

Creating E-commerce for MSMEs in Panjunan Village: Steps towards a Smart Village

Dyah Putri Rahmawati¹, Arni Muarifah Amri², Dewi Rahmawati³, Pima Hani Safitri⁴

^{1,4} Informatika, Fakultas Informatika, ^{2,3} Rekayasa Perangkat Lunak, Fakultas Informatika,
¹²³⁴ Universitas Telkom

Email : ¹dyahputri@telkomuniversity.ac.id

Abstract

Micro, small, and medium enterprises (MSMEs) are crucial sectors that support economic growth in Indonesia. In the massive development of the digital economy, there has been a shift from offline to online transactions. MSME actors are now required to adopt technology to follow consumer shopping trends. One way to do this is by implementing e-commerce. The development of MSMEs through e-commerce is a smart step to increase visibility and market access. By leveraging e-commerce platforms, MSMEs can reach a wider audience, boost sales, and expand their business footprint without geographical limitations. In addition to digitalization, MSMEs need guidance in online sales, inventory management, digital marketing, and financial management. This guidance helps MSMEs maximize their potential in e-commerce. Desa Panjunan in Duduksampeyan District, Gresik Regency, is one village with MSME potential that needs to be developed through e-commerce. This community service activity will include creating an MSME e-commerce website for the village as a step towards becoming a Smart Village. The developed e-commerce has been tailored to the characteristics and needs of MSME actors in Desa Panjunan. This e-commerce initiative in Desa Panjunan can open up broader market access for local products, improve competitiveness, product quality, and MSME business management, as well as increase the income and welfare of the local community.

Keywords: Digitalization, E-commerce, MSMEs.

INTRODUCTION

The industrial sector is a sector that has an important role in a country's economy. One part of the industrial sector that makes a major contribution to the Indonesian economy is the Micro, Small and Medium Enterprises (MSMEs) sector. MSMEs contribute most of Indonesia's Gross Domestic Product (GDP), even reaching more than 60% of total GDP. The role of MSMEs in the Indonesian economy is very significant, not only in spurring economic growth, but also in creating jobs and becoming a source of livelihood for the lower middle class. With their enormous labor absorption capacity, MSMEs are the drivers of the people's economy and the foundation of a strong socialist economy.

According to the latest data from the Financial Services Authority (OJK), growth in credit distribution for micro, small and medium enterprises continue to grow towards the end of 2020. This trend continues in line with the high need for new capital in 2021. In 2016, there were 61.7 million recorded MSMEs in Indonesia. This number continued to increase in the following years, reaching 62.9 million in 2017 and 64.2 million in 2018. Data from the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkopukm) noted that there were 64.2

million MSME units in 2018. 2021. To date, the number of MSMEs spread throughout Indonesia has exceeded 65 million units (Christy, 2022). These figures show how important the role of MSMEs is in the national economy and how this sector continues to develop over time. MSMEs are not only the backbone of the Indonesian economy, but also make a significant contribution to the country's economic stability and growth. As drivers of the people's economy, MSMEs have great potential to continue to develop and have a broad positive impact on the economy and welfare of the Indonesian people.

The increase in MSMEs in Indonesia cannot be separated from the development of the digital economy which has now spread to wider society. During the pandemic, the digital economy was able to address society's obstacles in carrying out buying and selling transactions offline. This allows MSMEs to continue operating and even develop amidst limited physical interaction. Currently, almost all MSMEs in Indonesia have utilized digital platforms to increase their sales. The development of the digital economy has begun to shift consumer spending tendencies from offline

berry selling transactions to online buying and selling transactions (Barus, 2015).

This shift also occurred in rural areas, where people's shopping patterns began to change. However, these changes pose new challenges. Consumers often choose to shop from online stores that are located far away and have to pay shipping costs, even though the goods sold in these online stores are also available in offline stores that are closer. Incidents like this occur because consumers do not know the goods being sold at the nearest offline shop and there is a lack of ordering, payment and delivery services that meet consumer expectations.

