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Transaction Processing System Analysis Using The Distribution Management System (DMS) Nexsoft Distribution 6 (ND6)

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Abstract*—Distribution Management system (DMS) is an application that manages almost the entire processing of sales orders, purchases, inventory management and financial accounting. The DMS application is only intended for specific types of distribution businesses than other types of businesses, which are at least able to provide a much higher level of functionality, specifically for the needs of distribution companies. This research was conducted at PT. Succeed which is a food distribution company. The daily transaction processing system at this company uses DMS Nexsoft Distribution 6 (ND6). NexSoft Distribution 6 (ND6) is the main operating system for any trading business in carrying out daily activities. NexSoft distribution is produced by PT. Paramadaksa Teknologi Nusantara which is a company engaged in Information Technology (IT), which is headquartered in the Tangerang area.

Keywords— DMS, Nexsoft, ND6, PT Sukses, Transaction Processing System.

I. INTRODUCTION

Information technology is a technology used to process data, including processing and manipulating data in various ways to obtain fairly accurate, relevant and timely information. A company needs an effective and efficient computerized system to carry out its daily work. Along with the development of the company, there are more and more collaborations that are established as well as high market demand so that it is difficult for distributors to manage company needs regarding the transaction processing system. Therefore, we need a system that can overcome this. Nexsoft Distribution 6 (ND6) can be used as a solution to solve this problem. ND6 is considered to be able to facilitate the transaction processing system that occurs at PT Sukses [1].

II. RESEARCH METHOD

The data collection method for this research is using qualitative research methods.

2.1 Data Collection Methods

The following data collection methods are as follows:

1. Interview
   Interviews were conducted with admin staff of PT Sukses with the topic of discussing the Flow of Transaction Processing Systems using ND6 which took place at the PT Berhasil offices.
2. Observation
   Observations are made directly at the PT Sukses office, observations are made on every transaction process that occurs when a sale occurs at PT Sukses until the use of the ND6 system.
3. Literature study
   The necessary references or theories are obtained from several books on Management Information Systems (SIM) and the official website of Nexsoft.

2.2 Systems Development Method

The following methods in system development are as follows :

1. System Planning : Establish a framework and procedures for making information systems in accordance with company needs.
2. System Analysis : At this stage, what is done is the completeness of system data, computer security analysis, the effectiveness of using the system.
3. System Design : This application system design includes: Context Diagram, HIPO, DAD, Input Output Design,.
4. System Implementation : This system is made with the Java programming language and uses the MySQL database.
5. System Testing : There are two Testing Systems: Functionality Testing and Questionnaire Testing [2].

2.3 Management Information Systems

Management Information System (MIS) is a computer-based system that provides information for multiple users with similar needs. Output information is used by managers and non managers in the company to make decisions in solving problems, Raymond McLeod Jr (1996: 54).

2.4 Transaction Processing System

According to Hanif al Fatta (2007), a transaction processing system (TPS) is a computerized information system developed to process large amounts of routine business transaction data to produce financial information. The main purpose of a system at this level is to track the flow of transactions through the company. At the operational level, the tasks, resources and objectives are predefined and highly structured.

2.5 Distribution Management System (DMS)

Distribution Management system (DMS) is an application that manages almost the entire processing of sales orders, purchases, inventory management and financial accounting. The DMS application is only intended for specific types of distribution businesses than other types of businesses, which are at least able to provide a much higher level of functionality, specifically for the needs of distribution companies.

2.6 Application Model

The Nexsoft Distribution 6 (ND6) system uses offline web. In offline mode, it is sufficient to prepare a computer and some software to create a local web server or local host. In this offline mode system, the management of creating web pages can be done optimally before the data is ready to be uploaded to the internet web server.

2.7 Java Programming Language

The Nexsoft Distribution 6 (ND6) system uses the Java programming language. Java is a very popular programming language. This Java is Write Once, Run Anywhere (a program that is written once and can run on many platforms). Thus, it is not surprising that applications created using the Java programming language can be found in computer and smartphone environments without any significant differences. Just like programming in general, Java is a programming language that is capable of working with a database[3].

2.8 MySQL databases

The Nexsoft Distribution 6 (ND6) system uses the MySQL database. MySQL is a database management system (database management) using the basic command of SQL (Structured Query Language) which is quite well known. MySQL is an open source DBMS with two license forms, namely software (free software) and shareware (proprietary software of limited use). So MySQL is a free database server with the GNU General Public License (GPL) so that it can be used for personal or commercial purposes without having to pay for an existing license[4].

