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# IMPLEMENTATION OF WEB-BASED CUSTOMER RELATIONSHIP MANAGEMENT (CRM) IN INCREASING SALES AT ALMAZONE COMPANY

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## ABSTRACT

Almazone, an online clothing sales company, uses Facebook Ads as its main promotional medium to attract potential buyers. However, the company faces several operational constraints, such as data logging that has not been properly computerized, resulting in inefficiencies and the risk of data loss. In addition, Almazone does not have a product assessment analysis system that allows the company to understand customer satisfaction with the products purchased. Almazone's market reach is also limited because it only uses one advertising platform, without a standalone system for online promotions and transactions. Customer loyalty also declined due to the absence of facilities for customers to provide criticism and suggestions, as well as a lack of good customer data management. To overcome this problem, the implementation of website-based Customer Relationship Management (CRM) and Customer Satisfaction (CSAT) is a potential solution, in order to improve operational efficiency and customer satisfaction.

## 1. INTRODUCTION

Almazone is a company engaged in selling clothing online. Founded in 2022, Almazone initially sold agricultural products since 2019. However, over time, the company focused fully on selling clothing. In an effort to reach the market, Almazone uses various online media, one of which is Facebook. They utilize creatively designed Facebook Ads ads to grab the attention of potential buyers. Whenever a potential customer is interested and clicks on the ad, they will be redirected to an exclusive and informative landing page, providing a step-by-step guide in the purchase process. However, Almazone also developed a more personalized approach by directing potential buyers to WhatsApp Customer Sales (CS). This approach aims to provide a more interactive shopping experience, allowing customers to have direct discussions about products, sizes, and purchase details.

Currently, Almazone faces several obstacles in carrying out its operations. One of the main problems is data collection that has not been properly computerized. This causes data logging to be less effective and efficient and increases the risk of errors and loss of important data. In addition, Almazone does not have a system to analyze product ratings, so it does not know to what extent their products are in demand or rated well by customers. Another obstacle is the limited product reach on Facebook Ads as the only promotion platform, because Almazone does not have its own system for promotional media and online transactions. In addition, customer loyalty is difficult to maintain because there is no mechanism for collecting criticism and suggestions from customers or in-depth data analysis about customers.

One of the proposed solutions to overcome these challenges is the implementation of a web-based Customer Relationship Management (CRM) system. With the implementation of CRM, Almazone will be able to manage various data into useful information. CRM can help in managing online sales transactions, collecting customer data, and analyzing product valuations. To measure customer satisfaction levels, this CRM system will use the Customer Satisfaction Score (CSAT) method. CSAT is a commonly used method to assess how satisfied customers are with the product or service they get.

With a web-based system that includes CRM and product assessment through CSAT, it is hoped that Almazone can improve data collection efficiency and reduce the risk of data errors. In addition, the presence of its own platform for online transactions can expand market reach and increase sales.

## 2. RESEARCH METHODOLOGY

To increase customer loyalty, Gelora Mukti Sport, according to Supriatna & Budianto (2019), still uses conventional systems that cause inaccuracies in product, inventory, and customer data management. Therefore, their research focuses on the development of technology-based Customer Relationship Management (CRM). The stages of system development use a waterfall model which includes needs analysis, design, implementation, testing, and system maintenance. The form of CRM implementation at Gelora Mukti Sport includes providing discounts on certain days,

providing transaction points that can be exchanged for products or vouchers, and digital wallets as a means of payment and refunds. This CRM is expected to improve customer service and loyalty through providing a more satisfying shopping experience.

Hijriani et al. (2019) also emphasized the importance of innovation in developing businesses. They propose the implementation of technopreneurship through CRM to support business growth in CV. Duta Square, a micro business in the retail sector in Lampung. Using the ADDIE model, they developed a CRM for item data management, point-of-sales, and member transaction storage, all of which are designed to make it easier to record and manage data. Discussions with business owners show that this system is effective in improving sales performance and customer trust.

