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Cement Distribution System in CV. Indosatu With a Supply Chain Management Approach

Dede Serlina[1*], Anggun Fergina[2], Ivana Lucia kharisma[3]

[1,3]*Informatic Engineering, Faculty of Computer Engineering and Design, Nusa Putra University*
Jl. Raya Cibatu Cisaat No.21, Cibolang Kaler, Kec. Cisaat, Kab. Sukabumi, Jawa Barat 43152
[1*]dede.serlina_ti18@nusaputra.ac.id, [3]ivana.lucia@nusaputra.ac.id

[2]*Informatic Engineering, Faculty of Computer Engineering And Design, Nusa Putra University*
Jl. Raya Cibatu Cisaat No.21, Cibolang Kaler, Kec. Cisaat, Kab. Sukabumi, Jawa Barat 43152
[2]anggun.fergina@nusaputra.ac.id

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Abstract

CV. Indosatu, which is engaged in building material, a three-wheel cement distributor, has more than 80 customers for building shops and projects located in the Sukabumi city and district areas, so a sales and delivery information system is needed that helps customers and receives fast information, as well as for sales. and the admin will make it easier for orders received from the store and forwarded to the admin section to be verified for further delivery by the logistics section, for sales and stock data information it will be easier to get too. This system will be built using PHP Native framework, JavaScript, CSS, and MySQL database. The result obtained is a system with (SCM) Supply Chain Management used by CV. Indosatu. This system can provide information about orders from sales, store information, shipping information and stock information. From the test results on users, it shows that this marketing and logistics management system helps in processing sales data and processing stock shipping data.

I. INTRODUCTION

CV. Indosatu is a company engaged in the sale of Three Wheel Cement. So far, the company feels that the business processes that are running are still unsatisfactory because the sales process is still using notes and placing orders through the WhatsApp group and manual data input in excel so that there are still many errors in sales and admins in ordering the input process such as errors in selecting goods, prices. , and the number of items and requires a long time in manual file collection and inventory data is often not in accordance with the physical goods available. This company also has difficulty knowing the sales of cement that are often purchased. Therefore, the author proposes the use of Supply Chain Management in website-

1* Corresponding Author

based sales records. SCM is an activity of processing raw materials into semi-finished goods or semi-finished goods and then sending these products to consumers through the distribution system. This activity includes the purchasing function that relates between suppliers and suppliers. Based on the description above, the author will pour the design of a management information system in the form of a thesis entitled "Cement Distribution System in CV. Indosatu with a Supply Chain Management Approach".

II. RELATED WORKS

The writing of this research will try to link it with several previous scientific works, so that it will be related to the scientific work above. The scientific works that the authors mean are as follows:

Table 1 Related Works

No	Research Title	Name/Vol/Year	Summary
1	Web Based Car Sales and Management In The XYZ Car Showroom[1]	(Joko Lianto Buliali, Andreas Handojo, Frica Salim Wiharjo / Vol 6 / Mei 2018)	This study aims to develop a virtual showroom system in a car showroom so that car marketing and sales can be carried out accompanied by customer payment information via the Web.
2	Internet role in improving business transaction[2]	(E S Soegoto and M SF Rafi /IOP Conf/ 2018)	The Internet in business is used for information exchange, product catalogs, promotional media, electronic mail, bulletin boards, electronic questionnaires, and mailing lists. The internet can also be used for dialogue, discussion, and consultation with consumers on-line, so that consumers can be involved proactively and interactively in product design, development, marketing, and sales.
3	Invitation Sales Information System Testing Web Based Online Marriage Using Black Box Testing[3]	(Umi Salamah, and Fata Nidaul Khasanah / Information Management For Educators And Professionals /2017)	The use of e-commerce by marketing products through the sale of wedding invitations with the use of waterfalls and blackbox testing for sales systems in catalog form. With the results of making it, more easier for users to process sales and purchase transaction data, obtain information related to sales / purchase activities

