

ANALYSIS AND DESIGN OF SYSTEM SALES AND INVENTORY CONTROL IN THE RETAIL SECTOR OF MICRO, SMALL, MEDIUM ENTERPRISES (MSMEs)

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Abstraks

Sistem akuntansi yang baik sangat dibutuhkan oleh dunia usaha. Selain itu bisnis sekarang membutuhkan sistem komputerisasi, terutama di perusahaan yang memiliki rutinitas transaksi tinggi dan memiliki banyak data untuk diolah seperti di sektor ritel UMKM. Dalam penelitian ini dibahas sistem akuntansi dalam bentuk sistem pengendalian penjualan dan persediaan pada UMKM ritel di Kabupaten Jagakarsa, Jakarta Selatan, serta disain sistem dalam bentuk sistem pengendalian penjualan dan persediaan dengan menggunakan Visual Basic 6.0. Penelitian ini bertujuan untuk menganalisis sistem akuntansi dalam bentuk sistem pengendalian penjualan dan persediaan dan membuat sistem pengendalian penjualan dan persediaan. Metode yang digunakan dalam penelitian ini adalah System Development Life Cycle (SDLC), yang terdiri dari dua tahap, yaitu analisis sistem dan perancangan sistem. Dengan perbaikan sistem ini dapat mempermudah dalam menghasilkan laporan yang dibutuhkan oleh perusahaan secara tepat dan akurat seperti laporan persediaan dan laporan penjualan yang akan diberikan kepada pemilik toko. Sehingga bisa membantu manajemen untuk pengambilan keputusan.

Kata kunci: *Sistem penjualan dan pengendalian persediaan, Usaha Mikro Kecil Menengah (UMKM), Visual Basic 6.0*

Abstract

Good accounting system is needed by the business world. In addition the business now requires a computerized system, especially in companies that have high transaction routine and have a lot of data to be processed as in the retail sector MSMEs. This study discusses the accounting system in the form of sale and inventory control system at retail MSMEs in the district Jagakarsa, South Jakarta, as well as the design of the system in the form of sale and inventory control system by using Visual Basic 6.0. This study aims to analyze the accounting system in the form of sale and inventory control system and create a sales and inventory control system. The method used in this study is the System Development Life Cycle (SDLC), which consists of two phases, namely the analysis of system and system design. The improvement of this system can facilitate in producing reports required by the company precisely and accurately such as inventory report and sales report to be given to the shopkeeper. So that it can help management for decision making.

Keywords: *System of sales and inventory control, Micro Small Medium Enterprises (MSMEs), Visual Basic 6.0*

INTRODUCTION

MSMEs can become a new driving force for the growth of the national economy, although the average productivity is still relatively low but MSMEs are able to help create informal employment that can be used as an access to accommodate the growing number of workers. In 2008 the number of MSMEs registered 51,409,612 units or 99.99% of the total existing economic units, with employment rates of 97.15% of the total workforce, or reaching 94,024,278 people. The development of a significant number of MSMEs would be better if the process followed by the development of business activities that follow from technological advances. Advances in technology make a new era in the world of business. Business activities that used to run in the traditional and manual, now shifted to computerized and automated processes. Business development based on technological competence is an approach that enables enterprise development can be done continuously. MSMEs development orientation should be directed to develop into competent business technology. In this regard technological competence will be obtained if there is an attempt of the industry in general to consistently innovate and set aside some profits to invest in research and technology development activities.

Therefore, the world of business is now really need a computerized system, especially in companies that have high transaction routine and have a lot of data to be processed as in the retail sector of MSMEs. A lot of data and information that is not enough if processed manually. Data processing is pretty much needed a tool that has the speed of calculation and data accuracy. Thus, companies should use information technology to get results faster, more precise and accurate [Romney and Steinbart. 2000].

Based on the constraints of existing sales system is needed as well as planning and inventory control in the form of an accounting information system to obtain a good recording, fast, and accurate as well as the value and the optimal amount of inventory. The existence of the accounting information system is expected to make a financial transaction management and SME retail sector better and accurate, and can help entrepreneurs and policy makers in managing the company's finances and take a look at the company policy and company performance [Grande E.U., et all. 2010].

Research conducted by McNamara is about The Global Textile and Garments Industry: The Role of Information and Communication Technologies (ICTs) in Exploiting the Value Chain. This research concluded that using Information and Communication Technology can improve business practices, efficiency and competitiveness and can also create new opportunities for developing countries in global supply chains [Kerry, M, 2008]. For the Textile Industry in China, Information and Communication Technology is very important because it can serve large retailers through the production and speed of the market with an emphasis on logistics.

