# Designing A Web-Based Quality Of Accounting Information System

**Meiryani; Jajat Sudrajat**

**Abstract**: Recording of transactions and financial reports that are still manual on small and medium micro businesses creates the risk of errors in financial records that are not rigorous, irrelevant, incorrect and not reliable, and creates difficulties with the increasing transactions that will occur in the future. This study aims to design a quality accounting information system model needed by small and medium micro businesses in order to assist business operations. This research is a research and development research with the method of developing rapid application development (RAD) which consists of three phases that require planning, RAD workshop design and implementation. Data collection techniques used were interviews, observation, documentation, literature study. The results of this study indicate that small and medium micro businesses in Indonesia still use manual cash receipt accounting information systems. Documents used in the form of cash notes and invoices, while the notes made are records of cash sales, accounts receivable, and inventory. However, recording is not done routinely so that financial information / reports are inaccurate. Designing a quality accounting information system can simplify and speed up the making of financial statements.

**Index Terms**: design, accounting information systems, small and medium micro businesses, Quality, Rapid Application Development.

## 1 INTRODUCTION

Information is like blood flowing in the body of an organization/company. In this globalization era, accounting information systems are needed to win the competition. Information that is quality and valuable is needed by management for decision making. Quality information is produced by a quality accounting information system (Meiryani, 2018). Quality accounting information systems help companies in their operational activities, and can minimize the risks that will arise in the future. An effective and efficient accounting information system is expected to provide reliable information and an accounting information system can provide quality information for those who need it. Accounting information systems are built with the main purpose of processing accounting data from various sources into accounting information needed by various types of users to reduce risk when making decisions. The problem that arises in making financial statements is that there is always an error in posting the daily journal to the ledger and causing the financial statements to be inaccurate, relevant, reliable and complete. The problem of the quality of accounting information that occurs can be caused by the system used, such as the findings of the Supreme Audit Agency (BPK) about the existence of irregularities in state funds even though the financial statements of ministries/agencies are getting better. The results of the first semester of 2012 audit showed a deviation in state money management worth Rp 12.48 trillion. The case found by the BPK was mainly due to the inaccuracy of the system for recording financial statements, poor accounting systems, poor planning, poor coordination and policy, and weak supervision and internal control.


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Romney and Steinbart (2006), making a prototype is an approach to system design that develops a simplified working model of the system. This initial prototype or design can be quickly and cheaply built and given to users to be tested. Experimenting with prototypes allows users to set what they like and don't like about the system. The interactive process of the trial and use continues until the users are satisfied because the system meets their needs adequately.

## 2 LITERATURE REVIEW

### 2.1 Accounting Information Systems

According to Mulyadi (2013) accounting information systems (SIA) are the organization of forms, records, and reports that are coordinated in such a way as to provide accounting information to various parties, both internal and external parties. According to Jogiyanto (2007) accounting information system is a collection of activities from organizations that are responsible for providing financial information and information obtained from transaction data for the purpose of internal reporting to managers to be used in current control and planning and future operations and external reporting to shareholders, the government and other outside parties. According to Gondodiyoto (2007), the application of computerization to accounting information systems caused six changes in the system. Niswonger stated that accounting information systems are methods and procedures for collecting, classifying, summarizing, and reporting information about financial and business operations. Indicators used to measure system quality include ease of use, respone time, reliability, flexibility, security (DeLone and McLean, 2013). Romney and Hopwoop (2016) explain that accounting information systems can fulfill three functions in an organization, namely:

1) Collect and store data about activities carried out by the organization, resources that are affected by these activities, so that management, employees, and external parties concerned can review things that have happened.
2) Turning data into information that is useful for management to make decisions in planning, implementing, and monitoring activities.
3) Providing adequate controls to safeguard assets in the organization, including data held by the

organization, to ensure that the data is available when needed, not only available but that the data is also accurate and reliable.

