Need for a Database

Database Management System (DBMS) In traditional file processing, data is stored in the form of files. A number of application programs are written by programmers to insert, delete, modify and retrieve data from these files. New application programs will be added to the system as the need arises. For example, consider the Sales and Payroll departments of a company. One user will maintain information about all the salespersons in the Sales department in some file say File1 and another user will maintain details about the payroll of the salesperson in a separate file say File2 in the Payroll Department as shown in Figure 1.3(a).

Figure 1.3(a): Traditional File Processing System

Although both the departments need information about the salesperson but they will store

information about the salesperson in different files and will use different application programs

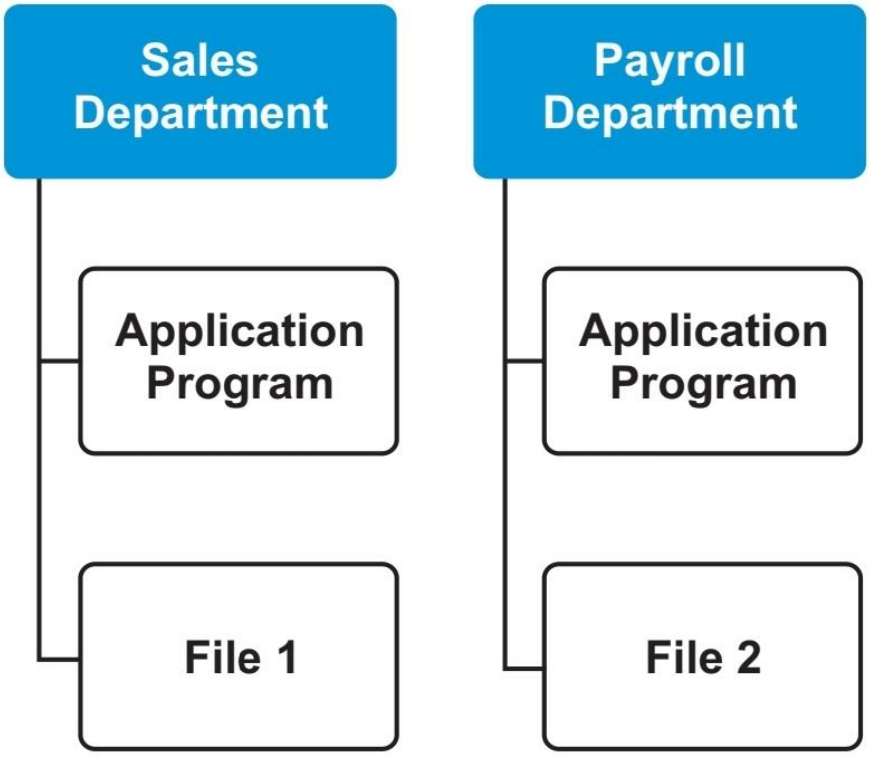

Figure 1.3(a): Traditional File Processing System

to access those files. This would result in:

1. Data Redundancy: Same information is stored in more than one file. This would result in wastage of space.

2. Data Inconsistency: If a file is updated then all the files containing similar information must be updated else it would result in inconsistency of data.

3. Lack of Data Integration: As data files are independent, accessing information out of multiple files becomes very difficult.Database approach overcomes these problems and also adds a lot of advantages as discussed later. In database approach, a single repository of data is maintained which is accessed by different users as per their needs.

A database management system is a collection of programs that enables users to create, maintain and use a database. It enables creation of a repository of data that is defined once and then accessed by different users as per their requirements. Thus there is a single repository of data which is accessed by all the application programs.