International Journal of Psychosocial Rehabilitation, Vol. 24, Issue 1, 2020
ISSN: 1475-7192

APPLICATION OF E-COMMERCE INFORMATION SYSTEMS IN MIDDLE SMALL BUSINESSES (Case Study: AT THE TAUNA STORE IN TAMBUN)

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ABSTRACT---*The use of information technology is expected to provide great benefits to the increasingly competitive business world in the industrial era 4.0. Businesses that are able to compete in intense competition are businesspeople who are able to implement information technology that is able to improve the quality of service excellence. In the industrial era 4.0 the marketing information system underwent a fundamental change marked by the existence of an Electronic Marketing information system or abbreviated as E-Commerce. By using electronic commerce (E-Commerce) can facilitate the marketing of various products or services, both in physical and digital form. Tauna Store, which is engaged in hijab sales, is a UKM that informs the marketing information system into E-Commerce that is developed based on web. E-Commerce information systems are built using the PHP programming language using the waterfall method. The results of research conducted at the Tauna Store are able to produce: 1) Increased Sales Turnover on an ongoing basis, 2) Sales services are easily accessible to customers, 3) Transactions conducted by customers can be easily monitored by admin officers and 4) Product information is easily monitored by the owner and admin.*

Keywords---*Information Systems, E-Commerce, Information Technology*

I. INTRODUCTION

E-commerce or can be called electronic commerce is the purchase, sale, marketing of goods through internet services or internet networks. Product services or information about products, ordering goods, payment and marketing products can be done through E-Commerce. The internet is a network that connects computer networks around the world, thus enabling communication and interaction between sellers and buyers by involving third parties such as banking.

The use of information technology can provide significant benefits to the increasingly open business world to create an increasingly competitive business world (Saudi, 2018). Businesses that are able to compete in competition in the era of globalization or openness are Small and Medium Enterprises (SMEs). By implementing information technology in

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electronic commerce (E-Commerce) to improve marketing strategies, improve payment strategies and improve the quality of product delivery services, so that sales turnover increases.

In the industrial era 4.0 provides opportunities for Small and Medium Enterprises (MSEs) in developing businesses through digital-based e-commerce applications to compete competitively. Toko Tauna Store which is engaged in hijab sales which has an Outlet to serve shoppers from various regions. At first the Tauna Store sales system served sales transactions directly to outlets to order or buy products and the payment was made on-site. Noting the location of customers from various regions, Toko Tauna Store applies a sales system using the E-Commerce application. By applying an electronic-based Sales System, transactions of product orders, product purchases, product marketing and payments can be done online that can reach customers from various regions and transaction times for 24 hours and unlimited transaction places.

II. LITERATURE REVIEW

E-Commerce

According to James A. O'Brien George M. Marakas (2017: 14) E-Commerce is the activity of buying, selling, marketing and service of products, services, and information in various computer networks. Based on opinions expressed by E-Commerce relating to buying and selling transactions conducted digitally by using a computer connected to the internet. E-Commerce makes buying and selling transactions easy without knowing distance and saves more time.

Waterfall Method

The development of information systems requires a method or technique so that the applications that are produced meet user needs and meet standards. The understanding of the waterfall method is as follows :

According to Pressman (2015: 42), the waterfall model is a classic model that is systematic, sequential in building software. The name of this model is actually the "Linear Sequential Model". The phases in the waterfall according to Presman are as follows :

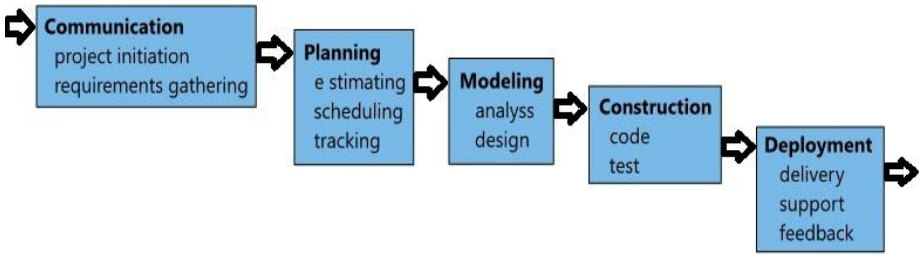


figure 2.1 *Waterfall, source : Pressman, 215*

According to Rizky (2011: 61), the waterfall model as one of the basic theories and must be studied in the context of the software life cycle, is a life cycle that consists of starting the life phase of the software before it occurs until post-production. Waterfall model has its own definition that a software life has a linear and sequential process.

