DEVELOPMENT AND IMPLEMENTATION OF WOVEN BAMBOO HANDICRAFT ONLINE SHOP IN LOYOK VILLAGE, LOMBOK, INDONESIA

Muhammad Multazam¹; Eluiz Yansirus Saniyah²

Software Engineering¹, Management² Universitas Teknologi Mataram https://www.utmmataram.ac.id m.multazam@utmmataram.ac.id1, eluiz.yansirus@utmmataram.ac.id2

Abstract—Lombok Island in Indonesia has been selected as the World's Best Halal Tourism Destination and World's Best Halal Honeymoon Destination in the World Halal Tourism Summit in Dubai 2015 (Khoiriati, ., Krisnajaya, & Dinarto, 2018). Lombok Island has also been ranked as the Best Halal Travel Destination in Indonesia according to IMTI 2018 and was also named the best halal destination in the international arena in tourism (Ramadhani, Kurniawati, & Nata, 2020). However, the Lombok Earthquake 2018 and the Covid-19 pandemic in 2020 had an impact on Lombok tourism. Loyok Village in Lombok as a tourist village that produces woven bamboo crafts is also experiencing marketing problems, namely the decreasing number of sales. In this research, the solution taken in the marketing problem of woven bamboo handicraft products is carried out through the development and implementation of an online shop website. Primary data sources were obtained from research sites, namely Loyok Village, and secondary data from books and journal articles. Methods of data collection are carried out through observation, interviews, and literature study. The data analysis used was qualitative. The development method chosen is the waterfall method with the requirements gathering and analysis stages, system development, system implementation and coding, testing, deployment, system operation, maintenance (Kramer, 2018). The purpose of this research is to produce an online shop application for woven bamboo crafts in Lovok Village, East Lombok. The result of this research is an online shop application for woven bamboo crafts in lovok village which can be accessed via domain anyamandesaloyok.com.

Keywords: Online Shop, Woven Bamboo, Loyok Village, Lombok Tourism.

Intisari—Pulau Lombok di Indonesia pernah terpilih sebagai Destinasi Wisata Halal Terbaik Dunia dan Destinasi Bulan Madu Halal Terbaik Dunia dalam World Halal Travel Summit di Dubai tahun 2015 (Khoiriati et al., 2018). Pulau Lombok juga pernah masuk dalam peringkat Destinasi

Wisata Halal Terbaik di Indonesia menurut IMTI 2018 dan juga dinobatkan sebagai destinasi halal terbaik di kancah internasional bidang pariwisata (Ramadhani et al., 2020). Namun demikian, bencana alam gempa bumi Lombok 2018 dan pandemi Covid-19 tahun 2020 menyebabkan dampak bagi wisata Lombok. Desa loyok sebagai desa wisata penghasil kerajinan anyaman bambu juga mengalami masalah pemasaran yaitu jumlah penjualan yang semakin menurun. Dalam penelitian ini solusi yang diambil dalam masalah pemasaran produk kerajinan anyaman bambu dilakukan melalui pengembangan dan implementasi website toko online. Sumber data primer diperoleh dari tempat penelitian yaitu desa Loyok dan data sekunder dari buku dan artikel jurnal. Metode pengumpulan data dilakukan melalui observasi, wawancara dan studi Pustaka. Analisis data yang digunakan adalah kualitatif. Metode pengembangan yang dipilih adalah metode waterfall melalui requirement gathering and analysis, system development, system implementation and coding, testing, deployment, system operation maintenance (Kramer, 2018). Tujuan penelitian ini adalah menghasilkan aplikasi toko online kerajinan anyaman bambu di Desa Loyok Lombok Timur. Hasil penelitian ini adalah aplikasi toko online kerajinan anvaman bambu di desa loyok yang dapat diakses melalui domain anyamandesaloyok.com.

Kata Kunci: Toko Online, Anyaman Bambu, Desa Lovok, Pariwisata Lombok.

