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A Web-based Information System of Receivables and Supplies with LIFO Method

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Abstract

CV. Serasi is running a business on material buildings. However, it does not have any stock card. A large number of commercial items, but each item does not have a stock card since the admin simply checks and knows whether the commodities are still there or have been depleted, so they cannot compute the worth of the commodity's primary price. Therefore, the researchers conducted a study on designing and creating an accounting information system entitled A Web-Based Receivables and Inventory Information System with the Lifo Method at CV Serasi Kota Banjarmasin. This system is expected to help the management performance at the store on the transaction process, because it is planned to provide calculations in each sales transaction expected to facilitate in the management of the store management. The system tools used in the design of this information system were: Data Flow Diagram (DFD) which functioned to describe an existing system or a new system that would be developed logically and Entity Relationship Diagram (ERD) which was useful for modeling a system that will later develop its database.

Keywords: System, Receivables, Supplies

1 Introduction

Small and medium sized businesses are parts of enterprises in the world including in Indonesia. Its role is important as it is also the backbone of economy of Indonesia for hundred years [1]. However, developing small and medium sized businesses is not always easy. There are different problems for different small and medium sized businesses. has been always supported by the government of Indonesia for many years. At the same time, the government also encourages all Indonesian citizens to support the small and medium sized businesses on their ups and downs.

One of the small and medium sized businesses is CV. Serasi in Banjarmasin. It is an individual company operating in the field of trade that has established for 20 years. It sells materials for building and houses. The current issue faced by CV. Serasi is that it only keeps proof of sales in the form of notes in its transaction activities, and such notes are not always present in every sale transaction; notes are made when the buyer wants them. Meanwhile, the remaining products are only tallied by looking at the actual quantity of the goods each day; when the inventory of goods is depleted, the owner makes a purchase or re-booking to replenish the stock of merchandise. CV. Serasi owns a large number of commercial items, but each item does not have a stock card since the admin simply checks and knows whether the commodities are still there or have been depleted, so they cannot compute the worth of the commodity's primary price. When a sales note

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lacks a sales sequencing number, it becomes difficult to identify and handle the sales transactions that relate to the note. Cash out and receivables are likewise not recorded by CV. Serasi in cash transactions.

Manual data management can cause delays in the procurement process, receipt of financial reports and can affect the well-being of CV. Serasi. Additionally, manual transaction recording can cause irrelevant, not reliable, and not rigorous data [2] while a web-based information system help to make the process quickly and economically [3]. Thus, the researchers conducted this research aimed to build a system of receivables and supplies information with the LIFO method on CV. Serasi Kota Banjarmasin as a web-based. Lifo method help simplify and fasten the calculation of inventory stock data of goods[4]. This web-based inventory information system can help users to get efficient and effective inventory management performance. This is because the existence of this inventory software can make it easier to record and process data on incoming and outgoing goods transactions, thereby increasing time efficiency [5]. It is expected to help the management performance at the store on the transaction process because this system is planned to provide calculations in each sales transaction is expected will facilitate in the management of the store management.

Several programming alternatives that can be designed and used to help transaction activities in the store, one of them is PHP programming. PHP or the abbreviation of Hypertext Preprocessor is one of the open source programming languages that is very suitable or dedicated to web development and can be embedded in a HTML script [6]. PHP programming is a web to make it easy for users to access it anywhere and anytime. In addition to its storage, PHP programming does not require a large capacity.

Recently, many applications have emerged that help users use it as a tool for recording a transaction correctly and accurately [7], [8]. All the applications designed have the aim of facilitating the work on each work unit including the application for accounting and inventory management in order to facilitate the monitoring and determination of inventory on CV. Serasi to facilitate monitoring and preparation. Therefore, the researchers attempted to conduct this study by designing and creating an accounting information system entitled “a web-based information system of receivables and supplies with LIFO method on CV. Serasi Kota Banjarmasin.”

2 Literature Review

A. Definition of Supplies

Generally, in a company in the form of a trading enterprise, supplies are goods available at a company/store for sale. However, in manufacturing companies, supplies are raw materials for the production of goods to be sold. Thus, there is a distinction between the treasury of the tribe and the realms of the Tribe. In trade, companies buy coal and sell it back, while in manufacturing companies, inventories are used to make changes in the shape of goods to be processed and sold back. Inventory can be distinguished based on its business activities, namely trading and manufacturing [9], [10].