Basic Concepts of the System

According to Jacob (2012: 1) The system is a group of elements that are integrated with the same goal to achieve the goal.

According to Lukman Ahmad Munawir (2017: 3) The system is an orderly arrangement of interrelated activities and arrangement of interrelated procedures, the synergy of all the elements and elements within, which supports the implementation and facilitate the main activities achieved from an organization or work unit.

Understanding Information

According to Witarto (2007: 9) information is a series of data that has a temporary nature, depending on time, able to give a surprise or surprise to those who receive it.

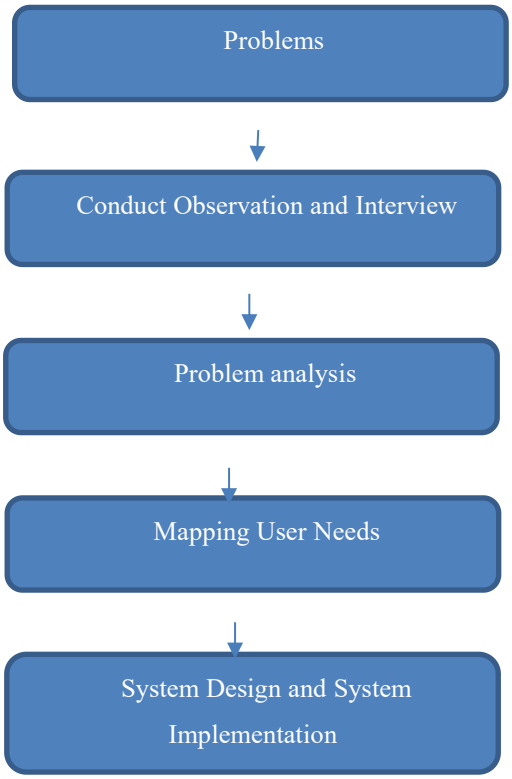
According to Lukman Ahmad Munawir (2017: 8) Information is the result of "data processing". While the data are facts that have not yet been processed.

III. RESEARCH METHODOLOGY

In this study, the qualitative methodology chosen by the author, to produce descriptive data in the form of written or oral words from people and observed behaviors. In this research, the focus of the research is UKM Tauna Store to observe sales activities, collect data from various sources and make and report the results.

Research Stages

The stages of the research are as follows :



1. Problems

At this stage the problem was formulated against the sales system at the Tauna Store UKM which arose from several symptoms and formulated alternative solutions to the proposed problem solving solution.

2. Doing Observation and Interview

At this stage observations are made of the sales system and interviews with parties related to the application of Information Technology.

3. Data Collection

At this stage, data collection is related to research, both through literature study and observation.

4. Problem Analysis

At the stage of problem analysis the activity is carried out comparing the information obtained from several sources with the targets to be achieved.

5. Mapping the Needs of System Users

At this stage an inventory of the needs needed by the user of the system is either a buyer or customer, owner or admin officer.

6. System Design and Implementation

At this stage, there are activities to design systems that include business process flow planning, menu design / display or database design. After completing the design then

IV. Data Collection Methods

1. Literature study

This research was conducted by searching and collecting data, sources of information and materials obtained from books, literature, articles related to e-commerce, research methods used, and so on.

2. Field studies

This study was conducted by obtaining data directly from the research object. Secondary data taken is data in the form of ordering data, product data, sales reports and others.

3. Interview

The interview method is a method of conducting question and answer with related parties to obtain information and data needed. For the level of information system development, the authors use closed questions, where the authors limit respondents to answer with yes / no, with the source of questions based on sales information systems.

V. RESULTS AND DISCUSSION

Analysis of the problem

The sales department serves sales transactions by serving buyers or customers who order the product, come directly to the Tauna Store and record the MS Excel application. According to sales transaction data, part of it came from outside the area who came directly to the Tauna Store in Tambun. This is a problem for buyers who have to come to the store.

Mapping User Needs

Based on the analysis at the stage of depiction of the system that runs at the Tauna Store, identification in the needs of this system consists of two points of view, namely buyers / customers and Managers.