Irawan (2019) discusses how Toko Cahaya Sunnah, a sharia fashion business, seeks to expand the market throughout Indonesia by adopting a CRM-based website. This CRM is expected to overcome the limitations of a slow and less detailed manual system, allowing for a more efficient sales process and data storage. Promotional information can be disseminated faster to customers so that it can attract their interest to continue shopping at Toko Cahaya Sunnah. With CRM integration, sales reports can be created faster and more timely, and responses to requests and sales become more responsive.

Al Mudzakir & Bakar (2020) highlighted the potential of the e-commerce market in Indonesia which is growing rapidly in line with the increasing number of internet users. They conducted a study on the development of the Ladya store's website by combining CRM methods to improve sales and profit and loss management. This web-based CRM is designed to meet customer needs and is powered by prototyping, so the end result is more in line with user expectations. The website is designed with PHP and MySQL using the Codeigniter framework.

Anggara et al. (2022) presented the results of web-based CRM development at the ZU MS GLOW North Sumatra Stockist Store. This CRM manages customer data, product promotions, sales, and customer service, which is useful for storing customer complaints or questions. This application aims to build long-term relationships with customers so that it can increase the company's profits. With web-based CRM features, companies are able to maintain customer loyalty and attract new customers.

Wahyuni & Information (2023) examines the development of an e-commerce system that functions as a sales, product management, and ordering tool for retail companies. With this system, customers can browse product catalogs, place orders, and complete online payments securely. Centralized product management also makes it easier for companies to update price and stock information in real-time, making them more responsive to customer demands. Effective integration of e-commerce systems improves customer convenience and satisfaction, while expanding the company's market reach.

### 2.1 Data Collection Methods

Data collection aims to obtain accurate, relevant, valid and reliable data, so the author collects data sources by:

a. Observation is a data collection technique by directly observing the activities in one of the convection business actors. Observations are made so that the author can know or can observe directly how the activities are in the field.
b. Interview techniques are one of the most effective ways to get data. In the process of implementing a computerized information system, interview techniques with business actors are carried out to deal with existing problems.

### 2.2 System Development Methods

The system development method is a method with a process that is important for the creation of a system. In the development that will be applied this research is the waterfall method. Waterfall provides a sequential approach to the software lifecycle starting from analysis, design, coding, testing, and the support stage.

### 2.3 System Analysis

Actors who describe users of the Web-Based Customer Relationship Management (CRM) Implementation software Dalalm Improving Sales Efficiency in Almazone Companies using the Web-Based Topsis Method are as follows:

a. Customer
b. Sales Admin
c. Owner:

These actors perform some of the ones shown in Table 1.

**Table 1.** Business processes used in the system

| No. | System Flow | Actor | *Use Case* |
|---|---|---|---|
| 1. | Owner manages system user data | Owner | Manage User Data |
| 2. | Sales Admin manages item category data | Sales Admin | Manage Data on Goods |
| 3. | Sales Admin manages item data | Sales Admin | Manage Item Data |
| 4. | Sales Admin setting *up selling* each item | Sales Admin | Setting Up Selling |
| 5. | Sales Admin setting *cross selling* each item | Sales Admin | Setting Cross Selling |
| 6. | Customers register as customers and sales admins can view the data entered by customers | Customers and Sales Admins | Manage Customer Data |
| 7. | The customer makes a transaction to sell the goods and the sales admin will validate the | Customers and Sales Admins | Sales Transactions |

| | | | |
|---|---|---|---|
| | sales from the customer | | |
| 8. | Customers will judge the items that have been purchased when they reach the customer | Customer | Valuation of Goods |
| 9. | The owner will get a report related to the sales transaction and the valuation of the goods sold | Owner | Reporting |

## 3. RESULTS AND DISCUSSION

### 3.1 System Design

After the analysis process that has been carried out, the system design stage is continued using Unified Modelling Language (UML) diagrams. Unified Modeling Language (UML) is a modeling language for building software built using object-oriented programming techniques. System design consists of interface design, aesthetics, content, navigation, architecture, components. The design in this study uses object-oriented design (UML) [8].