B. Methods of Recording Merchandise Inventory

In connection with the calculation of the cost of goods sold, there are two methods used to calculate and record the amount of inventory, namely:

1. Periodic method

The periodic method or physical method is a method for managing inventory, not recording the flow of goods in and out in detail, so that to find out the value of the inventory, a physical inventory count is carried out (stock taking) in the warehouse at a certain time [11].

2. Perpetual Method

Perpetual method or the book method is a method that can be used in determining the cost of raw materials, the cost of the product is grouped according to the price of the order [12]. This method is divided into three methods, namely:

a) FIFO (First In First Out), In this method, goods that enter (purchase or produce) first will be issued (sold) first. So that what remains at the end of the period are goods from the last purchase or production.

b) LIFO (Last In First Out), In this method, the last incoming (purchased or produced) goods will be issued/sold at the earliest). So that the goods remaining at the end of the period are goods that come from the purchase or production at the beginning of the period. The author also makes this method a method for calculating inventory, this is because it is in accordance with what happens in the research object, where the average building shop uses the LIFO method of calculation.

c) Weighted Average, In this method, the goods issued/sold as well as the remaining goods are valued based on the moving average price. So that the goods remaining at the end of the period are goods that have an average value [13].

C. Method of Determining Cost of Goods Sold (COGS)

The cost of inventories and cost of goods sold are determined based on the cost flow assumption and not the physical flow of inventories. The cost of inventory is calculated using various methods, including:

1. First In First Out (FIFO), In inventory accounting, the cost of inventory is calculated as an item in and out of inventory, not a physical count. Assuming that the goods are purchased first, then the goods will also be issued first if a sale occurs, called the first in, first out (FIFO) method.

2. Last In First Out (LIFO), This method is the opposite of the method of the MPKP method. The goods taken for the ending inventory of this method are the accumulation of the prices of the goods that entered first, so that when a sale occurs, the goods that were last entered will come out. As with the MPKP method, this method can also be made in the physical method and perpetual method.

3. Weighted Average, as with the use of the two methods above, the average method can also be distinguished in the physical method and the perpetual method. The combination of recording inventories using the physical method and allocating the value of inventories using the average yields the weighted average method [14].

D. Accounting and Accounts Receivable

The asset of a company that can be used for operational activities within the company is called cash, which is the most liquid asset because it can be used to pay the company's obligations. There is no specific accounting standard related to cash, but it is generally discussed in standards regarding financial instruments and Cash Receipts. One of the current assets is accounts receivable held by a company. Accounts receivable can generally be defined as debts that represent obligations borne by third parties or those who have an obligation to pay to the creditor [15]. Accounts receivables include receivables arising from the sale of products or the delivery of services in the course of the company's normal business activities [16].

E. Information System

An Information System (IS) is a collection or combination of human dan capital performance or resources, hardware, software, communication networks, data sources, and policies, as well as organized procedures for storing, retrieving, changing, and separating information within an organization [17], [18]. AIS (Accounting Information System) is an application software specially designed for accounting data processing. As an additional tool of the accounting information system, AIS is a necessary guarantee for effective management and decision-making of enterprises and an important platform for enterprises to analyse the market [19].

3 System Planning

A. System Development Method

The research method used in the procedure for designing receivables and supplies information systems at CV. Serasi consisted of several stages. The software development in this study employed SDLC (System Development Life Cycle) system development model. The SDLC model used is the waterfall model which is systematic, sequential in building software. Waterfall is a type of application development model and is included in the classic life cycle, which emphasizes sequential and systematic phases [20], [21]. The waterfall model can be seen in Figure 1:

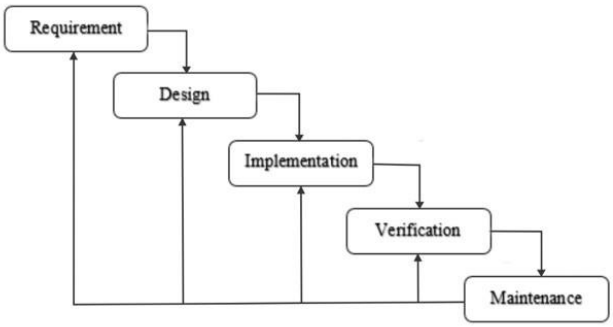


Figure 1: Waterfall Model

B. Data Collection

The data in this study was collected through interview and literature review. The interviews were done directly with the owner and employees so that the data obtained was accurate and as needed. It was conducted informally to obtain information to build the needed system. The next is literature study was carried out in gathering the information necessary to build an information system for receivables and supplies namely from reference books, journals and websites.

