

They are responsible for the day-to-day running of the computer system. They allocate computer time to various programs and arrange for the maintenance and repair of computers when necessary

- **Computer Operators**

They keep the computer running; they type instruction and read messages from the system.

- **Data Preparation Staff**

Operates the data entry terminal which keeps the computer supplied with data.

- **Database Administrators**

When the computer system is centred around a database, a Database Administrator is appointed to oversee its maintenance.

- **File Librarians** – keep disks and tape files.
- **Data Controllers** – control the flow of input data.
- **Technical Authors** – take charge of documentation.

3.4.2 Cases Requiring Data Processing

Examples of cases requiring Electronic Data Processing (EDP) are:

- **Population and Planning**

Accurate population figures enable government to plan for distribution of social amenities, e.g. water.

- **Academic Results**

For quick and accurate processing of students' results, the EDP is required.

- **Personal Expenditure** – Limited funds and competing needs require that one orders priorities through careful analysis.

- **Staff Recruitment**

Job availability and new skills can be advertised on the Net, as well as collation of interview details and short-listing of interviewees.

- **Admission** – that is based on criteria such as:
- Merit
- Catchments area
- Discretion
- Educationally disadvantaged areas, etc

The criteria are used as field when processing the data.

- **Administration**

The need for planning, allocation of funds and other resources to various departments are collated and processed.

- **Staff Promotion**

Personnel data are processed based on the established criteria for promotion.

- **Choice of employment**

An applicant or job seeker may consider the following before deciding on which offer to accept. The factors are:

- Salary
- Future training opportunities

- Allowances payable
- Hours of work
- Location of working place
- Promotion opportunities
- Medical facilities, etc.

These also require data processing.

SELF ASSESSMENT EXERCISE

i. Identify and explain some key areas where data processing will be relevant to the Human Resources department.
ii. Briefly explain the concept and practice of data processing.

4.0 CONCLUSION

Modern businesses process large volumes of data to provide useful and adequate information for the decision making process. Electronic data processing will neatly carry out the sequence of actions required for a steady flow work.

5.0 SUMMARY

Data processing involves a sequence of actions which are carried out regularly in order to maintain a steady flow of work. When a computer is used in data processing, it is referred to as Electronic Data Processing.

Methods of data processing are:

- Manual
- Mechanical
- Electronic.

The techniques of data processing include:

- Batch processing;
- Real-time processing;
- On-line process;
- Integrated processing, and
- Time sharing.

6.0 TUTOR MARKED ASSIGNMENTS

Mention and explain the methods and techniques of data processing.

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UNIT 3 TRAINING AND DEVELOPMENT

CONTENTS

1.0 INTRODUCTION

This unit will treat the needs, scope and nature of training and development.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain the scope of training and development
- Identify training needs
- Design and implement training programmes

3.0 MAIN CONTENT

3.1 Training and Development

3.2 The Scope and Nature of Training and Development

Human Resources play a key role in the success or successful attainment of organizational goals. In view of this critical importance of human resources, it is imperative that organizations pay attention to matters relating to training and development. Training and development are focused on improving the knowledge, skills and attitudes required by a job holder for better performance.

Training is preparation for a particular job. It is concerned with job performance and the application of knowledge and skills to present work, while development is a course of action designed to enable the individual to realize his/her potential for grow in the organization. It relates to the future rather than the present job.

The scope of training and development activities of any enterprise depends on its policy and strategies. Some organizations prefer to engage highly experienced staff already trained or professionally qualified. Such companies accord training and development matters little priority.

Training and development activities can only yield the desired result if they are systematic. Systematic training entails:

- The training and development policy of the company should be clearly stated.
- The training organization should be established.
- The training and development needs of the company should be ascertained.
- Planning and implementing training programmes

Having implemented the required training, it is important to evaluate the results.

Training can be done:

- On the job;
- Off the job;
- In-house, and
- Externally.

3.3 Identification of Training Needs

Before the implementation of training programmes, it is proper to first identify the training needs. Boydel (1975) is of the opinion that the word **Need** implies that something is lacking, while **Training** implies that the lack can be supplied by systematic training. This suggests that a training need is a gap between the kind of performance or competence an employee has and the kind of performance or competence which he or she is expected to have. The gap is therefore the difference between the knowledge skills and attitude which an employee has from those he required to perform a job.

