DESIGN OF ACCOUNTING INFORMATION SYSTEM FOR REVENUE AND EXPENDITURE CYCLE IN MSMEs (CASE STUDY IN UD DIOR 77)

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DESIGN OF ACCOUNTING INFORMATION SYSTEM FOR REVENUE AND EXPENDITURE CYCLE IN MSMEs (CASE STUDY IN UD DIOR 77)

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ABSTRACT

Every business organization does set of business activities that must be recorded and reported through the accounting function. Accounting is done in a set of procedures that can easily be called as accounting information system. AIS is crucial aspect in every business in order to understand the financial condition for taking decision in the future. Although in fact, many business owners and management especially at the level of MSME have not implemented an accounting information system. One of the MSMEs that does not have a good accounting information system yet is UD Dior 77. This study aims to analyze the current accounting information system that has been implemented by UD Dior 77 whether it is already worked according to the theory, and create the design of accounting information system for UD Dior 77 in the form of desktop-based software by the name of "Larudi" (Laba Rugi Dior). The proposed accounting information system for UD Dior 77 is hoped may help UD Dior 77 for having more efficient, automated, and neat information system.

Keywords: *Accounting Information System, Revenue Cycle, Expenditure Cycle, MSME, Revenue Cycle*

INTRODUCTION

Accounting function is very important and crucial in any organization. As time goes by, the accounting process has also experienced development, from initially being done completely manually with books and paper, to now being assisted and implemented with software or applications on various electronic devices. Software or applications used to assist business activities are now referred as management information systems. According to Bodnar & Hopwood (2013), management information systems can be interpreted as a collection of hardware and software designed exclusively to be able to integrate data into one valid and useful digital information.

Recently many types of information systems have been created and implemented in businesses. One of them is the accounting information system (AIS). An accounting information system can be defined as a system organized to collect, enter, process, and store data and an organized way to store, manage, control and report information in certain ways and procedures (Romney & Steinbart, 2014). With a clear and well-ordered system, accounting information can be generated from existing data such as sales requests, number of sales units, transaction dates, etc. The accounting information system is an

important key in decision making process for every business.

One of the MSMEs that does not have a good accounting information system yet is UD Dior 77. UD Dior 77 is a family business that is classified as a micro enterprise that focuses on selling interlining fabrics and chicken eggs. This company located in Darmo Indah Timur 2/ G-10, Surabaya. UD Dior 77 can be classified as micro enterprise since its condition falls on the criteria for MSME which are having net assets of Rp. 50 million (excluding land and buildings for business premises) and annual sales of Rp. 300 million. This MSME can be said as a family business since all of the owners are part of a family. They currently have five employees in their organization that work on delivering goods and administrative job.

This business has been operating since 1985 where initially the only product they sold at the time was shoes. In 1998 around the monetary crisis in Indonesia, the owners of this MSME decided to stop producing and selling shoes due to the high cost of raw materials. They chose to shift their product to interlining fabrics. The fabrics are bought from suppliers, and then sold to many customers such as tailors or boutiques in Surabaya.

For interlining fabrics product, UD Dior 77 has used accounting software named "Dior" to record all of their transactions, this system itself has been made by

software developers that they hired several years ago. This software has been used since then and because of it, the database for this software is too big and making the software cannot run smoothly and well due to the large number of records that have been stored. The current system also does not have the feature for calculating and displaying income statement.

Meanwhile the other product which is chichken egg was initially supplied by their own farm that was owned by the owners' older brother, but since this man passed away the source of supply is changed to different suppliers until nowadays. Unlike the interlining fabrics, the recording of transactions for chicken eggs product is still totally done by a manual bookkeeping, which is very risky for errors and mistakes. Apart from these matters, the accounting activities in this company can be considered not going well since it is marked by the disorderly use of notes and the absence of experts who fully understand accounting at UD Dior 77.

Based on these phenomena, it can be concluded that the information system at UD Dior 77 has been implemented, but it is still conventional and inefficient. Management of this company has been keeping track of transactions in conventional and semi-manual way. This study aims to design an accounting information system for UD Dior 77. This new accounting information system is a desktop-

based software by the name of "Larudi" (Laba Rugi Dior). This software is created in Microsoft Access 2019 using the waterfall approach for its SDLC. Right after Larudi software finished, it will go through PIECES analysis.

