The Evolution Of Accounting Information Systems

Azhar Susanto, Meiryani

Abstract: Rapid technological developments make the development of Accounting Information Systems also experience developments and changes. This literature study explains and describes the evolution of accounting information systems. An organization can run well if the system has integrity properly. Accounting information systems are expected in an organization to be an integrated system that supports each other activities related to corporate financial transactions. Accounting information systems are used to collect, store, and process financial data, and also to produce information reports that can be used by managers or other parties in making business decisions. Information systems are formal processes for collecting data, processing data into information, and distributing that information to users. This study aims to describe the evolution of accounting information systems. This study concluded that accounting information systems underwent an evolution from electronic data processing, management information systems, decision support systems and officice automation and artificial intelligence.

Index Terms: Evolution, Accounting Information Systems, Accounting, Computer-based, Management Information System.

————————————◆————————————

1 INTRODUCTION

Evolution is social changes that occur in a slow process, in a long time and without any particular will. Technological developments are indispensable for human life, because with the development of technology, the development of human civilization began to develop and also social changes in humans in various fields. Moreover, the development of technology accompanied by the influence of globalization today is very fast, technology can be a source of information. The development of information system technology will greatly affect the company to improve economic growth, national stability and public welfare. Data is interpreted as a collection of facts and is a raw material for information. Instead information is the result of processed data that is useful and relevant. The function of accounting information systems in this case is to provide accounting information for management to carry out their duties. Computers appear and are widely used in various corporate activities. Computers do not change the function of accounting information systems as providers of relevant information for various interested parties, but it has a major influence on accounting information systems in the process of producing information and in developing the accounting information system itself. In the field of auditing, computers also influence the procedures performed by auditors in testing the company's internal controls. Whereas in the field of computer financial accounting has facilitated and accelerated the work of accountants by computerizing the procedures for recording, classifying, and summarizing transaction data. This is what is called Electronic Data-Processing (EDP). Electronic Data-Processing is often identified with accounting information systems, the scope of accounting information systems is broader than Electronic Data-Processing. The application of computer technology is not a necessity in accounting information systems but it 'only' provides convenience facilities in the functions of accounting and development information systems.

————————————————————

- *Azhar Susanto: Accounting Department, Faculty of Economics and Business, Padjadjaran University, Bandung, Indonesia*
- *Meiryani: Accounting Department, Faculty of Economics and Communication, Bina Nusantara University, Jakarta, Indonesia 11480*

When computer technology is applied in accounting information systems, the term used in this case is a computer-based accounting information system. Information is data that is processed into a form that is useful for those who receive it. With the information, it is expected that the system can be useful for users. The system needs to be developed by developing a new system to replace the old system as a whole to improve the existing system. Accurate and effective information systems are in fact always related to the term computer-based or information processing based on computers. At present information systems are the most important issue in management control. The purpose of management control is to assist management in coordinating subunits of the organization and directing these parts to achieve company goals.

2 PROCEDURE FOR PAPER SUBMISSION

2.1 Accounting Information Systems

According to Wilkinson et al (2000), accounting information systems are structures that are integrated into an entity, which use physical resources and other components, to convert financial transaction/accounting data into accounting information with the aim of meeting the needs of information from users or users (users). Bodnar and Hopwood accounting information systems are collections of resources, such as humans and equipment, which are arranged to convert data into accounting information. Niswonger et al (2000) accounting system is a means for company management to obtain information that will be used to manage the company and to prepare financial statements for owners, creditors and other interested parties. The functions of accounting information systems in organizations include: collecting and storing data about activities and transactions. Processing data into information that can be used in the decision making process. Control the organization's assets.

2.2 The evolution of information systems

The evolution of information systems consists of :
1) Hardware evolution
   - o   1946-1956: airtight tubes as process and storage media.
   - o   1957-1963: transistors as processing and information storage media.
   - o   1964-1979: circuits integrated in silicon chips. There

is software that can be used by non-technical people
- o 1980-1995:
  - • Large scale integrated circuits (hundreds of thousands of circuits on one small "chip")
  - • Ultra large scale integration (ULSI) 10 million transistors on one chip
  - • Relatively inexpensive, widely used
- o 1996-present
  - • "Grand Scale Integrated (GSI) Circuit, 1 billion transitors in 1" chip "
  - • Parallel data processing (massively parallel processing)
  - • Self-repairing computers, computers can repair themselves if there are problems, without human intervention. For example: supercomputers at the National Center for Atmospheric Research, United States.

2) Evolution of business behavior
Old economy & digital economy
Digital economy is an economy based on digital technology including communication networks, computers, software and so on.

3) Software evolution

4) Technological innovation. Technological innovation creates markets, followed by market pulls encourage evolution.