Menu Needs for Buyers / customers include: Login Menu, Register Menu, Select Product Menu, Purchase Transaction Menu and Payment Menu

Menu Requirements for Managers: Login Menu, Register Menu, Manage Data Product Menu, and Transaction Menu

Menu Requirements for Owners: Login Menu and Report Menu

System Design and Application of the System

Designing an E-Commerce Information System Sales System at Tauna Store Stores to meet the needs of customers, shop employees or shop owners. Changes from the old system to the new system are expected to help and overcome problems that arise in the sales system. Stages of E-Commerce Information System Design as follows :

System Design

So that the application of information systems can provide solutions to problems that exist in the Tauna Store store, therefore in developing the system required procedures or steps of analysis and design that exists to facilitate the writing of program code.

To simplify the system analysis and design stages, the system modeling will be described as Unified Modeling Language (UML).

In this sub-section, the application design that will be developed will be explained. Because this stage we will know the extent to which the system can run in accordance with the objectives of making applications that fit the user's needs..

a. Data Modeling

To find out the system logically, a UML (Unified Modeling Language) is created, namely Use Case Diagrams and Class diagrams, which describe the course of a system to be designed. The system interface design includes the design of the menu format and the design of the interface design which will be used as a dialogue facility between the system and the user.

b. Coding

At the coding stage is the coding phase of the design into a programming language, in this system the design has been coded using the PHP programming language.

c. Testing

At this stage, testing is done on the system created, system testing is done using a black box test. That is done by observing the output of various inputs. If the output produced is in accordance with the design and variation of the data, then the system is good.

d. Maintenance

At this stage the maintenance and maintenance of the software is done for example by backing up.

Identification of System Requirements

Based on the analysis at the stage of depiction of the system that runs at the Tauna Store, identification in the needs of this system consists of two points of view, namely the user point of view and logical point of view.

Identification from the user's perspective

The identification of system requirements from the user's point of view can be categorized into a use case diagram.

Use Case Diagram

This section will describe the activities of actors with the system, so that the flow of actors and system activities can be seen clearly with use case diagrams, at this stage aims to determine who is the user in each menu that will be used, which will later interact with the system and what are the processes carried out by the actor on the system. Use Case diagram Diagram of the Implementation of E-Commerce Information Systems as follows:

Class Diagram

Class diagram will illustrate the relationship between tables so that one table with another table there is a clear relationship. This table relation will facilitate income and avoid duplicate data. The class diagram is as follows:

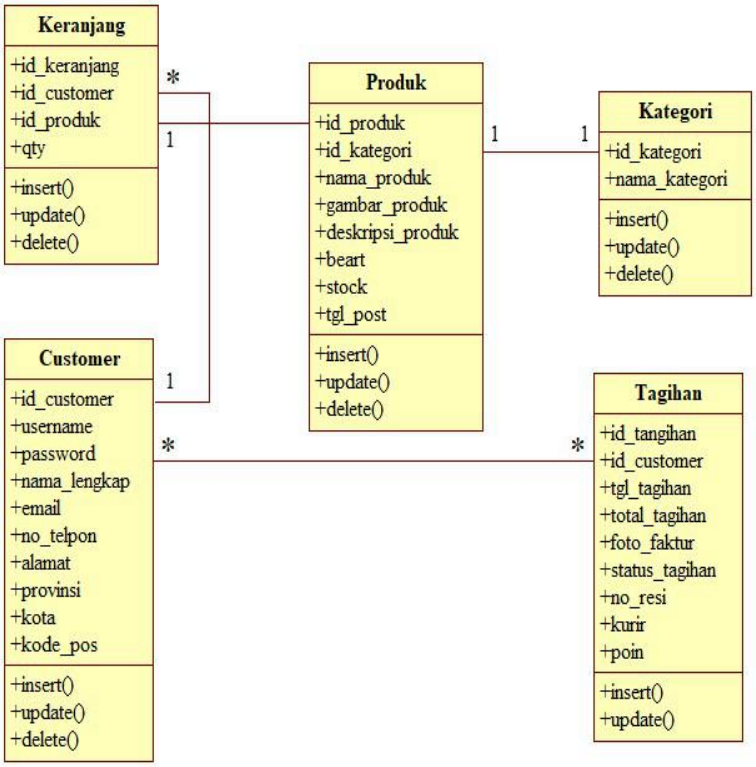


Figure 4.2 Class Diagram

Registration Menu

The registration menu uses buyers who have never made a purchase transaction by inputting buyer data. The admin section studies the data of buyers who have entered data, whether the personal data is suitable to be used as a member.

