

# Accounting System Development Methodology

Chintia Irawati<sup>1</sup>, Yusri Hazmi<sup>2\*</sup>, Dina Zulfiana<sup>3</sup>, Nur Rismadara<sup>4</sup>

<sup>1,2,3,4</sup> Jurusan Bisnis. Politeknik Negeri Lhokseumawe, Aceh, Indonesia

Corresponding Author: [yusri.pnl@gmail.com](mailto:yusri.pnl@gmail.com)

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## ABSTRACT

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An accounting system development methodology is a series of procedures implemented by systems analysts to improve a company's current accounting system. Library Research (Library Research) is a method or approach used by researchers. Library research and inquiry have more than just the functions mentioned in the context of obtaining research data. This means that library research is only limited to library collection materials and does not require field research. However, library research is a method of obtaining data that involves reviewing books, literature, notes and various reports that are relevant to the problem at hand, in accordance with the opinions of experts. In the process of implementing an inadequate Accounting Information System (AIS) in a company, there are several irregularities that occur. Because of this, the company's Accounting Information System needs to be developed in a better direction. This is to ensure that the information the company needs is more appropriate.

**Keywords:** *Methodology, Development*

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## 1. INTRODUCTION

In its most basic form, a system is a collection of components that are closely related to each other and work together to achieve certain goals. An organization is founded with the aim of achieving a goal, especially profit for a business that focuses on making profits. For businesses to successfully achieve their goals, they require effective management that is in line with the structure and qualities of each organization. When it comes to company administration, it is very important to have correct and accurate information. One type of information needed is financial information. An accounting information system (AIS) is a management tool necessary to effectively manage and transmit information to the right parties. Therefore, it can be said that companies need an accounting information system to achieve their goals. Accounting information is a type of information produced by AIS. This information can be in the form of operations information (IO), management accounting information (IAM), or financial accounting information (IAK).

All information created that relates to the financial matters of an organization or company can be considered as a component of the company's business processes. Additionally, an organization's business processes are separated into two different types of activities, namely primary activities and supporting activities. Because these things are the basis for the company to continue to develop and progress, the operations carried out within this organization need to be prioritized. In situations where appropriate information is needed so that these operations run more smoothly, an effective accounting information system is also needed.

In the process of implementing an inadequate accounting information system (AIS) in a business, there are several defects or irregularities that occur. These defects and irregularities manifest in the form of information valuable to the business being lost or delayed. There is the potential for problems and losses within the company due to the loss or delay of this information, especially those related to the organization's main activities.

Following this incident, the company's accounting information system (AIS) needed to be developed in a better direction. This will ensure that the information the company needs is more

appropriate. The reason is to ensure the continued existence of the company, which can be improved by obtaining adequate information to improve the organization's business activities, especially its main activities. Increasing the dependability of accounting information and providing a complete record of accountability and protection of company assets are two goals that can be achieved through the development of accounting information systems. One of the objectives of this system consists of improving internal controls and audits. To ensure that an effective accounting information system is always equipped with internal controls included. Apart from that, one of the goals of building an information system is to increase the efficiency and effectiveness of all activities carried out by the organization.

The formulation of this research is how to develop an accounting information system, so good development methods or methods are needed to ensure the success of the system that will be formed in the future. To ensure success in the system that will be created in the future, it is necessary to carry out a good analysis during the development process. This analysis must consider problems and needs. The organization will be provided with information that can be used at a later date to support the efficiency of the activities carried out by the organization.

## 2. METHODS

**Research Methodology** In this investigation, the researcher used a type of research methodology known as library research. Research conducted in libraries and searches conducted in libraries have more than just the listed function of collecting research data. This shows that library research is limited to activities that only use sources contained in the library collection and does not require field investigations. Meanwhile, experts in the field state that library research is a data collection method that involves the study of books, literature, notes and various reports related to the problem to be addressed [1].

Literature study can also involve examining various reference books and comparative findings from previous research, both of which are useful in obtaining a theoretical basis for the problem to be studied. When you study literature, you also collect data through the process of reviewing books, other literature, notes, and various reports related to the issue you want to address.

## 3. RESULTS AND DISCUSSION

### 3.1 Understanding System Development Methodology

The term "development" refers to modifications made with the aim of improving or adapting to fluctuating levels of user needs [2]. Before starting the process of establishing an accounting information system, it is important to first determine the reasons for its development. Therefore, it is important to know how to carry out development.

According to Jogiyanto, the term "system development" can refer to the process of expanding an existing system, or the process of establishing a new system to replace the old system in its entirety [3]. It is important to repair or replace old systems for a number of different reasons. The system development approach can be understood as a process that involves identification of needs, selection of problems, identification of conditions for solving the problem, selection of solutions from a number of alternatives, search for and application of methods and tools, evaluation of results, and implementation of necessary revisions to all components of the system in such a way that requirements can be fulfilled.