Accounting information systems have a role to provide added value to an organization. A well-prepared and appropriate accounting information system can provide this with:

1) Improving the quality and reducing the costs of products or services.
2) Improving Efficiency.
3) Sharing knowledge.
4) Improving the efficiency and effectiveness of its supply chain.
5) Improving the internal control structure
6) Improving decision making

Jogiyanto (2005: 42) in the accounting system there are six components, namely input, model, output, technology, database, control. Romney and Steinbart (2006), useful information must fulfill six characteristics, namely:

1) Relevant. If the information can reduce uncertainty, improve the ability to make decisions to make predictions, confirm or improve their previous expectations.
2) Reliable. If the information is free from errors or irregularities, and accurately represents events or assets in the organization.
3) Complete. If the information does not eliminate the important aspects of the event which is the basis of the problem or activities it measures.
4) On time. If the information is given at the right time to allow decision makers to use it in making decisions.
5) Understandable. If the information is presented in a usable and clear form.
6) Can be verified. If two people with good knowledge, work independently and each will produce the same information.

Kieso (2010) the quality of information consists of relevance and reliability which are two primary qualities that make accounting information useful for decision making.

### 2.2 System Design

Satzinger, Jackson, and Burd (2012), system design is a set of activities that describe in detail how the system will run. This aims to produce software products that are in accordance with user needs. Designing is the stage after analysis of the system development cycle which can be in the form of drawing, planning and making sketches or arrangement of several separate elements into a single unit that is intact and functioning, including concerning configuring the software and hardware components of a system (Jogiyanto, 2005). System design in an entity is an activity to develop a new system to replace the old system as a whole or improve the existing system. Information system design can be interpreted as the development of a new system from the existing system, where problems that occur in the old system are expected to have been resolved on the new system. Life cycle of developing accounting systems. SDLC (System development life cycle) as follows:

a) System analysis. Analyze and define problems and possibly solutions to information systems and organizational processes.
b) System design. Designing outputs, inputs, file structures, programs, procedures, hardware and software needed to support information systems.
c) System development and testing. Build software needed to support the system and do testing accurately. Install and test hardware and operate software.
d) System implementation. Switch from the old system to the new system, conduct training and guidance as needed.
e) Operations and maintenance. Support information system operations and make changes or additional facilities.
f) System evaluation. Evaluate the extent to which the system has been built and how well the system has been operated.

The cycle takes place repeatedly. The above cycle is a classic model of information system development. New models, such as protyping, spiral, 4GT and combinations are developed from the classic models above. Documentation tools in supporting accounting information systems consist of:

a) Document flow diagram (DFD)
Document flow diagram (DFD) is a graphical description of a source and travel data that represents the data flow associated with the organization processing the data and how the data is allocated.

b) Flowcharts
The next documentation tool is various types of flowcharts. Flowchart has an understanding as an analytical technique used to describe several aspects of an information system to be clear, concise and logical (Romney & Steinbart, 2018). Flowchart used as a documentation tool consists of several types, namely document flowchart, systems flowchart, and flowchart program.

## 3 RESEARCH METHODOLOGY

The steps in this study include the following stages.
Planning stage
The activities carried out at the planning stage are:

1) identification of problems
2) determine the purpose of the study
3) literature study
4) determine the data needed

Data collection and processing stages as follows:

1) observation
2) interview
3) literature study

This type of research is research and development to develop a quality accounting information system in small and medium micro businesses. This research is expected to produce a web application that helps micro and small businesses that help product sales processes and assist in the process of making financial reports such as journals, ledgers, budgets, tax reports, management reports, cash receipt reports, cash expense reports up to produce financial reports that are relevant, accurate, timely and complete. Based on these data, the design of a web-based accounting information system was made with the RAD method. The business modeling phase

produces data needed for system design. The data modeling phase produces a data table and its relevance in the form of an ERD. The process modeling stage produces context diagrams, DFD, process diagrams and program interface designs. The application generation stage produces a design change into the programming language and the testing and turnover stage produces a prime process that is prepared to be implemented. This research was conducted on small and medium micro businesses in the city of Bandung, Indonesia.

Method of collecting data

1) Interview

The interview is a method of data collection conducted by asking questions directly to the resource persons in the company conducted the research. Data or information obtained from the question and answer method is an overview of system companies that have accounting cycles, as well as matters relating to accounting information systems in small and medium micro businesses.

2) Observation

Observation is a method of observing directly in the field of research objects with the aim of obtaining an overview of conditions that occur based on the perceptions of the researcher.

3) Documentation

Documentation is a record obtained from physical and non-physical documents at the related research location.