System use case diagrams are used to explain the activities carried out by actors and systems to achieve certain goals. To be able to analyze the model of the system to be built, the first step that must be taken is to analyze the general needs of the system and 3 (three) actors. More details can be seen in Figure 1.

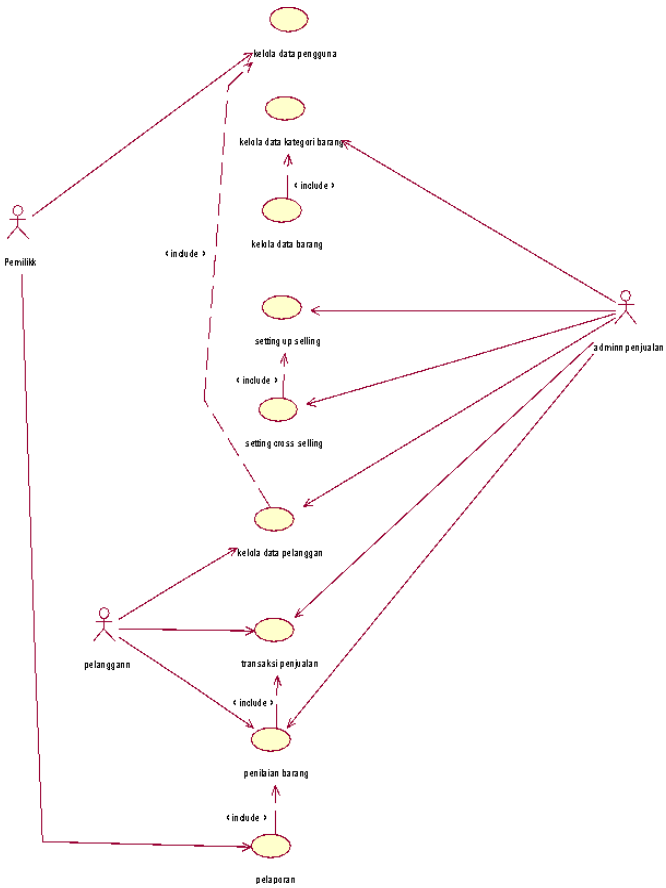


**Figure 1.** Use Case of Web-Based Customer Relationship Management (CRM) Implementation in Increasing Sales at Almazone Company

Class diagrams are used to illustrate the objects used in the Web-Based Customer Relationship Management (CRM) Implementation System in Increasing Sales in Almazone Company which can be seen in Figure 2.

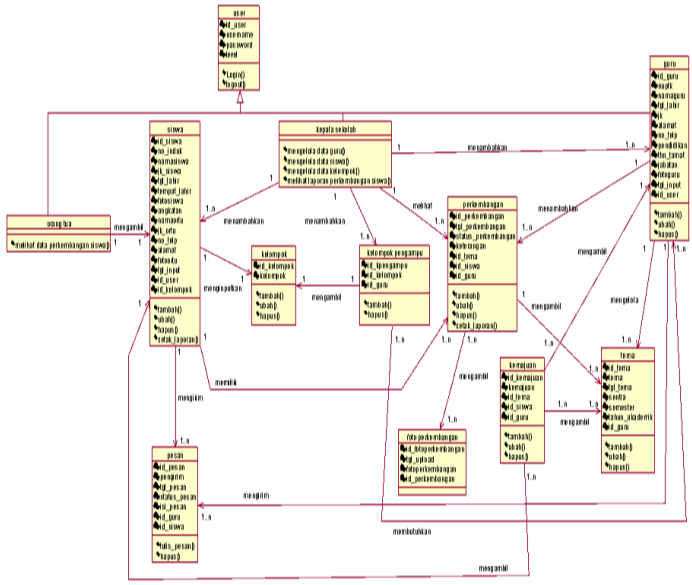

**Figure 2.** Web-Based Customer Relationship Management (CRM) Implementation Class Diagram in Increasing Sales at Almazone Company

### 3.2 Database Design

The table relationships formed in the database for the creation of Web-Based Customer Relationship Management (CRM) Implementation in Increasing Sales in Almazone Companies can be seen in Figure 3.