Objectives

Designing an accounting information system that can be proposed to UD Dior 77 and analyzing the designed accounting information system in this study in UD Dior 77.

THEORITICAL BASIS
Accounting Information System

An accounting information system is a procedure for collecting, entering, processing, and storing data; and a set of organized ways to store, manage, control and report information in certain ways and procedures (Romney & Steinbart, 2014). Krismiaji (2015) also stated an accounting information system is a system that processes data and transactions in order to produce useful information for planning, controlling, and operating a business.

Accounting Information System Components

There are six components in the application of an accounting information system (Romney & Steinbart, 2014), namely:
1. People: people who use or operate the system.

2. Procedures: procedures or flow in collecting, processing, and storing data.
3. Data: a collection of facts about business transactions and organizations.
4. Infrastructure: the physical equipment needed to run a system.
5. Software: applications used in data processing.
6. Internal controls and security: control procedures to protect the accounting information system.

Revenue Cycle

The revenue or sales cycle is defined as a series of routine business activities and information processing related to the provision of goods and services to customers, as well as the collection of cash from customer payments for these sales (Romney & Steinbart, 2014). According to Suwardjono (2014), sales are transactions of exchanging products, whether goods or services of an organization, with cash or claims on cash. Sales can be said to occur technically if the product and risk have passed into the hands of the buyer or customer, and the organization that sells the product receives cash.

Expenditure Cycle

The expenditure cycle is a recurring set of business activities and related information processing operations associated with the purchase of and payment for goods

and services (Romney & Steinbart , 2014). In the expenditure cycle, the primary external exchange of information is with suppliers. Once the goods and materials arrive, notification of their receipt flows back to those sources from the expenditure cycle. Expense data also flow from the expenditure cycle to the reporting function for inclusion in financial statements and various management reports.

System Development

System development according to Bodnar & Hopwood (2013) is a process carried out to modify or replace part or even all parts of a system. This process is carried out based on the fact that the current system is considered to be less than optimal or may be outdated, so a system update that is better suited to the needs of the user organization is needed. In carrying out system development, there are four stages that must be carried out, which are system planning, system analysis, system design, and system implementation (Bentley & Whitten, 2007).

PIECES Analysis Model

According to Ragil (2010) PIECES analysis is a method of analyzing the performance of a system based on several aspects, namely: Performance, Information (information generated), Economy (cost of use), Control (control and security), Efficiency, and Service. This analysis is important to do to

find problems in a system, or the symptoms of problems that will arise in a system.

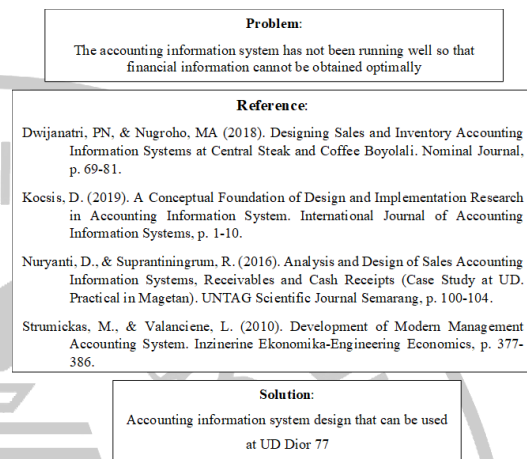Thus, the framework in this research is as follows:

Figure 1
Theoritical Framework

METHOD

This research uses qualitative approach. Qualitative research uses data collection that comes from various empirical sources such as personal experiences, life history, interviews, observations, case studies, interactional and visual. To be more specific, qualitative research itself has few broad methods such as: narrative, ethnography, grounded theory, phenomenological, and case study (Elkatawneh, 2006), thus this study uses the case study method.

A case study involves a deep understanding through multiple types of data sources, this method is used to gather in-depth and detailed information about a subject, which could be any person, entity, organization, etc. Then several research methods must be carried out

in order to obtain data as expected which are: observation, documentation, and interview.

The observation and documentation are done at subject's office, and the interview is carried out using semi-structured interview to UD Dior 77's management in order to collect information about the company background, business process, and implemented accounting information system in the company. For designing a new accounting information system namely "Larudi", this study uses Microsoft Access 2013. The development approach used is waterfall approach.