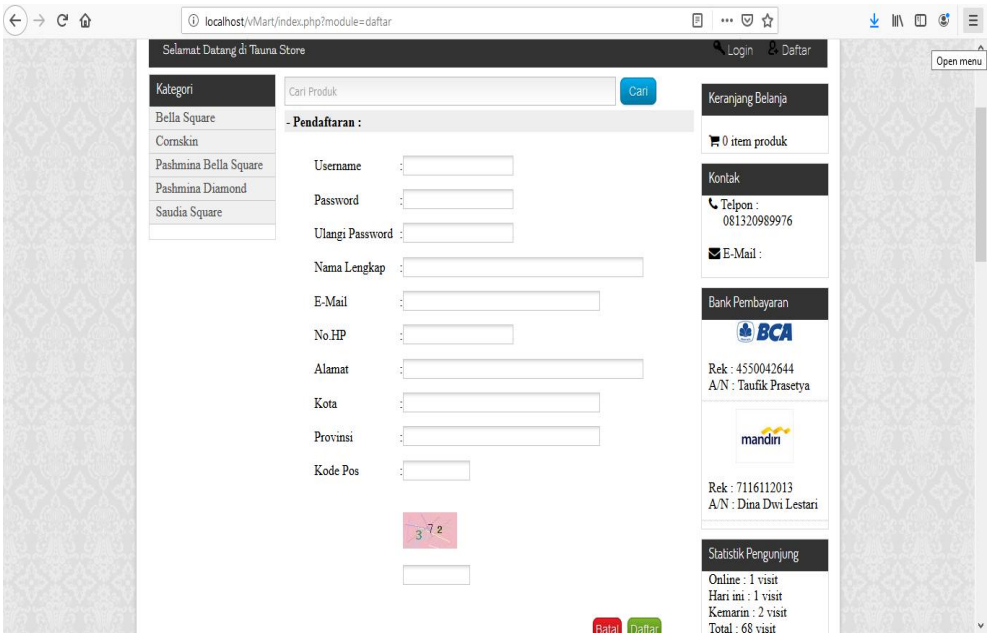


Figure 4.1 Menu Registration

Menu Login

After the buyer registers and fulfills the requirements, the buyer can make a purchase transaction online.