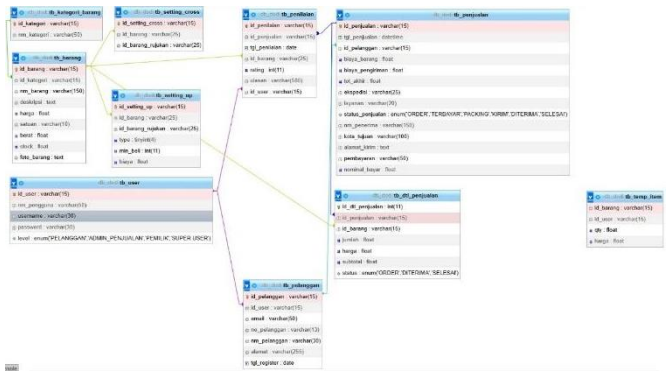

**Figure 3.** Database Table Relationship Relationships Web-Based Customer Relationship Management (CRM) Implementation in Increasing Sales at Almazone Company

### 3.3 System Results

The results of the analysis and design that have been carried out are then the development of a Web-Based Customer Relationship Management (CRM) Implementation in Increasing Sales at Almazone Company using the PHP

programming language and MySQL database. Here are some of the interfaces of the built system:

1) Login Page View

This page is used for users to log in to the system by entering their username and password. The implementation of the login page display can be seen in Figure 4.

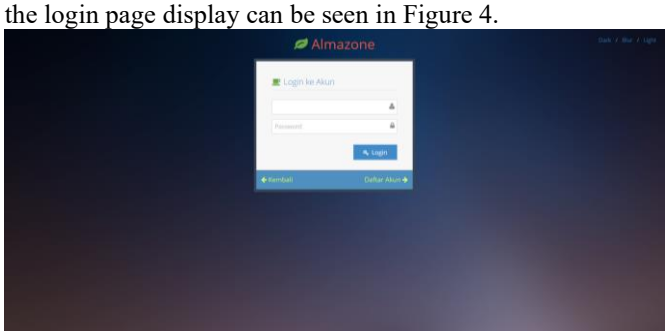


**Figure 4.** Login Page View

2) User Data Page View

This page is used to display user data, there are buttons to add, edit, and delete employee data. The implementation of the user data page view can be seen in Figure 5.

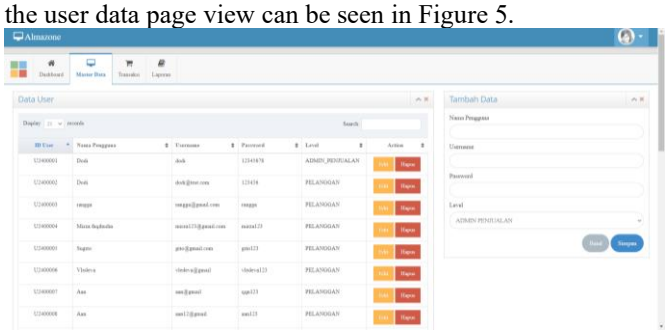


**Figure 5.** User Data Page View

3) Customer Data Page View

This page is used to display customer data, there are buttons to edit, and delete customer data. The implementation of the customer data page view can be seen in Figure 6.