RESULT AND DISCUSSION
Research Subject General Description

UD Dior 77 established in 1985 by its founders which are Mr. Trio Haryanto Candra and Mr. Vincentius Djuardi. Located in Darmo Indah Timur 2/G-9, Surabaya, this MSME firstly had shoes in sales, and it sold well initially. This business is run directly by the founders and owners including their wives which are Mrs. Rita Kusuma and Mrs. Lely Rahayu.

Despite the success of selling shoes for few years, this company were affected by monetary crisis in 1998, and suffered a great loss at that time. To maintain the business and survive, the owners of UD Dior 77 changed their plan and goods from selling shoes to interlining fabrics. Using their entrepreneurship skill to operate the business, finally UD Dior 77 rose once again by becoming one of the well-known companies that sell interlining fabrics in Surabaya. By the time passed, the customers for their interlining fabrics are not only from Surabaya, but also spread into other regions in East Java such as Malang, Probolinggo, Gresik, and even across island like Bali.

Few years after the success of being the distributor of interlining fabrics, they spread the business scale by selling a totally different type of goods which is chicken egg. This product itself was initially supplied by Mrs. Lely and Mrs. Candra older brother's farm. Soon after that, they no longer use the chicken eggs from this farm, but they buy the inventory from the seller of chicken food that sells the goods to their older brother's farm, and it becomes their main and only supplier for chicken eggs.

UD Dior 77 has no particular connection such as distributor or reseller to their suppliers. It works independently as a business unit who sells offers and sells two kind of goods which are interlining fabrics and chicken eggs. Interlining fabrics are raw fabrics that are usually used in clothes or any other accessories. Some of these types of fabrics have adhesive glue and some others do not. This fabric usually becomes hard layers on certain parts of clothes such as collars, necklines, t-shirts bottom, coat shoulders, etc. The interlining fabrics are supplied by multiple suppliers from Jakarta and

Semarang that are always shipped using shipping courier service. This good has various kinds of types like cotton, embroidery, woven and non-woven that differ on its thickness, stitches, size, price, and use.

On the other hand, the chicken eggs are supplied from Pandaan only from one main supplier. The type of chicken eggs that are sold by UD Dior 77 is domestic poultry. They do not offer another type of eggs except this domestic poultry egg.

Expenditure Cycle

In the expenditure cycle, the process begins at requesting orders for inventory to suppliers. UD Dior 77 sends the request for inventory by texting on Whatsapp and email, or sometimes calling via phonecall to suppliers. Right after their request is accepted and the goods are delivered, UD Dior 77 would get the bill from the suppliers as transaction proof. The bill would then be processed or recorded on the software.
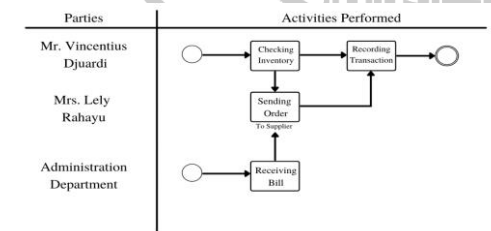
Source: Processed data from interview

Figure 2
BPD of Interlining Fabrics
Inventory Purchasing

When UD Dior 77 pays its debts, they will send the money using bank transfer, after they get the receipt of payment, the transaction would then be recorded on the Dior software as a settlement of account payable for specific bill and supplier, after that the report on the software will show the current balance for the account payable left.
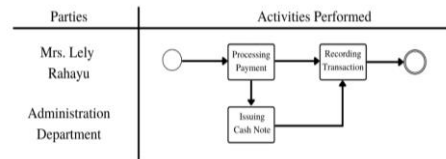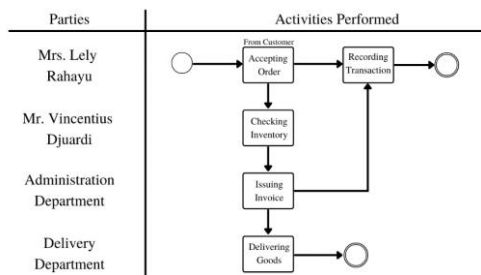

