



**APPLICATION OF MICROSOFT OFFICE EXCEL-BASED GOODS
INVENTORY SYSTEM APPLICATION AT CV TRIKARTA JAYA INDONESIA**

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ABSTRACT

This study aims to describe the application of VBA Excel application. Sources of data in this study are primary data and secondary data. Data collection techniques used are observation, documentation, and interviews. The research used documentary data instrument. The data analysis technique in this study used descriptive analysis. This study analyzes the merchandise inventory system based on Microsoft Office Excel 2010 at CV Trikartta Jaya Indonesia in 2021. The results of this study are depicted in graphical form which is the result of recapitulation of merchandise inventory stock. The graph presented shows that the merchandise inventory system using Microsoft Office Excel is more effective and efficient than the manual system.

Keywords: merchandise inventory, Microsoft Office Excel

A. INTRODUCTION

Today's business world competition is increasingly tight and growing fast. One of the factors influencing this development is technological advances those are increasingly sophisticated from year to year (Danuri, 2019; Rahayu et al., 2023). Today is not a few companies continue to innovate and develop their business by utilizing technological advances to support the achievement of goals and targets that have been set, various types of work can be done more easily and can be completed more quickly so that the results obtained will be even better (Purba et al., 2021). For trading companies, sales transactions are very important. Most trading companies sell goods pay little attention to the amount of available stock and carry out transactions without prioritizing predetermined procedures, resulting in some stocks being recorded which are sometimes inaccurate with the physical amount of existing goods (Tannusa et al., 2018).

Inventory is merchandise that has been purchased and stored in a warehouse which will then be sold as company operations (Murtia, 2016). Inventory has a very important role because if there is no inventory, the company cannot carry out the company's operational activities properly in terms of selling merchandise. Therefore, it is necessary to record inventory of merchandise and cash funds properly so that errors do not occur (Arifin & Utomo, 2022). Inventory also has a very large influence on the company's income statement. Stephanie (2022) explains accounting errors in inventory can affect the company's financial statements in the income statement. According to Arifin et al., (2022) the amount of inventory in the statement of financial position will determine the total cost of goods sold in the income statement.

In addition, technological developments such as computerization in terms of data processing are considered very useful in business activities. Because the rapid advancement of technology will have a positive impact, especially in terms of obtaining information and can be used as a tool to overcome increasingly competitive business and economic competition (Kusmaeni, 2020). Because of the large business needs, a management information system is needed in carrying out business activities. As a business person, of course, you must have proficient knowledge regarding data and information processing so that if the data is needed, especially in making decisions, business people can make decisions quickly and accurately. For example, Microsoft Office Excel computerized technology can be used to process information

data regarding the flow of records in merchandise inventory activities in ongoing business ventures (Vidyasari, 2022).

Krisbiantoro (2018) said Microsoft Excel is a spreadsheet application program (electronic worksheet). The function of Microsoft Office Excel is calculation operations and be able to present data in tabular form. This application is a number processing application using a spreadsheet consisting of rows and columns that work according to instructions (Anggeraini & Astuti, 2020). Microsoft Office Excel fundamentally uses spreadsheets for data management and performs Excel functions or what are commonly called Excel formulas. The spreadsheet itself means a collection of cells consisting of rows and columns for entering data or numbers (Parastiwi et al., 2018).

CV Trikarta Jaya Indonesia is an individual company engaged in the business of making invitations and souvenirs. This company has produced many quality products with several models and types for various events such as weddings, seven-month events, anniversary events and others. The majority of people certainly need this product, to support the smooth running of the event. CV Trikarta Jaya Indonesia, in carrying out its business, has made a large number of sales transactions by selling various kinds of souvenirs, of which there are approximately 300 types of souvenirs and 100 invitation models, but in terms of recording transactions, both purchases, sales and stock availability at CV Trikarta Jaya Indonesia is still keeping records manually. In recording inventory, CV Trikarta Jaya Indonesia only uses a printed form that is written manually when there is a reduction in stock as a result of a sales transaction. This is considered ineffective because the work cannot be completed quickly and precisely. According to Pujiono & Shim (2019) manual recording allows for repeated recording in reducing stock of goods which cannot be avoided.