According to Assani et al. (2020), this can reduce the income of MSMEs in rural areas if they do not follow developments in buying and selling transaction models in the digital economy era. In addition, research by Sudirjo et al. (2023) show that digitalization of MSMEs can increase their competitiveness and business sustainability in the long term. On the other hand, a survey conducted by McKinsey & Company (2020) shows that MSMEs that successfully adapt to digital technology tend to experience an increase in income of 20-30% compared to those that do not use digital technology. There needs to be an effective strategy to educate and facilitate MSMEs in rural areas in adopting digital technology. The government and various related parties must provide support in the form of training, access to capital, and adequate digital infrastructure. In this way, MSMEs can compete in a market that is increasingly digitally connected and take advantage of existing opportunities for better growth.

In order to support the development of the digital economy, we are proposing a community service program in Panjunan Village, Dudusampeyan District, Gresik Regency targeting MSMEs in the village. This program focuses on creating an e-commerce website and collecting data on MSMEs in Panjunan Village. It is hoped that with this website, MSMEs can be assisted and trained in implementing the digital economy, so that they can market their products online (Astawa et al., 2021).

This program is designed to equip MSMEs with the skills needed to sell digitally.

Apart from that, this program aims to introduce the digital economy to MSMEs in Panjunan Village, so that they are able to compete with the challenges of the MSME industry in the 4.0 era. This includes how to manage their business, from technological changes to adapting to markets that are increasingly connected digitally and online (Ardiyasa & Wibawa, 2019).

This Community Service Program will be implemented in several stages. The first stage is to collect data on MSMEs in Panjunan Village. Next, an introduction and needs analysis will be carried out for these MSMEs. The next stage is developing an e-commerce application or website that suits the needs of MSMEs. Finally, implementation and training will be carried out for MSMEs in Panjunan Village so that they can use this technology effectively. It is hoped that this program can increase competitiveness and take advantage of the opportunities that exist in the digital economy for MSMEs in Panjunan Village. This effort not only increases their income, but also strengthens the local economy and helps the village to develop in the digital era.

IMPLEMENTATION METHOD

In a series of Community Service activities carried out by Telkom University in 2024, the E-commerce application for MSMEs has been introduced and implemented in Panjunan Village, Dudusampeyan District, Gresik Regency. This activity consists of eight main stages, namely:

1. Gathering Information Related to Partners: Obtain detailed information about the conditions and needs of community service partners to ensure that planned activities are in line with their needs. The main target is MSMEs in Panjunan Village. This activity was carried out with the assistance of Panjunan Village officials.
2. Literature Study: Conduct studies and observations from several references regarding solutions that will be applied to this community service program.
3. Analysis: Analyze the needs of partners, according to the results of information collection and discussions with partners. The output from this stage is a design document and design draft or application mock-up

which will be discussed again with partners to obtain approval. This process will be carried out in parallel with design and development (Roger & Bruce, 2015).

4. Design: At this stage the user interface is designed before application development.
5. Development: At this stage, e-commerce applications are created for MSMEs according to plans and designs that have been approved by partners.
6. Testing: At this stage the application is tested to ensure there are no bugs and the application meets the partner's needs.
7. User Acceptance Test (UAT): At this stage, direct testing is carried out by partners by trying out the features in the application.
8. Training and Coaching: At this stage, after all the features in the application have been confirmed to run smoothly, training is carried out for partners, namely MSMEs in Panjunan Village, to ensure they are able to use the application effectively.

In this community service activity, we will focus on B-to-C e-commerce (Indrajit, 2000). Through this community service activity, the e-commerce application developed can meet the needs of MSMEs in Panjunan Village and support the development of their businesses.

RESULTS AND DISCUSSION

Community service activities in Panjunan Village began with collecting information regarding partners. This step aims to get a detailed picture of the conditions and needs of service partners, which in this case are MSMEs in the village.



Figure 1: Data collection activities and socialization of the Panjunan Village MSME e-commerce website.