3.3.1 Levels of Training Needs Analysis

Data required to conduct comprehensive training needs analysis can be obtained from three different levels:

- Training needs at the level of individual employees
- Training needs at organizational level
- Training needs at departmental level.

(a) At the level of individual employees

The individual who needs training in an organization and the area the training are needed is identified. Data about the individual's appraisal record, personal training record, test results, notes made at counseling interviews and results of attitude surveys can be obtained from the personnel databank to carry out the exercise.

(b) At organizational level

Here, the needs of a particular department, division, section or unit are identified. Data about the organization as a whole, that is, its structure, markets, products or services, manpower requirements are obtained from the organization's databank to carry out the exercise.

(c) At departmental level

At this level, to be considered are:

- Who needs to know what to cope with present work load?
- Who needs to know what to cope with anticipated changes in workload, work systems or workforce?

The information will help in formulating a picture of priorities.

3.3.2 Sources of Information for Training Needs

The methods of collecting information for a training needs analysis are:

(a) Job Analysis

Is a process of examining a job in order to identify it component parts and the circumstances in which it is performed. The component parts include:

- Duties

- Task requirements
- Environment.

The job analysis will give the job description (JD and the man specification (that is the knowledge, skills and attitude).

The difference between job specification and man specification is the training need.

JS – MS = Training needs.

(b) Annual Performance Evaluation Report

An employee's performance in several aspects of the job indicates short falls which could be corrected by training.

(c) Diary Method

The employee is told to keep a diary for about two weeks of the activities that occupy most of his or her time are focused. Attempt will then be made to find out whether he or she is equipped with the right knowledge, skill and attitude to perform the task.

(d) Self Reporting Questionnaire

The employee is asked a question that directly relates to his or her work and be expected to give a direct answer.

(e) Critical Incident Methods

The employee is asked to recall an incident about his or her job over a period of time, possibly the most difficult thing he or she did that month. This will be used to determine the area where training is required.

(f) Brainstorming

This will apply to a group of individuals or employees. Questions are posed to the group and they give their responses which are later examined in detail. They may be asked the type of training they think they need.

3.4 Designing and Implementing Training Programmes

Once the training needs have been clarified, the next phase up to design and implement the training programme. The training plans must feature:

- What training to be provided
- How it is to be provided
- When it is to be provided
- By whom it is to be provided
- At what cost it is to be provided.

Training methods include:

(a) On the job training
(b) Off the job training
(c) In-house training
(d) External courses.

On-the-Job Training – involves:

- On the job instruction
- Coaching
- Counseling
- Delegation by boss
- Secondment
- Guided project/action learning.

Its main merits are:

- It is less costly
- Learning takes place on the equipment which will be used when the training is proficient.
- The training is in the production environment from the beginning.

(b) Off-The-Job Training Method

This involves **In-House** and **External** programmes. **In-House** programmes include lectures, talks, group discussions, role playing exercises and skill development exercises, while external programmes include long and short courses, consultants and other training organizations.

The **merits** of off the job training include:

- It is most suitable if a group of trainees have the same training needs. They can be taught as a unit.
- It will not cause disruption of work
- It is useful where there is no one qualified to instruct on the job or cannot afford the time.

3.4.1 Evaluation of Training

Since organizations invest time, money and manpower to train its personnel, attempts should be made to evaluate the impact of the training. The aspects to be evaluated are:

- The input to training: Are we using the right tools for the training? (Training Centre Evaluation)
- To obtain and assess the reactions of trainees to the learning experiences they have been put through (Reaction Centred Evaluation).
- To measure the degree of learning that has been achieved (Learning Centre Evaluation)
- Assessing the degree of behaviour change which has taken place on the job after returning from period of training (Job Related Evaluation).

3.4.2 Developing Employees

Performance appraisal and track record of accomplishment can be used to identify individuals who have potential for development in line with future objectives of the company.

Programmes designed to achieve this objective include:

Job Rotation

Move individual from one job to another.

