E-COMMERCE USING SEARCH ENGINE OPTIMIZATION TO INCREASE MARKETING OF MICRO, SMALL AND MEDIUM ENTERPRISE PRODUCTS

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ABSTRACT

This study aims to design e-commerce using the search engine optimization (seo) method to improve the marketing of micro, small, and medium enterprise (msmes) products. The department of cooperatives and msmes of south sulawesi already has a website. However, it only consists of a homepage about cooperatives, news and information, and some information on msmes products. The website does not provide facilities for buying and selling msmes products; product registration is still done manually. Msmes actors must come to the office to fill out forms and bring samples of products marketed in the msmes gallery. From these problems, a particular website was designed for e-commerce by applying seo methods which include on-page optimization and off-page optimization to maximize the website so that it is always on the front page and top of search engines on the internet. So that with the top page or top position in search engines, it allows the website to be frequently visited by users in making purchases of goods. The final result shows that e-commerce designed using effective seo methods maximizes keyword performance in the e-commerce department of cooperatives and msmes in south sulawesi. So that users can access the website quickly and easily find the website in search results with specific keywords related to the department of cooperatives and msmes. Users can also easily navigate the website and get quality information in sales and purchase transactions on e-commerce.

Keywords: e-commerce, seo, search engine, msmes, smes, cooperative

1 INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are one of the business units that play an essential role in economic growth and development in Indonesia [1]. Nationally, MSMEs account for 99.99% of the total business units in Indonesia and absorb 96.92% of the total workforce [2]. With business competition, MSMEs must be familiar with internet technology in every business to buy, sell and cooperate on a global or smaller scale. Local businesses must see themselves globally to survive in the new challenging business environment [3].

The development of information technology has encouraged developments in various fields, including industry and trade. The development of the Internet in industry and commerce can change the business model because it can be used as a marketing tool, such as media promotions, discussions, dialogues, electronic mail, and business models related to business activities that affect the business environment [4],[5]. People are starting to enter the network economy era, where business people have used digital marketing. Traditional companies are starting to adopt internet technology in online publicity and digital marketing [6]. Digital marketing is a new marketing approach that is driven by digital elements [7]. In a competitive business environment, marketing can be seen as a matrix of organized business activities for planning, producing, pricing, promoting, distributing goods, services, and ideas to satisfy relevant customers and clients. The process of selling a product or service has become complex due to globalization [8]. Although MSMEs have many challenges, MSMEs can benefit from the new environment through e-commerce. E-commerce is the purchase, sale, service, delivery, product, and information through a computer network via the Internet [9]. There are several advantages of using digital technology for SMEs in Indonesia, namely an increase in income of up to 80%, one and a half times more likely to increase employment opportunities, 17 times more likely to be innovative, and SMEs that use digital technology more to become more competitive internationally[10]. Solutions that can be provided to assist SMEs in overcoming some of the barriers that limit or enter e-commerce can be overcome with public and private support [3]. So that the existence of service providers can overcome the low level of e-commerce adoption in Indonesia, which is caused by technological readiness, IT capabilities and experience, and innovation of MSME owners, SMEs are still dominated by marketing and marketing activities. Purchasing and procurement Higher levels of e-commerce adoption experience more significant e-commerce benefits than other adoption rates [11], [12], [13].

Department of Cooperatives and MSMEs in South Sulawesi is a government department that handles MSMEs; The agency already has a website. However, it only consists of a homepage about cooperatives, news and information, and some MSME products. The website does not provide buying and selling facilities for MSME products; product registration is still done manually. MSME actors must come to the office to fill out forms and bring samples of products marketed at the MSME gallery. Marketing of MSME products is done by relying on brochures, WhatsApp, Instagram, Facebook. The MSME products displayed in the gallery at the office have not explained any information or instructions stating that there is a gallery or shop for MSME products in the office, where product marketing is still devoted to superior products, namely some typical Makassar products such as typical Toraja handicrafts. The need to design an e-commerce website that is easy for customers to find in searching for the website on google.