III. METHODS

A. *Research Methods*

This study uses the waterfall development model[4]–[7] as a reference in the stages of the research completion process. Waterfall is one of the methods in the System Development Life Cycle (SDLC) or system development life cycle[8] which has a characteristic, namely that each phase in the waterfall must be completed first before proceeding to the next phase. The research stages use the waterfall methodology with the following structure:

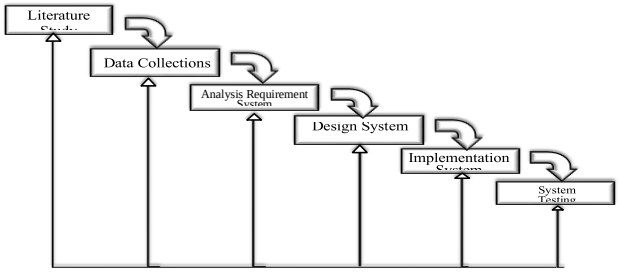

Figure 1. Waterfall

B. Data Collection Technique

In carrying out this research, the authors seek and collect data and information related to the completion of the research. This research can be done by several methods, namely:

a. Observation

Observation activities are carried out directly observing work activities carried out by CV.

b. Interview

Interview or direct question and answer with the company concerned, namely Mrs. Ena Maliana in the process of making marketing management programs at CV.Indosatu. The questions posed to sales, staff, and warehouse heads, among others, related to the marketing system that took place at CV.Indosatu especially regarding marketing procedures and Supply Chain (Delivery) in this interview the author gave questions to cv. From the results of interviews with some of the questions mentioned above, the interviewer gets the answers which will be used for research material.

c. Literature review

Literature study is done by reading and studying various literatures related to the issues discussed to obtain in-depth information and understanding. These literature sources include books, documents, and journals.

C. System Design Analysis

System analysis is a procedure development activity of the ongoing process. Analysis of the current system is an activity to analyze the work procedures that occur in the system that is running. The results of this analysis activity are in the form of a real picture of the sequence of activities in CV. Indosatu. The following is an overview of the system that is running for the process of ordering goods which is described in the workflow:

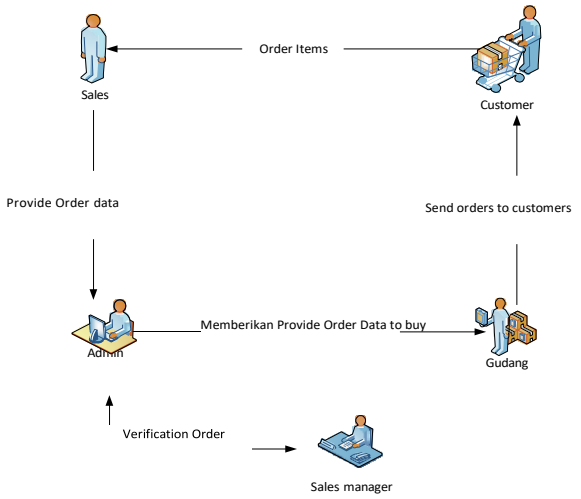

Figure 2. Workflow Running System

Judging from the system that is running on CV. Indosatu is lacking because the sales process still uses notes so there are still many note files that take a long time to collect these files and inventory data often do not match the existing physical goods. This company also has difficulty in knowing the sales of ornamental plants that are often purchased by customers as well as difficulties in making management decisions and also difficulties in obtaining monthly report information, besides that the delivery of goods made by the logistics team always experiences delay due to the process of ordering goods that have to wait at the warehouse. the recap is received by the admin first, which is then given to the logistics team for the delivery process. Then the following is the workflow system proposed by the author:

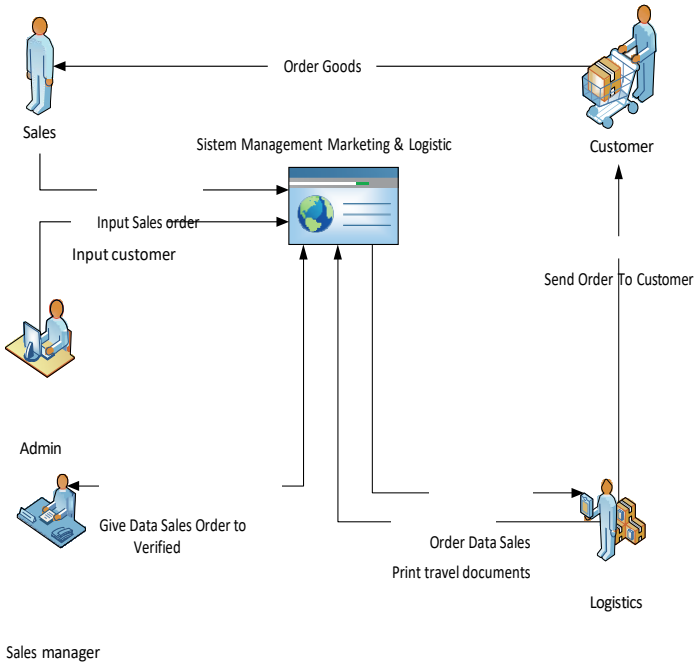

Figure 3. Proposed System Workflow

a. Software Requirement Analysis

Table 2. Software Requirements

No	Requirements	Software
1	Operating system	Microsoft Windows 10
2	Database	MySQLi
3	Programming language	PHP Versi 7.0.25
4	Text Editor	Sublime Text 3
5.	Web Server	XAMPP Versi 3.2.2

b. Hardware Requirements Analysis

Table 3. Hardware Requirements

No	Hardware	Spesifikasi
1	Processor	Intel Core-i3 1.70 Ghz
2	RAM	DDR3L 4GB Memory
3	Hard Disk	500 GB
4	VGA	1 GB
5	Monitor	1366x768 px

D. Database Design

In designing the database on the system built using a diagram called the Entity Relationship Diagram. Entity Relationship Diagram (ERD) is a diagram in the form of graphic notation that is in the manufacture of a database that connects data with one another. The function of ERD is as a tool in database creation and provides an overview of how the database will work[9].