Research conducted by Nieto and Santamaria is about how collaboration technology acts as an input in the innovation process that enables small and medium businesses to bridge the innovation gap with their larger partners. This study gives the results of that collaboration technology is a useful mechanism for companies of all sizes, especially for a small company to be an important factor in the innovation process [Nieto and Santamaria, 2010].

Based on the above researches, it can be seen that the design of accounting system in small and medium enterprise is an appropriate solution to overcome the existing problems and provide

recommendations for improvement for the company to produce financial statements for the management in decision making and operational activities of the company, so that it can run better.

RESEARCH METHODS

Research Design

Qualitative research is used in this research, as this study it is possible to examine the issues that will focus in depth meticulous writer in order to create some interest in the conduct of this study are as follows:

1. To test empirically, to find the facts, and reviewing scientific accounting system such as sales and inventory system in the retail sector MSMEs are valid for this [Bungin, B. 2005], [Sugiyono. 2008].
2. To find and develop new accounting systems such as sales and inventory system for retail MSMEs expected by retail MSMEs.

Research Object

Objects in this study is a sales and inventory system MSMEs retail sector would do a running system analysis and design of information systems sales and inventory control. The sample was MSMEs unit retail sector in the district Jagakarsa, South Jakarta. The sampling technique used in this study was purposive sampling the sample is selected that meets the criteria only. The criteria of the samples taken from the study are: unit MSMEs retail sector is still operating in traditional (conventional), and unit MSMEs retail sector that sell merchandise not only in retail, but also in wholesales.

Because the population is not known for certain reasonable and appropriate formulas are not available, this study will use the rule of thumb. Based on the survey in the field, was selected 33 MSMEs as retail sample.

This amount is considered sufficient based on the central limit theorem and the rules of thumb for determining sample size which states that if the sampling distribution will average near normal if the sample size is large enough, the number of samples (n) is greater than or equal to thirty. This statement is reinforced by Sekaran who propose rules of thumb for determining the sample size one stating that the sample size is greater than and less than thirty-five hundred is the right size for most research [Sekaran, 2003].

Types of Data

In this study include primary data and secondary data. Primary data is the data that is obtained directly lapangan through in-depth interviews and observation by the researchers. While secondary data is data that has been officially published and obtained from the documentation, policies, and the official news media.

System Design

Stage design is the design of systems to improve sales and inventory control system has been running, adapted to problems in industry MSMEs. The design begins with the design of the system using data flow diagrams and flowcharts.

New System Design

The design of the new system is how to cooperate with the procedure used earlier, and make improvements to sales and inventory control system to facilitate reporting and forecasting sales of inventory purchases. The design of this new system using Microsoft Access 2007 to create a database and programming language Visual Basic 6.0 to produce a computerized system of sales process to control inventory to assist management decision making.

RESULT AND DISCUSSION

Data and Analysis

Defined object of study is a retail micro, small and medium enterprises with the owners / managers of MSMEs as respondents. As discussed in the previous chapter, that the object of this study is that retail MSMEs still operate traditional / conventional and selling merchandise at wholesale and retail. Object classification research can be seen in Figure 1.

From the survey and data collection in the field results obtained 33 respondents. The research sample (MSME retail) can be seen in table 1.

From the results of the collection and observation in the field, it can be concluded that the respondents surveyed have an average range turnover of approximately from Rp. 4,000,000,- until Rp. 20.000.000,- per day. Figures are not

sure this is due to the manager of the MSMEs that do not record the sales transaction so that the owner can't know for sure how he got the results of the sales process. Meanwhile, if viewed from the side of the number of employees, the respondent (MSMEs) have a number of employees range between 2 until 10 people. Based on the elaboration of the present study can be classified that respondents included in the Small Business if its number of employees refers to the explanation of SMEs from the Badan Pusat Statistik (BPS). Meanwhile, when viewed from the side of the sales turnover, survey respondents may be included in the Small to Medium Business category for having sales turnover of more than Rp. 300 million and less than Rp. 2.5 billion which refers to the explanation of the MSMEs from UU No 20 Tahun 2008.