Understudying

Move someone to assist a more senior manager.

Specific Project

Assign a specific project to a Manager being groomed with a view at exposing him or her to various aspects of the job.

Task Force and Working Parties

This will involve a group of people from different parts of the organization to carry out a specific task. This will help to sharpen the management skills of participants.

Courses

In-house and external courses may be organised for managers.

SELF ASSESSMENT EXERCISE

i. What are the main features of a training plans?
Identify the methods of on-the-job training methods and off-the-job training methods.

ii. Enumerate and explain the sources of information for training needs.

4.0 CONCLUSION

No nation or organization develops beyond the intellectual ability of its Human Resources. Succession planning will be futile without an effective training programme. The concerned organization may have to resort to panic recruitment. An establishment with a planned system will make room for manpower replacement without resorting to panic recruitment.

5.0 SUMMARY

Training and development is a key factor in every organization, particularly growing organizations. The need to train personnel is of critical importance, in view of the role it plays in the growth and development of the organization.

Training will provide employees with the relevant skill, knowledge and attitude to perform their present tasks while development will prepare them for the future in-line with the organization's future objectives.

Training may be done on-the-job or off-the job.

6.0 TUTOR-MARKED ASSIGNMENTS

1. Identify and explain the types of programme design that would assist in the development of employees.

2. Mention and explain three (3) aspects of training evaluation.

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UNIT 4 COMMUNICATING MANAGEMENT INFORMATION

CONTENTS

1.0 INTRODUCTION

This unit will look at the principles, nature and methods of communicating management information.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Explain the nature and principles of communication
- Explain the importance of communication in business
- Identify the methods of communicating management information.

3.0 MAIN CONTENT

3.1 Communicating Management Information

3.2 Nature and Principles of Communication

Communication is the process by which a thought is transferred from a person or persons to another person or persons. It may be in the following forms:

(a) **An Order** – part of the direction process.
(b) **A Request or Appeal** – from the workforce to the management.
(c) **An Observation** – an expression of view point or a contribution to the decision-making process.
(d) **As Information** – provision of data for the use of management.
(e) **As Instruction –** related to training or as part of a delegation process.
(f) **In Policy Making –** whereby principles and standard are promulgated.

3.3 Channels of Communication

These refer to lines of communication within and outside the organization, that is, Internal and External Communication.

Internal communication can be in the form of:

- Vertical flow
- Horizontal flow
- Informal
- Inter-departmental

(a) Vertical Flow

This comprises of **downward** and **upward** flow of communication

(b) Downward Communication

This is the transfer of information from superiors to subordinates or from higher to lower levels of the organization.

The information that can be communicated downward includes:

- Warnings
- Orders
- Job instructions
- Views
- Directives
- Tasks to be done
- Objectives
- Work plans
- Procedures
- Promotions, transfers and new appointments

- Changes in authority level, etc.

Methods of downward communication include:

- Interviews and face-to-face discussions
- Policy and procedure manuals
- Memoranda notice and posters
- Bulletins, house journals and employee handbooks

(Importance of Downward Communication)

It enables the Manager to:

- Develop the skills of subordinates
- Build the confidence of subordinates
- Correct the faults of subordinates
- Stress, motivate and counsel subordinates
- Co-ordinate the efforts of subordinates
- Resolve conflict between workers.

(c) Upward Communication

This is the flow of information from the subordinates to the superior.

The information communicated includes:

- Progress achieved at work
- Problems encountered at work
- Feelings, grievances, reactions and ideas
- Observations, proposal, suggestions, and recommendations.

Methods of Upward Communication

- Routine and special reports
- Oral, face-to-face communication and meetings
- Suggestion schemes and complaints
- Company magazines and house magazines

Importance of Upward Communication

- It helps management to get feedback on policies
- It serves as source of information for appreciating the performance of subordinates

- It enables timely awareness in management of the reaction of workers to proposed changes
- It enables management to secure the creative thoughts and ideas of the workers.

(c) Horizontal Flow

This is the flow of information between employees of the rank in the organization.

Information communicated horizontally includes:

- Requests for assistance and support
- Suggestions and technical advice
- Minutes of meetings and agreement
- Recommendations for inter-departmental co-ordination
- Finding behaviour whose outcome affects the work of the department.