C. Proposed System Flowchart

The researchers used a flowchart to describe how system procedures would be built using the draw.io application. It is done by showing and explaining the features contained in the accounting information system that is uses so that it compared the systems used by the company with good accounting information system standards [22]. The transaction process begins at the sales department that is responsible for receiving orders/ purchase orders from customers, then providing information related to the purchase to the cashier. At the cashier section, the order data from the customer is received and processed for further preparation of sales notes after payment is made. The sales process is carried out on the cashier part so that on the basis of the transaction can be made the creation of a sales report as a report that will be subsequently submitted to the leader. The shipping department or warehouse will prepare the goods according to the order after receiving the sales note, and subsequently deliver the item to the customer. The manager will receive payments and sales reports, as well as conduct transaction checks. Flowchart can be seen in the figure 2:

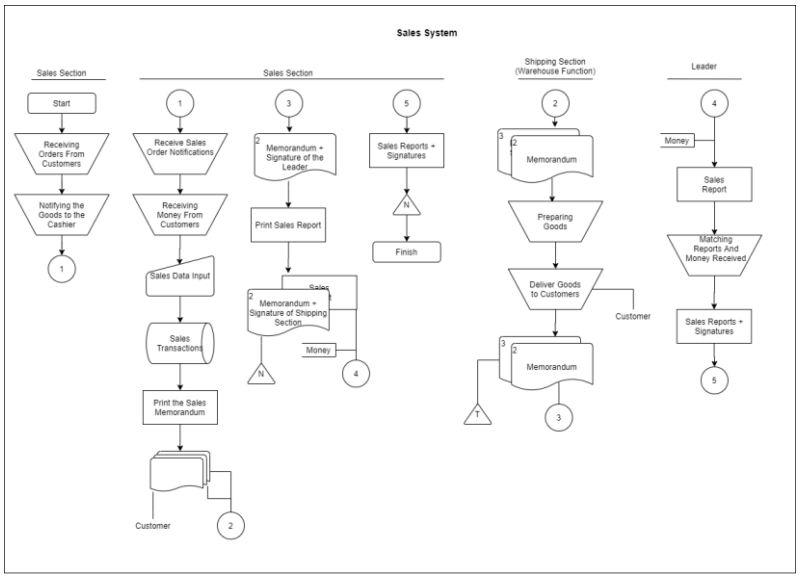


Figure 2: Flowchart

D. Context Diagram

A context diagram is a diagram that describes how data documentation processes occur. The Diagram consists of a circle of transformation processes, data sources, and data destinations that

receive or send data directly from the transformation [23]. The context diagram can be seen in Figure 3:

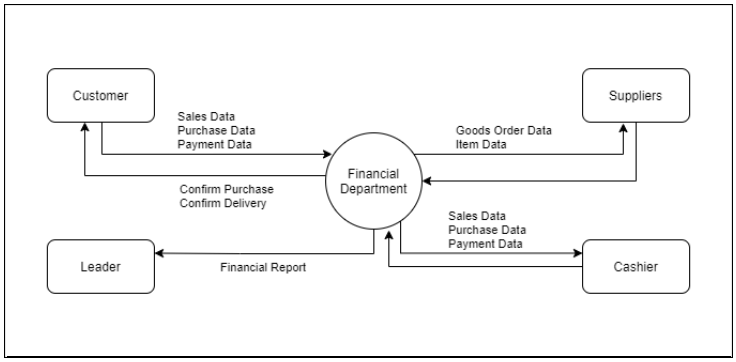


Figure 3: Context Diagram

E. Data Flow Diagram (DFD) Level Zero (0) and Level One (1)

Data Flow Diagram (DFD) is a data or process logic model created to describe where the data comes from and where the data goes out of the system, where the data is stored, what process produces the data, and the interaction between the data stored and the process imposed on the data [24]. The following are DFD 0 and DFD 1 as depicted in Figures 4 and 5.