Figure 1 Object of Research

Table 1. The Research Sample

No.	Name of MSMEs	No.	Name of MSMEs	No.	Name of MSMEs
1	Toko Dadung	12	Toko Mandiri	23	Toko Sederhana
2	Toko Ratna	13	Toko Novi	24	Toko Kampung Kandang
3	Toko Monika Jaya	14	Toko Inaco	25	Toko Abang Adik
4	Toko Kencana 3	15	Toko Ikhlas	26	Toko Duta Niaga
5	Toko Libra	16	Toko Buyung 2	27	Toko Surya Ponti
6	Toko Yosi	17	Toko Heri	28	Toko Maju
7	Toko Idola	18	Toko Pesona Kahfi	29	Toko Bayu
8	Toko Herman	19	Toko Usaha Baru	30	Toko Pak Haji
9	Toko An-nur	20	Toko H. Lubis	31	Toko Sejahtera
10	Toko Aneka	21	Toko Rizal	32	Toko Bambang
11	Toko Risda	22	Toko Aneka Jaya	33	Toko Ilham

Analysis of The Problems in The SME Accounting System in The Form of Sale Systems and Inventory Control Systems

The problems found in the existing system of SMEs, among others:

- a. The process of recording sales are still manual and even minimal recording
- b. Calculation and recording the number of items sold is done manually, consequently takes a long time and the risk of human error is also large.
- c. Lack of planning purchases, which supports the efficiency of time and cost. Purchases made based on intuition, where the ordering of goods is often done when the inventory has been depleted even exhausted
- d. Tracking patterns of demand become more difficult because of the amount items sold various and the lack of recording sales process
- e. Total inventory is not optimal, thus raising the risk.

Analysis of Needs The Sales System and Inventory Control System

Sales system and inventory control system the proposed is expected to provide facilities for the MSMEs to keep records of sales and planning of purchases so as to reduce the losses caused by the buildup of inventory, optimum benefit, and also increase customer satisfaction, and increase control over the number of items that should available with a number of goods in the warehouse. This is achieved through the process of forecasting, then performed planning the purchase and sale from the company's activities.

Analysis of The Benefits of Using The Sales and Inventory Control System

With the use of sales and inventory control system, the MSMEs retail sector may have several advantages such as:

- a. MSMEs operations can run more optimal because with the help of this system is to facilitate all the processes that occur in the business
- b. All transactions such as sales and purchases that occur can be recorded properly
- c. By carrying each transaction properly, MSMEs can find a good stock condition
- d. Inventories as a major asset MSMEs retail sector can be well controlled, in terms of planning from time of purchase until control of the expired date
- e. MSMEs can see the operational performance of the business in the form of the output provided by the system, such as a report on the sale and the stock

Design of Retail Application for MSMEs

In this research, We created the Flow Chart and Data Flow Diagram to do conceptual design. Flowchart used to describe a stage in resolution of problem in a simple and clearly unraveled. Flowchart is a chart which has flow where illustrates the steps in solving a problem and one of way in the presentation of algorithm. Illustrates system of sales and inventory control system can be seen in Figure 2.

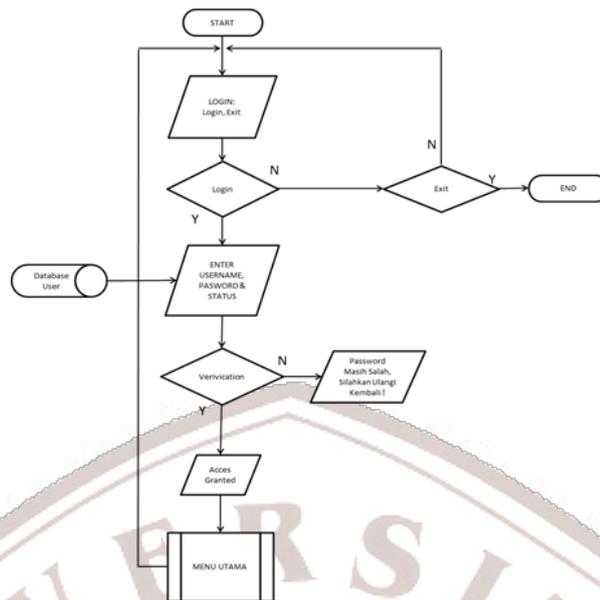


Figure 2. Flowchart Application

Data Flow Diagram (DFD)

Data Flow Diagrams (DFD) is graphical representation of a system. DFD describe the components of a system, the flow of data where is the components, origin, destination, and storage of data. Diagram DAD who first described is the top level and the diagram is called a context diagram. From the context diagram will then be drawn with more detail called overview diagram (level 0). Each process in the overview diagram will be described in more detail again and called level 1. Each process at

level 1 will be described in more detail back again and called the level 2 and so on until each process can't be drawn in more detail.

Here are the stages of the data flow diagramming in Retail Application for MSME's. With the creation of a context diagram of the system, the system structure approach is a portrait of an outline which will then be broken down into more detailed parts. Context diagram of the Retail Application for MSME's can be seen in Figure 3.