III.RESULT AND ANALYSIS

In the discussion, discussing the results of research in the form of system design as a whole are as follows:

3.1 Computerized System Analysis

Before using Nexsoft Dstribution 6 (ND6), PT succeeded in using the Nexus Distribution 95 (ND95) application. ND 95 includes 9 basic modules which are integrated or directly related to the daily activities of the distributor. However, ND95 was constrained by price and inventory settings. Therefore, a Nexsoft Distribution 6 (ND6) was created which was a solution to the problems that existed in ND95, because ND6 was considered more effective and efficient. Nexsoft Distribution 6 (ND) offers the latest unique features (proforma invoice, temporary warehouse, cash and credit customer segregation, 5 levels of discounts both in nominal and percentage terms, and more) which are common business practices in the world of commerce in Indonesia so that it can be directly used by middle-class companies (SMEs) - even companies that only have a few employees who often hold multiple roles and do not have high business process knowledge. The ND6 consists of 12 basic modules which are interconnected.

3.2 System Design

At this stage, system development and creation of new procedures are in accordance with the desired job requirements of the company.

1. Contex Diagram

Contex Diagram is a part that is used to show or describe the flow of data throughout the network, input and output. Identify the beginning and end of the initial and final data entering and the system output. Context Diagram of the transaction processing system at PT Sukses

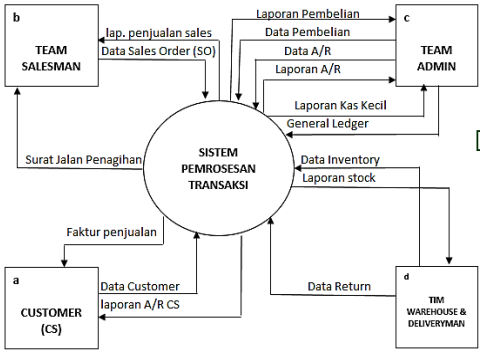

Figure 1. Context Diagram

2. HIPO

HIPO (Input Process Output Hierarchy) is a system development tool and system documentation technique in programs. The most important goal of HIPO is to produce correct output and meet user requirements.

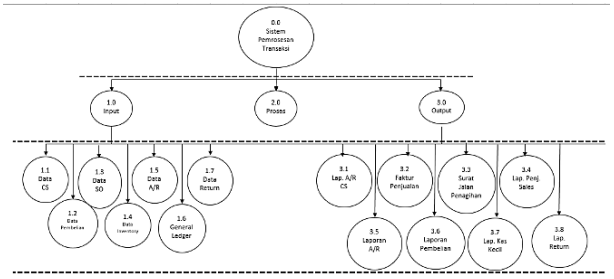

Figure 2. HIPO

3. DAD (Data Flow Diagram)

Data Flow Diagram (DAD) is a flow diagram that describes the flow from data to the system, DAD helps to understand the system in a logical, structured and clear manner. The following is DAD level 0 for transaction processing systems.

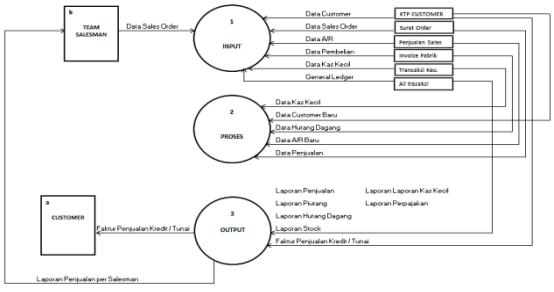

Figure 3. DAD Level 0

3.3 System Implementation

System implementation is the process of making a system in the form of designing a Nexsoft Distribution 6 (ND6) application:

1. Input sales data

Display data input used to input scholarship recipient candidate data.

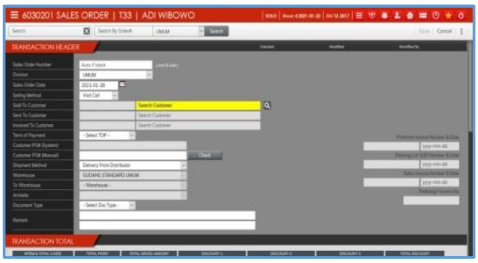

Figure 4. Sales Data Input Form

2. Display Application Manager Module

Display criteria setting form is used to make settings for the application.