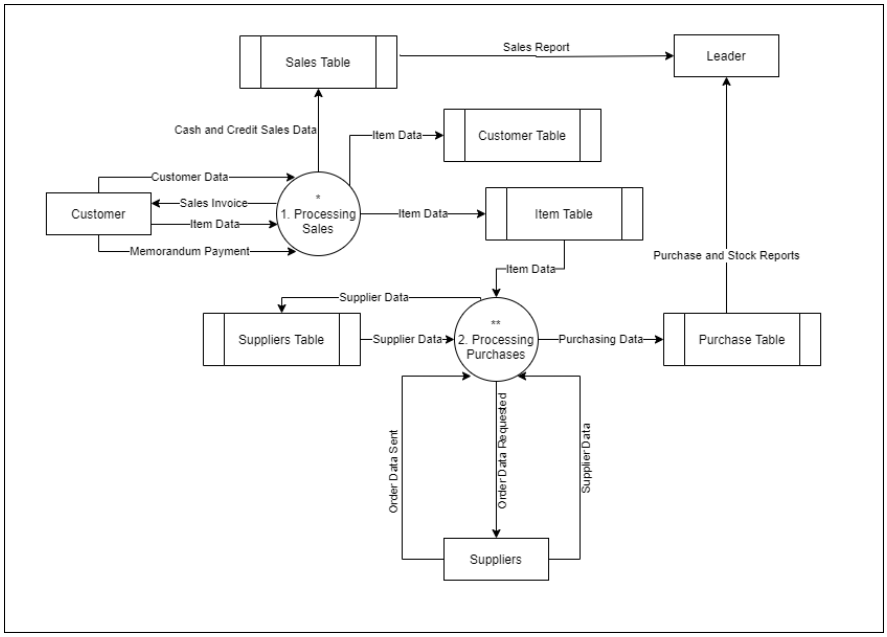


Figure 4: DFD Level 0

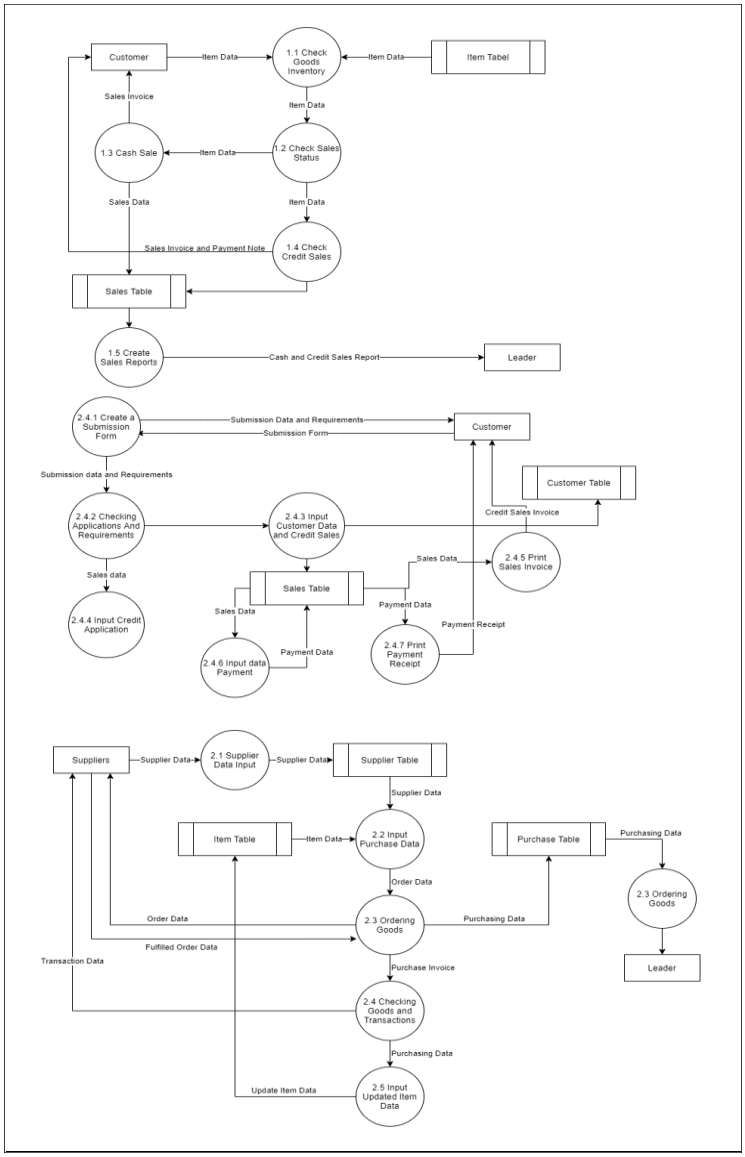


Figure 5: DFD Level 1

Information:

a) The process of checking the inventory of goods as well as the process of verifying the status of the sale which extends the relationship between the receipt of cash with the availability of the goods from the sale process, this process begins at the process signed, the sale of items is done in cash. Payment will be generated on the process of receiving cash and sales carried out by credit. At the time of the sale transaction, the availability of the commodity will change, as the stock will decrease when there is a cash and credit sale.
b) On the input update data of goods indicated the existence of a relationship between the purchase process that affects cash expenditure and will continue on the process of inputting the data of the goods that have been purchased, and become the stock of inventory goods.

4 System Implementation

The system display design is an interface display on the computer screen as a means of communication between the user and the computer. The following is a display of the lifo method trade products inventory information system that has been created.

A. Login Form

Login is the initial page that will appear when the system is run. The following is the display of the login form in Figure 6.

Figure 6: LoginForm

B. Sales transaction

A products sales transaction form that can store credit and cash transactions is required to fill out information regarding the sales of goods that take place at CV. Serasi. The following is the image of sale transaction form given in Figure 7.

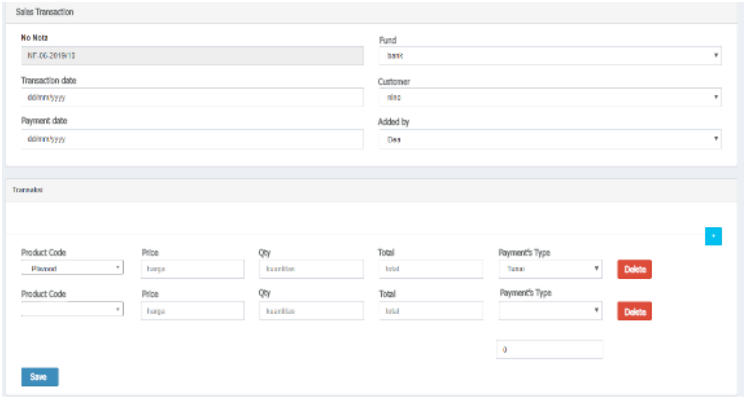


Figure 7: Sales Transaction

C. Purchase Transaction

To meet its stock and sales requirements, CV Serasi requires a purchase transaction form that can

record and provide information regarding the purchase of goods. The following is an image of the purchase of goods form in Figure 8.

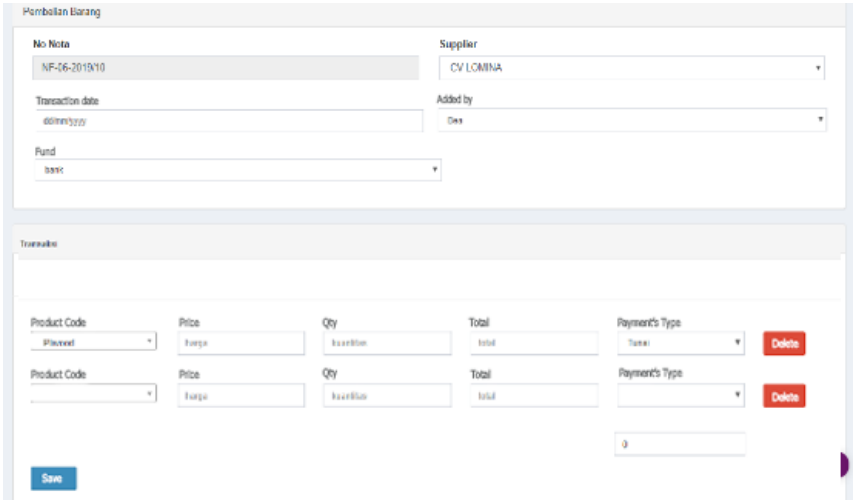


Figure 8: Purchase Transaction

D. Receivable List

A list of receivables form containing credit sales data is required to view receivable transactions and record payments receivable. The cashier needs only select the desired transaction from the list of receivables to be directed to the appropriate form. The following is an image of the receivable form in figure 9.

