

# The Web-Based Sales Information System for A Store in Tegal District

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**Abstract**— The development of information systems in the age of digital reform is very rapid, as the development of science and technology changes with the age of time. In mankind's lives, information systems play a crucial role in the quality of resources, both human resources, and natural resources, and can increase productivity in both services and goods. The development of the web-based information system application in the regional planning system is conducted using waterfall development methods. With the original shop website online, the owners make more money because the COVID-19 pandemic has felt the income is rapidly falling. With the website of the original store online, the original store owner is happy and content to increase income before there was no website.

**Keywords**— genuine stores, information systems, sales, tegal district, websites.

## I. INTRODUCTION

The development of information systems in the age of digital reform is very rapid, as the development of science and technology changes with the age of time[1]. In the lives of mankind, the information system plays a pivotal role in the improvement of resources, both human resources, and natural resources and can increase productivity in both services and goods[2].

At this time the world is experiencing a global crisis often called COVID-19. These viral infections are rapid, and they can travel through various media, such as air, and droplet, and interact directly, even with cash payment[3]. Therefore, it the importance of

creating a website online that can increase revenue in a real store[4].

One of the side effects of this pandemic was the rout of genuine grocery sales revenue[5]. Therefore, the existence of this information system would create a system that is more structured and easily used and would save time. With websites in the original store, users can purchase items on the website of the original store online and revenues can increase quickly compared to before the site and the store changes because many buyers have been online[6].

The original grocery store is a store located in Tegal District. The original grocery store has been in existence since 2010. The real grocery store is the old man's business shop, which I saw firsthand the sale is still manual and the original grocery store has as many as two employees as the owner.

The results of the interview with the original owner of the grocery store are as follows. The owner of the grocery store acknowledged that the pandemic affected sales resulting in a significant reduction in revenue. In competition with other grocery stores near the site, the owner wants a website-based sales system that is expected to increase revenue[7].

## II. METHOD

### 1. Data collection methods

To address the above problem, the writer employed a Qualitative Method for collecting data. Through the author of this method, the author wants to analyze the needs of this system through various data-collection techniques. Data collection technique:

### 1. Interview

For additional information, this approach was made by interviewing the business manager. In the process of these interviews, the authors receive relevant advice on picture issues in the store owner's ward and how sales are online and increasing online income through the website.

### 2. Observation

The observation was made by researchers to collect the appropriate data in person since direct observation was made to the original grocery store in Tegal District.

### 3. Library Study

A library study is an accurate data-collection technique with a subject used for research objects.

## 2. Location and research objects

The study was done on the local wholesale ward located in the Tegal District. The authors prefer research because the authors live in these environments. So the author understands the problem and the sale is still offline. The research site is a regional grocery store located on the street. Grand west no 380 Village Adiwerna, Allah forbid, flood wall, c. Adiwerna, Tegal District, Central Java 52194.

## 3. Population

The population is a general area of objects that possess certain qualities and characteristics[8]. The population that was subject to this study was the owner and employee of three people at the original grocery store.

## 4. Sample

The samples are part of many characteristics that the residents use for research[9]. The sample was also taken from a completely valid representative population to be able to measure something that should be measured.

## 5. Primary data source

In the study, researchers used primary data-collection techniques. Because the data sources were obtained through direct interviews with the original grocery owner, and employee.

## 6. Secondary data source

In the study, researchers use a secondary data-collection technique, as it is obtained through a journal that the author writes and can relate to the website the author created.

## 7. Application development methods

The development of the web-based information system application in the regional regional planning system is conducted using waterfall development methods. The waterfall method is a system development that takes a series of steps in a series so gradually[10].

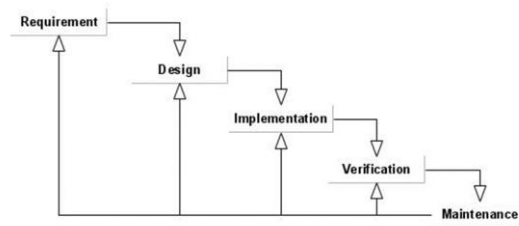


Figure 1. Waterfall Process Flow

Figure 1 The implemented stages of the waterfall method include:

### 1. Requirement

Moreover, the need to build a system of web-based sales information at a store called Tegal District.