There is a limited time period for the accounting system used in a company. This is because information needs in organizations always develop along with advances in information needs from both internal and external institutions. There is also the possibility that the current accounting system will become inefficient as a result of technological developments, especially in the field of data processing tools. The evaluation process of existing company systems is still necessary even for

businesses that already have well-defined systems. To achieve the best results from this system, further evaluation and improvements need to be carried out after this system is operational. Therefore, a technique is needed in creating an accounting system.

The series of actions carried out by system analysts in order to develop an existing accounting system in an organization is called the accounting system development methodology. The following are the actions that need to be taken to prepare an accounting system [4]:

**a. Analysis of existing systems**

Through the process of gathering the information needed to build a new system, the goal is to find out the advantages and disadvantages of the existing system. The stage called system analysis is the process of determining the information that system users need so that the system can be built. For the purposes of conducting this system analysis, preliminary research or surveys are carried out with the aim of finding the following things:

- 1) Work that needs to be done; if you know the strengths and weaknesses of the current system, you will be able to determine the amount of work required to create a new system.
- 2) Make a plan for the amount of time that will be used to build the new system; The length of time used to prepare the system is largely determined by the level of preparation to be carried out.
- 3) Ascertain the total amount of costs that will be incurred in connection with the work that will be done to prepare the system.

A thorough investigation of the systems being used by the company will be carried out by consultants if permission for system preparation has been obtained. To conduct this comprehensive investigation, the following data needs to be collected:

- 1) Organizational structure
- 2) Account classification
- 3) Journal
- 4) Procedure
- 5) Cost accounting
- 6) Evidence and forms

**b. Planning an accounting system**

At this level, a system is a process that involves translating the needs of information users into alternative designs for information systems. This design is then presented to information users for consideration. The goal is to develop new systems or make improvements to existing systems to minimize or eliminate current deficiencies. A top-down strategy and a bottom-up approach are the right choices for planning a new system. Both approaches can be utilized.

The process of building a system that begins with identifying the information needed and then continues with identifying the tools needed to produce that information is called a top-down approach. The sequence consists of the following steps: information identification, account and code classification, journal planning, and transaction evidence planning, which includes procedural plan planning. In preparing an accounting system, the bottom-up approach is a method that starts from the most basic structure and continues to the most complex structure. The sequence of events is as follows: planning the transaction evidence (including the method), planning the journal, planning the categorization and account code, and finally planning the information that can be obtained.

**c. Implementation of an Accounting System**

The aim of this step is to implement a new accounting system designed to replace the previous system. It is recommended that the new system be implemented at the beginning of the accounting period. Because modifications will impact account balances and the implementation of new procedures in the middle of the month, this is done to limit the resulting workload. In a

computerized accounting system, the installation of a new system can be carried out simultaneously with the implementation of the old system. This results in two systems processing the same data for the same purpose. Utilizing two systems in parallel aims to prevent problems resulting from the inability of the new system to function properly. By utilizing two different systems at the same time, it is possible to compare two different types of information to evaluate the processing results of the new system.

#### **d. New System Supervision**

Monitoring the new system installation, that is, determining whether the new system is operating as intended or not, is the goal of this step. If problems are found, corrections need to be made during the monitoring period. Ensure that the new system does not repeat the mistakes made in the previous system. This is the most important thing to remember.

Creating a computer-based information system is a very complex task that requires large resources and can be time consuming. The system development process takes place through several stages, starting with system planning and ending with implementation, operation and maintenance (Bahar). If significant problems still exist in the functioning of the resulting system and cannot be corrected through system maintenance, then the system must undergo a review and be re-implemented from the initial stage, namely the system design stage. This process is usually known as the System Development Life Cycle (SDLC), or the life cycle of a system. The systems development life cycle is a framework that outlines the main stages and steps involved in the development process.

When creating an information system, there are two main factors to consider. Goods. Products are important components that need to be produced at every stage of information system development. Defects that occur at each stage of the production process will result in greater defects in the final product. Process refers to a systematic and organized approach in creating information systems (Hartono 2021). This method includes various stages of development, starting with an initial feasibility assessment and culminating in the final implementation stage. Deviations from the established schedule increase the likelihood of project failure. System development methodology, when viewed from a methodological perspective, is categorized into two different parts (Endaryati, 2021).

- a. The classical approach refers to a system development process that follows sequential stages.
- b. A structured approach to system development involves incorporating additional tools and processes, while adhering to the principles of the chosen methodology.

