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E-crm Information System for Tapis Lampung SMEs

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Abstract. Companies must have a strong competitive strategy in the market in meeting customer needs, it is necessary an information system that applies the method of customer relationship management. Target for this research were SMEs Tapis in Lampung Indonesia. Tapis Lampung is one of the clothes used in Lampung Indonesia culture. Tapis Lampung must be introduced and disseminated, not only in Indonesia, but in overseas. Problem in this study is product orders are still coming directly to the location and via telephone, as well as product marketing through Instagram media. Orders are recorded in the book, so that data processing is less effective and efficient. There is no consumer database to see the number of existing customers, do not yet have communication and service good to consumers. The purpose of this study is to produce an information system application program using web-based E-crm method which is a strategy to increase sales, expand marketing and improve services to consumers. The application of web-based CRM methods in Tapis Lampung SMEs is important so that they can open sales opportunities globally, and have a good relationship with consumers because they can provide services to consumers that are more effective and efficient.

1. Introduction
Recent advances in information technology have resulted in profound changes in consumer-to-consumer [1]. Consumers increasingly use online community as a vehicle for pre-purchase information gathering [2]. The changes in needs and desires customer often lead to changes in purchasing decisions made by consumers, these changes require each company to always have a strategy to make the company have strong competitiveness in the market. Especially, there are rising interests in the e-CRM which use the Internet as the platform for the delivery of CRM function on the web [3]. SMEs have a relationship with the customer base. Where CRM can make a positive contribution to SMEs by using technology to manage relationships [4].

Target for this research is Tapis Lampung Indonesia SMEs. Tapis is one icon in Lampung Indonesia. Tapis Lampung is one of the clothes used in Lampung Indonesia culture. Tapis Lampung must be introduced and disseminated, not only in Indonesia, but in overseas. Problem in this study is product orders are still coming directly to the location and via telephone, as well as product marketing through Instagram media. Orders are recorded in the book, so that data processing is less effective and efficient. There is no consumer database to see the number of existing customers, do not yet have

communication and service good to consumers. Communication plays an important role for the creation of loyalty respectively for keeping existing customers loyal could. E-mail communication has a direct effect on the number of orders [5]. The frequency of communication to customers needs to be increased. This study discusses customer relationship management using electronics to increase sales, expand marketing, and improve service to customers. Electronic customer relationship management will provide convenience to consumers to order products, making it easier for consumers to obtain information such as information about product promotion, product manufacturing and product maintenance. So that web-based customer relationship management tools will increase sales, expand marketing and provide good service to consumers. The reason why SMEs need to immediately switch to E-crm technology because E-crm technology can optimize interactive relationships between customers and SMEs; allowing SMEs to expand their marketing reach; use information about customers to implement e-Marketing and e-Business more effectively and focus efforts to improve relationships with customers [6]. The use of one web technology is an implementation of an CRM electronic company to build relationships with customers through better content management [7].

The purpose of this study is to produce an information system application program using web-based E-crm (Electronic Customer Relationship Management) method which is a strategy to increase sales, expand marketing and improve services to consumers. The application of information systems using web-based CRM methods in Tapis Lampung SMEs is important so that they can open sales opportunities globally, and have a good relationship with consumers because they can provide services to consumers that are more effective and efficient. CRM is a relevant solution in the application of information technology investments today. Strategies to use CRM can maintain customer loyalty. If the company is unable to retain customers, it cannot survive and win business competition [5]. Customer relationship management has significant effect on the customer satisfaction. Increasing customer satisfaction will allow customers to come again and again to the company [6]. Firm can build sustainable competitive advantage to outplay their peers by its outstanding CRM program [8]. In a competitive market, companies need to maintain good relationships with their customers. The concept of CRM is felt to be appropriate to be implemented to find out the characteristics and needs of customers, as well as reaching wider customers [6].

2. Materials and methods

2.1 Customer Relashionship Management (CRM)
CRM is the result of the evolution and integration of marketing concepts and advanced in new information and communication technologies [9]. CRM is the higher order capability which encompass both technological factors and strategic organizational factors [10]. CRM as mainly the implication of new technologies in managing customer relationships [11]. CRM is referred to as a customer-focused business strategy. The concept has traditionally been seen as a set of philosophies, strategies, systems and technologies that would effectively and efficiently manage the transactions of customers with companies and the subsequent relationships with those customers [12].