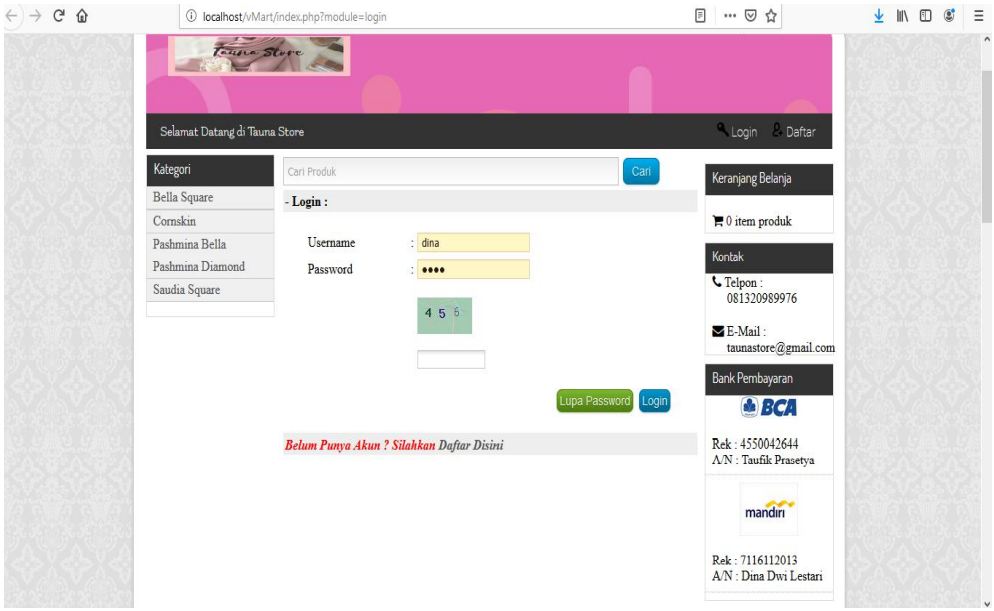
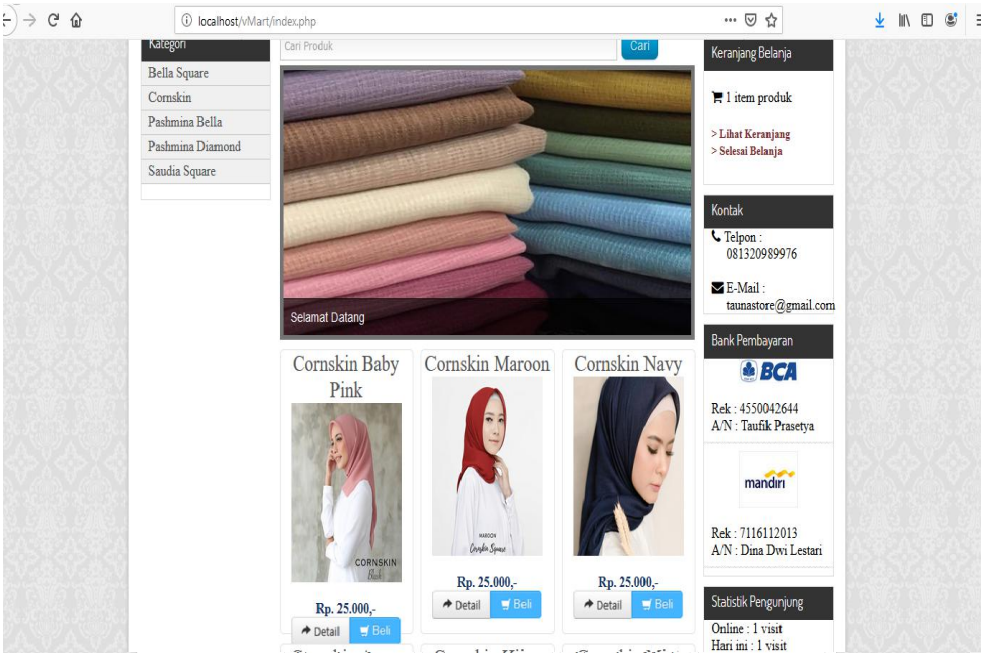


Figure 42 Display Login Customer



Menu Display home Page

On the page display menu, buyers are used to make ordering and payment transactions by selecting the desired products