INTRODUCTION

Lombok Island is located in the Province of West Nusa Tenggara, Indonesia. The regional potential of the island of Lombok is agriculture and tourism (BPS NTB, 2019). Most of the tourist destinations on the island of Lombok are natural tourism and cultural tourism. Nature tourism is in the form of beach tourism, nature reserves, and waterfalls. Meanwhile, cultural tourism is in the form of traditional Sasak arts, handicraft products, and culinary specialties from Lombok. Lombok was chosen as the World's Best Halal Tourism

Destination and World's Best Halal Honeymoon Destination in the World Halal Tourism Summit in Dubai 2015 (Khoiriati et al., 2018). Lombok Island has also been ranked as the Best Halal Travel Destination in Indonesia according to IMTI 2018 and was also named the best halal destination in the international arena in tourism (Ramadhani et al., 2020). This is what motivates the provincial government to develop the tourism sector seriously with a focus on Halal tourism as a means to improve the local economy. One of the tourist villages on the island of Lombok is Loyok Village which is located in the Sikur sub-district, East Lombok district. Loyok Village is famous for its woven bamboo crafts. Some of these woven bamboo products include wallets, bags, baskets, containers, lamp holders, jars, and others. The results showed that the woven handicrafts from Lombok that were most in demand by consumers were laundry boxes, bags, lamp holders, and trash cans (Nani & Abubakar, 2018). For woven bamboo in Loyok village, one type of bag that is quite famous is the gegandek bag because this bag has various distinctive and attractive motifs (Muhammad Erwin, I Ketut Sudita,

The natural disaster of the 2018 earthquake had an impact on weak economic conditions in most areas of the island of Lombok (Muttalib & Mashur, 2019). Also, the Covid-19 pandemic in Indonesia has an impact on the economic condition of the community (Hanoatubun, 2020). The spread of COVID-19 caused a decrease in the sales of community businesses (Syaiful, 2020). This also happened to the bamboo weaving craftsmen in Loyok Village. The bamboo weaving craftsmen in Loyok Village have had difficulty selling their handicrafts in recent years. Since the natural disaster of the Lombok earthquake in 2018 and the outbreak of the Covid-19 virus in 2020, tourism on the island of Lombok has experienced an impact where tourists visiting have decreased (Arianti, 2019). This has caused the sales of woven bamboo handicrafts to decline so that the income of woven craftsmen has decreased.

Currently, some people who are still engaged in woven bamboo crafts sell their handicrafts through several art-shops around Loyok Village. This art-shop is what sells handicrafts to tourists by ordering or selling directly when tourists visit Loyok Village. Based on the results of the interview with the owner of the Artshop in Loyok Village, now there are many orders for handicrafts from foreign tourists, both by tourist guides and online via the internet. With this condition, the Artshop could get more profit while the craftsmen only got a small profit. They have not been able to do direct external marketing, for example by utilizing internet media or online shops. With these conditions, in this research activity, problem-solving in the field of marketing of woven bamboo crafts in loyok village is carried out through the development and implementation of an online shop website. The application of e-commerce through online stores will be able to increase marketing reach and the number of consumers (Purnama, Ariastita, Handayeni, & Nugroho, 2019). Also, the use of information systems in marketing has a positive influence on consumer purchasing decisions (Sudiarti, 2019). Marketing is the key to success in maintaining business sustainability competition (Lesmana, Widiawan, & Hartadi3, 2018). Therefore, online shop users are given the training to be able to run an online marketing system (Inggriyani, Ali, & Fauzy, 2018). With these various conditions and the solutions offered, this study aims to produce an online shop application of woven bamboo handicrafts in Loyok Village, East Lombok.

Literature Review

E-commerce technology has been shown to help businesses differently. E-Commerce not only helps businesses and companies sell their products and services easily, but also helps customers make purchases anytime and anywhere (Babenko, Kulczyk, Perevosova, Syniavska, & Davydova, 2019). The development and implementation of an online shop as a solution to the problems faced by bamboo weaving craftsmen in the Loyok Village are based on literature studies and some previous research regarding the benefits of online shops in the product marketing system.

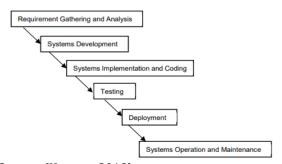
The research entitled How To Increase Customer Repurchase Intention In An Online Store? An Extended Expectation Confirmatory Model by Putu Wuri Handayani et al. with the result that the quality of the website is a technological factor that has a positive effect on repurchase intention from customers (Handayani, Ariantana, & Pinem, 2020). In this research, efforts have been made to improve the quality of the website.