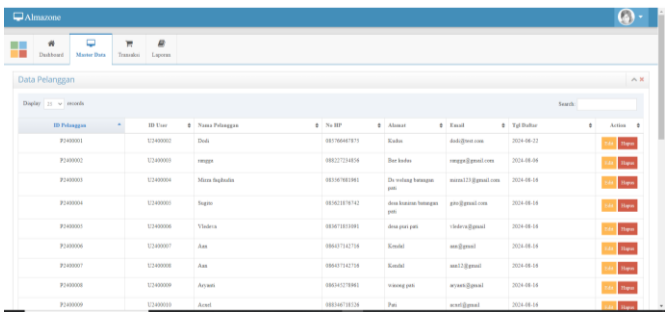


**Figure 6.** Customer Data Page View

4) Item Category Data Page View

This page is used to display item category data, there are buttons to add, edit, and delete item category data. The implementation of the item category data page view can be seen in Figure 7.

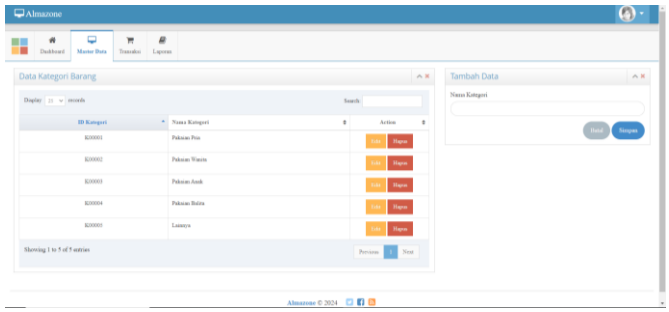


**Figure 7.** Item Category Data Page View

5) Item Data Page View

This page is used to display item data, there are buttons to add, edit, and delete item data. The implementation of the item data page view can be seen in Figure 8.

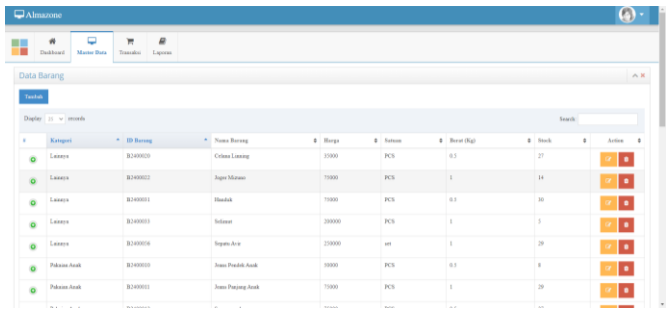


**Figure 8.** Item Data Page View

6) Cross Selling Setting Page Display

This page is used to set up cross selling, there are buttons to add, edit, and delete cross selling. The implementation of the cross selling data page view can be seen in Figure 9.

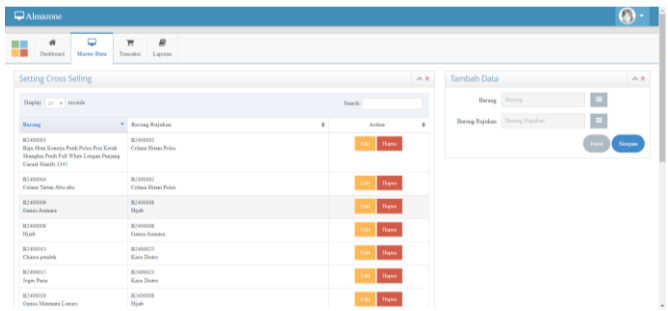


**Figure 9.** Cross Selling Setting Page Display

7) Selling Setup Up Page Display

This page is used to manage up selling, there are buttons to add, edit, and delete up selling. The implementation of the display of the up selling data page can be seen in Figure 10.