Every sales transaction is also carried out manually and there is still a high potential for errors to occur. For this reason, it is necessary to apply an information system application regarding merchandise inventory based on Microsoft Office Excel 2010 so that these errors can be minimized. So based on the brief description above, that merchandise inventory has a very large influence on the company's development rate. For this reason, a system is needed that will change the company's management pattern for the better, so the authors are interested in knowing "Application of Microsoft Office Excel 2010-Based Merchandise Inventory System Application at CV Trikarta Jaya Indonesia." The purpose of this research is to find out the application of a trading goods inventory system based on Microsoft Office Excel 2010 at CV Trikarta Jaya Indonesia.

B. LITERATURE REVIEW

Trading Company

Soemohadiwidjojo, (2017) states that a trading company is a company that buys tangible goods from suppliers and sells them directly to consumers. So it does not carry out further processing to change the nature of the product. From each of these activities, the company has the goal of generating profits so that the company can maintain its life and develop its business for the better (Tamodia, 2013).

Definition and Concept of Inventory

Warren et al., (2016) argued that inventory is merchandise that can be stored and then sold in the company's business operations and can be used in the production process or can be used for a specific purpose. According to Syakur (2015) and Sael & Kaparang (2020) inventory includes goods that are the main objects of company activity that are available for use in the production process or for sale, to trading companies, goods purchased for resale. The Indonesian Accounting Association (2018) states that inventory is an asset:

1. available for sale in the ordinary course of business;
2. in the process of production for sales; or

3. in the form of materials or equipment for use in the production process or the provision of services.

Microsoft Excel

Microsoft Excel is a software tool for processing data in the form of numbers in spreadsheets from templates or you can make your own and use formulas or formulas to perform calculations. Making a chart or graphic format in Microsoft Excel makes the presentation of data more interesting. There is also a formula or formula for predicting future trends by processing these numerical data. In addition, we can share files to work together online and in real time so that work is done faster (Microsoft, 2022).

In streamlining work in making reports in Microsoft Excel there is a Macro function to automate repetitive tasks into a button click. The language used for macros is the VBA (Visual Basic Application) programming language which is an object-based programming language and has been embedded in Microsoft Excel (Binus, 2022).

C. RESEARCH METHODS

Types of research

This type of research is a type of field research, namely the researcher goes directly to the object of research to find out the process of recording inventory. Meanwhile, this research method is qualitative. Qualitative research according to Gunawan (2022) is a type of research whose findings are not obtained through statistical procedures or other forms of calculation. In this study, the application of a trading goods inventory system based on Microsoft Office Excel 2010 was applied to CV Trikartaya Indonesia.

In this study, researchers collected data related to the application of the merchandise inventory system application at CV Trikartaya Indonesia. The object of this study is the application of the Microsoft Office Excel 2010 system application to support the smooth running of the report on merchandise inventory at CV Trikartaya Indonesia.

Data source

The data from this research is subject data, namely the type of research data in the form of opinions, attitudes, experiences or characteristics of a person or group of people who are the research subjects (respondents). In this study, the authors collected data based on documentation techniques by analyzing data from the merchandise inventory form at CV Trikartaya Indonesia.

The source of data in research is the subject from which the data can be obtained. In this study the authors used two data sources, namely:

1. Primary data or first-hand data are data obtained directly from research subjects using measurement tools or data retrieval tools directly on the subject as the source of information sought.
2. Secondary data is data obtained from other parties, indirectly obtained by the researcher from the research object.

Object of research

CV Trikartaya Indonesia is a company that is used as a research site located on Jl. Ngagel Jaya No. 95, Pucang Sewu, Kec. Gubeng, Surabaya City, East Java 60283.

Data collection technique

In the opinion of Sugiyono (2016) data collection techniques are the most strategic steps in research, because the main goal of research is to obtain data. In this study, the authors used several data collection techniques, namely observation, documentation, and interviews.

Data analysis technique

According to Sugiyono (2016) suggests data analysis techniques are activities in qualitative data analysis carried out interactively and continuously until complete, so that data mining is saturated. The data analysis used in this research is descriptive analysis. The purpose

of this analysis is to describe systematically, factually, and accurately the facts and the relationship between the phenomena studied. The analysis was carried out after the data needed in the study had been collected. The data obtained regarding the stages of implementing the Microsoft Office Excel 2010 system application to support the smooth running of merchandise stocks at CV Trikartta Jaya Indonesia.