Research with the title Factors Affecting Mobile Shoppers' Continuation Intention Of Coffee Shop Online Store: A Perspective On Consumer Tolerance by Chien-Wen Chen and Serhan Demirci with research results that in the development of online shopping sites need to be done with a structured construction so that buyers will be able to make transactions safely and comfortably (Chen & Demirci, 2019). In this study, the web site of the bamboo woven online shop that was built had a structured workflow and a product ordering process that was not too long, for the convenience of consumer shopping.

Research with the title Customer Value Proposition for E-Commerce: A Case Study Approach by Nurhizam Safie Mohd Satar et al. conveyed the results of his research that customer assessment is important for an e-commerce service so that service providers need to adjust their products and services to focus on customers (Satar, Dastane, & Ma'arif, 2019). In this study, the online shop manager for woven bamboo crafts will provide services for customers including consulting services via email, contact forms, and Whatsapp messengers to meet customer satisfaction.

MATERIALS AND METHODS

In this research, the development method used is the Waterfall method. In the waterfall method, system development goes through 6 stages, namely: requirement gathering and development, analysis. system implementation and coding, testing, deployment, system operation, and maintenance (Kramer, 2018). The stages in the waterfall model are described as follows:



Source: (Kramer, 2018)

Figure 1. Waterfall Model

The data source in this study is primary data at the research site, namely Loyok Village. Also, secondary data sources such as books and journal articles. Methods of data collection are carried out through observation, interviews, and literature study. The data analysis used was qualitative.

RESULTS AND DISCUSSION

In Kramer's Waterfall Model, the discussion and research results are as follows:

A. Requirement Gathering and Analysis

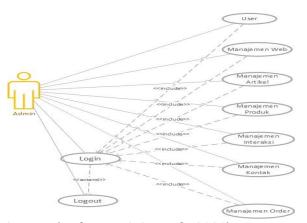
At this stage, the collection of user needs and analysis of user needs is carried out. Users of this system consist of admins and visitors. The online store admin needs in the application being developed, namely product catalogs, shopping baskets, product management, order management. The needs of visitors or buyers in a system that is

built are a simple ordering process, the process is not too long and the web template must be responsive.

B. System Development

1. Use Case Diagram

Various studies have proven that UML is a popular modeling language that has good system visualization and documentation performance (Maylawati, Darmalaksana, & Ramdhani, 2018). Use Case Diagram as part of the UML shows the menu structure of the online shop application for woven bamboo handicrafts in Loyok Village, on the island of Lombok. For admin use cases, there are 6 main menus, namely the admin homepage, user menu, web management, product management, article management, interaction management, contact management, and order management. Each main menu has several sub-menus. The following is Figure 2 of the admin page use case diagram:



Source: (Multazam & Saniyah, 2020) Figure 2. Usecase Admin

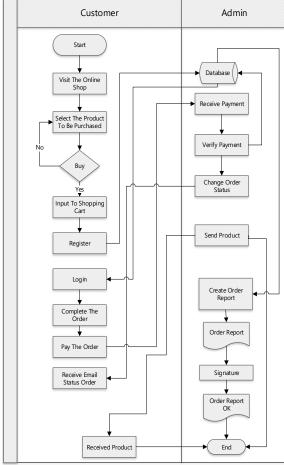
The use case diagram for the visitor page consists of 6 menus, namely the home menu or home page, product menu, article menu, about us menu, how to purchase menu, and contact us menu. The following is Figure 3 of a visitor use case diagram:



Source: (Multazam & Saniyah, 2020) Figure 3. Usecase visitor

2. Flowchart System

The workflow of this bamboo woven online shop system is as follows: visitors to the online shop website then choose the product to be purchased, then when the desired product has been found, the visitor buys the product. Then the purchased product will go to the shopping cart. If the product purchased is suitable, the customer will register an account then log in to his account. Furthermore, after logging in, the order details that have been made will appear. Then the customer will make a payment and the admin will verify the payment. If the payment has been received, the admin changes the order status and the customer will check the order status via email. Then the store admin will send the product to the customer and the customer will receive the product. Finally, the admin will print sales reports periodically. The online shop system flowchart that will be built is as shown in the following Figure 4:

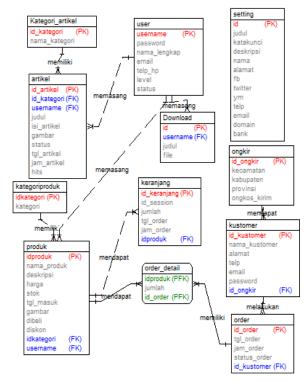


Source: (Multazam & Saniyah, 2020) Figure 4. Flowchart System

3. Entity Relationship Diagram (ERD)

The relationship between tables or entities in the development of this online store application is described in the form of an Entity Relationship

Diagram (ERD). In this application, there are 12 tables, namely product tables, product categories, customers, orders, shipping, baskets, order details, downloads, users, articles, article categories, and settings. Figure 5 from ERD is as follows:



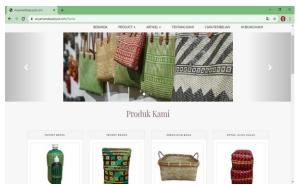
Source: (Multazam & Saniyah, 2020) Figure 5. Entity Relationship Diagram

C. System Implementation and Coding

Application development is carried out through program coding activities. In developing this online store application, the programming language chosen is PHP 7.0 and the database used is MySQL 5.0. Design using the Bootstrap template. This webbing craft online shop application has been implemented online in September 2020 and can be accessed via domain web nyamandesaloyok.com. results of the development implementation of this webbing craft online shop are as follows:

1. Homepage

In Figure 6 are homepage is the initial page that appears when visitors open the website. The homepage displays the latest products or the most recently entered by the admin, along with the price of each product. Also, on this page, there is a slide banner at the top and advertising banner space for other web sites who want to share advertisements with this website. When the product is clicked, it will lead to a product detail page.



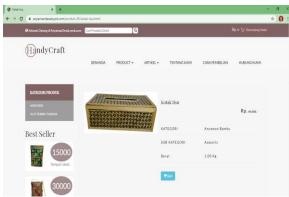
Source: (Multazam & Saniyah, 2020) Figure 6. Homepage online shop

The main source code for displaying product data

```
<?php
$sql=mysqli query($con,"SELECT * FROM produk
ORDER BY id produk DESC LIMIT 12");
while ($r=mysqli fetch array($sql)) {
$isi_produk = strip_tags($r['deskripsi']);
$isi = substr($isi_produk,0,42);
$isi = substr($isi_produk,0,strrpos($isi,"
"));
$isi judul = strip tags($r['nama produk']);
?>
```

2. Product Detail Page

In Figure 7 are the product detail page is a page that contains more complete product data. The product data displayed are product name, image, price, category, weight, and product description. Product images are equipped with a zoom hover that shows the product is bigger when the cursor is touched.



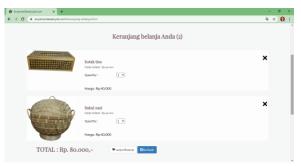
Source: (Multazam & Saniyah, 2020) Figure 7. Product detail page

The main query showing product detail data is:

```
$detail=mysqli query($con, "SELECT * FROM
produk, kategori WHERE produk.id kategori =
kategori.id kategori AND
produk.id_produk='$ GET[id]'");
$r = mysqli fetch array($detail);
```

3. Shopping Cart Page

In Figure 8 are shopping cart page displays the products that will be purchased by customers. Products that have been confirmed to be purchased can be continued to the payment process, while products that have not been purchased can be removed from the shopping cart. The cart page also displays the number of products, the price of each product, and the total price of all products that will be purchased by customers.



Source: (Multazam & Saniyah, 2020) Figure 8. Shopping cart page

The main source code for displaying shopping cart data is:

```
<?php
sid = session id();
$sql = mysqli query ($con, "SELECT * FROM
orders temp, produk WHERE id session='$sid'
AND orders temp.id produk=produk.id produk");
$ketemu=mysqli num rows($sql);
```

4. Order details page

In Figure 8 are the order detail page will appear when the customer completes the product order process and logs into the customer's account. After the registration process and log in to the customer's account, the order details of the customer will appear. On the order details page, customer data, purchased product data, bank account data from the seller or online store manager will appear as well as payment orders to the online store manager account.