Information gathering activities are shown in Figure 1. where the service team actively interacts with MSME owners and village officials to gather relevant information. With assistance from Panjunan Village officials, the service team succeeded in identifying various needs and challenges faced by local MSMEs, such as marketing problems, access to technology, and business management. The information collected then becomes the basis for

planning and implementing e-commerce for MSMEs on target. This e-commerce program is designed to help MSMEs in Panjunan Village increase their visibility and market access in the digital era, by providing training on effective use of online platforms, digital marketing strategies and inventory management. It is hoped that with the implementation of e-commerce, MSMEs in Panjunan Village can be more competitive and develop sustainably in facing competition in an increasingly digital and global market. Apart from that, this activity also aims to empower local communities by increasing their knowledge and skills in the fields of technology and digital business, thereby providing a broad positive impact on the economic welfare of the village.

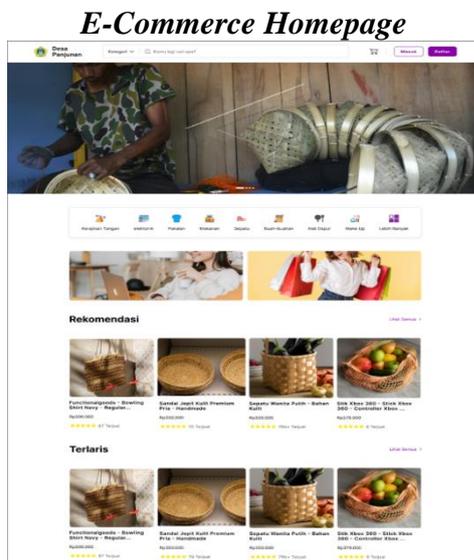


Figure 2. Panjunan Village E-Commerce Website Home Page

The home page of the e-commerce website for Panjunan Village MSMEs can be seen in Figure 2. At the top, there is a navigation menu which includes product categories such as handicrafts, electronics, clothing, food, shoes, fruit, kitchen tools, make up, and other categories. This menu makes it easier for users to quickly find the desired product. There is also a search feature at the top that allows users to search for specific products. Below it, there is a header image showing a craftsman making a typical Panjunan Village handicraft, namely dobong fish baskets, which reflects one of the superior products of Panjunan Village.

The middle of the page contains product recommendations tailored to user preferences. Some recommended products include woven bags, premium leather sandals, leather women's shoes, and various other handicraft products. Each product is equipped with the price and number of products sold, as well as ratings from previous buyers, thus helping users choose quality products. At the bottom, there is a "Best Selling" section that displays the bestselling products. This feature helps users find out which products are popular among other buyers. With a clean and structured appearance, this home page is designed to provide an easy and enjoyable shopping experience for users.

E-Commerce Account Login and Registration Page

The login page for the Panjunan Village MSME e-commerce website is shown in Figure 3. On the right side, there is a simple and easy to use login form. Users are asked to enter their email and password to log in to their account. There is also a "Remind me" option that allows users to stay logged in without having to re-login every time they visit the site. For users who don't have an account, there is a "Register" button in the top right corner that takes them to the registration page. Apart from that, there is also a link "Forgot password?" which helps users reset their password if necessary. A striking purple "Sign In" button at the bottom of the form ensures that users can easily continue the login process after filling in the required information.

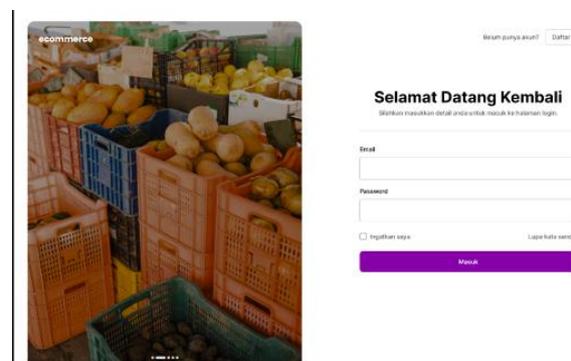


Figure 3. Account login page.