Source: Processed data from interview

Figure 3
BPD of Interlining Fabrics
Account Payable Payment

Revenue Cycle

For the revenue cycle, UD Dior 77 applies similar process to purchasing inventory from suppliers. They receive orders by text on Whatsapp and email, or sometimes phonecall from customers. Right after they receive the orders, firstly they will check the stock in storage whether it is available or not. If the stock is enough and ready, they will ship and deliver the orders to customers. While the shipping process is done, the administration division would prepare and create the invoice and bill of lading that will be included in the shipping package. When the invoice is completely issued, this sales transaction would be recorded on the software too.
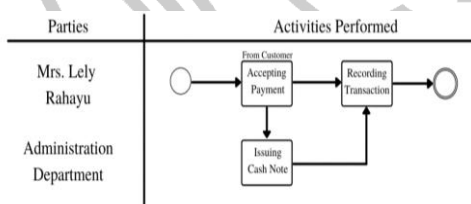
Source: Processed data from interview

Figure 4
BPD of Interlining Fabrics Sales Order

Just as same as account payable settlement process, when customers fulfill the debts by bank transfer, UD Dior 77 management will receive the transfer receipt from the customers as a payment proof. The last step remaining is to input the transaction onto the Dior software, the balance of account receivable would soon decrease after the settlement transaction is recorded. This cycle would then be repeated for every transaction.

Source: Processed data from interview

Figure 5
BPD of Interlining Fabrics Account Receivable Payment

Although all the data and transactions are recorded, stored, and displayed by the software, Mrs. Lely Rahayu still does the manual bookkeeping process in her own book. She records all the expenses incurred and calculates the profit or loss manually, she also creates a simple statement of financial position beside the income statement. She does it every month so the management can understand how much profit or loss that they receive, and how the financial condition for their business is.
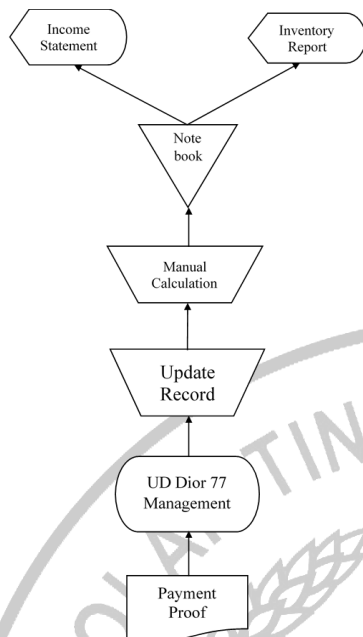
Note that all the explanation above is applied for interlining fabric products, meanwhile for the the chicken eggs product, UD Dior 77 has a simpler and more conventional accounting information system. Most of the activity, procedure, and system are similar with the interlining fabric products, the only major difference is is its accounting or bookkeeping process. In the chicken eggs product, all transactions are completely recorded manually hand-written in different book from the interlining fabrics product.

Source: Processed data from interview

Figure 6
Flowchart of Chicken Egg Transaction

This MSME already uses software to record transactions and create simple financial reports. This software is simply called "Dior". It was ordered by UD Dior 77 owners approximately 10 years ago to software developers.