The role of the Internet is increasing rapidly, requiring proper data access and integration is a challenge in itself. The Internet has become very important for individuals, industry, and commerce. There is 93% of traffic managed by search engines [14], [15]. Search engine optimization (SEO) is an optimization technique used to increase the number of visitors to websites by achieving high rankings in search results returned by search engines. [16], [17]. People who use keywords in search engines to search for websites only care about the top links of search engine results. [18]. Google is the most used search engine in the world [16]. Most of the pages found on Google are probably optimized because it is challenging to get visibility in search engines without applying SEO Techniques[19]. According to data obtained through google, on a typical day, around 40,000 search queries are processed per second by the Google search engine alone, which generates about 3.5 billion search queries per day. [20].

Many web admins forget to consider the important factor when creating a website, which makes people aware of the web. Most of the time, the main focus is to make the website as friendly as possible, fast, stable, and secure. However, these techniques can be in vain if the website has no visitors or people cannot find it. [21]. Implementing SEO on websites is very useful in increasing search result rankings, getting more online visits, and displaying the pages requested by users, which will help them see the most popular pages among the number of pages. So that business communication in marketing products to attract customers can increase traffic and visitor ratings in a relatively short time. In other words, the higher and often a site appears in search results, the more visitors it will receive through search engines. [22], [23], [24], [25], [26], [27]. Several factors and techniques will be used to improve the appearance of a website's ranking in search engines, including On-page and Off-page Google SEO techniques [28]. On-Page SEO is an SEO technique that is focused on optimizing the internal website. This On-Page activity involves engineering the elements and content of a website. In contrast, the off-page SEO optimization method is an SEO optimization step for a website that is carried out outside the (external) page of the website.

Based on this, this study will design an e-commerce website at the Department of Cooperatives and MSMEs in South Sulawesi services using Search Engine Optimization (SEO) techniques based on on-page and off-page methods to improve MSME product marketing

2 METHODOLOGY

Figure 1. Research Stages

Based on Figure 1, the following is an explanation of the stages of the research:

The initial stage: researchers conducted observations on business conditions and the use of information technology contained in the agency. The initial step, problem identification: researchers analyzed business problems at the Department of Cooperatives and MSMEs of South Sulawesi Province by looking for some of the causes of the issues.

In the second stage of the literature study, the researcher reviews the appropriate research topic. In the third stage, the researcher formulates the problems in this study and the current system analysis: the researcher analyzes the existing business model, after that makes an analysis of the business process model using the Use case model, Activity Diagram, and creates a needs identification table. The fourth stage of the proposed system is designing a functional model, where the approach uses the Unified Modeling Language (UML). The design diagram uses Use Case Diagrams, Activity Diagrams, and Class Diagrams. In the fifth stage, the author builds an E-Commerce website using the PHP and MySql programming languages and conducts BlackBox testing.

The sixth stage, the application of Search Engine Optimization (SEO) techniques, SEO is a series of processes carried out by the system that aims to increase traffic visits through search engines by utilizing the working mechanism or search engine algorithms. Researchers use an approach with Onpage and Offpage methods. In the final stage, the researchers assessed and concluded from the analysis, design, and implementation of the E-Commerce system at the Department of Cooperatives and MSMEs in South Sulawesi Province.