Figure 5. Application Manager Module Form

3. Display Report Results

Display of report results Transaction Processing System, namely Account Receiveable (A / R) Report. Here are the results of the report.

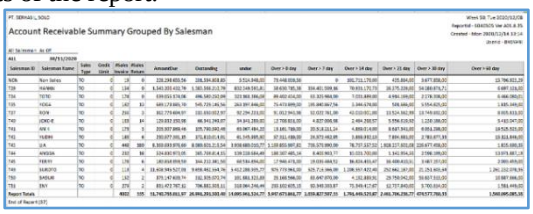

Figure 6. Report A/R

3.4 System Testing

Testing is the final part of a system process. The purpose of system testing is to test whether the system is what the user expects. The following is testing the system.

a. Functionality Testing

The functionality testing method used is testing using the Black Box testing method. The following are the test results with the Black Box in the form of a test table to produce the test values, as follows :

Table 1. Functionality Test

No	Jenis Uji	Komponen Sistem yang diuji	Skenario Uji	Hasil yang diharapkan	Hasil yang dihasilkan	Status Uji	Hasil Pengujian
1	Uji Normal	Form Login	- Masukkan userID dan password yang benar	Tampil halaman main menu	Muncul "Login Berhasil!" - Tampil halaman menu utama	Normal	Diterima
	Uji Salah	Form Login	- Masukkan userID dan password yang salah	muncul pesan kesalahan	- Muncul pesan "Password salah" - tidak muncul halaman menu utamanya	Normal	Diterima
2	Uji Normal	Form Input Data Customer	- Masukkan data Customer dengan benar dan lengkap	Data tersimpan dengan baik dan benar	- Muncul pesan "Data Berhasil disimpan"	Normal	Diterima
	Uji Salah	Form Input Data Customer	- Masukkan data Customer dengan tidak benar	Tidak bisa Menyimpan data customer	- Tidak bisa disimpan	Normal	Diterima
3	Uji Normal	Form Input Penjualan	- Masukkan data sales order dengan benar	Data Penjualan tersimpan dengan baik dan benar	- Muncul pesan "Data Berhasil disimpan"	Normal	Diterima
	Uji salah	Form Input Penjualan	- Masukkan data sales order dengan tidak benar	Tidak bisa menyimpan data sales order	- Muncul kotak dialog error	Normal	Diterima
4	Uji Normal	Form Input Pembelian	- Masukkan data pembelian dengan benar dan lengkap	Data pembelian tersimpan dengan baik dan benar	- Muncul pesan "Data Berhasil disimpan"	Normal	Diterima
	Uji salah	Form Input Pembelian	- Masukkan data pembelian dengan tidak benar	Data pembelian tidak tersimpan	- Tidak bisa disimpan	Normal	Diterima
5	Uji Normal	Form Input Data A/R	- Masukkan data A/R dengan benar dan lengkap	Data A/R tersimpan dengan baik dan benar	- Muncul pesan "Data Berhasil disimpan"	Normal	Diterima
	Uji salah	Form Input Data A/R	- Masukkan data A/R dengan tidak	Data A/R tidak tersimpan	- Tidak bisa disimpan	Normal	Diterima
6	Uji Normal	Form Input Data Kas Kecil	- Masukkan data Kas Kecil dengan benar dan lengkap	Data Kas Kecil tersimpan dengan baik dan benar	- Muncul pesan "Data Berhasil disimpan"	Normal	Diterima
	Uji salah	Form Input Data Kas Kecil	- Masukkan data Kas Kecil dengan tidak benar	Data Kas Kecil tidak tersimpan	- Tidak bisa disimpan	Normal	Diterima
7	Uji Normal	Form Input Data General Ledger	- Masukkan data General Ledger dengan benar dan lengkap	Data General Ledger tersimpan dengan baik dan benar	- Muncul pesan "Data Berhasil disimpan"	Normal	Diterima
	Uji salah	Form Input Data General Ledger	- Masukkan data General Ledger dengan tidak benar	Data General Ledger tidak tersimpan	- Tidak bisa disimpan	Normal	Diterima

b. Quizoner Testing

This questionnaire test was conducted to test the system so that the results of the match between manual calculations and computer systems were known to produce valid calculations. Stage 1

In the process of determining the questionnaire test for this system, several respondents were involved. This can be seen in table 2.