2.2 Data colection
This is a primary databased study. The information is collected through a interview and observe by visiting SMEs in Blambanan Tapis Lampung. This helps us to know the results of sales, marketing and relationships with customers there.

2.3 Material
This research uses software and hardware. The hardware used is the Inter Core i3 procecor, Memrory 2 GB, Hardish, 14inch Monitor, keyboard and mouse. While the software used is the Microsoft 7 operating system, Xampp Version 3.2.1, Mozzila Firefox, Google Chome, SQL Yog Enterprise, and Adobe Dreamweaver.

2.4 Research stage
This research phase starts from problem identification, software design, system testing, result and conclusion. The research stages can be seen in figure 1.
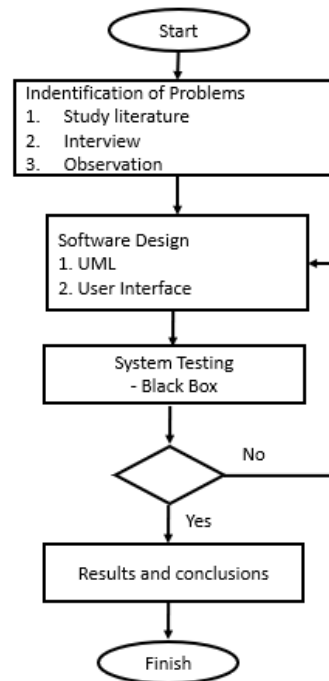

Figure 1. Research stage

According to figure 1 research stage consists of problem identification, software design, system testing, result and conclusions. In stage problem identification this stage is done by reviewing the literature study, then identifying the problem by conducting interviews and observations at the research site. In stage Software Design is the creation of a system design consisting of a concept design using the Unified Modeling Language (UML) and the design of the user interface. Testing the system using blackbox testing. Testing is done to determine whether the software system is in accordance with the requirements or not. If not, and stage return to the system design stage. This test is intended to find out the system that has been made meet the criteria that are appropriate with system planning. The last stage is results and conclusion this stage explains the results and conclusions of the research that has been done.

3. Results and discussion

3.1. E-CRM software architecture
Architecture The development of web-based electronic relationship management information systems can be seen in figure 2.
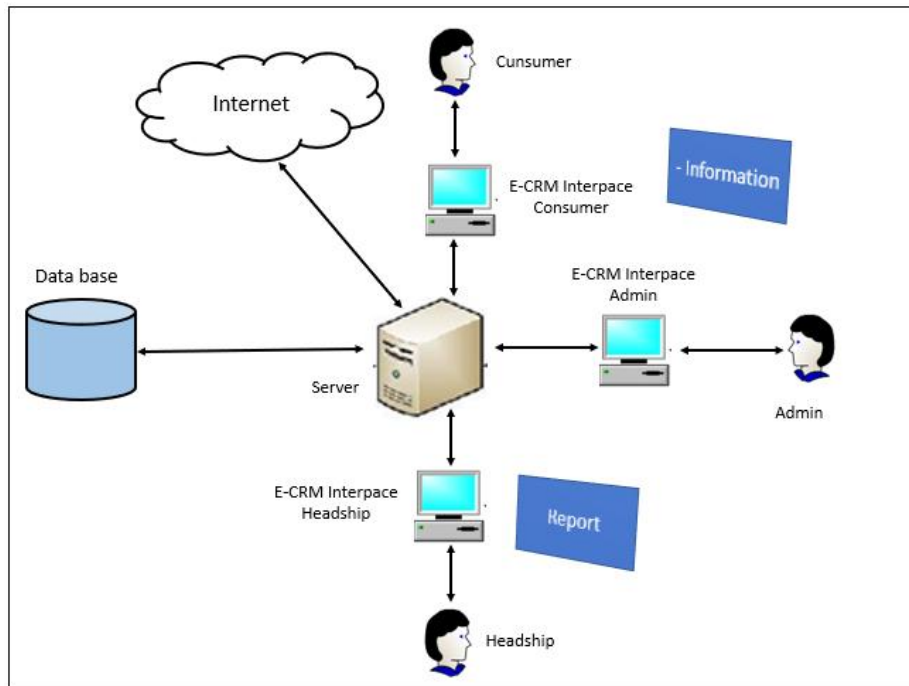
Figure 2. System development architecture