4) Library Studies

Literature study is any effort made by researchers to gather information that is relevant to the topic or problem being studied. This information can be obtained from scientific books, research reports, scientific essays, theses and dissertations, regulations, provisions, yearbooks, encyclopedias, and written sources both printed and other electronically.

The research instrument uses interview guidelines which contain questions about the activities of the accounting information system that has been running on the business. Interviews conducted included several aspects and indicators needed by the user in producing a quality accounting information system. The data used in this study are primary data. Where the researcher takes information directly to the business that is used as the object of research by means of observation, interviews, documentation and study of literature. Design using context diagram modeling. Data flow diagram (DFD), entity relationship diagram (ERD).

Data analysis method

The data analysis technique that will be used is using the system development life cycle (SDLC) model. SDLC consists of a series of stages, namely: planning, system analysis, system design, system selection, system implementation and system maintenance (Jogiyanto, 2001).

Data analysis techniques include the following:

1) System analysis stage

a) Analysis framework:

1) analysis of the decision maker level (organizational management). Analyze the organization, functions and information needed along with the information produced.
2) Analysis of information flow. Identify what information is needed, who needs it, where it comes from.
3) Analysis of inputs and outputs

In this analysis techniques and tools are used: interviews, observation, sampling and document gathering, charting, decision table and matric.

b) Feasibility aspect categories:

1) Technical feasibility: the feasibility of hardware and software
2) Economic feasibility: are there advantages or disadvantages, the usual efficiency of the organization's operations.
3) Operational feasibility: relating to the operating procedure and the person who runs the organization.

Researchers make direct observations or observations of the company's operational activities related to the financial cycle system which starts from transactions on cash receipts and cash disbursements in small and medium micro businesses.

c) The analytical tool used

1) Transaction documents

Transaction documents are the first step in an accounting cycle. Documents in the form of transactions from events that are able to influence the company's financial position, such as receipts, forms, cash expenditure and income records, and so forth.

2) Public journals

Public journals are diaries to record financial transactions in the order of the date of the beginning to the end date into the group of debit accounts and credit accounts. Public journals are the first step to make a financial report, which later accounts that are in the general journal can affect the ledger to report on the wear.

3) Ledgers

Ledgers are a list of chronological sort transactions that are grouped into each estimate. The process of grouping accounts from general journals to ledgers is called posts.

4) Balance Sheet

A trial balance is a grouping of final balances in a ledger. The balance sheet function is to evaluate the existence of posting errors or journaling through inequality between debed and credit, in the trial balance there is a date column, account name, transaction column whose value originates and ledger balance, transaction column whose value originates and ledger balance, and column the balance is derived from the reduction of the debit column and transaction credit.

5) Financial Reports

The financial statements of a company are arranged in sequence, which consists of:

a) Statement of profit/loss

The profit/loss report contains the account and the value derived from the trial balance in the transaction column.

Income and expenses including accounts entered in the profit/loss statement, the amount and each of these accounts will be reduced so that profits or losses can be obtained.

b) Cash flow statement
A cash flow report is a part of a company's financial statements produced in an accounting period that shows the inflow and outflow of money (cash) of the company.

c) Balance Sheet
The balance sheet contains assets and liabilities. On the asset side there are all current assets accounts, tangible fixed assets and intangible fixed assets obtained from the trial balance. On the liability side, there are all long-term debt accounts, short-term debt obtained and balance sheets and final capital obtained and capital change reports.

## 4 DISCUSSION

Before composing a new system, the first thing to do is to analyze the existing system, which aims to find out the goodness and weaknesses of the existing system. This analysis was carried out by survey. The data collected in this study is input, advice from users when using e-commerce-based web applications. The financial cycle accounting information system is financial reporting in the form of recording and recording procedures to journals and ledgers and printing financial reports whose data is taken from ledgers with the aim of producing information relating to sales transactions quickly, precisely and accurately.

The accounting system used
Most of the micro and small business entrepreneurs make accounting records just to find out the profits they earn in each month. Business actors usually make a simple recording and do not complicate the business actors. Classification of costs and business income has been done appropriately. Namely by memishakan cash expenses into costs that are often issued. However, mistakes often occur between recording and the real amount of cash in the business. This is because almost all small and medium micro businesses still use manual/conventional records.