### 2. Design

The design is the implementation of the development design. Design sketches are done to help to give a larger picture of what needs to be done. Design for Unified Modeling Language (UML) data design (UML), user interface design, application modelling in Flowchart, Use Case Diagram, and ERD (Entity Dialogue Diagrams) on the web-based sales information system in the original Tegal District.

### 3. Implementation

Targets are done by creating a program code of applications in website form using a PHP, and Javascript as a programming language on a web-based sales information system at the original Tegal municipality store.

### 4. Verification

Verification is testing applications using the black box testing methods.

### 5. Maintenance

Maintenance is implementing a bug repair website going up, error on a web-based

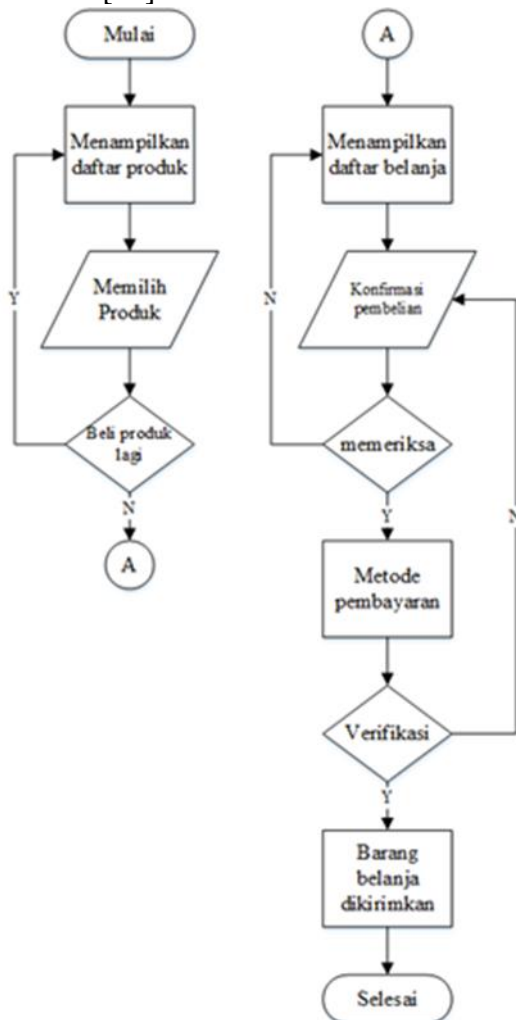
sales information system in the original Tegal District grocery.

**8. Application testing method**

The application testing method used by the author is for black box testing and interview methods. By testing the first application for responders. Then the interviewer asked the prepared questions and recorded the interviews done by the author and the respondents.

**9. Flowchart**

A flowchart is a diagram that shows the steps and decisions for a program process so that it will be easy to know and understand this application[11].



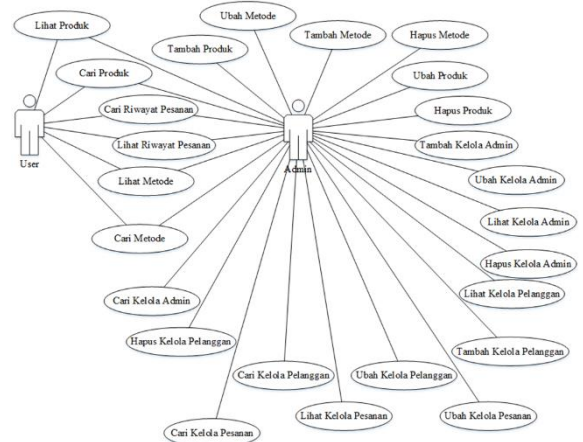
**Figure 2. Flowchart Systems Sales Information**

Figure 2 is a Flowchart of the sales information system that can be explained as follows, at the first step it will show a list of products sold by the original store.

