DESIGN OF FIXED ASSETS DEPRECIATION ACCOUNTING INFORMATION SYSTEM WITH THE STRAIGHT LINE METHOD USING MICROSOFT VISUAL STUDIO 2010 AT PT SAGALA GROUP

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Abstract: For more than one accounting period, a business will likely make use of the physical assets that make up its fixed assets, such as those used in manufacturing, transportation, office space, and other structures. Investment in fixed assets must be carefully considered because to its high value, relatively extended usage, and status as the company's primary instrument for producing money. The value of fixed assets depreciates over time, and depreciation is the process through which that decline in value is accounted for. The straight-line depreciation approach is used by many businesses since it results in consistent expenses over time periods, regardless of changes in productivity or other factors. Therefore, it is essential that owned assets be properly managed so that businesses and individuals can continue to reap the rewards of their existence. However, this is not the case with PT Sagala Group still using Microsoft Excel to record its assets and calculate depreciation. Inaccuracies in fixed asset depreciation calculations, lags in recognizing physical data, and inadequate oversight of firm assets are only some of the issues discovered in the absence of supplementary software. In light of this issue, the authors reach the conclusion that a unified system for handling the various aspects of depreciating fixed assets should be created, with Microsoft Visual Studio 2010 and Microsoft Access 2010 serving as the respective database development and management tools. In the long run, having this system in place should make business operations easier.
Keywords: Design; Asset Depreciation Information System; Visual Basic and Access

INTRODUCTION

An information system is a set of interrelated hardware and software components within an organization that collects, stores, and then uses the analyzed data to inform strategic choices. An organization needs an information system because it supports operations, handles daily transaction processing needs, is managerial in handling organizational strategic activities, and provides reports that can be accessed when needed (Vialny & Doni, 2022).

A company's fixed assets are critical to its operations and profitability, and their management is a key component of the overall corporate structure. The balance sheet is a financial statement that includes information about a company's assets (Isnaini et al., 2017). The useful lives of fixed assets are assets that are used indefinitely in running a business but are not sold for more than the duration of one accounting period. Depreciation of fixed assets will be included in the financial statements every year. The longer this interval continues, the more value this asset will lose. Depreciation expense is calculated as a percentage of the initial cost of the asset, based on the economic life of the asset, and the method of depreciation of the asset (Dzaky Prastianto & Rostiani, 2020).

According to Financial Accounting Standards (PSAK) No. 16 (update 2011), depreciation is a technique for impairment of assets that can be depreciated systematically

over their useful lives. A company's financial statements will be affected differently depending on the technique chosen to calculate depreciation. Calculation of depreciation expenses is an important part of every business, because the sale of depreciated assets can be used to purchase replacement assets after their useful economic life is up and affects the financial statements. Depreciation costs will have an impact on the cost of goods sold and operational costs, which will have an impact on the company's profit margins (Arniati & Windariyani, 2022). The expression "straight-line depreciation" is a method of writing off the initial purchase price of fixed assets as an annual depreciation expense in the income statement (Dzaky Prastianto & Rostiani, 2020).

It takes more time to prepare depreciation reports due to problems encountered while producing them which are sometimes split across multiple pages in Microsoft Excel. Another problem is that proper reporting guidelines are not always followed when compiling reports. To provide results that can assist in decision making, we need an accounting information system that handles depreciation of fixed assets using the straight-line method (Isnaini et al., 2017).

The straight-line method is used to determine the depreciation cost of all fixed assets while a company is registering the assets. Using the straight-line method of depreciation is easier to use and apply in accounting and easier to determine depreciation rates. As a result, depreciation costs that must be removed from the company's finances will remain constant each period. The straight-line method calculates depreciation expenses using the formula Depreciation rate = Acquisition price – Residual value: Economic value (Agustiya & Puspita, 2019).