3 RESULT AND DISCUSSION

3. 1. Functional Modeling Using Use Case Diagrams

Use Case Diagram aims to describe the interaction between actors with the designed E-Commerce system. Three actors are used, namely admin, MSMEs actors, and Customer. The three access rights have their functions and menus where the admin page processes data. MSMEs actors are tasked with inputting products to be marketed and the customer page for utilizing the application. The form of the use case that was built can be seen in Figure 2.
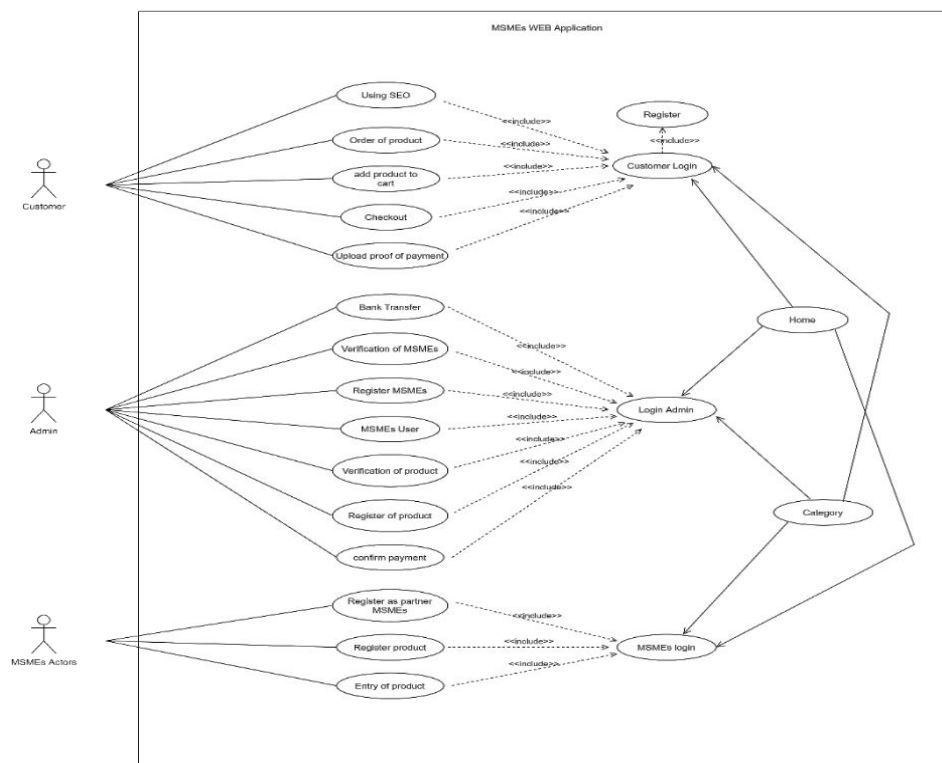

Figure 2. Use Case diagram

3. 2. Activity Diagram

3.2.1 MSMEs Admin Activity Diagram

The activity design diagram on the admin page shows that the admin must first log in to access the main menu and process MSMEs data, MSMEs locations, and MSMEs assessment data. The form of the web admin activity diagram that was built can be seen in Figure 3.

Figure 3: Activity diagram of the MSMEs Admin

3.2.2   Activity Diagram of MSMEs Actors

The design of the MSMEs activity diagram shows that the MSMEs actors page is required to log in first to be able to access the main menus and input product data. The form of the MSMEs Actors activity diagram that was built can be seen in Figure 4.
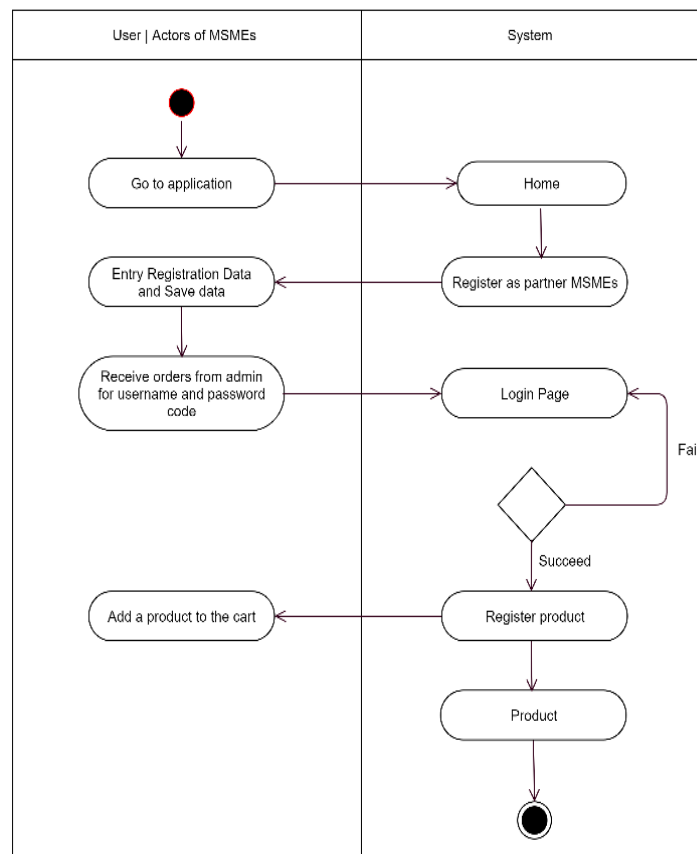