Figure 2 is an application architecture for e-CRM consisting of CRM operations, Analytical CRM, Collaborative CRM [13]. Operational CRM is an application that deals with business processes (sales, marketing, and services). Analytical CRM allows SMEs to gain knowledge of customers and conduct analysis, estimation of customers based on analysis of data used. Collaborative CRM is the application of the application of the collaboration service including e-mail, discussion forums. Colaborative CRM allows SMEs to collaborate with partners, suppliers and customers to improve processes and meet customer needs [13]. Benefits of using web-based CRM to help SMEs in disseminating information and interacting with customers anywhere. The application of e-CRM can carry out the development process and maintain a good relationship between SMEs and consumers through online activities. This study has produced a use case design and system interface Customer relationship management electronic information system for web-based Tapis Lampung SMEs.

3.2 Use case diagram
Use case diagram is one diagram that is used to model aspects of system behavior, the use case diagram will describe an interaction between actors against the system, can be seen in figure 3.
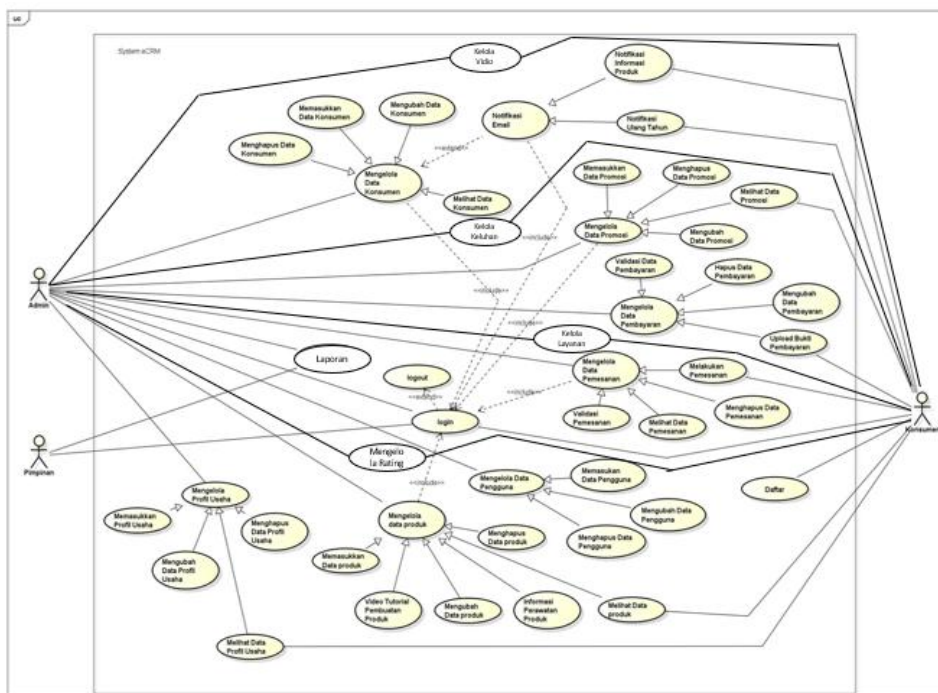
Figure 3. Use case diagram

In figure 3 there are three actors, namely admin, consumer and headship. Admin then login, admin can process SMEs profile, process product data, process consumer data, process order data, admin make payment validation, process chat service, send to consumer email about product promotion information, process customer complaints, and process reports. While customers after registering, then log in and can see the SMEs profile, view products, order products, make payments, write complaints, chat, fill out customer satisfaction reviews, view tutorial vidio. After logging in, the leader can see the sales report, the best-selling product sales report. the following is a system interface design.

