

Database Management System in Accounting: Assessing the Role of Internet Service Communication of Accounting System Information

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Abstract

Data management is part of information resource management which includes all activities that ensure that company data resources are accurate, up-to-date, and safe from tampering, and are also available to users and the company. This study aims to find out about the role of concept database management in managing large volumes of company data. The result showed that data management activities include data collection, integrity, and testing, storage, maintenance, security, organization, retrieval. Meanwhile, the database structure includes hierarchical database structure, network database structure, and relational database structure.

Keywords

database management system, accounting, internet service communication, accounting system information

1. Introduction

In the current era of globalization, management information systems are an inseparable part of an organization where information systems produce output using inputs to meet the needs of achieving management goals (McLeod & Schell, 2007). Database management systems organize the large volumes of data that a company uses in its day-to-day transactions. Data must be organized so that managers can find specific data easily and quickly to make decisions. Companies break down the entire data collection into a set of interconnected data tables, these

small collections of interconnected data will reduce data repetition so that in the end the consistency and accuracy of the data eats up (Samson & Aponso, 2020)

Before the database era, companies experienced limitations in their data management because of the way data was organized in secondary storage. Initial attempts to overcome this obstacle included sorting and merging files/documents, extensive computer programming to search and match document records, and document indexes and links built into the data records. The database concept is built on indexes and links to achieve a logical relationship between multiple documents (Lightstone et al., 2010).

Most companies use databases that follow a relational structure. Two important reasons behind using this structure are that relational database structures are easy to use and the relationships between tables within the structure are implicit. The ease of use has emboldened many managers to become direct users and sources of databases (Paredaens et al., 2012). This study aims to find out about the role of concept database management in managing large volumes of company data.

2. Database Management and Hierarchy

Data management is part of information resource management and ensures that a company's data resources accurately reflect the physical systems they represent. Data resources are stored in secondary/second storage, which can be either sequential or direct access. Magnetic tape is the most popular sequential storage medium, and magnetic disks are the primary means of achieving direct access. However, the new direct access technology, the compact disk, is gaining popularity today (Ahmad et al., 2003).

The software that manages the database is called a database management system (DBMS) (Dayal & Goodman, 1982) . All DBMSs have a data description language processor (DDL processor) which is used to create the database, as well as a database manager that provides the database to users. Users using data manipulation and query languages are high-level language software or software languages that resemble human language, which allows users to easily extract data and information from a database. The person in charge of the database and DBMS is the database administrator or DBA for short (Van Aken et al., 2017)

Most of the attention is now directed to very large databases, called database warehouses. The retrieval process, called data mining, provides a higher level of support for the user than usual. DBMS provides a real advantage for companies that use computers as an information system (Gaol, 2008).

Companies have traditionally organized their data in a hierarchy, which consists of data, records and document (Onder & Sundus, 2013). The data element (data element) is the smallest data unit, which cannot be further divided into meaningful units. In the salary record, the data elements are: name, employee number, social security number, hourly wages, and number of dependents. A higher level of the hierarchy are records. A record consists of all data elements related to a particular object or activity. For example, there are records that describe each type of inventory and sales. All similar records are organized into one document. Document is a collection of data records (data records) associated with a particular object. For example, an Open Purchase Order that describes a purchase order that has been ordered to a primary supplier, but has not yet been received.

Then the traditional data hierarchy is archives/documents (files), note (record) and data element. From this arrangement, archives/documents are the highest level, while data elements are the lowest level (Gaol, 2008).

Because data is a resource, and this process is called data management. Data management is part of information resource management which includes all activities that ensure that company data resources are accurate, up-to-date, and safe from tampering, and are also available to users. Data management activities include:

1. Data collection. The required data is collected and recorded in a form, which is called a source document which functions as input for the system.
2. Integrity and testing. The data is checked to ensure consistency and accuracy based on predetermined rules and constraints.
3. Storage. Data is stored on a medium, such as magnetic tape or magnetic disk.
4. Maintenance. New data is added, existing data is properly modified, and data that is no longer needed is deleted to keep data resources up-to-date.
5. Security. Data is safeguarded to prevent destruction, damage or misuse.
6. Organization/ The data is structured in such a way as to meet the user's information needs.
7. Taking. Data is available to users.

Before the computer era, all activities were carried out by administrative staff supported by punched cards and machine-driven machines which were still primitive in nature. Today, people are still needed for a lot of data collection and testing, but computers have taken up most of the data management responsibilities (Gaol, 2008).

3. Conceptual Framework of Direct-Access Storage Device (DASD)

A database is a collection of computer data that is integrated, organized, and stored in a way that facilitates retrieval (Solihin et al., 2017). DASD should be used. Figure 1 shows that multiple company records can be logically integrated. This logical integration of records in multiple archives is called the database concept. The lines in the drawing represent logical integration.