Afterwards, buyers can choose the products they would like to purchase. Once the buyer has selected all the products he wants to buy, there will be an entire list of products purchased by the buyer. The buyer will be asked for confirmation regarding the purchase of the product so that the payment process can be made. During the process of payment, customers will be presented with various methods of payment. The buyer can select a method of payment. The buyer makes the payment, and then the product purchased by the buyer will be shipped over the expedition.

**10. Usecase Diagram**

The Usecase Diagram is one of many types of UML Diagrams (Unified Modelling Language) that describe the interaction of systems and users. It serves the purpose to be able to understand the various functions of information systems[12].



**Figure 3. Usecase Diagram Sales Information Systems**

Figure 3 is a use case diagram instead of the sales information system sales information systems divides into 2 main actors. The actor is the admin and the user. Admin actors represent both shop owners and employees who have authority over the addition of the product, verification, and delivery of the product to the buyer. The user actor represented instead of the buyer who would use the information sales system, which would make it easier to purchase products at the original store. A significant difference between the user and the admin. The difference can be seen from the flexibility and

functions that the admin can perform compared to the user.

### 11. Entity Relationship Diagram

An entity relationship diagram is a relational diagram that is used to explain the relationship between entity one and entity. Having connections from any entity can make a database system neat and easy to understand.

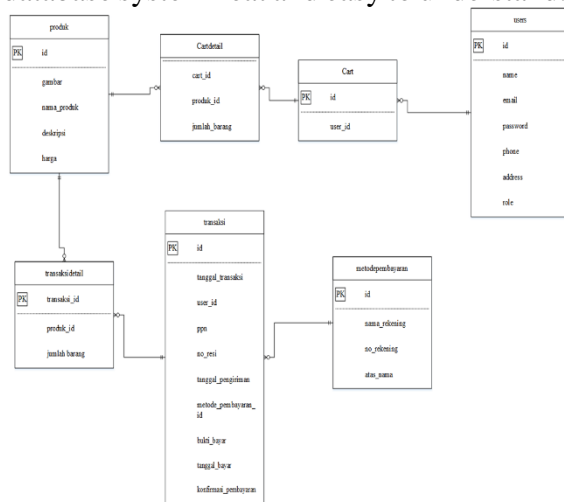


Figure 4. Entity Relationship Diagram Sales information systems

Figure 4 is an entity relationship diagram belongs to a sales information system. The entity connecting this diagram is made up of five strong entities and two weak entities. A powerful entity is an entity whose existence does not depend on the existence of any other entity in the scheme of things. A weak entity is an entity that depends on its owner's entity, which is the strong entity for its existence. Strong entities are indicated on the cart, product, transaction, method of payment, and deployment. Whereas weak entities are indicated in details and details transactions. The emergence of this weak entity is due to the early design of the database identifying a point where connections between entity 1 and other entities have many to many links so that it should normalize, and no data replication or more commonly called data recurrence.

## III. RESULTS AND DISCUSSION

The application for the store Tegal District was created with the purpose of the owner to increase revenue during the COVID-19 pandemic. And buyers can easily buy goods at the original grocery store online and the goods

can be delivered through the package. The application is created with a user interface that can be easily understood by the owner and user, obviously, and is easy to use. The original store owner and employee have a different login system from the user. When the owner and employee of the original grocery logged in they went to the admin page, when the user logged in they went to the user's page[13].

### 12. System Design

The website programs of the original online bookstore are made using a 7.4.29 PHP programming language and Javascript, Bootstrap, version 10.4.24 version MySQL database, visual studio code, and web-hosting service Indonesian web home. The design of the diagrams in this study USES 2019 Microsoft Visio applications. Program files are written and run in web hosting. Owners and employees can add items, can see user data, can confirm the order by user, can see the history of pre-ordered orders on websites without having to look at and open databases.

### 13. System Required Analysis

From interviews 3 respondents (1 owner, and 2 employees) obtained data on system information on online sales of goods, which could increase revenue during the COVID-19 pandemic, buying goods online.