Figure 4. Activity Diagram of MSMEs Actors

3.2.3. Activity Diagram of MSMEs Customers

The design of the MSMEs Customer activity diagram shows that the customer page can access the main menus and make product purchases. The form of the MSME customer activity diagram that was built can be seen in Figure 5.
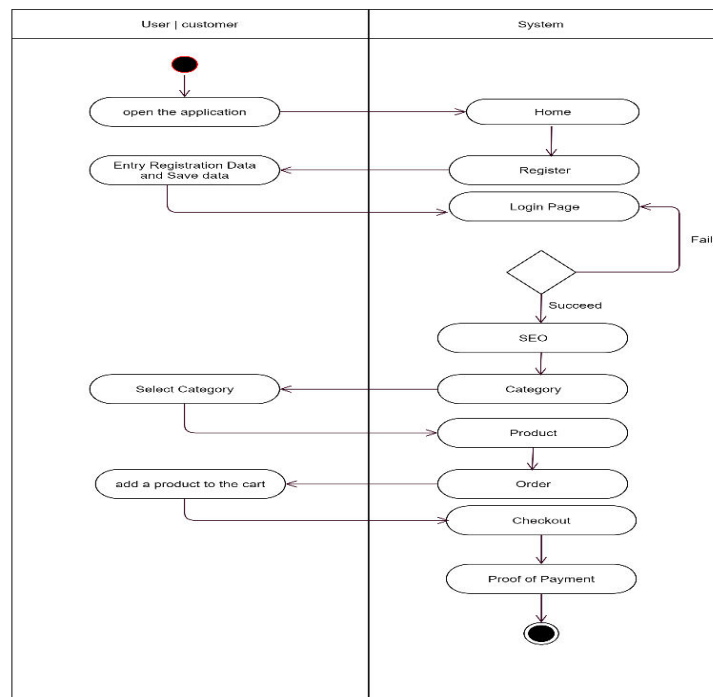

Figure 5: Activity diagram of MSMEs Customer Users

3.2.4 Activity Diagram of the Purchasing Process

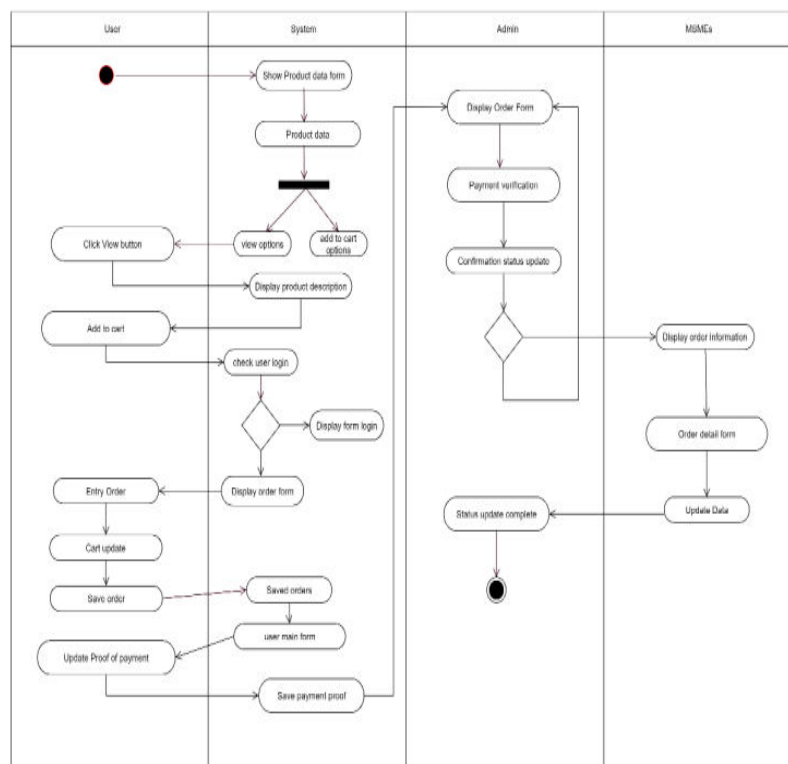The form of the Activity Diagram of the Purchasing Process built can be seen in Figure 6.