The private company PT Sagala Group was founded in 2019 to operate in the food and beverage sector. PT Sagala Group's operations depend on several types of fixed assets, including buildings, cars, equipment and office goods, all of which will inevitably depreciate over time. A reliable accounting system is needed to monitor the depreciation of the company's fixed assets. Despite software advancements, PT Sagala Group still uses Microsoft Excel to record its assets and calculate depreciation. Several problems were encountered without the proper application to support them, such as simple errors in determining the depreciation of fixed assets, lengthy processes to physically identify data, and the absence of asset management across the company.

Based on these problems, the authors conclude that it is necessary to design an integrated system between the functions involved in the fixed asset depreciation method using Microsoft Visual Studio 2010 and Microsoft Access 2010 as the necessary databases. With this software, the authors hope to provide a solution in shortening the procedure for collecting and processing company asset data.

Design

Design is the initial stage in the development of the application of goods and systems. Such design is an implementation technique as a process along with a basis that intends to describe an instrument, a procedure or a system in specifications that allow physical practice to be carried out (Nadeak, 2016).

System

The system is a collection or series that connects other components to each other and interact with each other to achieve goals, regarding the system phase, input, processing and final product (susanto azhar, 2013).

Accounting information system

An accounting information system is a computerized framework for collecting and analyzing financial data for the purpose of informing business decisions (Romney & Steinbart, 2018). The processes, procedures and systems that make up an accounting information system collect accounting data from the business chain, enter that data into appropriate records, process the data from classification to summary to consolidation, and finally report the resulting accounting data in a concise, report that can be used to internal and external needs (Turner et al., 2017).

Fixed assets

Fixed assets are assets with a useful life of more than one year or more than one year of business operations (Wahyudin & Khafid, 2013).

Straight Line Method of Depreciation

The depreciable value of an asset is written off over its useful life through a process known as depreciation. Business financial accounts will be affected when depreciation is calculated. Determining the amount of the annual depreciation expense is very important for a business, because this amount can be used to fund the acquisition of a new asset after the useful life of the old asset ends. Periodic depreciation expense is calculated by dividing the difference between the purchase price of the asset and its residual value over its useful life (Vialny & Doni, 2022).

Accumulated depreciation

Part of the fixed asset price is accumulated depreciation which will be used to write down the cost of the asset over its useful life (Dzaky Prastianto & Rostiani, 2020).

Fixed Asset Acquisition Price

In accounting, the purchase of fixed assets is broken down into three distinct phases: the period of acquisition, the period of possession and the period of disposal. Calculating the purchase price of fixed assets is the main challenge of fixed asset accounting (cost) (Giri, 2017).

Data

Data is information obtained by measurement or observation and presented numerically, alphabetically, symbolically, or in a mixture of these forms (Sutarman, 2012).

Databases

A database is an ordered collection of linked files or a collection of records that store data and other connections (Sutarman, 2012).

Flow chart (Flowchart)

The stages and sequence of operations in a program can be summarized by using a flowchart. Processes, logical flows, inputs, outputs, and records are part of an information system represented by flowcharts, while entities, physical flows, and operating activities are part of an operational system as appropriate (Dzaky Prastianto & Rostiani, 2020).

Microsoft Visual Studio 2010
To build software for mobile devices, use Microsoft Visual Studio 2010, web, and desktop (Web Apps, Windows Mobile, Windows Forms, CommandLine (Console) (Yesputra, 2017).

Microsoft Access 2010
Microsoft Access 2010 is an application used to create business applications, you can use templates or create from scratch. With a variety of user-friendly app design tools, users can quickly and easily develop apps that look good and perform well.

Crystal Reports
Crystal report is the part that is used to form reports and reports from the program that we want to form, so that it is understood by users, such reports are received from combined data from tables stored in the SQL Server database (Atmoko, 2013).