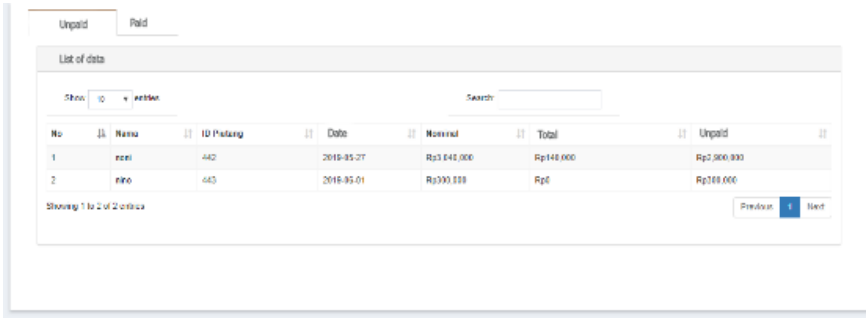


Figure 9: Receivables List

E. Receivable Payment Form

This form is intended to facilitate the entry of receivable payment information by cashiers and will automatically calculate the remaining accounts receivable and accounts receivable paid status. The following is a picture of receivable payments form in figure 10.

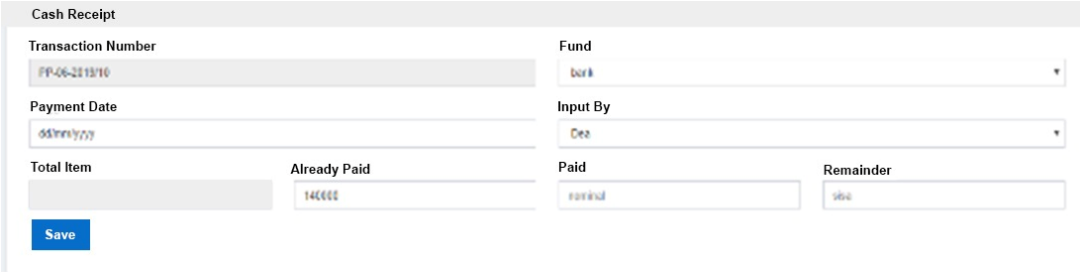


Figure 10: Receivable Payment Form

F. Cash Expenditure Transaction Form

Cash expenditure transactions form, such as payments for PLN, PDAM, and other expenses, is required for the storage and entry of data regarding general cash expenditures. The following is a form for cash expenditure transactions in figure 11.

Figure 11: Cash Expenditure Transaction Form

G. Transaction list

The transaction list form contains various information related to transactions that occur in CV. Serasi. The list is divided into several sub menus, including a list of cash receipts and disbursements, a list of products sold and bought, and a list of receivables. The following is an image of the transaction list form in Figure 12.

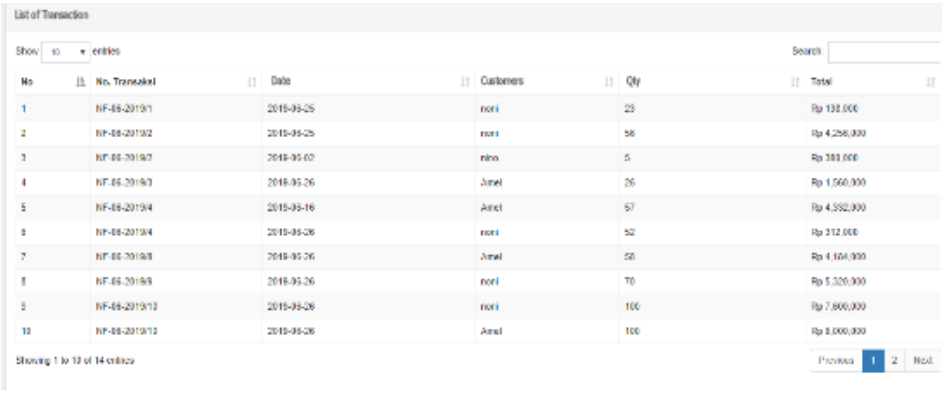


Figure 12: Transactions List

H. Report

This form enables users to view sales lists and reports filtered by the desired date. The following image is the report form in Figure 13.