### **3.2 The Need For AIS Development**

The presence of SIA is closely related to technological advances and progress achieved in the field of accounting science. This shows that AIS is not a fixed entity that is unable to change. In contrast, SIA is a dynamic product. There are four main factors that require the evolution and progress of AIS, in particular [5]:

- a. Technology advances
- b. Advances in accounting
- c. Improvement of the company's internal business environment
- d. Improvement of the company's external business environment

### **3.3 The Purpose of Developing an Accounting System**

The objectives of developing an accounting system in general are:

- a. To improve the system's information output, namely in terms of quality and information structure, over time.
- b. To improve accounting and internal audit controls, namely to increase the reliability of accounting information and provide comprehensive accounting records to safeguard company assets.

- c. To minimize costs associated with maintaining records

### 3.4 AIS Development Model

The SIA development model was created to guarantee completion of the SIA on time, in accordance with predetermined design and financial constraints. AIS development is needed to modernize outdated AIS and align it with current advances in technology and accounting science.

The primary motivation for designing an AIS was the convergence of International Financial Reporting Standards (IFRS), which began in 2012. Developing an IFRS-aligned AIS is critical to ensuring comparability with global accounting systems, increasing the transparency of financial reports, and enabling integration with national accounting information systems. Usually there are three web-based AIS development models that are commonly used in the AIS creation process. These models are [6]:

- a. Waterfalls

The Waterfall system development paradigm is a software design model. The reason why this development model is often used is because of its sequential and systematic nature (Pressman, 2010: 39). The waterfall model exemplifies the process of creating an AIS, where all actions must be carefully planned and organized before implementation.

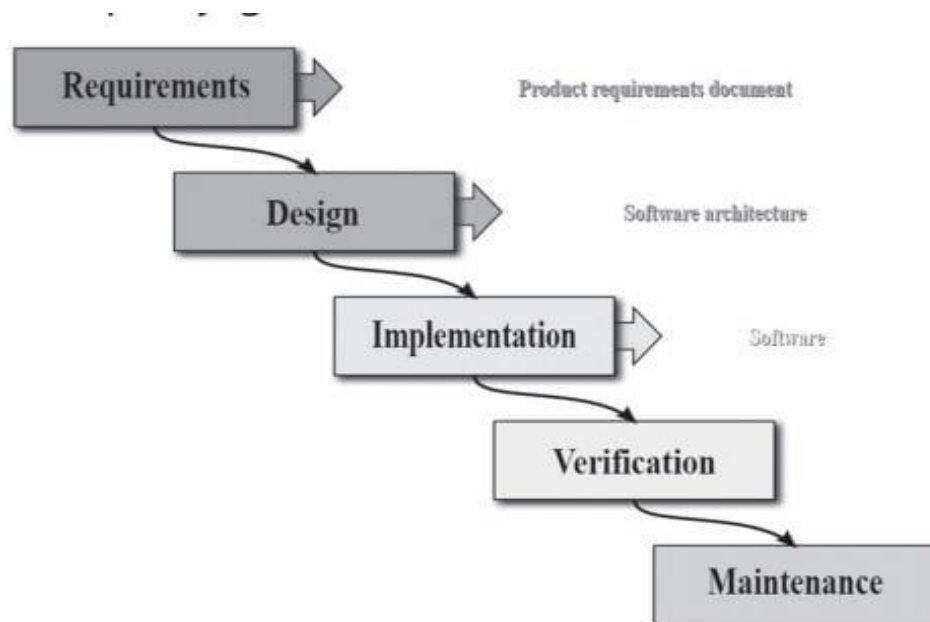


Figure 1. SIA Waterfall Development Model

- b. Iterative

The Iterative Systems Development Model is a software design model. This development paradigm is commonly used because the stages are easy. The Iterative Model exemplifies the process of creating an Artificial Intelligence System (AIS), where all operations in the process must be carefully planned and scheduled before being implemented.