3.2.1. The Main Menu
The main menu is the front view of the E-crm for information system tapis Lampung SMEs before logging in. The main menu can be seen with figure 4.
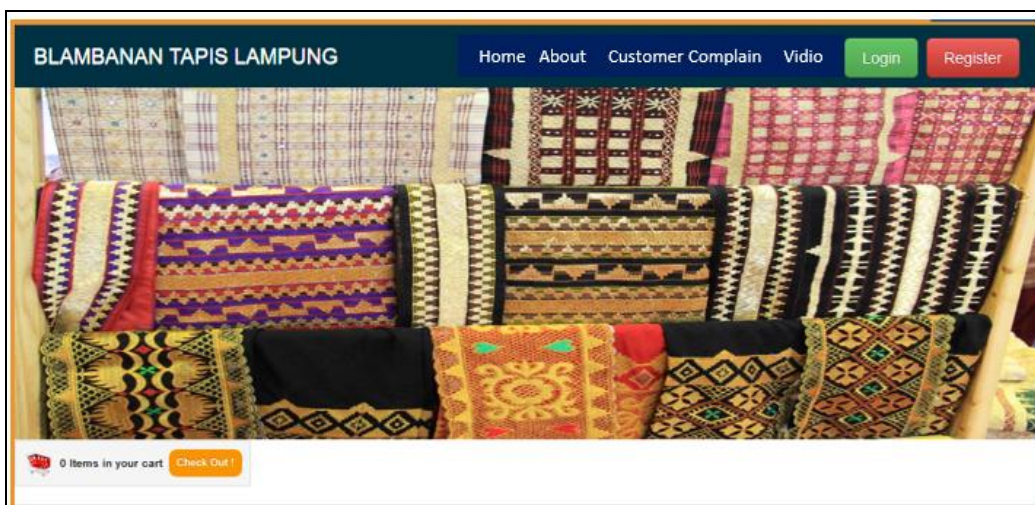

Figure 4. Main menu E-crm information system for Tapis Lampung SMEs

Figure 4 is the main menu is the front view of the E-crm information system for tapis Lampung SMEs. Figure 4 consists of registration menu, login menu, about menu, video menu, and customer complaints menu. Before get in the system must do register first.

3.2.2. The About Menu
The about menu serves to view information about company profiles. The about menu can be seen in figure 5.
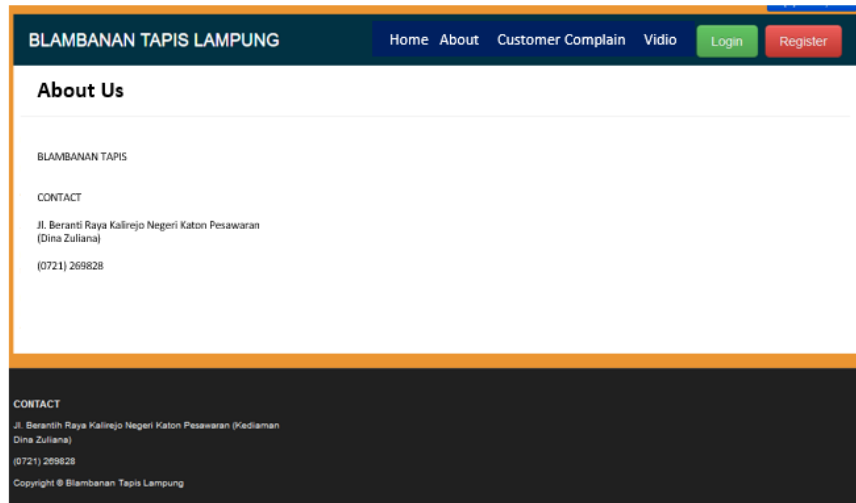
Figure 5. The about menu serves to view information about company profiles data input

According to figure 5 the about buttons serves to view information about company profiles. The about menu showing information about tapis Lampung SMEs.