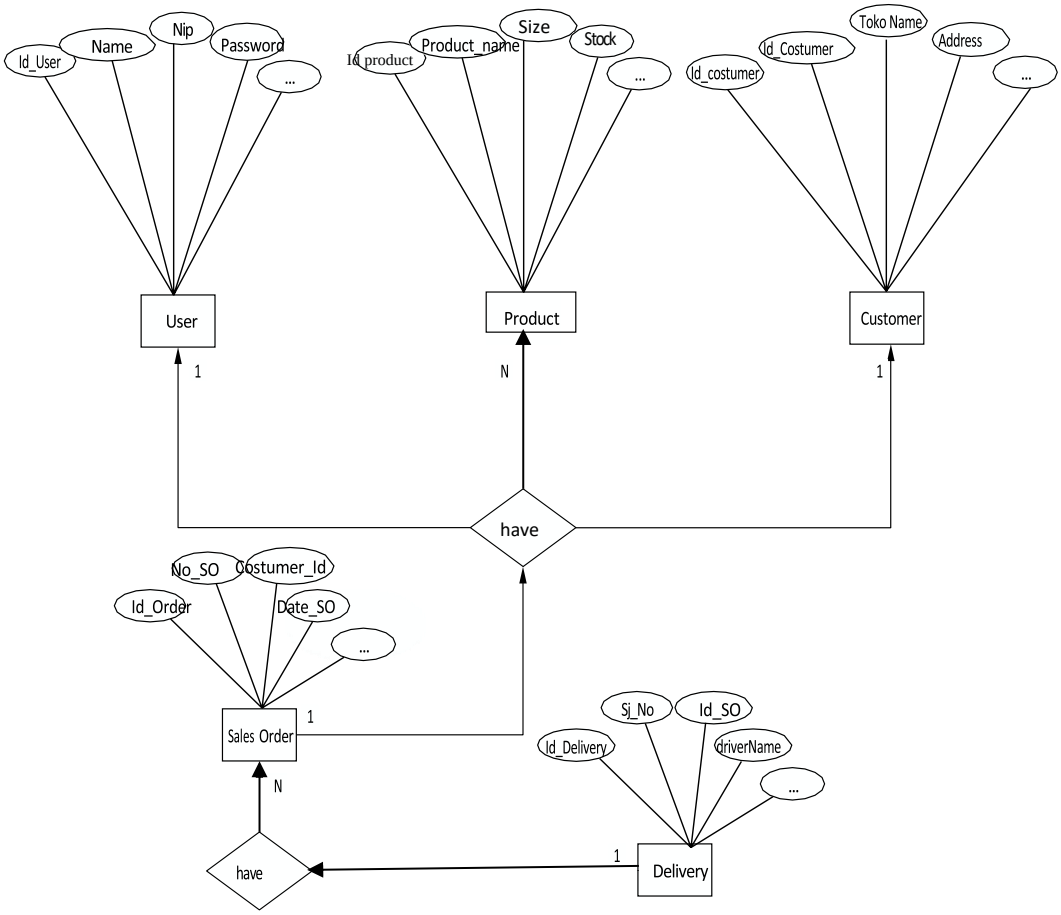

Figure 4. Entity Relationship Diagram

IV. RESULTS AND DISCUSSIONS

A. Implementation

Implementation is a procedure used in completing a previously designed system design, in a document, an approved system is tested and installed to start using the new system. In this subchapter the author will implement the results of scientific work in the form of a system as described previously.

a. Database Implementation

The following is a database implementation using MySQL database software version 7.0.25 to accommodate all data related to the system.

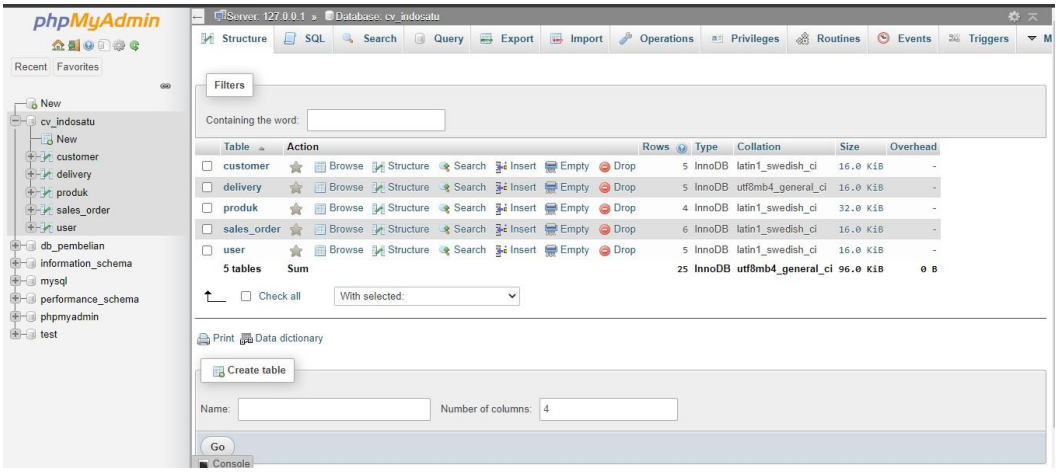

Figure 5. Database Implementation

b. Interface Implementation

The following is a display of the marketing and logistics management system interface on CV. INDOSATU:

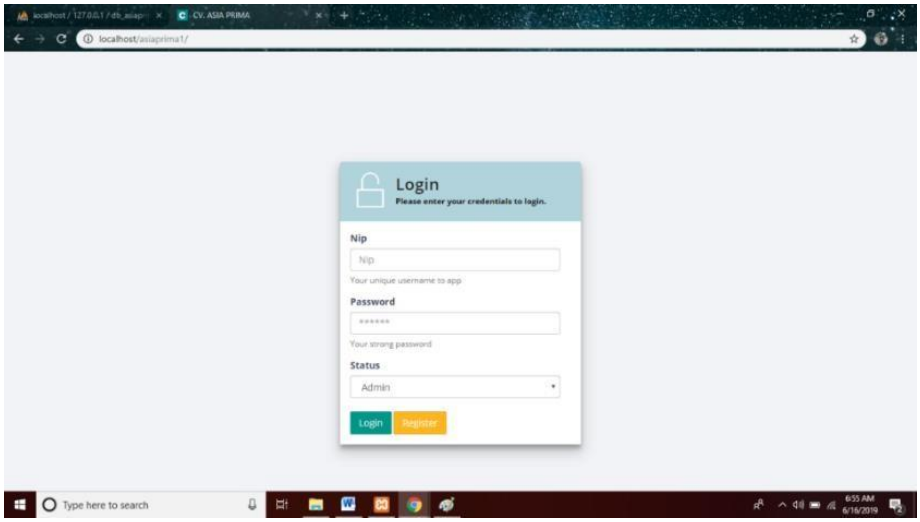

Figure 6. Login User

This user login page can be accessed by several users such as admin, sales, logistics and sales manager.

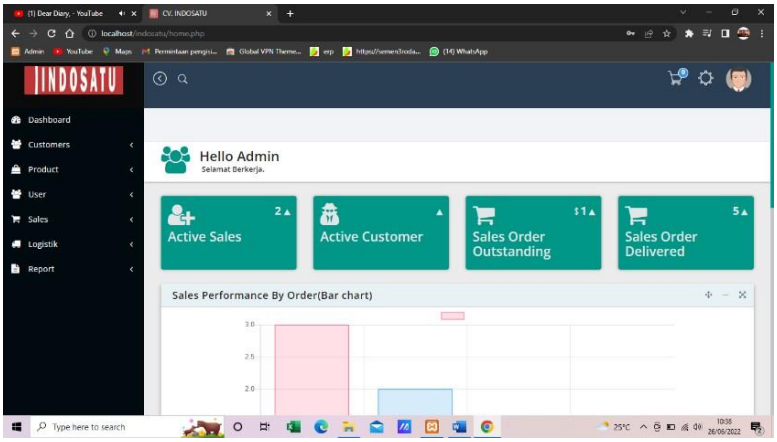

Figure 7. Admin Main Page

This page contains system-wide information that is only given to admins and a full sidebar menu.

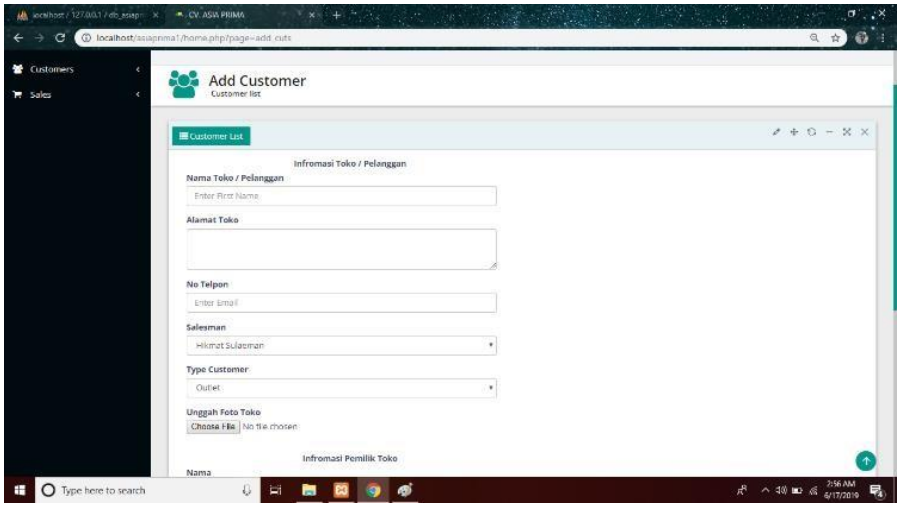

Figure 8. Add Costumer

This page contains information about adding customer data.