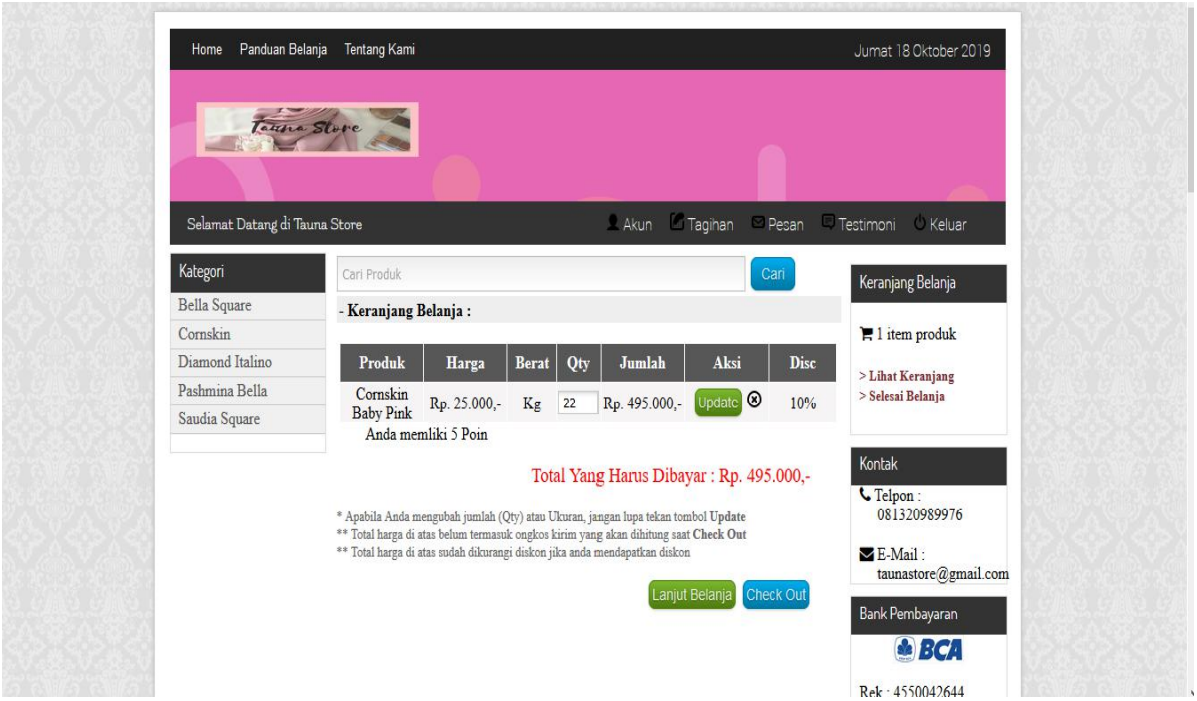


Figure 4.3

Display Home Page

Menu Display Report

Sales reports are used by owners to monitor sales results online and can be used as an evaluation to determine steps to improve marketing

LAPORAN PENJUALAN

No. Tagihan	Nama Member	Produk	Qty	Harga Produk	Total	Tanggal
20	Dina Dwi Lestari	Bella Square Army	1	Rp 25.000,00	Rp 25.000,00	10/16/2019
20	Dina Dwi Lestari	Bella Square Kuning Kunyit	1	Rp 25.000,00	Rp 25.000,00	10/16/2019
20	Dina Dwi Lestari	Bella Square Navy	1	Rp 25.000,00	Rp 25.000,00	10/16/2019
21	Dina Dwi Lestari	Bella Square Army	20	Rp 25.000,00	Rp 500.000,00	10/16/2019
22	Dina Dwi Lestari	Bella Square Khaki	12	Rp 25.000,00	Rp 300.000,00	10/16/2019
22	Dina Dwi Lestari	Bella Square Army	21	Rp 25.000,00	Rp 525.000,00	10/16/2019
23	Dina Dwi Lestari	Cornskin Baby Pink	22	Rp 25.000,00	Rp 550.000,00	10/18/2019
24	Dina Dwi Lestari	Cornskin Hijau Limo	22	Rp 25.000,00	Rp 550.000,00	10/18/2019
24	Dina Dwi Lestari	Cornskin Baby Pink	22	Rp 25.000,00	Rp 550.000,00	10/18/2019
25	Tamia Gustiara	Cornskin Hijau Limo	22	Rp 25.000,00	Rp 550.000,00	10/18/2019
25	Tamia Gustiara	Cornskin Baby Pink	22	Rp 25.000,00	Rp 550.000,00	10/18/2019
25	Tamia Gustiara	Pashmina Bella Dusty Pink	22	Rp 30.000,00	Rp 660.000,00	10/18/2019
25	Tamia Gustiara	Pashmina Bella Hitam	22	Rp 30.000,00	Rp 660.000,00	10/18/2019
25	Tamia Gustiara	Bella Square Khaki	22	Rp 25.000,00	Rp 550.000,00	10/18/2019
Total Pemasukan Periode Ini	Rp 6.020.000,00					

Figure 4.4 Display Bill and Point

VI. CONCLUSIONS AND SUGGESTIONS

Conclusions

Based on the results of research and discussion that has been carried out on the Application of Information Systems E-Commerce System at Tauna Store in the tambung by using qualitative research methods can be concluded as follows:

By using the E-Commerce Application, sales turnover has increased significantly, and the product order transaction process has become effective and efficient for Buyers / Customers.

With the E-Commerce Application all transaction activities can be monitored by the admin, and the owner can monitor product sales transactions through online reports easily and practically.

Suggestions

In making the implementation of e-Commerce Information Systems at the Tauna Store, there are still many things that can be developed, such as:

E-Commerce Application Program that has been built in the future can be developed using the member system marketing model.

Added product claim feature so that every Buyer / customer who claims a product can be responded to directly without having to wait for confirmation by the admin. And also, the addition of features that are integrated with the expedition.

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