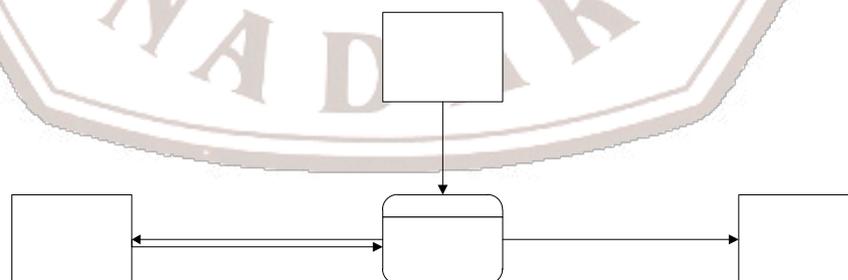


Figure 3. Context Diagram

Database of Application

In creating this system required the design of a sufficient data base in accordance with the needs of the system itself. The design includes the determination of the primary key, foreign key and other keys to link tables to each other table. The following are the tables that are used in Retail Application for MSMEs.

The Retail Application for SMEs has several tables, each table will relate to each other. The relation between these tables is an invaluable tool in determining the work steps to be performed by the programmers starting from the data recording process, the formation of the table and the establishment of appropriate reports to the problems addressed. With good relations will be obtained a general

way the system is prepared. Relation between the tables to one another can be seen in Figure 4.

Display and Description of Application Design

In design view consists of five groups such as design of menu display, input design, output design, design of analysis menu display, and calculator. Menu display used to describe the display of the first moment to go into this application and describes the main view of this application. Input and output display used to describe the display that appears on the application when the application is run, conduct input process of answer and generate output after process.

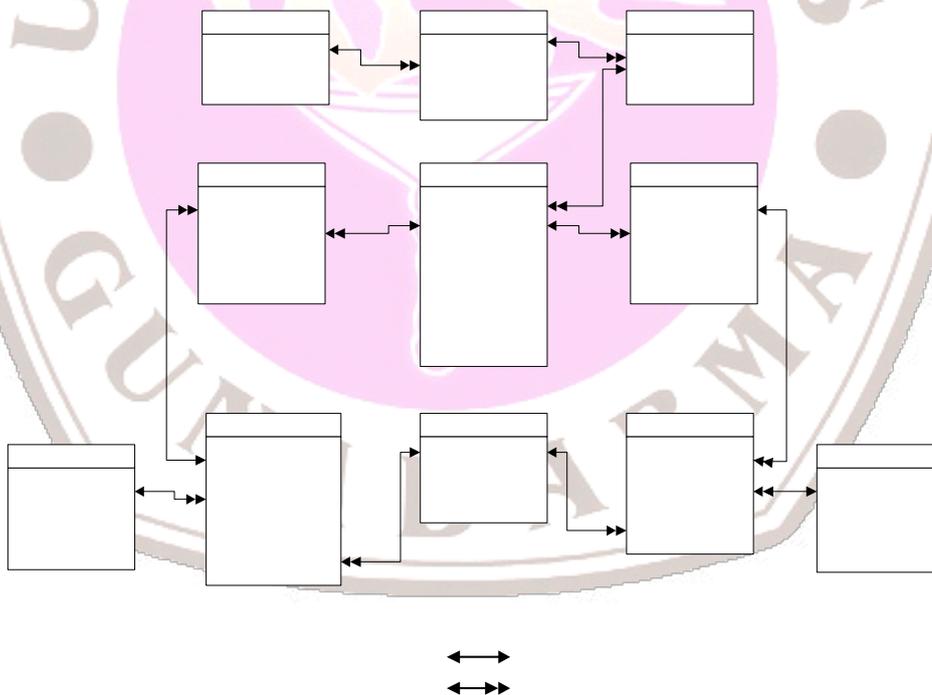


Figure 4. Relationship of Between Tables

CONCLUSION

The lack of a sales transaction recording system, impact the inventories system. The amount of goods sold from the sales process was not recorded cause difficult to control inventory. Sometimes the company had run out of supplies of goods it sells, nor on the other hand the company has an abundant amount of inventory due to the amount of inventory that is not controlled so that the amount is not optimal.

Based on existing problems, the authors find the right solution to help MSMEs retail sector by improving its accounting system, through the creation application of system sales and inventory system. With the making of this application system is expected to retail MSME sector can improve performance and can compete with the large retail companies.

Based on the research that has been done, this research is only a small fraction of Accounting Information System. Therefore, in future research, hopefully the design for the menu system of inputs and outputs in MSMEs system can be added. Other than that, it is hoped will not only sales and inventory system, but of the system of financial management such as a system for petty cash or working capital system of MSMEs. So that the reports produced can be used for decision making and used as a component of the overall Accounting Information System.

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