### 14. Production Of Applications

The original grocery store applications were made using a 7.4.29 PHP programming language and using bootstrap. In creating the original grocery application database using XAMPP versions 7.4.29 and MySQL version 104.24. Using a PHP programming language has the goal that websites can be easily understood and used by users. The original grocery store applications to be used are admin and user.

#### A. Database Design

The first step in creating a database by preparing images of the database to be used. The original grocery database was

made using XAMPP and MySQL. Figure 5 is the original grocery database

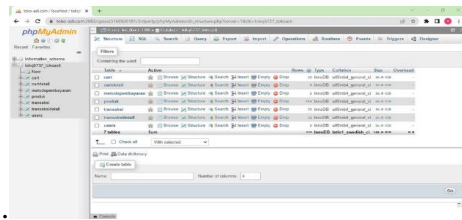


Figure 5. Original grocery database

Figure 5 is showing images of databases that have a cart, cart detail, method of payment, products, transactions, transaction details, and users.

**B. Home Page**

The original grocery store is accessible online [www.toko-asli.com](http://www.toko-asli.com)

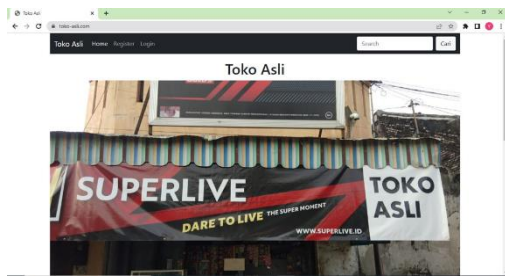


Figure 6. Home Page

Figure 6 is a home page with information on the name of the store, a picture of the store, the description of the store, the address of the store, store hours, store contacts, and the location of the store in the original grocery store.

**C. Register Page**



Figure 7. Register Page

Figure 7 is a register page composed of names, emails, passwords, cell Numbers, and addresses. After the user registration, the user data automatically

enters the MySQL database, the admin page which is the manage user and log-on page.

**D. Login & Logout Page**



Figure 8. Login Page

Figure 8 is a login page with an email and a password. Once the user clicks the register button on the register page it automatically enters the log page. The login page has a different login system as an admin or user so the login page can automatically distinguish between admin and user. When the owner and employee email input, the password as addressee login, automatically the owner and employee go into the admin page, when the user already registers on the register page and then email input next, the password as a user login to the user's page is automatically the users to the user's page.

**1. Logout Page**

When the user & admin clicks the logout button and the user & admin returns to the home page.

**E. Product Pages**

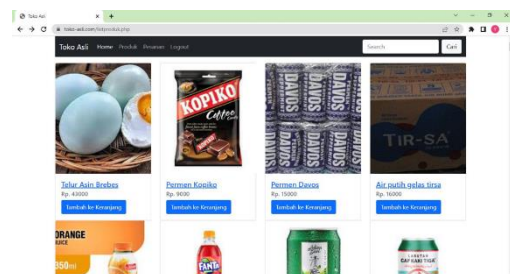


Figure 9. Product Pages

Figure 9 is a picture page of a product that consists of pictures, product names, product prices, and additions to the

basket. The product can be scoured on the search page. When the name of the product is clicked automatically arises information details from the name of the product, the price of the product, and the description of the product, add to the basket.

### F. Order Page



Figure 10. Order Page

Figure 10 is the order page after the log. Every new user after the register and login then automatically the user order page is blank. On a page of the original user store order consists of returning to shopping when the return button is clicked and the user can automatically purchase the item at the original grocery store, the user can see the history of the order of purchase when the user has purchased the item, which consists of an id order, purchase date, status, action. There is an activation key that can see details of the order in the message by the user consisting of order id, purchase date, transaction status, number of invoices, payment date, payment method, picture, product name, price, quantity, subtotal, and total price.