Recording transactions
Recording of transactions carried out by small and medium micro businesses is carried out in several books and stages. Recording is recorded when there is a transaction that takes place on the date that occurred. Starting from recording cash receipts and cash outlays that occurred at that time, this recording was carried out in a daily report book, such as a general journal. After the daily report, the recording is continued to the monthly book, here the recording is grouped based on the transaction account for one month. After this monthly book, the recording of transactions is forwarded to monthly income. The Process of Establishing an Accounting Information System Model. The establishment of an accounting information system model using this model is the classification of account numbers and names, journal entries, and implementation simulation tests. Classification of name and account number based on observations on all financial transaction activities that are often used in small and medium micro businesses.

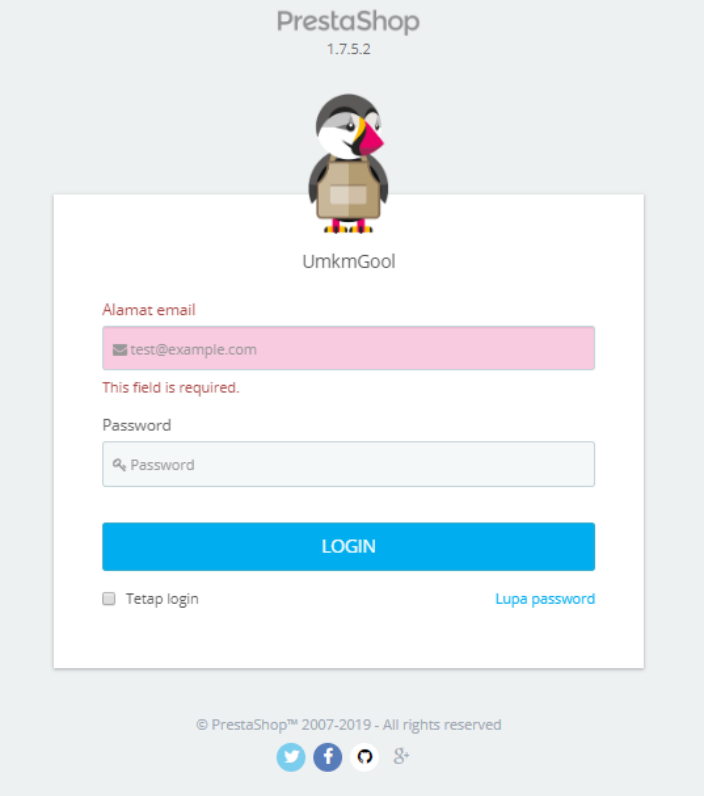


***Figure 1:*** *Display for admin login*

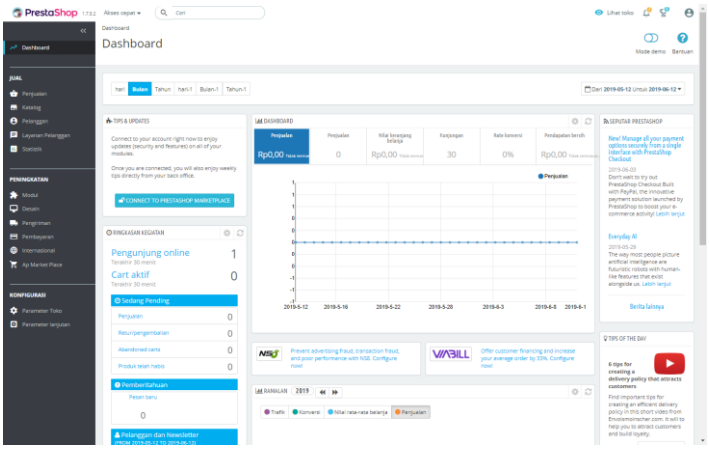


***Figure 2:*** *Admin Dashboard*

## 5 Conclusion

Inputting transactions, transaction data is processed into general journals, ledgers, trial balances, to form reports, namely income statements, changes in capital reports, and balance sheets using the PHP programming language can be integrated automatically so as to minimize financial report errors. Designing a quality accounting information system is a design using computerization which includes all stages of computer-based financial data processing and reporting to provide information or services to users and support business operations.

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