D. RESEARCH RESULTS AND DISCUSSION

CV Trikartta Jaya Indonesia was founded in 2010 by Mr. Kusno Sugiharto who is located at Jalan Ngagel Jaya 95, Gubeng, Surabaya. In that year the company was still in the form of a sole proprietorship company, not yet a CV (Commanditaire Venootschap), namely a Limited Partnership. This company was in the form of a proprietorship company from 2010 to 2013. Over time this company was changed to CV (Commanditaire Vennotchap) in 2013 as a taxable company. The initial establishment of this company took place at PGS Lt. 1 which is located at Jalan Dupak, Surabaya. Then move to Jalan Ngagel Jaya 95, Gubeng, Surabaya. This company has its head office on Jalan Ngagel Jaya 95, Gubeng until now. Apart from being the owner of the company, Mr. Kusno Sugiharto also serves as the President Director. CV Trikartta Jaya Indonesia is taken from the word Trikartta which means three brothers, which is based on the number of three sons from the family of Mr. Kusno Oyong, the owner of CV Trikartta Jaya Indonesia himself is the last child of the family.

With the development of the times, this company experienced quite rapid development, before being changed to a Commanditaire Vennotchap company or a taxable company, this company only developed at PGS Lt. 1, but in 2015 the company opened a branch on Jl. Ngagel Jaya. The company also opened another branch in early July 2021 with the company address at Jl. Kawi No. 55, Malang. In mid-March 2022, one of the branches of this company, namely PGS Lt. 1 experienced a decline in turnover caused by the effects of the Covid-19 pandemic so that it was finally forced to close. CV Trikartta Jaya Indonesia is a company engaged in the trading of invitations and souvenirs that are designed and assembled by themselves.

Current System Analysis

Picture 1.1

Merchandise Inventory Result Report

Recording inventory reports that occur at CV. Trikartta Jaya Indonesia at this time is using a manual system, as shown in the picture. The figure explains the reporting of the results of one week's stock of merchandise inventory at CV Trikartta Jaya Indonesia, this reporting still uses a printed form which must be calculated manually from the amount of merchandise used. In addition, considering the company's operational activities, namely selling several product items in the form of invitations and souvenirs, the activity of goods going in and out of the company is very high. With limited human resources in the recording section and an inadequate system, inaccurate data will be found.

With inaccurate data, purchases will occur which will result in errors in checking the available goods, such as frequent discrepancies between data and physical stocks, besides that material overstock often occurs. Another problem is the frequent cancellation of transactions by customers due to the goods that have been sold with the goods available that do not match (the stock for the goods has run out but is still being sold). Therefore CV Trikarta Jaya Indonesia requires an information system that is able to store and process data quickly, effectively and efficiently to control material inventory and facilitate management in making decisions.

Current Problems

1. Recording of incoming goods, outgoing goods and returning goods using a manual system is less effective because it still relies on manual forms that do not have many supporting facilities such as searching and auto-updating.
2. The old system was not supported by a searching facility, so it took time to recheck reports. Because the report is done manually.
3. There is no database that stores transaction data starting from customer data, goods data, goods stock data, and types of goods, resulting in a lack of quality of the information produced and the data cannot be presented precisely and accurately.

Solution to problem

1. The author tries to design a merchandise inventory information system with Excel VBA programming.
2. With this programming the administrator can reduce errors in calculating warehouse stock. Because this program can calculate effectively and minimize errors that arise.
3. Facilitate management in making reports quickly if needed can be printed immediately and can use information in making decisions quickly.

Research result



Picture 1.2

Excel VBA view

The main menu is the initial display that appears after opening the system. The purpose of making this menu is to make it easier for users to use the system that has been designed. As shown in the image above, this menu contains 5 forms, namely the supplier form, product form, customer form, incoming goods form, and transaction form. In addition, there are several graphs, data recapitulation regarding the number of transaction items and the number of incoming and outgoing goods, the total items in the warehouse and the re-stock menu to find out the number of items that will run out. This menu also has save and exit buttons. Some of the menus in VBA excel will be explained as follows:

1. Supplier form, is a menu that is used to input supplier data that will support the smooth running of the business. In this menu there are several items that must be completed so that the input data can be automatically updated and stored in the Excel VBA file. This

form is equipped with supplier code, supplier name, supplier address, telephone, email. The purpose of this form is to make it easier for users to find suppliers who will supply products at CV Trikarta Jaya Indonesia. In this form, there is a search for supplier name textbox design that functions as a support so that users can find supplier data quickly.