Source: (Multazam & Saniyah, 2020) Figure 9. Order details page

The main source code showing the detail order data is:

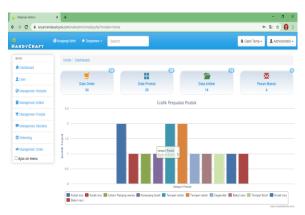
```
<?php
$produk=mysqli_query($con,"SELECT * FROM
orders_detail, produk
WHERE orders detail.id produk=
produk.id produk AND id orders
'$id orders'");
?>
```

To retrieve shipping cost using the following query:

```
<?php
$ongkos=mysqli_fetch_array(mysqli_query($con,
"SELECT ongkos kirim FROM kec WHERE
id kec='$ POST[kec]'"));
$ongkoskirim1=$ongkos['ongkos kirim'];
$ongkoskirim = $ongkoskirim1 * $totalberat;
```

5. Admin Dashboard Page

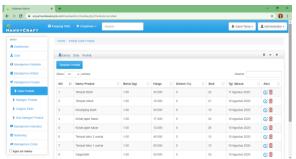
In Figure 10 are the admin page is used to manage the online bamboo woven craft shop website. The page that appears for the first time after logging in to the admin page is the admin homepage. On this page, the admin can see the recapitulation of data in the online shop system. Some recapitulation of data contained in the admin home page is order data, product data, article data, and incoming message data via the contact form. Also, through this page, admins can access all admin menus on the left side of the homepage.



Source: (Multazam & Saniyah, 2020) Figure 10. Admin dashboard page

6. Manage Products Page

In Figure 11 are the product data management page is a page in the admin area that is used to manage data on products sold. On the product data page, the admin can perform various activities such as displaying, adding, changing, and deleting product data. When adding product data, admins can enter data on the product name, product category, weight, price, discount, stock, and product images. Likewise, when the admin changes product data.



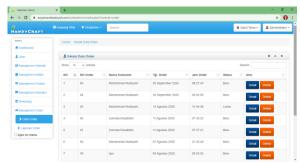
Source: (Multazam & Saniyah, 2020) Figure 11. Manage products page

The main source code showing the product data table is:

```
<?php
$tampil = mysqli query($con,"SELECT * FROM
produk ORDER BY id_produk DESC");
no = posisi+1;
while($r=mysqli_fetch_array($tampil)){
?>
```

7. Manage Orders Page

In Figure 12 are the manage order data page is a page in the admin area that is used to manage order data from customers. On this page, the admin can view all order activity carried out by all customers. The admin can also display the detail page for each order and change the status of the order, for example, orders are processed, paid for, products shipped or orders canceled.



Source: (Multazam & Saniyah, 2020) Figure 12. Manage orders page

The main source code for displaying orders data table is:

```
<?php
$dtorder = mysqli query($con,"SELECT * FROM
orders, kustomer WHERE orders.id kustomer
kustomer.id_kustomer AND id_orders
'$ GET[id]'");
$r
   = mysqli fetch array($dtorder);
?>
```

8. Testing

System testing carried out on this system is web testing. At the time of the web examiner, there are 6 aspects tested, including performance testing,

load testing, compatibility testing, usability testing, accessibility testing, and security testing (Di Lucca, 2005). The web test results areas in the following

Table 1 System Testing

No	Criteria	Test Result
NU	Griteria	rest Resurt
1	Load testing	Good
2	Usability testing	Good
3	Accessibility testing	Good
4	Compatibility testing	Good
5	Performance testing	Good
6	Security testing	Good

Source: (Multazam & Saniyah, 2020)

D. Deployment

Spread or promotion is carried out in several ways, namely through registering the website to search engines, social media, youtube, and conventionally or orally.

E. System Operation and Maintenance

The system is built based on the web so that it can run on various operating systems, with access via a web browser. System maintenance is carried out through periodic backups of the database, control of resources through CPanel hosting, and system upgrades in case of system changes.

CONCLUSION

To solve the marketing problem of woven bamboo handicrafts in Loyok village, East Lombok district, namely the lack of buyers due to the impact of the 2018 Lombok earthquake and the Covid-19 pandemic in 2020, solutions are taken in marketing is woven bamboo handicraft products through development and online shop website implementation. Primary data sources were obtained from research sites, namely Loyok Village, and secondary data from books and journal articles. Methods of data collection are carried out through observation, interviews, and literature study. The data analysis used was qualitative. The development method chosen is the waterfall method with the requirements gathering and analysis stages, system development, system implementation and coding, testing, deployment, system operation, and maintenance (Kramer, 2018). Implementation has been carried out online accessed be via domain can anyamandesaloyok.com.

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