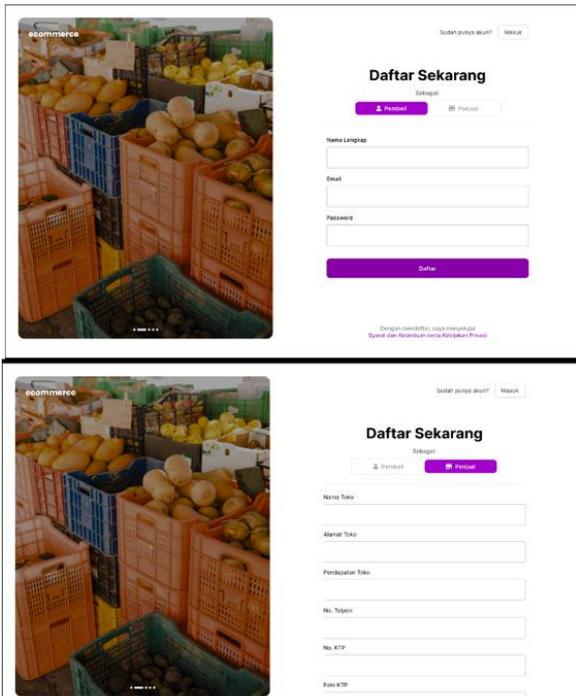


Figure 4: E-commerce registration form.

The account registration page for buyers and sellers on the Panjunan Village MSME e-commerce website can be shown in Figure 4. On this page there are two options, namely registration for buyers and registration for sellers. At the top of the image, you can see a registration page for buyers with a form that asks for information such as full name, email, and password. Buyers are expected to fill in this information to create a new account. At the bottom of the image, you can see the registration page for sellers. This form is more detailed and asks for information such as shop name, shop address, shop income, telephone number, KTP number, and photo of KTP. Sellers are expected to fill in this information in order to register their shop on the e-commerce platform.

Seller Account Page

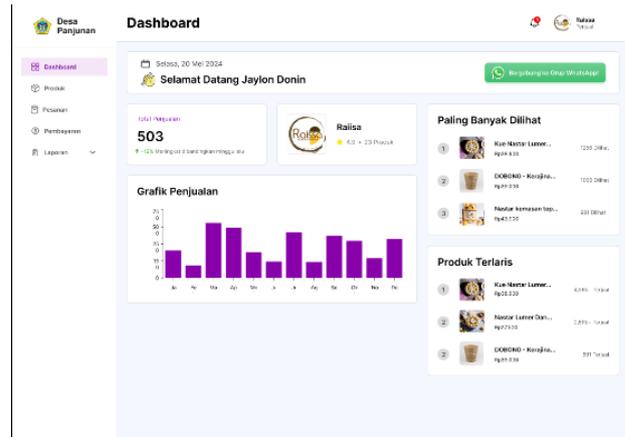


Figure 5. Seller account dashboard

The seller's account dashboard on the Panjunan Village MSME e-commerce platform is shown in Figure 5. On the right there is a button to join the WhatsApp group containing MSME members in Panjunan Village. Navigation on the left side of the screen includes menus for Dashboard, Products, Orders, Payments, and Reports, allowing sellers to easily manage various aspects of their store. These menus are designed to provide fast and efficient access to important features, so sellers can optimize their business operations without difficulty. This dashboard provides important information regarding the sales and performance of the seller's store. This dashboard displays some key information:

- **Total Sales:** There was a total sales figure of 503, with an increase of 12% compared to last week.
- **Store Information:** The store is called "Raissa" which has a rating of 4.9 from 23 products sold.
- **Sales Graph:** A bar graph that shows the number of sales per month throughout the year, with sales variations visible from January to December.
- **Most Viewed:** Most viewed products, including "Lumer Nastar Cake" with 1256 views, "Dobong - Fish Basket Craft" with 1056 views, and "Top packaged Nastar" with 981 views.
- **Best Selling Products:** The best-selling products, including "Lumer Nastar Cake" with more than 4.5 thousand sold, "Lumer Nastar Dan" with more than 2.6 thousand

sold, and "DOBONG - Fish Basket Craft" with 891 sold.