Table 2. Respondent Data 1

Kuisioner Penggunaan Aplikasi Nexsoft Distribution 6 (ND6)							
Penerima Kuisioner : Admin							
No.	Kuisioner	2	4	6	8	10
1.	Menurut anda apakah aplikasi ND6 ini cukup membantu proses transaksi perusahaan PT. Berhasil ?					✓
2.	Apakah aplikasi ini mudah dioperasikan ?				✓	
3.	Apakah penggunaan aplikasi ND6 ini lebih mudah bila dibandingkan dengan sistem lama ?					✓
4.	Apakah aplikasi ND6 ini membuat aktivitas kerja lebih mudah ?					✓
5.	apakah terdapat kendala yang bisa diatasi ?				✓	
6.	Apakah perlu diadakan sosialisasi setiap ada perubahan ?			✓		
	Jumlah nilai					52,0
	Rata-rata nilai					8,7

Table 2. Respondent Data 2

Kuisioner Penggunaan Aplikasi Nexsoft Distribution 6 (ND6)							
Penerima Kuisioner : Pimpinan Perusahaan							
No.	Kuisioner	2	4	6	8	10
1.	Menurut anda apakah aplikasi Nexsoft Distribution 6 (ND6) ini cukup membantu proses transaksi perusahaan PT. Berhasil					✓
2.	Apakah aplikasi ini mudah dioperasikan ?					✓
3.	Apakah penggunaan aplikasi (ND6) ini lebih mudah bila dibandingkan dengan sistem lama ?					✓
4.	Apakah aplikasi Nexsoft Distribution 6 (ND6) ini membuat aktivitas kerja lebih mudah ?					✓
5.	apakah terdapat kendala yang bisa diatasi ?				✓	
6.	Apakah perlu diadakan sosialisasi setiap ada perubahan ?				✓	
	Jumlah nilai					56
	Rata-rata nilai					9,3

Table 3. Respondent Data 3

Kuisioner Penggunaan Aplikasi Nexsoft Distribution 6 (ND6)							
Penerima Kuisioner : Penulis							
No.	Kuisioner	2	4	6	8	10
1.	Menurut anda apakah aplikasi ND6 ini cukup membantu proses transaksi perusahaan PT. Berhasil					✓
2.	Apakah aplikasi ini mudah dioperasikan ?					✓
3.	Apakah penggunaan aplikasi ND6 ini lebih mudah bila dibandingkan dengan sistem lama ?					✓
4.	Apakah aplikasi Nexsoft Distribution 6 (ND6) ini membuat aktivitas kerja lebih mudah ?					✓
5.	apakah terdapat kendala yang bisa diatasi ?					✓
6.	Apakah perlu diadakan sosialisasi setiap ada perubahan ?				✓	
	Jumlah nilai					58
	Rata-rata nilai					9,6

3.5 Analysis SWOT

In the SWOT analysis process that researchers have done, it produces the following data.

Table 4. SWOT Analysis Results

STRENGHTS	WEAKNESSES	OPPORTUNITIES	THREATS
Bosnet, sistem informasi perangkat lunak yang dirancang khusus untuk membantu aktivitas distribusi sehari-harinya. Sehingga keberadaannya sangat membantu karena sistem ini dibuat/dirancang sesuai dengan kebutuhan perusahaan.	Bosnet, pada perangkat lunak ini mobile interface nya belum dapat digunakan.	Bosnet, memiliki daya saing yang sangat tinggi dalam dengan Distribution Management System yang lain karena keunggulan-keunggulan yang dimiliki.	Seiring dengan berkembangnya zaman dan teknologi, muncul banyak Distribution Management System yang lain, yang tentunya tidak kalah unggul nya dengan Bosnet, sehingga Bosnet diharuskan melakukan update agar tidak tertinggal dengan adanya perkembangan zaman dan teknologi yang ada.

IV. CONCLUSION

PT. Succeed Solo is a distribution company that distributes products from manufacturers to retailers or from producers to consumers. In the process of daily company activities, a system is needed to facilitate recording of basic activities of company transactions.

ND6 is the main operating system for every trading business in carrying out daily activities. With Bosnet distributors can manage stock (including damaged and returned goods), manage goods for canvass, take orders or sell goods canvass, manage accounts receivable, sales and accounts payable. Bosnet also helps distributors prepare monthly tax reports, manage discounts and promotions, system functionality or questionnaire tests. Shown the percentage of the system test value.

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