2. Product form, is a menu that is used to input the type and amount of product stock available in the company. This form is equipped with item code, item name, unit, stock, warehouse, unit price, total price. In this form, the search for goods textbox is designed to make it easier for users to find the desired item.
3. The customer form is a menu used to input data regarding clients or customers who will make purchase transactions for goods available at CV Trikarta Jaya Indonesia. This form is equipped with the customer code, customer name, customer address, telephone, email. In this form, a textbox is designed to search for customer names to make it easier for users to find the customer they want.
4. The incoming goods form is a form that functions to input the entire process of entering inventory at CV Trikarta Jaya Indonesia.
5. The outgoing goods form functions to input all sales transactions or the release of goods inventory at CV Trikarta Jaya Indonesia.
6. Re-stock is a menu that is used to find out how much stock of warehouse goods must be added in a certain period of time according to future needs

Report on the results of merchandise inventory based on VBA Excel

1. The 2021 merchandise inventory recapitulation at CV Trikarta Jaya Indonesia includes several elements including:
 - a. Entry is the amount of data recapitulation from the data input process for the entry of warehouse goods in the process of adding warehouse stock during a period of 1 month.
 - b. Out is the amount of data recapitulation from the sales transaction process on merchandise inventory during a 1-month period.
 - c. The entry value is the sum of the total recapitulation of product prices per item for the addition of warehouse inventory stock. The nominal amount of incoming goods can be smaller than the outgoing goods because the recapitulation is only valid for the calculation of a 1-month period, while sales transactions can be made using inventory stock of warehouse goods in the previous month or year.
 - d. The outgoing value is the sum of data recapitulation of total sales transactions for the reduction of merchandise inventory in a period of 1 month.
 - e. Incoming percent is the accumulated sum of the value of incoming goods per month divided by the number of incoming goods per year. The result of this percentage is 100%.
 - f. Percent outgoing is the accumulated sum of the value of outgoing goods per month divided by the number of outgoing goods per year, the percentage result is 100%
2. Recapitulation of 2021 Merchandise Inventory Stock at CV Trikarta Jaya Indonesia Warehouse consisting of elements:
 - a. The warehouse table is a table used to calculate the recapitulation of the amount of warehouse inventory stock in each warehouse, and is used to calculate the nominal amount of warehouse inventory owned by CV Trikarta Jaya Indonesia.
 - b. Warehouse goods graph, which is a graph that explains the comparison of the total stock of warehouse goods 1 with warehouse goods 2 in 2021 which is presented in chart form so that it is easier to understand. The total inventory stock for goods 1 is 80,348, while for warehouse 2 it is 79,446.
 - c. The warehouse goods value graph is a graph that explains the difference in the value of warehouse inventory between warehouse 1 and warehouse 2 where there is a

decrease, this occurs because the amount of warehouse inventory between warehouse 1 has a larger amount of stock compared to warehouse 2, therefore, automatically the nominal amount of the total price of warehouse 1 inventory will also be greater than warehouse 2

So that from the description of the results of the research above it can be shown that the application of VBA Excel in the company CV Trikartta Jaya Indonesia can be used as a way to improve the company's operational activities for the better, especially in terms of making merchandise inventory reports, because it has been shown to use manual forms it must take time which takes longer to find out the amount of stock of merchandise inventory, in contrast to the use of the VBA Excel application which can present reports in the form of tables and diagrams so that they are easier to read and understand. In addition, VBA Excel can find out quickly and precisely about the amount of stock of merchandise inventory, supplier data, customer data, and matters related to merchandise, because the VBA Excel application is accompanied by a menu searching and auto updating so that it allows users to input data with accurate results.

E. CONCLUSIONS AND SUGGESTIONS

Conclusion

Based on the results of research and discussion, the following conclusions are obtained:

1. An inventory information system that still uses a simple system, namely using a manual system, takes longer time to produce the reports needed by management at CV Trikartta Jaya Indonesia.
2. Implementing an inventory design system using the Excel VBA macro programming will increase the speed of inputting data so that CV Trikartta Jaya Indonesia is able to present fast and accurate reports.
3. By using a merchandise inventory information system, it will provide savings in terms of cost, effort and time at CV Trikartta Jaya Indonesia.

Suggestion

1. Advice for CV Trikartta Jaya Indonesia companies

At the end of this writing, the author would like to convey some suggestions to CV Trikartta Jaya Indonesia:

- a. The large volume of transactions that occur within the company requires speed and accuracy in inputting and producing accurate reports.
- b. CV Trikartta Jaya Indonesia should be able to implement an application using the Macro VBA Excel programming to support the company's merchandise inventory information system which will be very useful in increasing the effectiveness and efficiency of presenting reports
2. Suggestions for Further Researchers

For future researchers, the results of this study can be used as material for (a) comparisons and references for further research, (b) considerations to further deepen further research, and (c) it is expected to add other research objects.

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