2.3 The Evolution of Computer-Based Information Systems
Initial Focus on Data (Electronic Data Processing/EDP)
In the early 20th century computer usage was limited to accounting applications and used the name Electronic Data Processing (EDP), which was the most basic information system application in every company. now we use the term accounting information system to replace electronic data processing. New Focus on Information (Management Information System / SIM) The concept of using computers to support management information systems was introduced in 1964 by computer makers. The SIM concept realizes that computer applications must be applied for the main purpose of producing management information. Revision focus on decision support (Decision support system / DSS) Management information systems continue to evolve in the face of their weaknesses, emerging approaches with the name Decision support systems (DSS), which is a system of producing information aimed at a particular problem that must be solved by the manager. Focus on communication (office automation / OA) OA (office automation) implementation to facilitate communication and increase productivity among managers and other office workers through the use of electronic devices. Potential focus on consultation (Artificial Intelligence / AI) The basic idea of AI is that computers can be programmed to carry out the same logical part as humans. Managers make decisions to solve problems by utilizing data and information. Information is presented in oral and written form by an information processor. In the processing with the computer consists of five fields, namely SIA, SIM, DSS, virtual offices and knowledge-based systems. This is called a computer-based information system (computer based information system).

2.4 The Evolution of the Accounting Information System Model
The Evolution of The Accounting Information System Model consist of:
1. Manual Process Models: the oldest and traditional forms of accounting systems, forming physical events, personal resources that characterize most business processes.
2. Flat File Model: describes an environment where individual data files do not relate to other files. End use has data files and does not use with other users.
3. Database system model: describes the centralization of company data into a shared database that is shared with all users. Access to data resources is controlled through a database management system (DBMS). A DBMS is a special system software program that knows which data elements users have the right to access. The program from the user will send data requests to the DBMS, which will validate and authorize access to the database based on the user's authority level. If the user requests data that is not in accordance with his access rights, the request will be rejected.
4. REAREA system model is an accounting framework for modeling resources (events), events (activities), and agents (actors) companies that are very important, and relationships between them. From this storage area, user views can be formed to meet the needs of all users in the company. Availability of multiple displays allows flexible use of transaction data and enables the development of accounting information systems that encourage, and not inhibit, integration.
5. ERP system model. ERP is an information system model that allows companies to automate and integrate various key business processes besides that a variety of traditional functional barriers can be overcome because this system facilitates the existence of shared data among all users in the company.

3 CONCLUSION

Initial focus on data
During the first half of the 20th century, companies generally ignored managerial information needs. In this phase the use of computers is only limited to accounting applications. The name of the computer-based accounting application was originally electronic data processing (EDP) and then changed to Data processing (DP) and Accounting Information System (AIS).

New focus on information
In 1964 a new generation of calculators was introduced that influenced the use of computers. The concept of using a computer as a SIM is promoted by computer makers to support the new equipment. The SIM concept realizes that computer applications must be applied for the main purpose of producing management information. This concept was immediately accepted by large companies.

9

Revised focus on decision support.

Decision support system is a system that produces information aimed at a particular problem that must be solved by the manager and the decision that must be made by the manager. These managers are in any part of the organization at any level and in any business area. DSS is intended to support the work of one manager in particular.

ACKNOWLEDGMENT

REFERENCES

[1] Agoes, Sukrisno. (2004). Auditing by the Accountant Office Public Volume II. Jakarta: Institute of Publishers of the Faculty of Economics, University Indonesia

[2] Bodnar, George H and William S Hopwood. 2010. Accounting Information System. 10th Edition. Prentice Hall. New Jersey.

[3] Djayanegara, H. Moermahadi Soerja. (2005). Evaluation of Application of Information Systems Accounting in the Effectiveness of the Implementation of the Internal Control System Sales (case study at PT Astra International Jakata). Scientific journals Ranggagading, volume 5 no.2, October 2005.

[4] Ghozali, Imam. (2011). Multivariate Analysis Application with SPSS19 Program. Semarang: Diponegoro University Publisher

[5] Hall. A. James. (2009). Accounting Information System book 1 edition 4. Jakarta: Publisher Salemba Empat.

[6] Krismiaji. (2010). Third edition Accounting Information System. Yogyakarta: Unit Publisher and Printing College of YKPN Sciences.

[7] Kotler, Philip. 2005. Marketing Management, Volume 1 and 2. Jakarta: PT. Index Gramedia Group.

[8] McLeod, R. & Schell, G.P. (2007). Management Information Systems, 10th edition. Pearson Prentice Hall, New Jersey.

[9] Mulyadi. (2008). Accounting System. Jakarta: Salemba Empat Publisher.

[10] Nazir, Moh. 2005. Research Methods. Ghalia Indonesia Publisher.

[11] Soemarso. S. R. (2004). Accounting: An Introduction. Jakarta: Publisher: Salemba Empat.

[12] Sugiyono. (2010). The 10th Quantitative, Qualitative, and R & D methods are printed. Bandung: Alfabeta.

[13] Suliyanto. 2006. Business Research Methods. ANDI Publisher. Yogyakarta.

[14] Sunyoto, Danang, 2009. Regression Analysis and Hypothesis Testing, First Edition, Media Pressindo, Yogyakarta. C.V. Alfabeta, Bandung.

[15] Susanto, Azhar. (2008). First edition of Accounting Information System. Bandung: LinggaJaya.