

## **UNIT 2      COMPUTER APPLICATIONS IN BUSINESS AND INDUSTRY**

### **CONTENTS**

- 1.0    Introduction
- 2.0    Objective
- 3.0    Main Content
  - 3.1    Business and Industry
- 4.0    Conclusion
- 5.0    Summary
- 6.0    Tutor-Marked Assignment
- 7.0    References/Further Reading

### **1.0      INTRODUCTION**

In the early days of computing, computers were originally meant to assist in scientific and engineering applications. Today, computers are widely used to perform wide ranging tasks from routine accounting operations to management decision making. Corporate operations are becoming more complex and competitive, thus increasing the need to produce and process more accurate and timely data both in quantity and quality. More accurate, reliable and timely data are needed for corporate planning, policy formulation and decision making.

### **2.0      OBJECTIVE**

At the of this unit you should be able to

- highlight the areas of application of computer in business and industry.

### **3.0      MAIN CONTENT**

#### **3.1      Business and Industry**

The following areas of application of computer technology in business will be discussed in detail:

- Payroll
- Inventory Control
- Auditing Operations
- Personnel Record Keeping
- Preparation of Customer Utility Bills and Payment Orders
- Management Information System

- High Quality Production Controls
- Point of Sale Service   □   Financial Market Transactions   □   The   Publishing Industry.

### **(i) Payroll**

Payroll preparation is essentially a repetitive and routine task which has to be done periodically for every single employee in an organisation at particular points in time, whether weekly, fortnightly or monthly. Payroll preparation is a work schedule which demands speed, accuracy, carefulness and honesty. It involves making references to a number of source documents which, by their nature, also require constant and periodic updating.

These attributes obviously lend themselves to the use of computers which have the capabilities to meet the challenging demands in payroll preparation. These include the capability of the computer to:

- Handle the enormous amounts of information required in payroll preparation.
- Store information and make the information available as and when it is needed.
- Handle repetitive recurring tasks and check on its own work as a way of controlling human errors.
- Provide a much better and reliable procedure for necessary security checks to monitor and detect fraud and other malpractices.

Computer application in payroll preparation involves a number of procedures which include the following:

- Updating the personal records of employees whenever new appointments, resignations, terminations, dismissals and other changes are made within a period of time.
- Computing wages and salaries for each individual worker based on regular and overtime hours worked.
- Making deductions for income tax and for other payments such as union dues and repayment of loans.
- Preparation of pay advice slips and cheques to employees and banks.
- Updating the master payroll file based on the records received from the personnel department.
- Preparation of summary report and analysis for management.

In addition to payroll preparation, the computer is also used for other routine and repetitive book keeping and accounting operations involving recording, classifying and summarising accounting data. This may involve preparing and updating ledger and journal accounts, invoicing, accounts receivable and payable. Other operations may also

include updating and preparing accounts on sales, purchases and inventory. The computer is also used for the preparation and evaluation of the balance sheet and statements of accounts and, preparation of dividends and summary accounts for shareholders and management.

#### **(ii) Inventory Control**

An equally important business application of the computer is seen in the execution of the important business function involved in maintaining a desirable level of inventory in a business organisation. This is to ensure that working capital is not unduly tied in stocks while at the same time available stocks can meet the demands of continued production processes. In this direction, the computer is used as a tool in updating records of inventory and also in the preparation of forecasts and demand predictions based on economic order quantity analysis and other forecasting techniques.

#### **(iii) Auditing Operations**

The computer is used as a tool by auditors to report accurately on the transaction register which constitutes the most crucial aspect in the audit trail. With the aid of the computer, it is easier for auditors, in their examination of the accounting records of a business, to trace routine business operations so that variances can be detected and verified accurately using various computer audit packages.

#### **(iv) Management Information System**

An equally challenging and revolutionary application of the computer in business is the important role the computer-based Management Information System (MIS) is playing in management decision making. The computer is used as a tool for the online storage, retrieval, processing and maintenance of corporate data meant to be shared by all the users' departments.

A Management Information System involves a computerised system of data processing procedures which are integrated in an organisation to provide accurate, complete, concise, timely and effective data which management can use at various levels of decision making for planning, organising, directing, controlling and monitoring procedures.

Included in Management Information System to be used for the various decision making procedures are a number of systems comprising:

- Controlling and operational planning support systems to deal with day-to-day decisions involving routine processing and transaction procedures.
- Tactical support systems to deal with short-run and middle level management decisions.

- Strategic support systems to deal with corporate strategic and top level management decisions.

With the aid of these support systems, data can be retrieved and analysed on a continuous and timely basis to aid management decision making and other management functions about sales, finances, purchases, acquisition of plant and equipment, research, market analysis and so on.

#### **(v) Personnel Record Keeping**

One of the important functions of the personnel department is to maintain and continually update a master file and other records in the personnel department in an organisation. The computer facilitates the effective keeping of a comprehensive and up-to-date record of each employee by providing a comprehensive database involving names, addresses, ages, qualifications, marital status, salaries, dates of promotion and so on.

By keeping such an up-to-date record, a steady flow of various reports can be prepared at the appropriate time to provide the necessary data to aid management decision making in areas such as appointments, promotions, awards of incremental credits, leave periods, staff training, staff development and so on. Furthermore, management can provide the necessary accurate and up-to-date reports on a timely and continual basis to facilitate payroll preparation and also to satisfy other mandatory data requirements from data users such as governments, trade unions, banks, credit unions and tax collectors.

