3   Software

This chapter provides a review of the features common to a range of modern software applications, and the way in which software can be used to support the business activities of an organisation. Software can be defined as a series of detailed instructions that control the operation of a computer system and exists as *programs* which are developed by computer programmers. There are two major categories of software of systems software and applications software (Laudon and Laudon, 2007).

3.1   Systems software

Systems software manages and controls the operation of the computer system as it performs tasks on behalf of the user. Systems software consists of three basic categories: operating systems, software development programs and utility programs.

3.1.1   Operating Systems (OS)

The operating system interacts with the hardware of the computer by monitoring and sending instructions to manage and direct the computer's resources. The operating system functions as an intermediary between the functions the user needs to perform, for example a database search, and how these translate to and from the hardware in the form of responding to mouse clicks and displaying information on the screen. The basic functions of the operating system include: allocating and managing system resources, scheduling the use of resources and monitoring the activities of the computer system.

3.1.2   Software Development programs

Software development programs allow users to develop their own software in order to carry out processing tasks using programming languages. Programming languages can be described in terms of their historical position in the development of computer programming systems. The first generation programming language or machine language requires a programmer to work in one and zeros to represent characters and numbers. This extremely time consuming tasks was somewhat simplified using shorter codes and called assembly language. A major advance came with third generation languages such as FORTRAN, COBOL, BASIC ,Pascal and C which substantially reduce the programmer's time in producing code. Fourth generation languages such as SQL are built around a database system and make producing code even easier than third generation languages.

3.1.3   Utility programs

Utility programs provide a range of tools that support the operation and management of a computer system. Programs that monitor system performance or provide security controls are examples of utility programs.

3.2   Application software

Application software can be defined as a set of programs that enable users to perform specific information-processing activities. Application software can be divided into two broad categories: general-purpose and application-specific.

3.2.1   General-purpose applications

General-purpose applications are programs that can be used to carry out a wide range of common tasks. A word processor, for example, is capable of producing a variety of documents that are suitable for many different purposes. This type of application is often referred to as productivity software since it helps improve the efficiency of an individual. Word processing software involves the creation of various internal and external documents, including letters, reports, invoices, notes and minutes of meetings. Spreadsheet software enables the storage, organisation and analysis of numerical data. Databases software allows for the storage and retrieval of information. Multimedia software allows the user to work with media such as text, sound, animation and video.

3.2.2   Application-specific software

Application-specific software comprises programs intended to serve a specific purpose or carry out a clearly defined information processing task. Software designed to carry out payroll processing or manage accounts is an example of an application-specific program.