Laporan Penjualan

CV SERASI BANJARMASIN

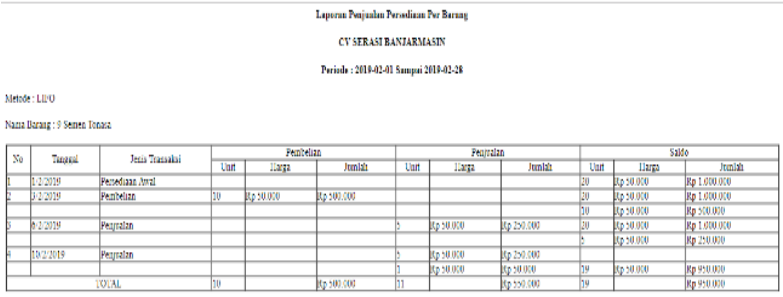
Periode : 2019-06-01 Sampai 2019-06-29

No	No Nota	Tanggal	Pelanggan	Total
1	NF-06-2019/10	2019-06-01	nino	Rp 300,000
2	NF-06-2019/10	2019-06-27	noni	Rp 3,040,000
3	NF-06-2019/10	2019-06-29	nino	Rp 6,000,000
4	NF-06-2019/10	2019-06-26	Amel	Rp 6,000,000
5	NF-06-2019/10	2019-06-26	noni	Rp 7,600,000
6	NF-06-2019/9	2019-06-26	noni	Rp 5,320,000
7	NF-06-2019/8	2019-06-26	Amel	Rp 4,184,000
8	NF-06-2019/4	2019-06-26	noni	Rp 312,000
9	NF-06-2019/4	2019-06-16	Amel	Rp 4,332,000
10	NF-06-2019/3	2019-06-26	Amel	Rp 1,560,000
11	NF-06-2019/2	2019-06-02	nino	Rp 380,000
12	NF-06-2019/2	2019-06-25	noni	Rp 4,256,000
13	NF-06-2019/1	2019-06-25	noni	Rp 138,000
TOTAL				Rp 43,422,000

Figure 13: Report

I. Inventory card

This menu provides monthly reports on the availability of each product. The following image depicts the goods report in Figure 14.



Laporan Penjualan Persediaan Per Barang

CV SERASI BANJARMASIN

Periode : 2019-02-01 Sampai 2019-02-28

Metode : LIFO

Nama Barang : 9 Series Tonata

No	Tanggal	Jenis Transaksi	Pembelian			Pengeluaran			Saldo		
			Unit	Harga	Jumlah	Unit	Harga	Jumlah	Unit	Harga	Jumlah
1	1/2/2019	Persediaan Awal							20	Rp 50.000	Rp 1.000.000
2	1/2/2019	Pembelian	10	Rp 50.000	Rp 500.000				20	Rp 50.000	Rp 1.000.000
									10	Rp 50.000	Rp 500.000
3	9/2/2019	Pengeluaran				5	Rp 50.000	Rp 250.000	20	Rp 50.000	Rp 1.000.000
									5	Rp 50.000	Rp 250.000
4	20/2/2019	Pengeluaran				5	Rp 50.000	Rp 250.000			
						1	Rp 50.000	Rp 50.000	29	Rp 50.000	Rp 950.000
TOTAL			10		Rp 500.000	11		Rp 550.000	29		Rp 950.000

Figure 14: Inventory card

5 Conclusions and Suggestions

The absence of a sales sequence number on the sales note is an impediment to tracking and administering sales transactions in accordance with the note. CV. Serasi did not record cash-in, cash-out, and accounts receivable transactions. The designed and constructed information system can meet the needs of CV. Serasi, including the existence of cash in and out reports, an inventory of goods, and the numbering of notes on proof of cash in or cash out. Hence, the flow and cash transactions can be monitored in order and the existence of current and non-current receivables can be controlled. It is expected that the information system build in this study can be used well to run the business transactions. Specialized accounting records for receivables so that each payment and due date from customers can be optimally monitored is suggested for the next

research. For future researchers, it is anticipated that the inventory card can include total purchases, total sales, and total cost of products sold.

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