Methods of Horizontal Communication

- Meetings and conferences
- Committee system
- Personal contact.

Importance of Horizontal Communication

- It enhances easy flow of work and enhances co-ordination of activities across departments.
- It ensures effective co-operation of different departments in pursuing the common goals of the organization
- It generates confidence between people and departments.
- It helps to reduce inter-personal and inter-departmental conflict and rivalries.

3.4 Importance of Communication in Business Management

- It reduces uncertainty by keeping the workforce informed about goings-on within the organization
- Rumours from the groupings are easily dispelled or neutralised.
- It gives the workforce a sense of belonging.
- It enables the workforce to participate in management.
- It enhances managers-subordinates relationships.
- It helps in decision making process.

3.5 Barriers in Communication

Key barriers include:

- Inadequate grammar and faulty message construction
- Hostility, fear and distrust
- Poor mental set
- Noise and distortions
- Failure to select proper channels
- Physical separation
- Communication gaps
- Psychological barriers
- Filtration
- Selective reception
- Information over-load

3.6 Effective Communication

Communication is effective if the intention contained in the communication is conveyed in such a way as to be fully understood by the recipient. There must be a coincidence of thought by both parties. Some essentials for effective communication are:

- Adequate briefing of the recipient
- Use of a suitable language
- Clarity
- Use of appropriate media

3.7 Methods of Communicating Management Information

Management need information for the purpose of planning and control. It is expected that information communicated to management must satisfy the following:

Accuracy

Data concerning past and current events must be accurate.

Speed

The feedback of control data must be produced quickly

Forms of presentation

Information must be presented in a form that can quickly be understandable and appropriate for the purpose.

Extent of Information

The "exception principle" should be used in control, whereby only exceptions to the standard are drawn to the attention of management.

3.7.1 Types of Presentation

The broad methods of presenting information are:

(a) **Textually** – using various types of report
(b) **Statistically –** such as the use of graphs, charts, pictorial presentations etc.

STATISTICAL PRESENTATION

The underlisted rules are applicable when presenting information in statistical form:

(a) **Purpose** – This must be made clear.
(b) **Interpretation** – The style must be geared toward the reader's ability.
(c) **Title** – Must be clearly indicated.
(d) **Period** – The range of time covered must be shown distinctly.
(e) **Measurement Unit** – must be indicated
(f) **Comparables** – Figures to be compared should be immediately adjacent.
(g) **Sources of Data** – must be shown.
(h) **Quantities** – Numbers used must be rounded up.

GRAPHS - Various graphs are used. Common ones are:

- Line graph
- Rate of change graph
- Distributive graph.

CHARTS – Common types are:

- Bar charts
- Compound charts
- Band curve charts
- Pictograms
- Pie charts
- Z charts
- Break-even charts.

All the above can be generated by the computer.

Apart from the above, many other techniques have been developed to provide management forecasting and control. Examples of such techniques are:

- Simulation;
- Linear programming;
- Queuing theory, and
- Network analysis.

SELF-ASSESSMENT EXERCISE

i. What information can be communicated upward and downward and how are they communicated?
ii. State the barriers of communication.

4.0 CONCLUSION

Communication is a key function of management. It is of immense importance to management particularly in the areas of planning and control. Every manager spends about 80-90 percent of his time communicating in one form or another.

In view of the above, it is imperative that managers adopt a veritable technique in communicating management information.

5.0 SUMMARY

Communication is the soul of business. It is an indispensable business key in the hand of managers. Without it, businesses will collapse. Communication is a two-way process and it may be in the form of an order, an appeal, a request, an observation or an instruction.

The channels of communication include:

- Vertical

- Horizontal
- Informal
- Inter-departmental.

Effective communication may be hindered by some barriers which can be checked.

6.0 TUTOR-MARKED ASSIGNMENTS

State and explain the statistical methods of presenting management information.

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UNIT 5 THE CONCEPT AND PRACTICE OF ORGANIZATION DEVELOPMENT

CONTENTS

1.0 INTRODUCTION

This unit will take a critical look at organization development vis-à-vis its characteristics and process, its evolution and application.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- Describe the characteristics and process of organization development.
- Explain the basic assumptions of organization development
- Appreciate the evolution of organization development and its application as a process model.