3.2.3. The Login Interface
Login interface is the login view that is used to input the specified email and password. The login interface can be seen in figure 6.
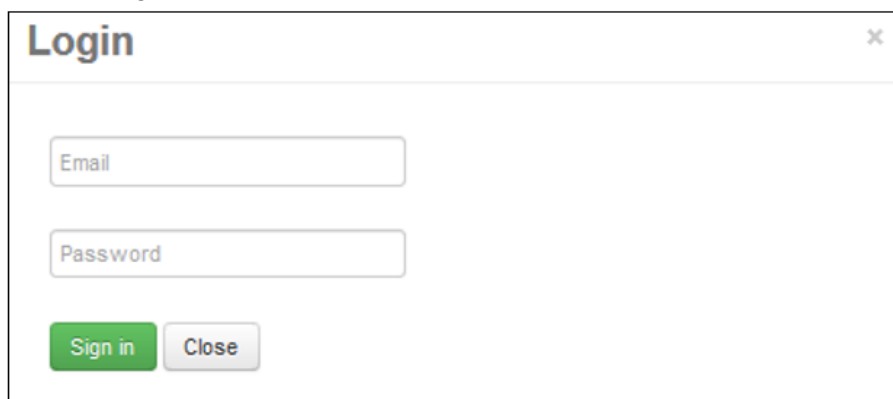

Figure 6. The login interface serves to input email and password

According to figure 6 the login button is used to process the email and password, if the correct email and password get in the e-crm information system for tapis Lampung SMEs. If the email and password are incorrect, the system will request to enter the email and password again.

3.2.4. Interface for customers

Interface for customer serves to view information about products, order products, confirm payment, can write customer complaints, chat, and can view videos on how to make and upkeep about products. The Interface for customers can be seen in figure 7.
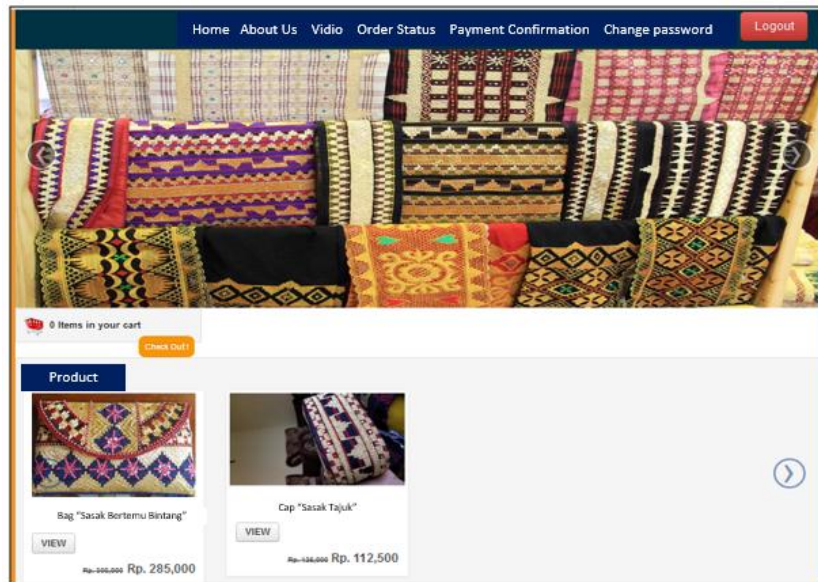

Figure 7. The main menu of the customer serves to view information about products

According to figure 7. Interface for customer serves to view information about products, if you want to order a product, you must fill in the order data form, can confirm payment, can write customer complaints, can chat the system, and can view videos on how to make and up keep about products.