#### **(vi) Preparation of Customers' Utility Bills**

The routine and periodic preparation of customers utility bills, particularly those based on meter readings for such utility services as water, electricity, telephone and gas, demands accuracy and speed in which the computer has proved very effective and efficient. With the aid of the computer, accurate and up-to-date customer's bills can be sent to them periodically and in good time to enable settlement to be made. Computers can be used to generate notices of defaulters. Equally important is the use of the computer to calculate dividend, pension and other periodic payments as and when they become due.

#### **(vii) High Quality Production Controls**

Another important application of the computer which has proved very beneficial in the world of business is the monitoring of production processes so that high quality products and services are provided to customers. Computer Aided Design (CAD) devices are used in the design of products while computer monitored quality control procedures are used in the production process to detect items that fail to meet the approved quality standards and specifications. Such automated devices are used in car assembly plants, oil refineries, manufacturing of drugs and so on. Computer aided quality control devices are also used

to monitor weight, size, quantity, contents and other standard specifications in the course of a manufacturing process.

### **(viii) Point of Sale Services**

Check-out points in supermarkets and departmental stores are now highly computerised to detect the prices of items. Magnetic Character Readers are used to scan Universal Product Codes on items to provide fast, efficient and satisfactory services to customers in commercial transactions in retail outlets, departmental stores, libraries and other point of sale services.

### **(ix) Financial Market Transactions**

Computer application in the financial market is manifested in its use to monitor financial market operations and to disseminate timely and upto-date information which are announced daily on the radio, television or consumers' magazines. Stock exchange centres are highly computerised to provide accurate and up-to-date prices of stocks and shares, and also to execute the buying and selling transactions that take place in the markets. The computer has long been used to assess, evaluate and monitor stock market prices. With the aid of the computer, market trends are predicted with accuracy and investors are provided with appropriate and up-to-date data to enable them to make intelligent decisions, and also to guide them to manage their portfolios effectively.

Furthermore, the computer is used to calculate the foreign exchange rates of major currencies as well as the prices of major commodities such as gold, crude oil, cocoa, coffee, and other commodities that enter into international trade. The computer is also used to provide accurate and up-to-date information on interest rates, gilts and bonds to reflect market trends. Computer application in business is further seen in its use in discounting bills and bonds and other financial market instruments to their present values. Closely related to this is the use of the computer to carefully monitor the movement of a basket of goods and services which measures the rate of inflation in an economy, and which further provides a barometer of the standard of living in a country.

Most banking operations are now highly computerised as a move to provide fast, effective and efficient services to customers. These include the use of Magnetic Ink Character Readers to process cheques and the provision of Magnetic Credit Cards to customers to have access to funds twenty-four hours a day at unattended automatic teller machines. Customers also use their credit cards to open doors to some banking houses to transact business. There are also Electronic Funds Transfer terminals to perform automatic financial transactions at check out counters in hotels, stores, airlines, railways and other terminals.

In the banking industry, the computer can also be used to:

- Keep the records of customers or clients' accounts.
- Monitor, control and evaluate the transactions of the customers and clients on their accounts.
- Reconcile accounts and assist in producing cashbook balances. □ Monitor, control and evaluate the bank or insurance company's revenue and expenditure.
- Automate the production of statements of account and assist in generating correct addresses to which the statements of account should be sent.

#### **x) The Publishing industry**

In the publishing industry, the computer is used in the following ways:

- Creative writing.
- Typesetting manuscripts.
- Drawing illustrations.
- Generating the table of contents and the index of a book automatically.
- Generating the page size of a book and cut and paste illustrations automatically.
- Processing images such as the scanning of pictures, and recording them automatically in the computer store for future retrieval or printing.
- Verification and validation of spellings.
- Assisting the writer of an article to identify words that have similar meaning.

### **4.0 CONCLUSION**

Computer technology has changed the face of business and industry through its various applications. Information and knowledge have replaced capital and energy as the primary wealth-creating assets. Information technology has transformed the way that business is conducted, and the way the commodities of trade are transformed. Discussions presented in this unit have brought to the fore some of the areas of the application of computer in business and industry.

### **5.0 SUMMARY**

In this unit, the following areas of application of computer technology in business were discussed in detail:

- Payroll.
- Inventory Control.
- Auditing Operations.
- Personnel Record Keeping.
- Preparation of Customer Utility Bills and Payment Orders.
- Management Information System.
- High Quality Production Controls.

- Point of Sale Service.
- Financial Market Transactions.
- The Publishing Industry.

## **6.0 TUTOR-MARKED ASSIGNMENT**

The banking industry in Nigeria has benefited immensely from computer and information technology. Briefly discuss the various applications of computer technology to Nigeria's banking industry.

## **7.0 REFERENCES/FURTHER READING**

Akinyokun, O.C. (1999). *Principles and Practice of Computing Technology*. Ibadan: International Publishers Limited.

Balogun, V.F., Daramola, O.A., Obe, O.O. Ojokoh, B.A. and Oluwadare S.A., (2006). *Introduction to Computing: A Practical Approach*. Akure: Tom-Ray Publications.

Oliver E.C. and Chapman R.J. (1986). *Data Processing*, (7<sup>th</sup> ed). ELBS/DP Publications.

Tunji & Dokun (1993). *Data Processing, Principles and Concepts*. Lagos: Informatics Books.

Richard H. Austing and Lillian Cassel (1986). *Computers in Focus*. Monterey, California: Books/Cole Publication Company.