3.0 MAIN CONTENT

3.1 The Concept and Practice of Organization Development

3.2 The Characteristics and Process of Organisation Development

Organization development is a deliberately planned educational strategy aimed at changing the beliefs, attitudes, values and structures of organizational members so that they can better adapt to new technologies, markets and challenges.

It entails:

- Introducing planned changes based on a diagnosis which is shared by the members of an organization;
- Involving an entire organization or part of it.
- Having goals aimed at increasing organizational choice and self-renewal.
- Developing a major strategy aimed at intervening in the on-going activities of an organization to facilitate learning and to suggest realistic alternatives.

The evolution of organization development (O.D) dates back to the year 1957. It was, however, believed that the antecedent of O.D. started in the post World War II era.

In the view of Bradford, in-service training in an organization should be both diagnostic and therapeutic – both for individuals and for the organization as a whole. The training programme should be continuous because continuous growth can only be achieved through efforts to improve the whole. The staffs at the Research Centre for Group Dynamic, Massachusetts Institute of Technology, USA, were the first to use the organization development concept.

3.3 The Objectives of Organization Development

The objectives of OD are:

(i) To create an open, problem-solving climate throughout the organization.
(ii) To supplement the authority associated with the role or status with the authority of knowledge and competence.
(iii) To locate decision-making and problem-solving responsibilities as close to the information sources as possible.
(iv) To build trust among individuals and groups throughout the organization.
(v) To make competition more relevant to work goals and maximize collaborative efforts.
(vi) To develop a reward system which recognises both the achievement of the organization's mission (profit or service) and organization development (growth of people)?
(vii) To increase the sense of ownership of organization objectives throughout the workforce.
(viii) To help managers to manage according to relevant objective rather then according to past practices or according to objectives which do not make sense for one's area of responsibility.

(ix) To increase self-control and self-direction for people within the organization.

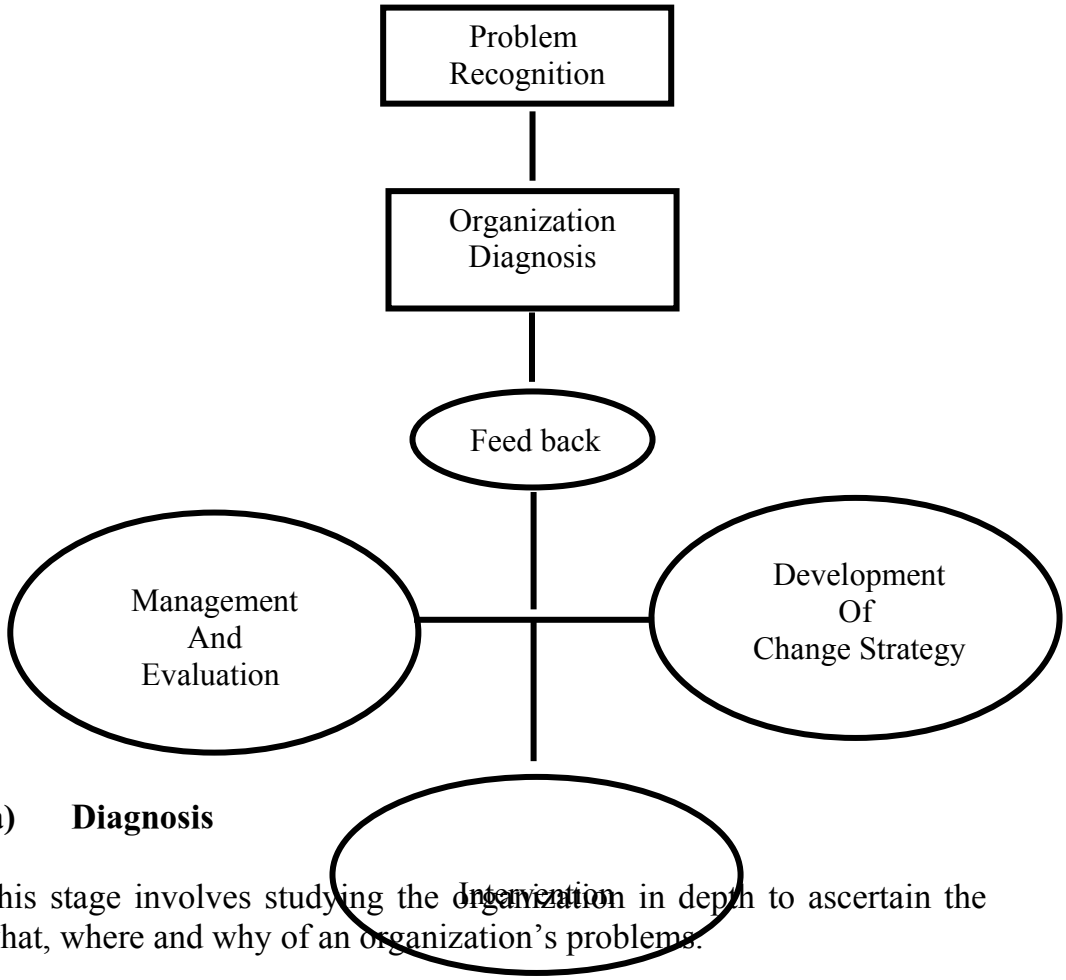
The above objectives can be achieved through planned interventions based on the research findings and theoretical hypotheses of the behavioural agencies.