### G. Cart Page

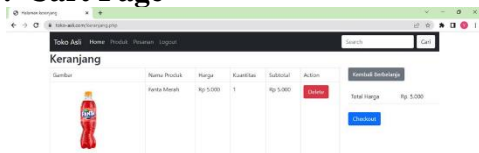


Figure 11. Cart Page

Figure 11 is a basket page consisting of product images, name products, price,

quantity, subtotal, action, delete, shopping again, total price, and checkout. When the user clicks the delete button, are you sure you delete it? When the user clicks ok, the thing is automatically erased, if the user clicks slightly, the item is not removed. When the user clicks the button back to shopping, it automatically allows the user to buy more at the original grocery store. When the user clicks the checkout button then automatically on the detail order page.

### H. Checkout Page

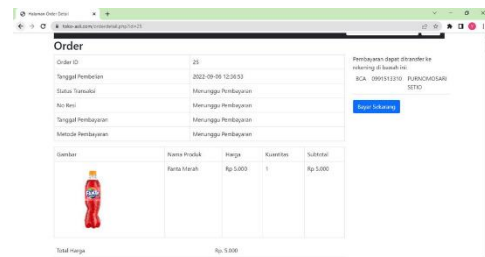


Figure 12. Checkout Page

Figure 12, a picture is a page checkout of the original user checkout store consisting of order id, purchase date, transaction status, invoices number, payment date, payment method, the picture, product name, price, quantity, subtotal, total price, there is the payment information can be transferred to the BCA bank account, pay now. On this checkout page, the user purchased the data automatically onto the admin page, so the admin simply opens the order page and sees the order, date order, status, action, see the details for confirmation of whether the user has paid or not when the user has paid then admin click no receipt from the package.

### I. Payment Page

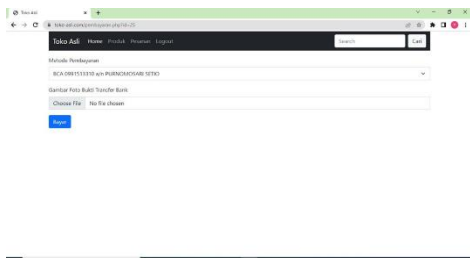


Figure 13. Payment Page

Figure 13 is a payment page consisting of the method of payment, a picture of the proof of bank transfer, and payment. When the user already clicks the pay button then automatically goes to the detail order page.

### J. Detail Order Page

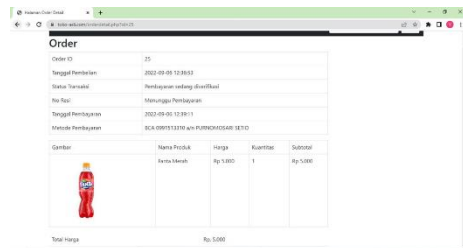


Figure 14. Detail Order Page

Figure 14 above is a detailed page of an order consisting of order id, purchase date, transaction status, number of invoices, payment date, payment method, picture, product name, price, quantity, subtotal, and total price. The detailed page order is just waiting for a confirmation of payment from the admin. Then admin must confirm payment because the user has paid.

### K. Order History Page



Figure 15. Order History Page

Figure 15 is the order history page. The user can see the history of the order in detail ordered by the user.

### L. Admin Home Page

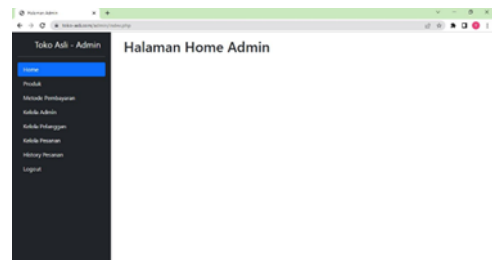


Figure 16. Admin Home Page

Figure 16 is the Home Admin of the original grocery yard composed of Home, Product, Method Of Payment, Manage Admin, Manage Customer, Manage Order, History Of Order, and Logout.