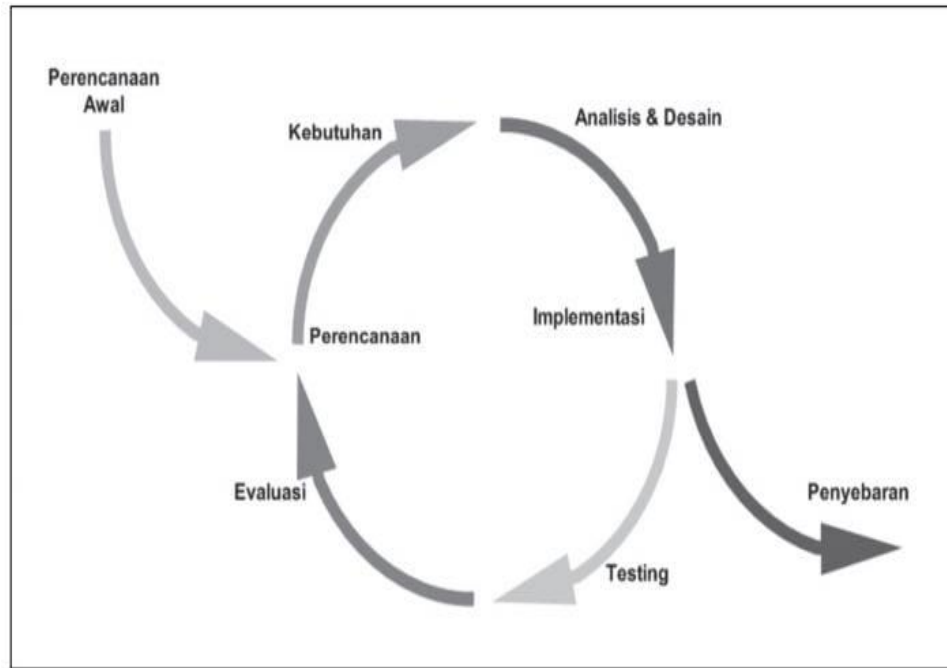


Figure 2. Iterative AIS Development Model

c. Spiral

The Spiral system development model is a frequently used software design approach that organizes the process into four distinct quadrants, with each stage having a clear grouping. The Spiral Model exemplifies the process of creating an AIS, where the entire activity process is carried out in a circle. This makes it easier to control the system development process, because it allows the identification of deficiencies in previous stages in subsequent rounds.

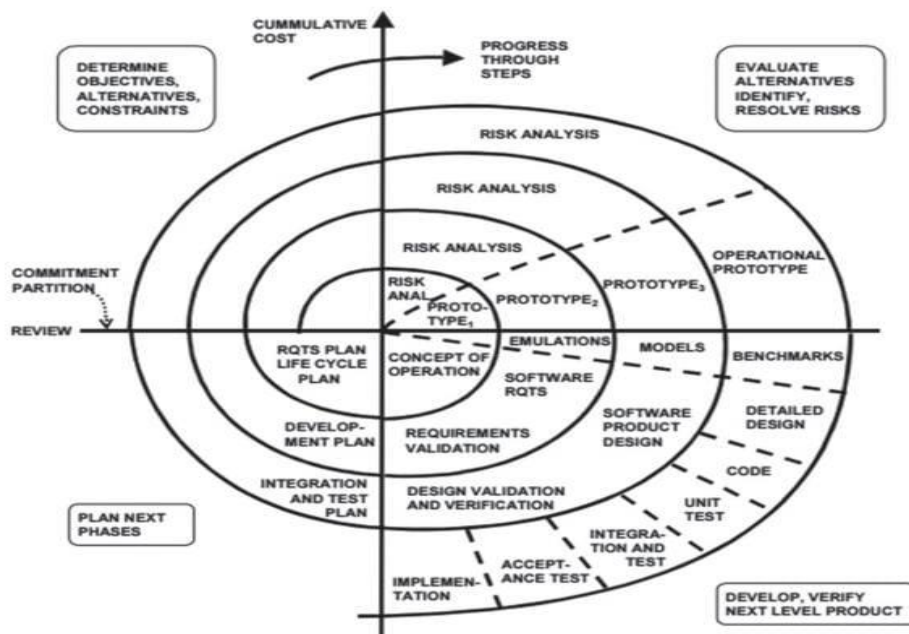


Figure 3. SIA Spiral Development Model

3.5 System Development Methods

There are several ways of developing information systems that company management can choose. Some of these developments can be grouped into two large groups (Nugrahanto, 2015), namely:

- a. Conventional development methods refer to the use of established procedures and standard stages in system preparation. The process of developing a system is usually called the system development life cycle, or SDLC for short.
- b. Rapid development method (Rapid Application Development/RAD). The RAD approach may deviate from the steps specified in the SDLC. The party responsible for system development does not always have to be the system designer after the SDLC process. Rather, it can be anyone who has been granted the necessary rights and has the ability to build the necessary systems. There are three approaches to RAD, specifically:
  - 1) Initial trial (pilot project). This approach allows companies to create systems within a specified range, before they are actually implemented in daily operations.
  - 2) User-driven development (end user development). This strategy allows system users to independently create the necessary systems without the help of a system designer.
  - 3) Computer-aided development, often called CASE or computer-aided systems engineering. This method involves the utilization of computer programs specifically designed for system development purposes.

## CONCLUSION

The accounting system development technique is a sequential process carried out by system analysts to perfect the company's current accounting system. AIS development is needed to modernize outdated AIS and align it with current advances in technology and accounting science. The main motivation for establishing SIA was the implementation of the convergence of International Financial Reporting Standards (IFRS) which began in 2012. It is very important to develop SIA (Sustainable Investment Accounting) in line with International Financial Reporting Standards (IFRS) to ensure consistency with global standards. accounting system, increasing the clarity of financial reports, and facilitating harmonization with domestic accounting information systems.

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