3.4 Basic Assumptions Underlying Organization Development

Assumptions, underlying the concept of OD are:

- Work which is organized to meet people's needs as well as to achieve organizational requirements tends to produce the highest productivity and quality of production.
- Most members of the organization are not motivated primarily by an avoidance of work for which tight controls and threats of punishment are necessary, but, rather, most individuals seek challenging work and desire responsibility for accomplishing organizational objectives to which they are committed.
- The basic building blocks of organizations are groups of people. Therefore, the basic units of change are also groups not individuals.
- Groups which learn to work in a constructively open way by providing feedback for members becomes more able to profit from their own experiences.
- The basic value underlying all OD's is that of choice.

3.5 Organization Development: Process Model



(a) Diagnosis

This stage involves studying the organization in depth to ascertain the what, where and why of an organization's problems.

(b) Feedback

Takes place during the diagnostic stage. The diagnostic data are digested and interpreted before being fed back.

(c) Development of Strategies for Change

Once diagnostic data have been gathered, analysed and fed back, the organization develops a strategic plan to deal with the causes of poor organizational health.

(d) Intervention Stage

This stage is simply interference. It goes into the organizational system at a specific point to arrest the system's current ineffective operations.

(e) Measurement and Evaluation

Measurement of effectiveness is primarily a matter of determining if the diagnosis was an accurate one, and if the interventions have accomplished what they were intended to accomplish.

(f) Post-Assessment Feedback

The findings from the intervention are fed back to the appropriate point of the organization. Frequently, measurements and goals are realigned, and new problems are uncovered or the need for development of addition intervention strategies becomes apparent.

The circle is continuous since organization is not static, but dynamic

SELF ASSESSMENT EXERCISE

i. OD can only function is an open society where people are free to express themselves. Discuss.
ii. State and explain the objectives of organization development.

4.0 CONCLUSION

Growth is a natural phenomenon. Every individual and organization desires growth which can only be achieved through a planned and conscientious effort.

Organization Development provides the necessary impetus required to generate the right orientation aimed at re-directing the views, values, attitudes and beliefs of individual members of the organization so that they can be able to adapt to changing situations.

5.0 SUMMARY

Organization Development is a planned educational strategy aimed at changing the beliefs, attitudes, values and structure of organizational members so that they can better adapt to new technologies. The training programmes should be continuous since continuous growth can only be achieved through continuous efforts at improving the whole. The concept and practice took off in the post- World War II era. Its primary objective is aimed creating an open, problem-solving climate throughout

the organization with a view to enhance the growth and development potentials of the organization.

6.0 TUTOR-MARKED ASSIGNMENTS

Mention and explain the six elements of the OD process

7.0 REFERENCES/FURTHER READINGS

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