### M. Admin Product Page

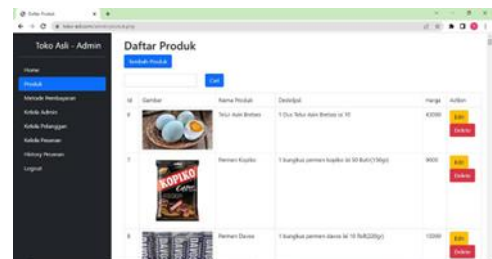


Figure 17. Admin Product Page

Figure 17 is an admin product page consisting of add to the product, search, id, picture, name of the product, description, price, action, delete, and delete. On the page of this product, the admin can search for the product, add the product, edit the product, or delete the product.

#### 1. Admin Product Add Page

Add a page of an admin product that consists of uploading the picture, name of the product, description, price, and button to add the product. When the admin adds a new product and clicks the add product, it automatically adds new data to the admin product page and the user product page.

#### 2. Admin Product Edit Page

Admin product edit page consisting of the uploaded image, name of the product, description, price, and the product edit button. On this page, it is useful to alter the product's data if something goes wrong.

When the admin clicks the product's delete button it automatically changes the data of the product on the admin product page and the user product page.

### 3. Admin Delete Product Page

Delete Page of admin products that have notification confidently delete if admin clicks ok then automatically the product's data will be lost, if admin click sensation then the data will not be lost. Admin product delete page using Javascript.

## N. Admin Payment Method Page

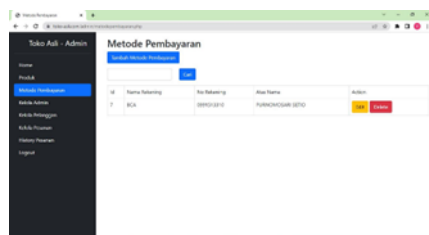


Figure 18. Admin Payment Method Page

Figure 18 is an admin payment method consisting of the add button payment method, search, id, account name, no account, in name, action, and delete.

On this method of payment page, the admin can search the method of payment, add the method of payment, edit the method of payment, and delete the method of payment.

### 1. Page Add Admin Payment Method

Add payment method page consisting of account names, no account, in name, and added method of payment. When the admin clicks on the add button method of payment automatically appears on the page of the admin payment method and the user method page.

### 2. Admin Payment Page Edited

Edit admin payment method composed of account names account no, on name, and edit method of payment. On this page, it is useful to change the data of the payment method if something goes wrong. When the admin clicks the edit button, the method of payment automatically data the

method of payment changes on the admin payment method page and the user method page.

### 3. Delete Page Admin Payment Method

Delete method of admin payment that has a notification confidently delete if the admin clicks ok then automatically the data of the payment method will be lost, if the admin click is specified then the file of the payment method is not lost. A deleted page of the admin payment method using Javascript.

## O. Admin Management Page



Figure 19. Admin Management Page

Figure 19 is the admin manage of the plus admin manage button, search, id, name, email, phone no, address, password, action, and delete. On this admin management page, this admin can search manage admin, add admin management, admin management, and delete admin management.

### 1. Add Admin Management Page

Add admin management consisting of name, email, phone no, address, password, and auxiliary management button. When the admin click on the add-management button it automatically becomes on the admin management page.

### 2. Admin Edit Management Page

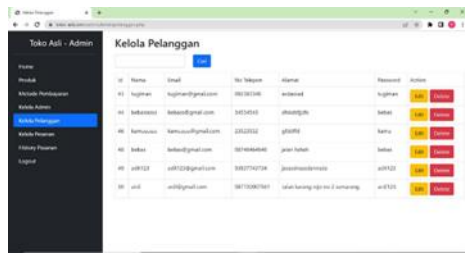
Admin management editor composed of name, email, phone no, address, password, and admin management button. On this page, it is useful to change the admin management data if anything goes wrong. When the admin clicks the admin management button, then automatically the admin management data change on the admin management page.



3. Delete Management Admin Page

Delete a page that has a notification confidently delete if the admin clicks ok then automatically the admin management data will be lost, if the admin click is infected then the admin file is not lost. The delete management admin page using Javascript.