METHODS

After conducting research (observation) at PT Sagala Group, the authors used descriptive qualitative research methods using analysis and were developed in the field by the authors. This study was carried out with the aim of developing knowledge through understanding and creation. The assessment was developed not based on existing theory but was developed based on problems that occur in the field so as to get solutions and produce descriptive exposures. The data collection method at PT Sagala Group uses a question and answer technique, observation along with internet browsing as a secondary data source.

System analysis, system design, and system implementation are the investigative methods in this study. Analyzing running systems as well as errors and potential improvements is part of language system analysis. Input, processing, output, and database design are all part of a well-thought-out system design. The methods for running the system consist of things like programming and testing. The aim of this entire procedure is to provide a broad view of the mechanism of depreciation of PT Sagala Group's fixed assets. The process is systematic in that it consists of a series of components that together produce software, with analysis, design steps, and there is a certain sequence in which the development, testing and deployment of the system takes place.

RESULTS AND DISCUSSION

According to the author's research, PT Sagala Group has weaknesses in the system for recording and calculating fixed assets because it has not implemented a specific application to collect asset data and calculate depreciation, but instead relies on Microsoft Excel. Several problems were encountered without proper applications to support them, such as simple errors in determining depreciation of fixed assets, lengthy procedures for physically identifying data, and lack of command over business ownership. Given this problem, the authors argue that Microsoft Visual Studio 2010 and Microsoft Access 2010 database is required for an integrated system between the functions involved in the fixed asset depreciation approach.
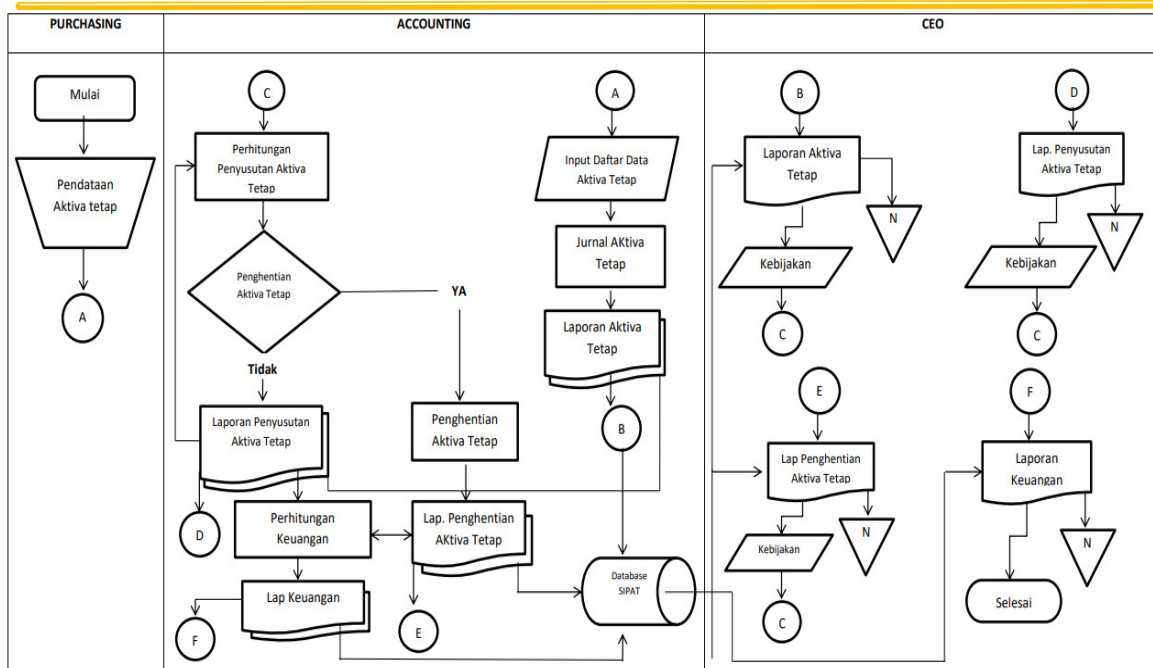
Figure 1. Flowchart Design
Source : data processed by research (2023)