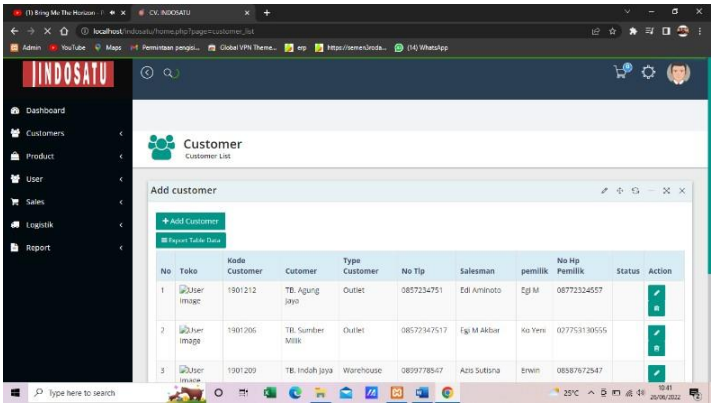

Figure 9. Data Customer

This page contains information about customer data.

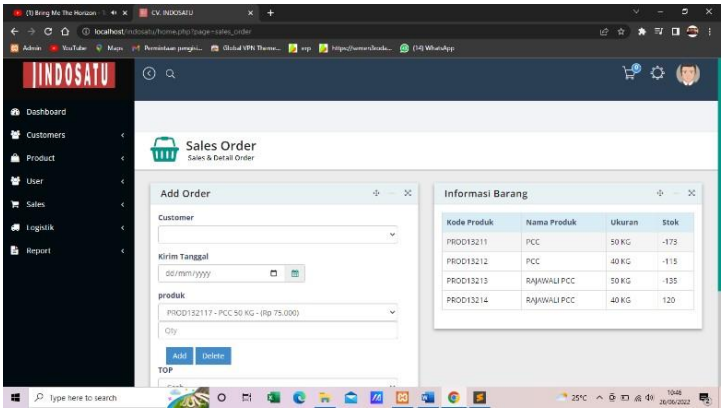

Figure 10. Input Sales Order

This page contains sales data input to place an order.

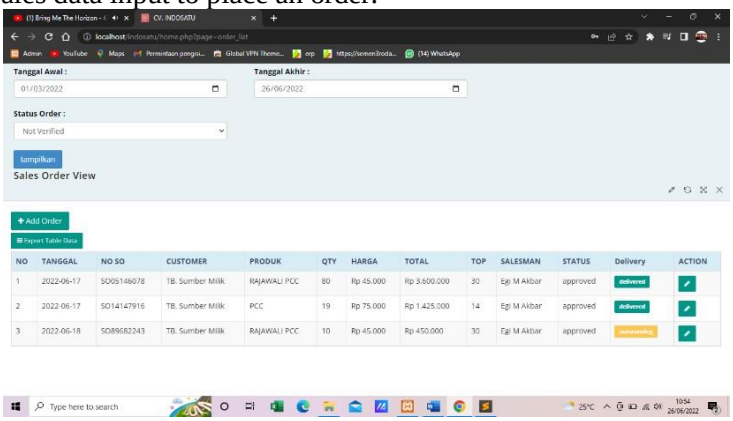

Figure 11. View Sales Order

This page contains information on order data made by sales. On this page, sales can control which orders are approved and not approved by the sales manager and the delivery status.