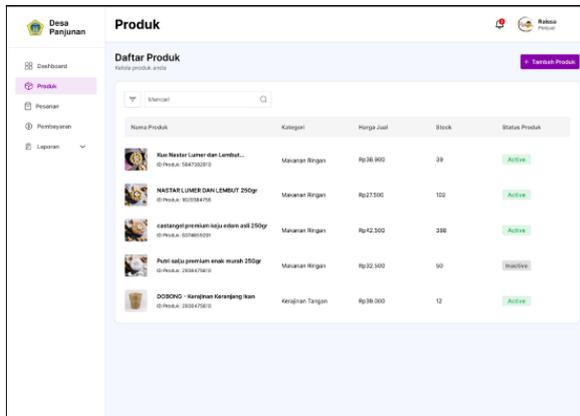


Figure 6. Product list page.

The product menu on the Panjungan Village UMKM e-commerce website displays a list of products sold by sellers which can be seen in Figure 6. On this page, users can see various important information about the product, such as product name, category, selling price, stock amount, and product status.

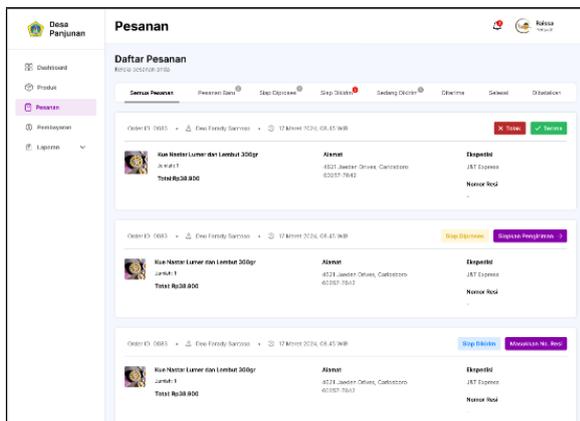


Figure 7. Order Page.

In Figure 7, the order menu page is presented. This page contains a list of all orders, including new orders, orders that are ready to be processed, orders that are ready to be sent, are being sent, orders that have been received by the buyer, completed orders and canceled orders.

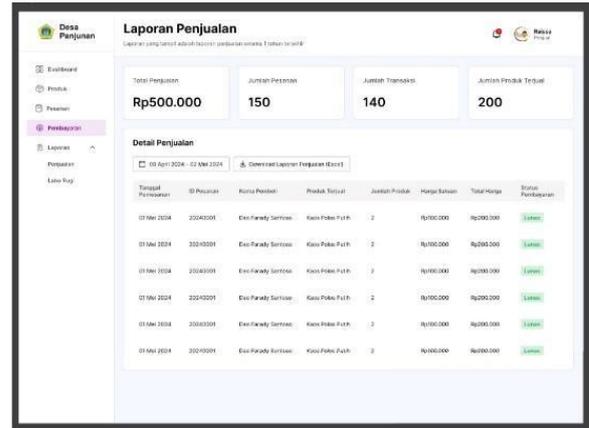


Figure 8. Sales report page

In the seller account dashboard, there is a Reports menu. This reports menu consists of sales reports and profit and loss reports. Figure 8 shows the sales report page on the Panjungan Village MSME e-commerce site providing detailed information regarding sales performance over the last year. On this page, users can see total sales, number of orders, number of transactions, and number of products sold. For example, in the period shown, total sales reached IDR 500,000 with 150 orders, 140 transactions, and 200 products sold. Sales details are also presented very clearly, including order date, order ID, buyer's name, products sold, number of products, unit price, total price, and payment status. This page also provides a sales report download feature in Excel format for ease of further analysis. With this complete information, sellers can easily monitor and evaluate their sales performance, as well as identify areas that need improvement to increase their business profits.

The profit and loss report page for Panjungan Village MSME e-commerce is shown in Figure 9. This report is designed to help sellers monitor and analyze the financial performance of their business. This page provides a profit and loss report download feature in Excel format which makes it easy for users to get a clear picture of the income, costs and net profit generated in a certain period. By using this report, sellers can track revenue and operational costs, analyze financial performance per period, and monitor the financial health and profitability of their business. Additionally, this page also provides contact information for sellers who need further assistance in understanding and

optimizing financial reports for the success of their business.