Source: Documentation
Figure 7
"Dior" Software Main Interface

Accounting Information System Weaknesses

According to the analysis in this study, UD Dior 77's information system has few weaknesses because some factors such as:
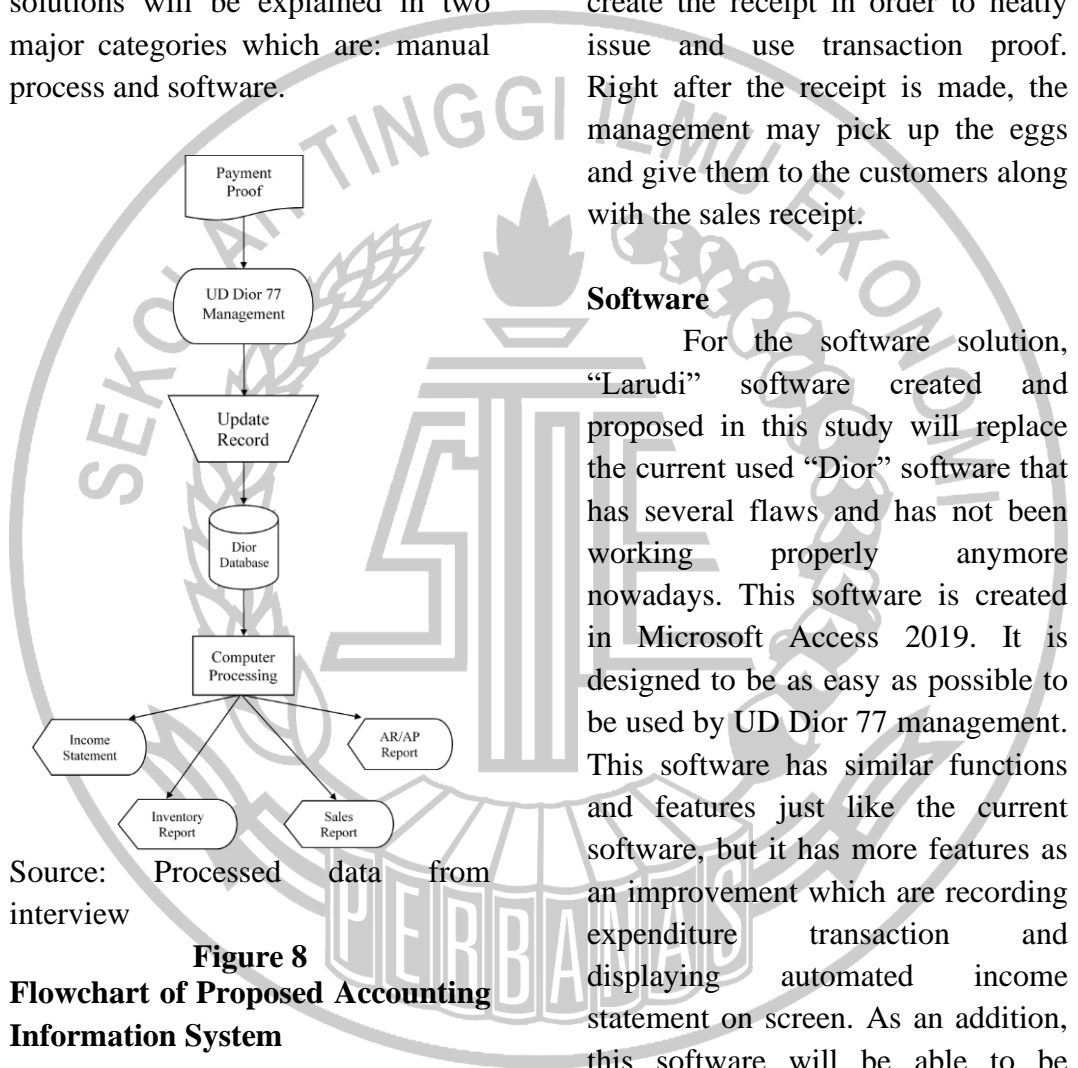
1. This company sometimes does not create transaction proof in orderly manner. Especially in chicken eggs product, the management oftentimes intentionally does not create transaction proof after transaction happens.
2. The currently used software which is "Dior" is not compatible anymore with company's accounting and bookkeeping function, because the software database is too much and crowded.
3. The currently used software which is "Dior" does not have the ability and feature to automatically calculate and display income statement for each period.
4. This company does not even create and use particular software for the chicken eggs product, since the management thinks every transaction in this product are relatively simple and easy.

New Accounting Information System as Solution for UD Dior 77

Figure below shows the expected result of this study, which is helping UD Dior 77 to have a better accounting information system

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for their business. This result can be achieved by implementing few solutions to fix the flaws and weaknesses in the current information system, such as the flow of document and the software that must be used in the daily operation. Thus, the explanation about the solutions will be explained in two major categories which are: manual process and software.

Source: Processed data from interview

Figure 8
Flowchart of Proposed Accounting Information System

Manual Process

UD Dior 77 must fix the issuance of transaction proof. Transaction proof or also known as source document shall always be issued and used in every transaction even though the suppliers or customers are close or well known

by the management. Due to this solution, UD Dior 77 should directly issue the receipt firstly before picking up the eggs from the storage and giving them to the buyers. When the management receives the order of eggs purchase by the customers, the management must firstly and directly create the receipt in order to neatly issue and use transaction proof. Right after the receipt is made, the management may pick up the eggs and give them to the customers along with the sales receipt.

Software

For the software solution, "Larudi" software created and proposed in this study will replace the current used "Dior" software that has several flaws and has not been working properly anymore nowadays. This software is created in Microsoft Access 2019. It is designed to be as easy as possible to be used by UD Dior 77 management. This software has similar functions and features just like the current software, but it has more features as an improvement which are recording expenditure transaction and displaying automated income statement on screen. As an addition, this software will be able to be operated for both interlining fabrics and chicken eggs product, so all of the records and reports will be automatically stored and displayed on the software.