3.2.5. The product interface

The products interface are used by customers to see the products offered. The product view menu can be seen in figure 8.
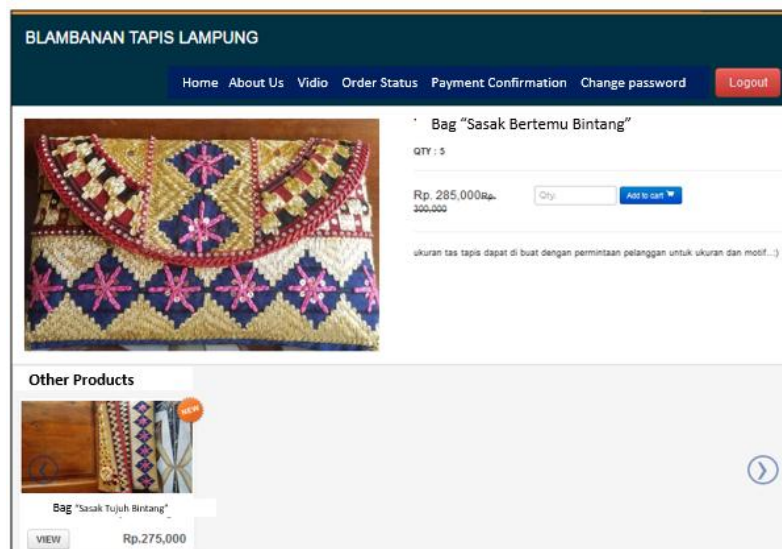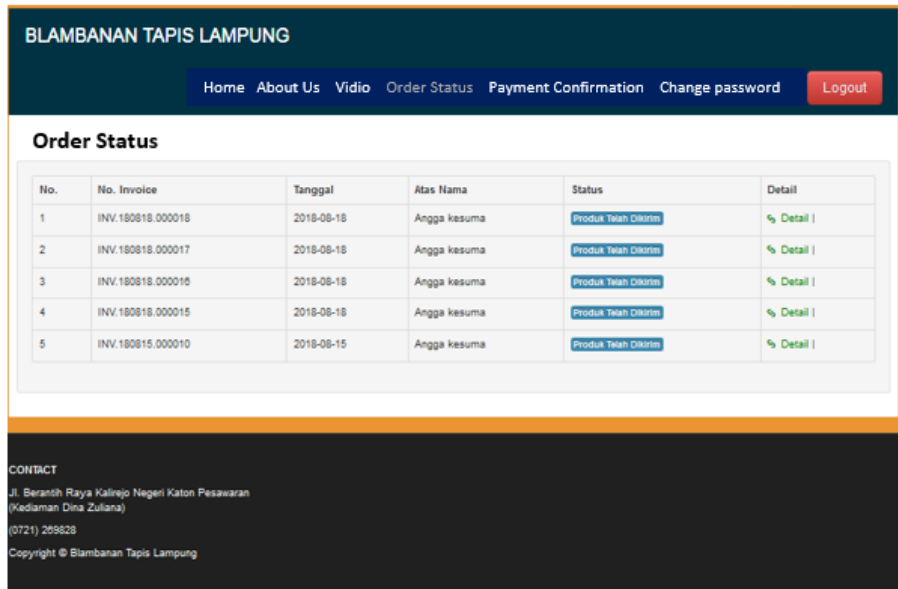

Figure 8. The products interface are used by customers to see the products offered

3.2.6. The Product Ordering Interface

The product ordering is interface provided to order products made by customers. Customers can order the products they want. The product ordering interface can be seen in figure 9.


Figure 9. The product ordering is interface provided to order products

According to figur 9. customers can order products they want. If you want to order a product, you must fill in the order data form. before you do an order product, make sure you register first.

3.2.7. The Payment Confirmation Interface

The payment confirmation button is used by the customer to provide information that the customer has made a payment. The payment confirmation interface can be seen in figure 10.
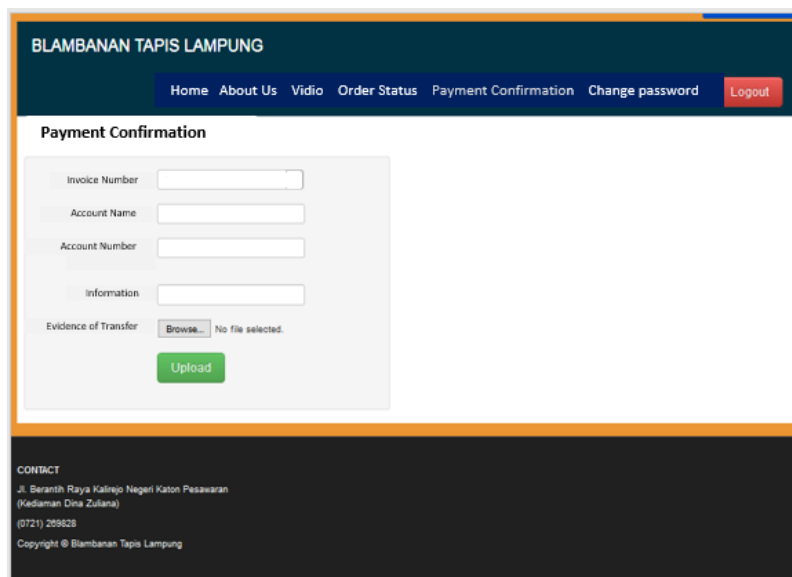

Figure 10. The payment confirmation interface is used by the customer to provide information that the customer has made a payment for the product they ordered.