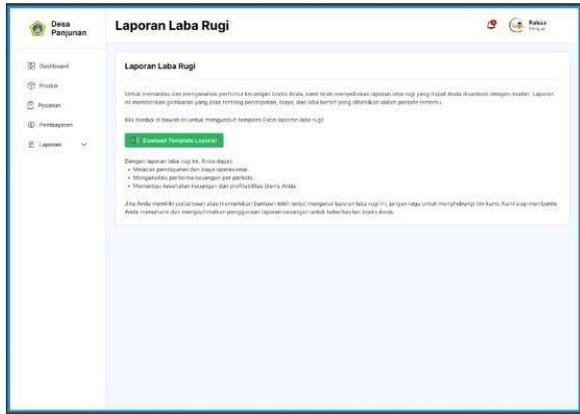


Figure 9. Income statement page

Buyer Account Page

If the buyer selects/clicks on one of the products, a page about that product will appear in detail. Figure 10 shows an example of a product page on an e-commerce platform for goods sold by MSMEs in Panjunan Village. The product being sold is a fish basket with the name "Dobong- Fish Basket Craft" for IDR 39,000, after a 10% discount from the original price of IDR 49,000. The top of the page shows several pictures of the basket from various angles. To the right of the main image, there is product information including name, price, number of stocks available (356), and buttons to add to cart or buy now. The bottom of the page contains further information about the shop that sells this product, namely the Traditional Crafts Shop. Additionally, there are buyer reviews that show customer satisfaction with this product.

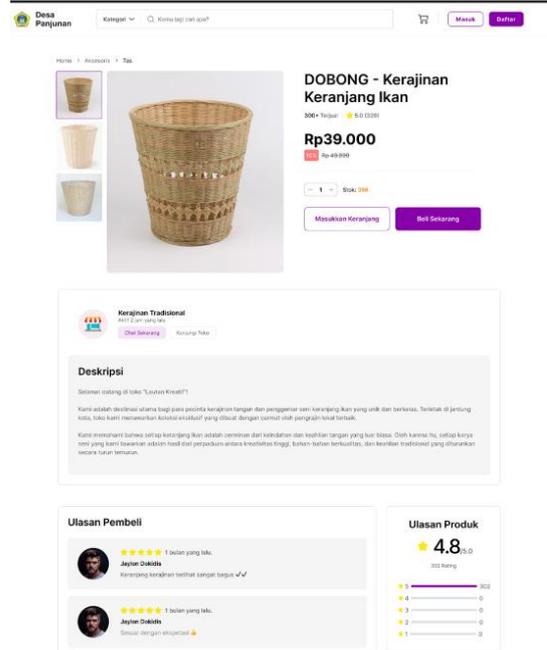


Figure 10. Product page.

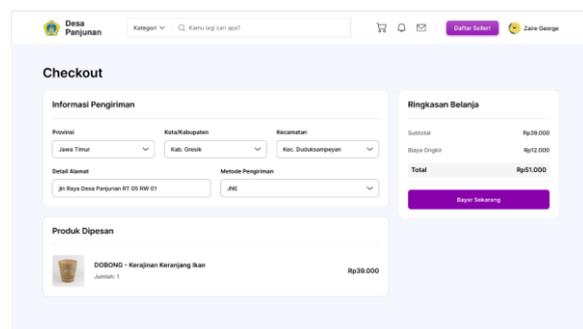


Figure 11. Halaman checkout e-commerce.

The e-commerce checkout page in Figure 11 is designed to provide a simple and efficient user experience in completing purchases. In the main part of the page, there is a Delivery Information form that allows users to select the province, city/district, and delivery subdistrict. In this example, the Province of East Java, Gresik Regency and the District of Dukuhmejayan were chosen. Users can also fill in their complete address details and choose a delivery method, such as JNE. Below the shipping information, there is a list of Products Ordered that details the items to be purchased. The right side of the screen displays the Shopping Summary which details the subtotal product price, postage costs, and the total amount to be paid, namely IDR 168,000. A "Pay Now" button is provided to proceed to the payment process.