1. Analysis

After finding the problems that occurred at PT Sagala Group, the authors conducted an analysis in solving the problem and finding a solution by designing a new program, namely the Design of a Fixed Assets Depreciation Accounting Information System to make it more accurate and efficient in data processing. This needs analysis is carried out by the author using the following methods:

a. Interview

The author collects information through interviews with insiders at PT Sagala Group, namely Ms. Neng Astri Delia Wangi as the Accounting Officer and Mr. Arif as the Head of the Purchasing Department. The results of these interviews are used in discussions and research reports.

b. Observation

The author collects information on PT Sagala Group by looking at how the depreciation of fixed assets is calculated and recorded directly.

c. Literature study

The author collects data by searching literature related to depreciation of fixed assets using the straight-line method sourced from books, journals or documents contained in PT Sagala Group.

2. Design

Software design is a process that focuses on the design of making software programs including data structures, software architectures, interface representations and coding procedures. This stage will determine the software requirements starting from the needs analysis stage to the design representation stage so that it can be implemented into a program at a later stage.

a. Program Code Generation

The design will be converted into a software program that will work as it did at the design stage. The author plans to use Microsoft Visual Studio 2010 as the coding environment and Microsoft Access 2010 as the database.

b. Testing

The author conducts testing through devices that are designed to know the user's opinion on the quality of the software logically and functionally.

The testing system is carried out in order to find errors or difficulties in the software being tested and to check whether it can be applied based on such standards. Information system testing often uses the "black box" method. In software development, "black box testing" is performing tests without having access to or knowledge of a program's source code or internal structure.

c. System Implementation

The implementation of the system is carried out using the Visual Basic 2010 programming language and the database used is Microsoft Access 2010. This application can be operated on the Windows operating technique platform. In this design the application is fully processed on PC (personal computer) hardware using the Windows operating system.

a) Login Page
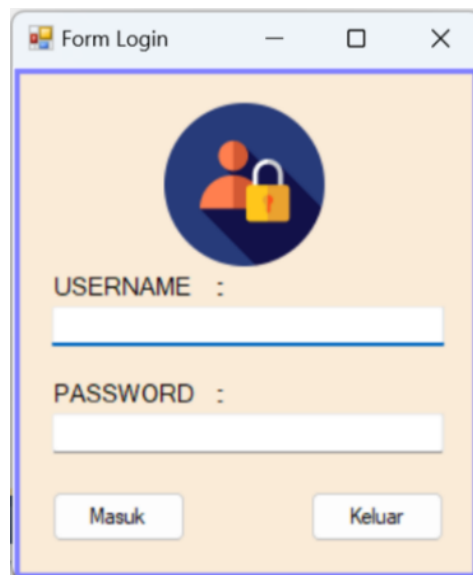
Figure 1. Login Page
Source : data processed by research (2023)

Description : To access the main menu of the fixed asset depreciation application, the user must login first. This is done by entering the username and password into the textboxes on the login screen.

b) Main Menu Page

Figure 2. Main Menu Page
Source : data processed by research (2023)

Description: As shown when entering the administration section of the asset depreciation software. There are three more options for navigating to different parts of the asset depreciation application in the top left menu.

c) Fixed Asset Data Input Page
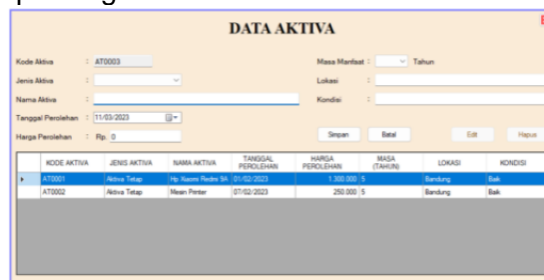
Figure 3. Fixed Asset Data Input Page
Source : data processed by research (2023)