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Source: Documentation

Figure 9
"Larudi" Software Main Interface

All the features and functions for both products are totally same, the only difference between these two is the database that is used on the software. Since both products have different data input such as suppliers, customers, and all of the transactions, the database for these products will be different one to another. The software has seven main menus which are:

1. Data

   This menu mainly has features to add, delete, or edit master data such as inventory, customer, supplier, and employee profile.

2. Purchase

   This menu mainly has features to add, delete, or edit new transactions that include inventory purchasing in cash and credit payment, purchase cancellation, and purchase return.

3. Sales

   This menu mainly has features to add, delete, or edit new transactions that include sales in cash and credit payment, sales cancellation, and sales return.

4. Settlement

   This menu mainly has features to add, delete, or edit new transactions that include the settelement of account payable and account receivable that are linked with the purchase and sales transaction in credit.

5. Expense

   This menu mainly has features to add, delete, or edit new transactions that include all the expenses related with company's daily operation.

6. Report

   This menu mainly has features to display reports related to net sales, net purchase, account receivable balance, account payable balance, inventory stock, and income statement in certain period.

7. Exit

   This menu has feature to close the software.

After the "Larudi" software has been finished, installed, and executed in UD Dior 77, PIECES analysis would then be conducted in order to analyze and assess the quality of the software for the business. PIECES analysis uses six indicators to assess the software which are: performance, information, economic, control, efficiency, and service. Thus, here is the PIECES analysis for Larudi software in UD Dior 77's operation:

1. Performance

   Current "Dior" software has a critical issue in its performance which is it works slowly due to

the size of its database. "Larudi" as a replacement for this software works faster and smoother since this software is still new, and created using updated software.

2. Information

"Larudi" software also enables users to record and store data related with both business products which are interlining fabric and chicken egg. Due to this function, UD Dior 77 can now fully understand its business performance for each period. "Larudi" software also has feature to calculate and display income statement of the company for each month, this improvement may bring easiness and comprehensive information for UD Dior 77 management to understand the amount of profit or loss that occurs.

3. Economic

Since "Larudi" software is developed and made for UD Dior 77 in this study, it is obvious that there is no cost occurred for creating the software. If it must be compared by the economic indicator, the approximate cost for developing this kind of software using Microsoft Access takes around two million rupiah. If this amount of money would be the comparison for the benefit of the use of Larudi software, it can be said the benefit is higher than its cost. The "Larudi" software automates some calculation and storing process that would be risky to be done manually. The

investment to build this kind of software is small compared to the benefit for running a healthy business.

4. Control

The control in this software itself is not relatively high. This software is created using simple software which is Microsoft Access 2019, and high security options for the software are not available to be programmed or developed in the function of the software. "Larudi" software can only detect some basic input mistakes like typo in numbers or the wrong format input such as typing name in the bar for transaction date.

5. Efficiency:

"Larudi" software is really efficient and convenient for the users. It is because all of the needs for UD Dior 77 information system are built and served to be used easily by the management in this software. This software has big enough database to store all the records and input from transactions of both interlining fabrics and chicken eggs product.

6. Service

"Larudi" software brings easiness and comprehensive features for UD Dior 77. This software has complete functions and menus for recording all kind of transactions in the revenue and expenditure cycle of UD Dior 77, and displaying them with a user-friendly interface.

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CONCLUSION

This study is conducted to analyze the accounting information system that has been implemented by the research subject which is UD Dior 77, and then designing a new one in order to improve the performance of its accounting information system. According to the results of this study, it can be concluded that:

1. UD Dior 77 has implemented accounting information system in its business, yet it is still semi-manual and conventional.
2. UD Dior 77 sometimes does not use transaction source or proof when it comes to selling the chicken eggs product.
3. UD Dior 77 has already used software to help its accounting information system automated only for the interlining fabrics product, on the other hand the chicken eggs product is not supported by any software and completely done manually.
4. UD Dior 77's current software which is "Dior" is not compatible anymore for its business operation due to the size of data in its database which makes this software slow, and this "Dior" software does not have the feature to calculate and display automated income statement.
5. The solution provided in this study hopefully may help the research subject to implement more effective accounting information system in its business.

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