Figure 6. Activity Diagram of the Purchasing Process

3.3. Class Diagram

Class Diagram describes the system's structure in defining the classes created to build the system. The form of the Class Diagram that was built can be seen in Figure 7.
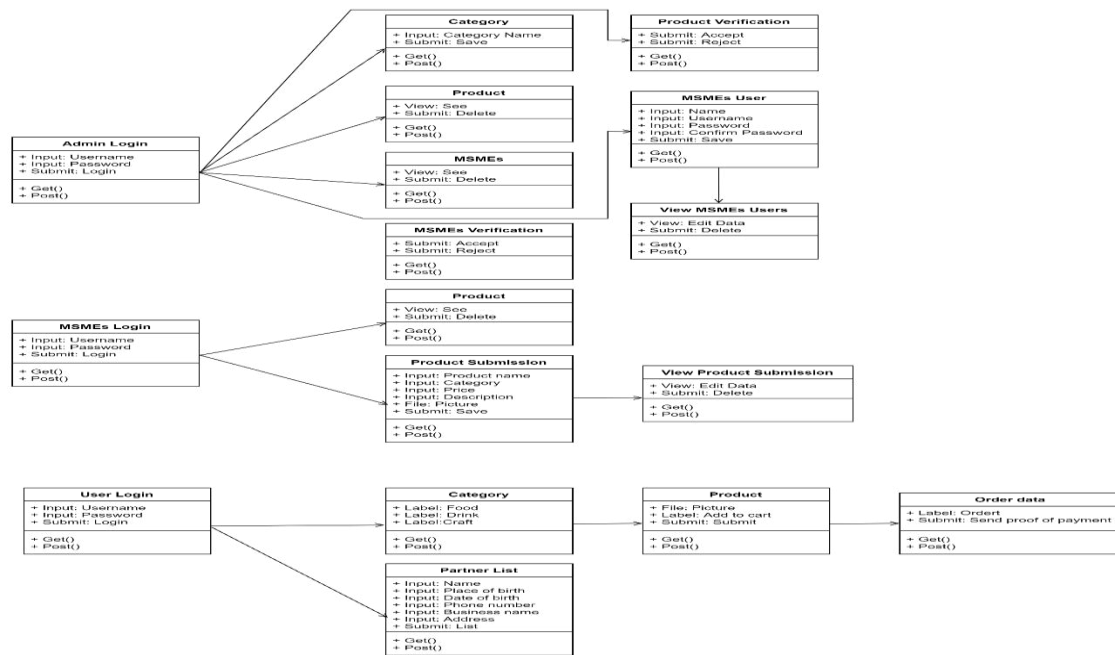
Figure 7. Class diagram

3. 4. SEO Implementation

3.4.1 Title Tags

Visitors can find out the outline of the information presented through the Title tag. The title tag is significant to be optimized in the Blog Title and for the article title. In SEO, the title tag plays a significant role because the title tag is the essential factor for search engines to measure the relevance of keyword searches.
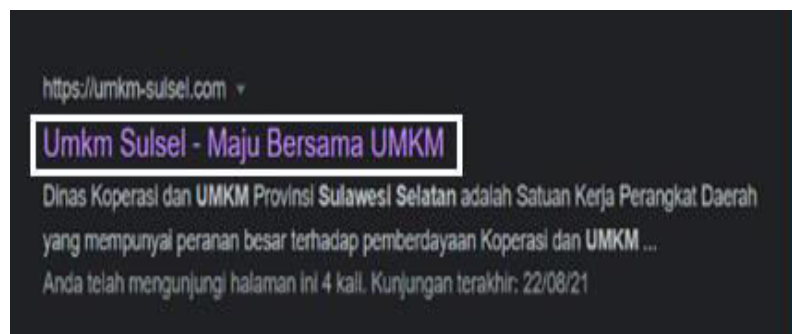

Figure 8. Applying Title Tags

3.4.2. Meta Description

Google uses the meta description as an alternative if Google cannot find the correct information. Meta tags do not appear on post pages, so most visitors never see them.