**P. Customer Management Page In Admin**



**Figure 20. Customer Management Page In Admin**

Figure 20 shows the management of the customers in admin consists of search, id, name, email, phone no, address, password, action, and delete. On the admin customer management page, this admin can search manage the customer, manage the customer in admin, and delete the customer in the admin. When a new user registers, the new user data automatically enters the customer's management page in admin, so the admin can know the register's new user data.

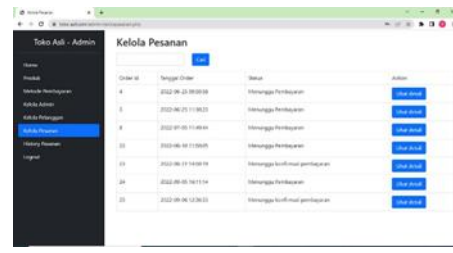
1. Edit the Customer Management Page In Admin

Edit manage the customers in admin that consists of names, emails, phone no, addresses, passwords, and manage buttons in the admin. On this page, it is useful to change customer management data in admin if anything goes wrong. When the admin clicks the edit button the customer is in admin, and then automatically the customer management data in admin changes on the admin customer management page.

2. Delete Management Page In Admin

Delete the page of the customer in admin that has a notification confidently delete if admin clicks ok then automatically the customer management data in admin will be gone, if the admin click is infected then the customer management data in admin will not disappear. The delete manages customers in the admin use of Javascript.

**Q. Admin Order Management Page**



**Figure 21. Admin Order Management Page**

Figure 21 is manage admin orders consisting of search, order id, date order, status, and action, see the details on this admin order page When the user purchases the purchase of goods already transfers the bank to pay or has not yet wired the bank to pay automatically on the appropriate page of the admin order can see the user's status whether or not the bank transfer to pay or not the bank transfer to pay. There's a status awaiting payment, waiting for confirmation of payment, processed, and already sent on the admin order management page. If the user has not paid, then the admin sees the status on the adjutant's adjutant service page as payable, and then the admin cannot be delivered via package to the user. When the admin clicks the button see the detail and if the user has paid then the admin can click the payment confirmation button and admin put the number of invoices in the invoice update column and the admin click the invoice update button. The items can then be delivered to the user through the package. On the admin order page, it can be viewed, the data manage the admin order details, the purchase date, the transaction status, no invoice, the payment date, the payment method, the picture, the product name, the

price, the quantity, total price, the proof photo payable. If the proof photo doesn't exist then there is an unpaid text, if the proof photo pays wrong then the admin can't click the payment confirmation button.

## R. Admin Order History Page

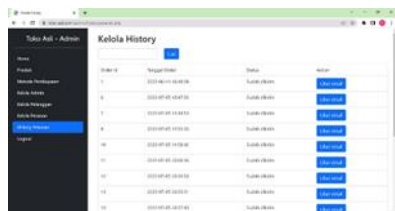


Figure 22. Admin Order History Page

Figure 22 is a history of admin orders consisting of search, order id, date order, status, and action, see details.

On the history page of this admin order, the admin can search history order and the viewing button details.

On the history page, the admin order can be viewed data history the admin order in detail information order id, date order, and status. When payment has been confirmed and the input invoice by admin, the data manage the admin order then automatically goes to the history page of the order and can be seen the status has been sent which means admin has already sent the goods through the package to the user. When the dash sees the detail on the click, it automatically goes back to the command management page in admin. Next, the admin can know the details of data management of pre-ordered orders by the user consisting of id order, purchase date, transaction status, no invoice, payment date, payment method, picture, product name, price, quantity, total price, and proof pay.

## IV. CONCLUSION

Based on research and testing were done, it could be concluded that the fore-based information system of sales at the original village of Tegal District, could assist the original store in performing product sales. The use of the framework PHP Native

makes application processes much easier and can enhance the performance of web work. The use of databases helps reduce data redundancy that can occur when the data storage is done by way of annotating. The advice one hopes for further research is, regarding data safety, which may develop market-information systems. Security is also one of the things that can be improved in the construction of future applications.

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