According figure 10. the payment confirmation button is used by the customer to provide information that the customer has made a payment for the product they ordered. Payment confirmation is done by uploading proof of payment to the system.

3.2.8. The Chat Interface
The chat interface is an interface used for two-way communication between customer and admin. The chat interface can be seen in figure 11.
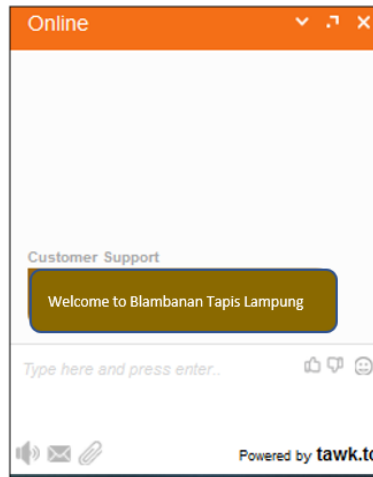

Figure 11. The chat interface is an interface used for two-way communication between customer and admin

According to figure 11. the chat interface can facilitate customers to chat to the admin by online.

3.2.9. The Customer Complain Interface
The customer complaint interface can facilitate customers to submit their complaints. The customer complaint interface can be seen in figure 12.
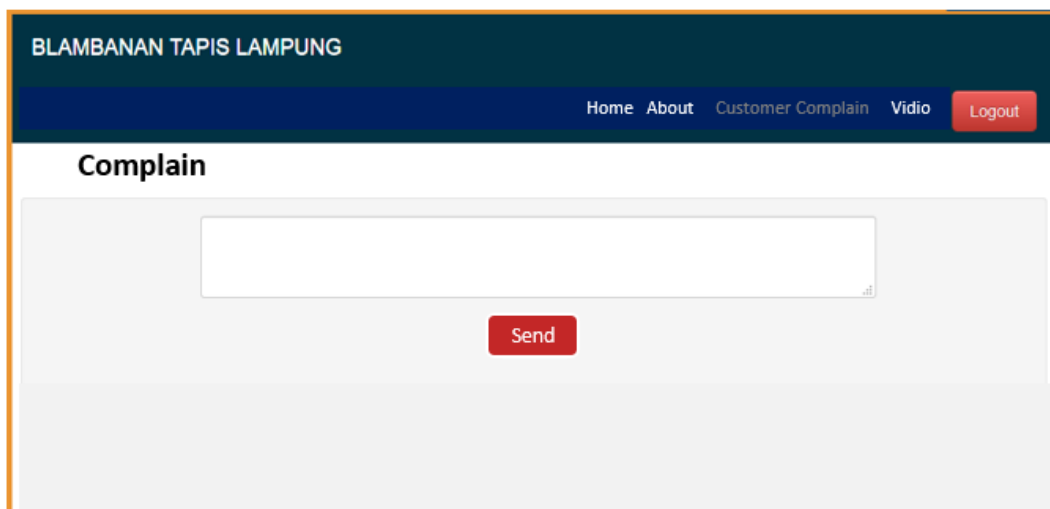

Figure 12. The customer complain interface

According to figure 12. the customer complaint interface can facilitate customers to submit their complaints. Customers can write down all complaints about information and services.