Description: From the Master Data submenu, users can open the Asset Data Input page. Data about newly acquired assets can be entered by the administrator and saved to the database from the view of this page. If the user accidentally saves any important asset information, you can use the delete button to delete it, and the exit button to return to the main menu.

d) Supplier Data Input Page
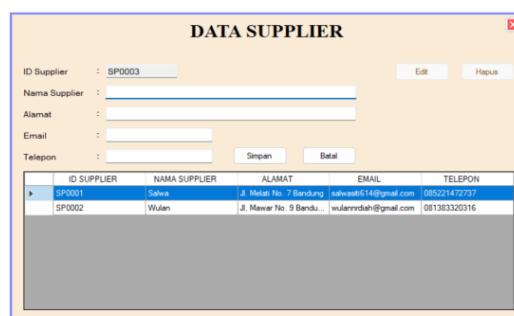
Figure 4. Supplier Data Input Page
Source : data processed by research (2023)

Description: Through the Master Data submenu, users can open the Supplier Data Input page. If the user needs to contact the provider again, the user can do so here. The save button saves the supplier information in the database, the delete button deletes the supplier information from the database, and the exit button takes the user back to the main menu.
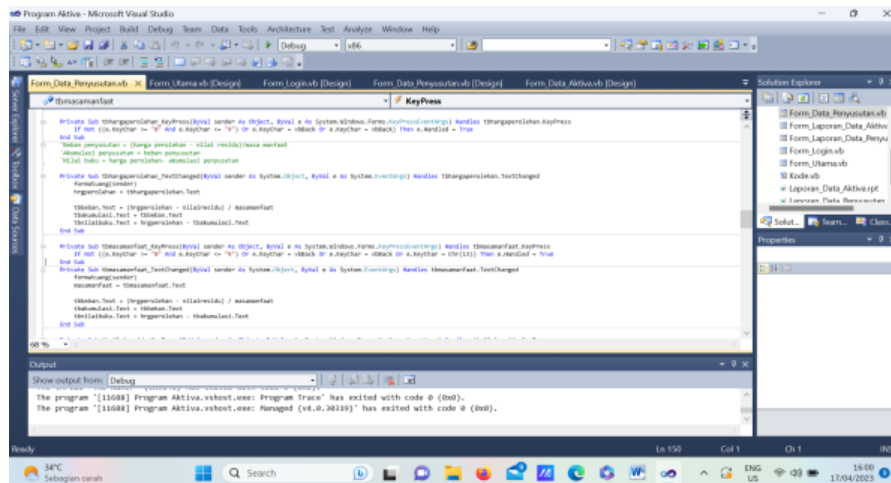
e) Input Page for Fixed Assets Depreciation

Figure 5. Input Page for Fixed Asstes Depreciation
Source : data processed by research (2023)

Figure 6. Asset Depreciation Coding Display
Source : data processed by research (2023)

Description: From the Report submenu, select the Fixed Asset Depreciation Input Page option. Fixed asset monthly final input depreciation will be displayed here. The results of input depreciation of fixed assets can be saved using the "save" button, deleted with the "delete" button, and exited using the "exit" button.

f) Output page of Asset Data Report

Figure 7. Output page of Asset Data Report
Source : data processed by research (2023)

Description : The company's fixed assets are included on the output page of the asset data report.

g) Output page of Fixed Assets Depreciation Report

Figure 8. Output Page of Fixed Assets Depreciation Report
Source : data processed by research (2023)

Description: When run, the fixed asset depreciation report will show a full report for the company in its output view.

CONCLUSION

Based on the results previously described, it can be concluded that the method of depreciation of fixed assets that has been carried out by PT Sagala Group uses the straight-line method fiscally. Several assets owned by PT Sagala Group were found, namely buildings, machinery, vehicles and office inventory. So that in the process of reporting and calculating depreciation of fixed assets, a special application is needed that can be applied using the straight-line method at PT Sagala Group.

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