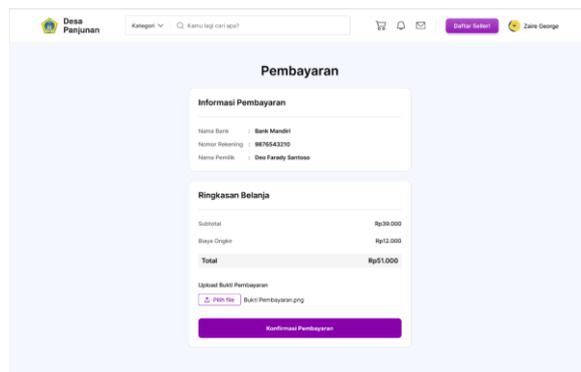


Figure 12. Payment Page.

Figure 12 shows the Payment page of Panjungan Village e-commerce. This page displays the information required to complete the purchase transaction which includes bank details used for payment transfers and the total fees to be paid by the buyer. This page also provides an Upload Proof of Payment feature where users can upload proof of their transfer by clicking the "Select file" button. After proof of payment is uploaded, users can press the "Confirm Payment" button to complete the payment process.

After the buyer's payment is confirmed by the seller, the order will be immediately processed and shipped. This process involves the seller verifying proof of payment, preparing the ordered goods, and arranging delivery via the selected delivery service. The seller will ensure that the order is well packaged and ready to be sent to the address provided by the buyer.

Figure 8 displays the order list page from the buyer's account. This page is designed to make it easier for users to track the status of their orders. In the middle of the page, users can see a list of their orders grouped by status, such as "All Orders," "Awaiting Confirmation," "Processing," "On Delivery," "Completed," and "Canceled." This order list page is designed to provide transparency and ease for users in monitoring their orders, ensuring every step in the purchasing process is clearly accessible and trackable.

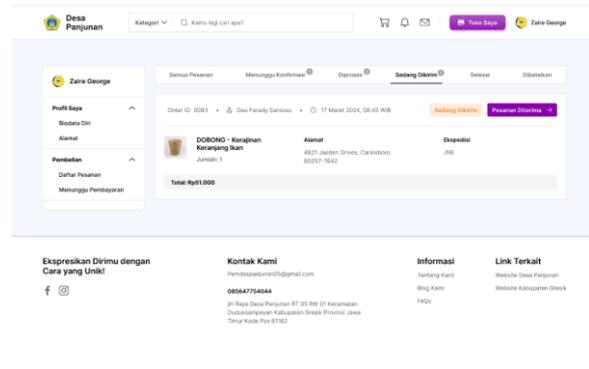


Figure 8. Buyer order list page.

If the order has been received, buyers can provide reviews and ratings for the products they have purchased. Figure 10. is the "Product Value" page from Panjungan Village e-commerce. Buyers can provide ratings in the form of stars, from one to five, and add text reviews about the product. These reviews may cover various aspects such as quality, usability, and personal satisfaction. After writing a review, users can submit it. This allows other buyers to get more information about the product based on previous user experiences, while helping sellers to improve the quality of their products and services.

CONCLUSION

The creation of website-based e-commerce for MSMEs in Panjungan Village has had a significant impact on improving the local economy and pushing the village towards the smart village concept. By adopting digital technology, MSME players can access a wider market, introduce their products to consumers in various regions, and increase their competitiveness. This platform provides various important features such as easy account registration for buyers and sellers, attractive and informative product displays, and an intuitive dashboard to help sellers manage sales and monitor their store performance. Through this platform, MSMEs in Panjungan Village can not only increase sales but also build their brand online, opening up new opportunities for growth and development. Therefore, implementing website-based e-commerce is an important step in supporting the sustainability and development of Panjungan Village MSMEs in the digital era, as well as contributing to the creation of a smart

village with a strong and highly competitive economy.

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