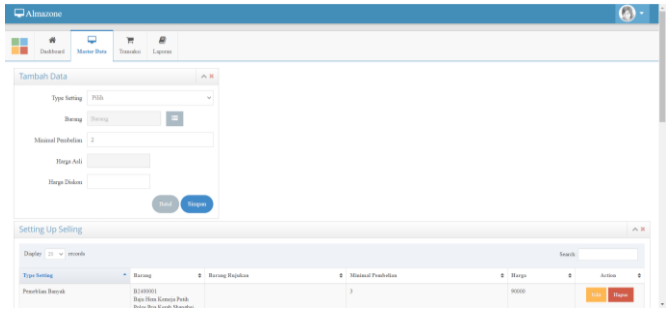


**Figure 10.** Selling Setup Up Page Display

8) Sales Data Page View

This page is used to display sales data, there are buttons for packing, and shipping. The implementation of the sales data page view can be seen in Figure 11.

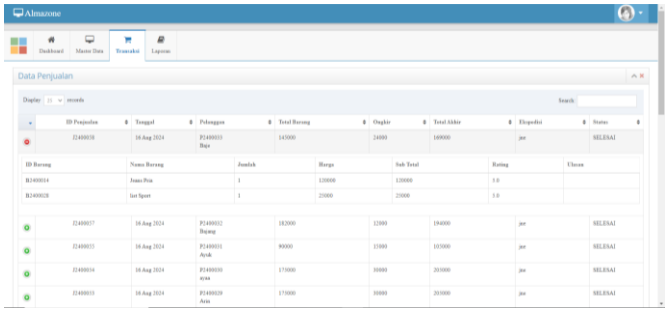

**Figure 11.** Sales Data Page View

### 3.3 Black Box Testing

In the implementation of web-based Customer Relationship Management (CRM) in increasing sales at the Almazone company, black box testing has been carried out. The test results can be seen in Table 2.

**Table 2.** Black Box Testing

| No | Module | Tested functions | Test Scenario | Expected results | Observation |
|---|---|---|---|---|---|
| 1. | Login page | Log in to the system | Fill in *user login data* | Users can log in to the system | Succeed |
| 2. | Manage Item Category Menu | Add item category data | Input item category names in string format | A notification appears successfully added | Succeed |
| | | Edit item category data | Blank item category name column | A warning appears to fill in the blank fields | Succeed |
| 3. | Manage Customer Registration Menu | Displaying the customer registration page | Select the Manage customer registration menu | Displaying the manage customer registration page | Succeed |
| | | Register customers | Enter your personal data and then press the register button | Registration data is successfully input and saved to the database | Succeed |
| 4. | Home Menu | Appear home page | Selecting the home menu | The system displays the home page | Succeed |
| 5. | Manage Booking menu | View booking data | Select the Manage Booking menu | Displaying the booking page | Succeed |
| | | Selecting products and *input* requirements | Data input of required quantities and exceeding stock | Insufficient stock information | Succeed |
| 6. | Manage Payments menu | View booking data | Select Continue payment | Featuring midtrans snap | Succeed |
| | | Internet connection turned off | Go to midtrans payment simulator page | Connection not reaching | Succeed |
| 7. | Logout | Log out or log out of the system | Selecting the sign-out menu | The user logs out of the system and the login page appears | Succeed |

## 4. CONCLUSION

### 4.1 Conclusion

Based on the implementation and testing of this research, there can be several things that can be concluded. The conclusion of this study is as follows: Based on the results of the analysis and design, as well as the implementation and discussion in the previous chapters, the author can give the following conclusions:

1. The system can display various clothing sales data online.
2. The system can display customer satisfaction ratings, where the ratings are used to increase rankings so that the online clothing sales business increases and can be known by many people.
3. The use of postage up to the sub-district level and payment using virtual machines such as midtrans provides convenience in transacting at the Almazone Store.

### 4.2 Advice

Based on the conclusions that have been outlined above, there are several suggestions that can be given to develop an even better application, including:

1. Development in the form of android is highly expected to reach more customers.
2. The shortcomings of the system will be visible as the times develop. It is hoped that a more effective and efficient system flow will emerge in the future to complement the shortcomings of the current system.
3. System security features are not discussed in this study so that in the future there will be research that can provide security features.

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