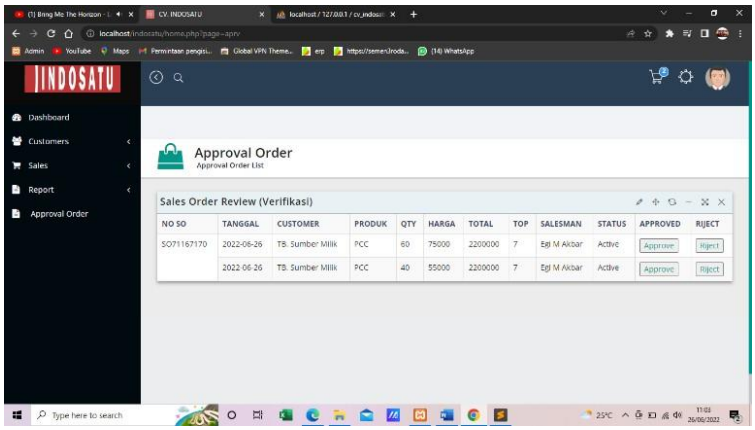

Figure 12. Approval Sales Order

B. *System Test*

This testing phase is the result of the previous implementation, namely black box testing. Black box testing is one type of testing method that treats software whose internal performance is unknown. So that the tester views the software like a black box that is not too important to see its contents, but only is subjected to a testing process on the outside. The testing technique or testing is black box testing[10], where the test results will be seen in tabular form with test results fields and conclusions that can be seen the results [11]. This testing phase explains how the user interacts with the program or how to use the program that has been created and produces an expected achievement.

a. User login interface testing

Table 4. User login interface testing

No	Description of Testing	Scenario Testing	Result to be achieved	The Results
1	Process *Login user (Success)*	Enter *username* and *Password* Then select login status then click *login*	Displays the user	Successfully login and enter the *user*
2.	Process *Login user (Failed)*	If the username, password and login status are incorrect, then click login	Displays the message *username* and *password* incorrect	Failed to *login*

b. Input customer sales interface testing

Table 5. Input customer sales interface testing

No	Description of Testing	Scenario Testing	Result to be achieved	The Results
1	Process *Input costumer (Success)*	Enter the data in accordance with the existing column then click *add*	Displays the data message successfully saved and enters the page that displays *customer*	Data *costumer* Has been successfully saved
2.	Process *Input costumer (Failedl)*	If there is data that is empty or not filled in then click *add*	Displays no data message complete	Data *costumer* Failed to save

c. Input sales order interface testing

Table 6. Input sales order interface testing

No	Description of Testing	Scenario Testing	Result to be achieved	The Results
1	Process *Input sales order (Success)*	Enter data in accordance with the existing columns then click *add*	Displays the data message successfully saved and enters the page that displays data *sales order*	Data *order* successfully saved
2.	Process *Input sales order (Failed)*	If there is empty or incomplete data then click *add*	Displays incomplete data message	Order data *failed* to save

d. Input user interface testing

Table 7. Input user interface testing

No	Description of Testing	Scenario Testing	Result to be achieved	The Results
1	Process *Input user (Success)*	Enter data in accordance with the existing columns then click *add*	Displays the data message successfully saved and enters the *user*	Data *user* has been successfully saved
2.	Process *Input user (Failed)*	If there is data that is empty or not filled in then click *add*	Displays messages incomplete	Data *user* Failed to save

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V. CONCLUSIONS AND RECOMMENDATIONS

Based on the description that has been explained starting from exploring the problem, theoretical basis, research methodology, design and implementation, the author draws conclusions from all that has been stated about "The Cement Distribution System in CV. Indosatu with a Supply Chain Management Approach, namely:

1. Designing an integrated system to support the company's operational activities.
2. Design a system that can help make it easier for admins and sales to input and store order data with the correct data.
3. Designing to make it easier for the logistics department to recap stock data and for admins to make it easier to recap orders.

As for the suggestions that the author will describe so that in the future "Cement Distribution System in CV. Indosatu With the "Supply Chain Management Approach", this can be broader in terms of making invoices and delivering information according to technological developments.

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