3.2.10. The Consumer Satisfaction Interface

The Consumer satisfaction interface is the level of consumer feeling after comparing what he receives and his expectations. The consumer satisfaction interface can be seen in figure 13.
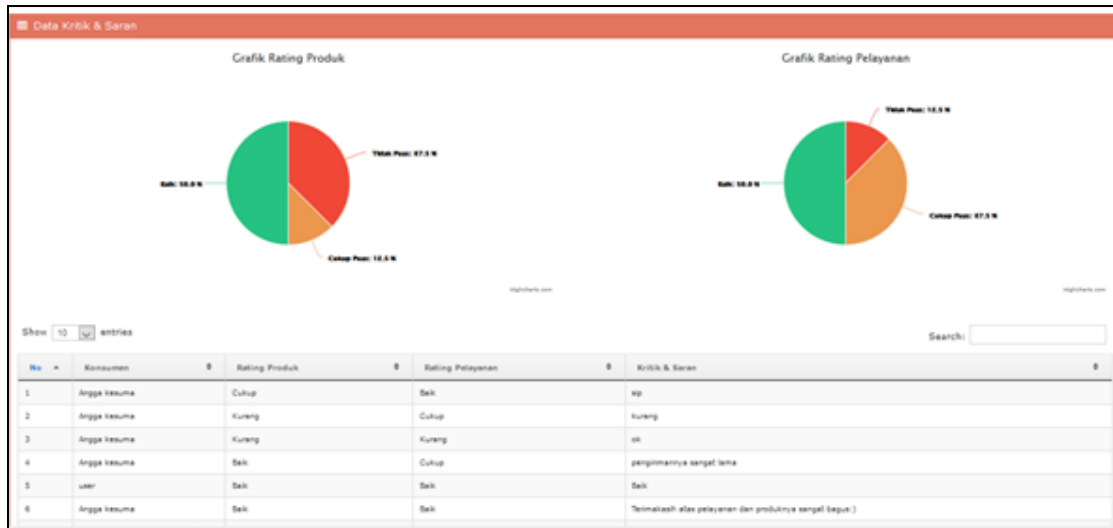

Figure 13. The customer satisfaction interface

According to figure 13. The customers can provide an assessment of SME services. Assessment there are three criteria that are not satisfied, quite satisfied, and satisfied.

3.2.11. The Report Interface

The report interface serves to help management provide information about sales transactions. In this report can see the best-selling products. The report interface can be seen in figure 14.
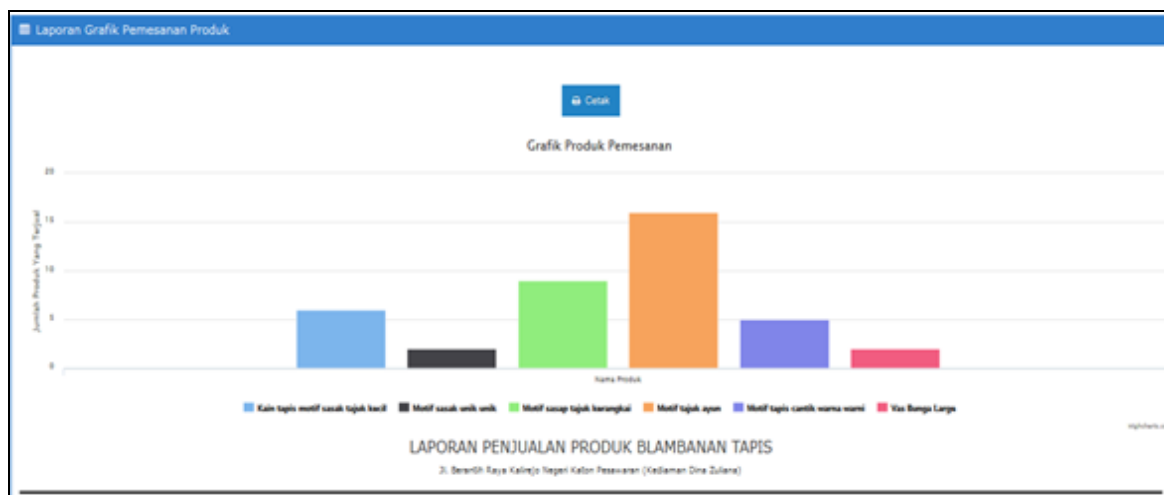
Figure 14. The report interface serves to help management provide information about sales transactions. In this report can see the best-selling products.

According to figure 14. the report interface can include sales reports of the best-selling products. Leaders can also directly view the report through the website. Leaders are given accent rights to see the report.

4. Conclusions

In this study has produce E-crm information system for tapis Lampung SMEs. The Information system application program using web-based E-crm method expected can expand marketing and services to consumers improvement. The application of web-based E-crm methods in tapis Lampung SMEs can open sales opportunities globally and they can provide services to consumers that are more effective and efficient.

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