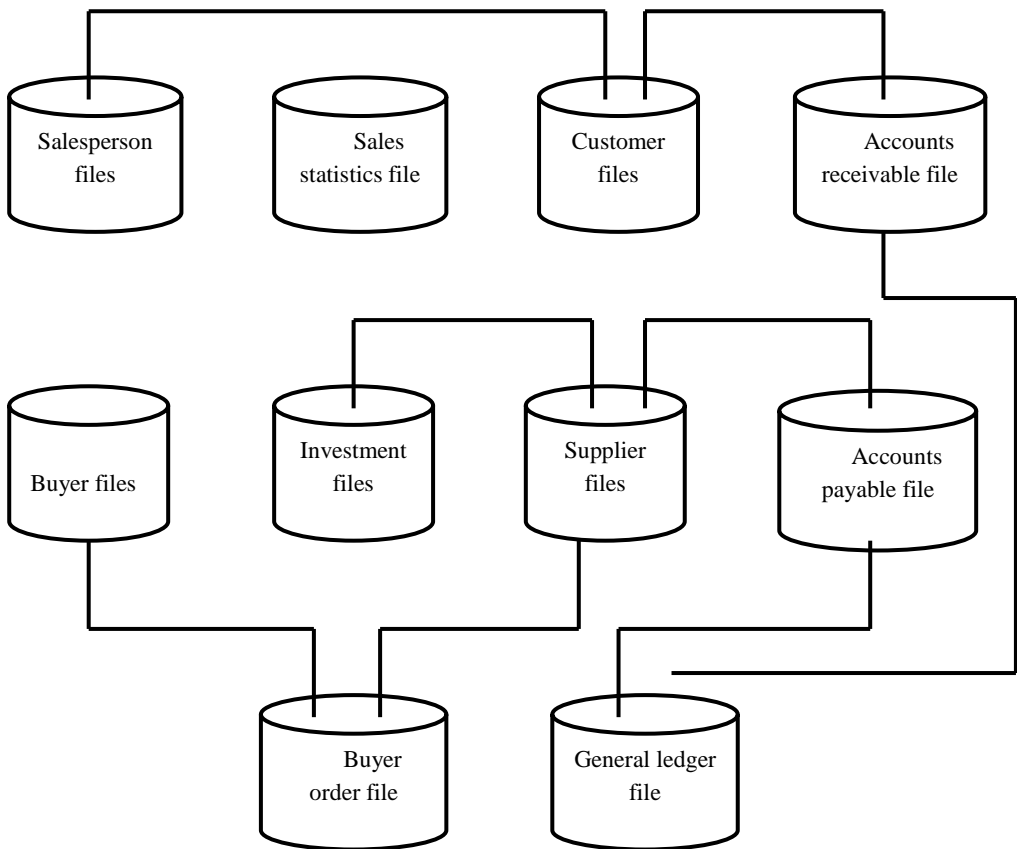


Figure 1. Direct-Access Storage Device of Company Records

The two main objectives of the database concept are minimizing data redundancy and achieving data independence. Data repetition is data duplication, meaning that the same data is stored in several archives. This repetition of data can also be called pleonasm. Data independence is the ability to make changes in the data structure without making changes to the program that processes the data. Data independence is achieved by placing data specifications in tables and dictionaries that are physically separate from the program. Programs refer to tables to access data. Changes to the data structure are only made once, namely in the table. When companies adopt the database concept, the data hierarchy becomes a database (database), archives (files), records (records), data elements (data elements) (Gaol, 2008).

4. Conclusion

Data management is part of information resource management and ensures that a company's data resources accurately reflect the physical systems they represent. The software that manages the database is called a database management system (DBMS). All DBMSs have a data description language processor (DDL processor) which is used to create the database, as well as

a database manager that provides the database to users. Companies have traditionally organized their data in a hierarchy, which consists of elements, records, and files. Data management activities include: data collection, integrity and testing, storage, maintenance, security, organization, retrieval. A database is a collection of computer data that is integrated, organized, and stored in a way that facilitates retrieval. The two main objectives of the database concept are minimizing data redundancy and achieving data independence. Database structure is the way data is organized for efficient data processing. The database structure includes hierarchical database structure, network database structure, and relational database structure. The database was created based on several steps, namely: determining data requirements, explaining the required data, and entering data into the data. There are several important personnel related to the database. The database administrator has both technical and managerial responsibility for database resources. Database programmers are required to code efficient data processing computers. Database end users are another important database personnel. Through the decisions they make and the amount of data taken, end users have a huge impact on database design, use and efficiency.

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