Figure 9. Applying Meta Description

3.4.3. Image Optimization

Images Optimization can be a component of a website. Its use can be optimized by utilizing the ALT attribute in determining alternative text for an image. It is helpful if the images cannot be displayed for some reason.

Figure 10. Applying Image Optimization

3.4.4. Internal Link
Internal links are links that link two pages on the same website. Search engines will display URLs to specific pages on the website based on keywords.
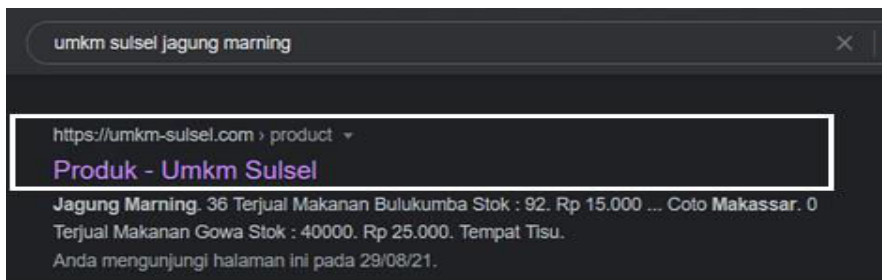

Figure 11. Implementation of Internal Link

3.5. Search Engine Result
Search engine results are obtained from searching several keywords related to umkm-sulsel.com using the search engine on Google.
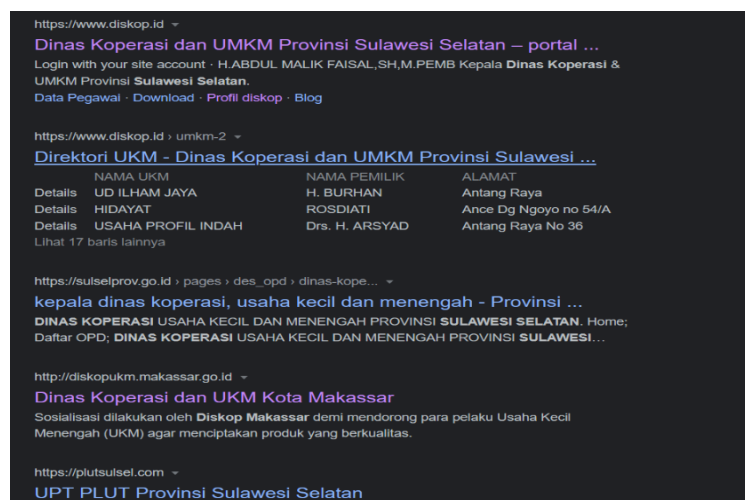

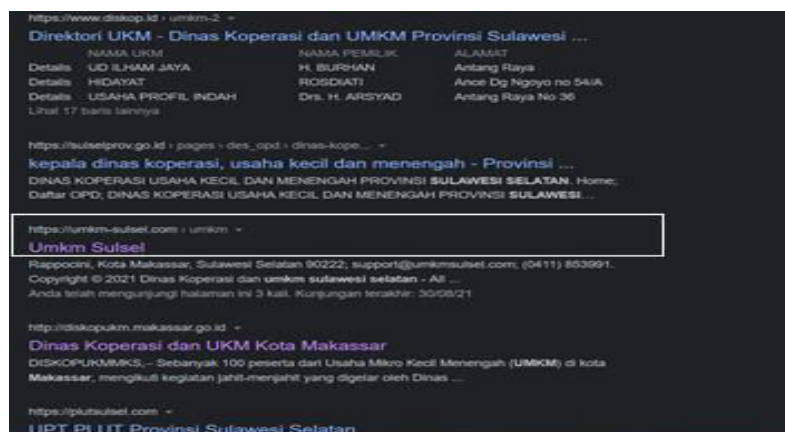**Figure 12.** Website Without Using SEO

Figure 13. Website Using SEO

The results of website testing without using Search engine optimization (SEO), which was carried out for two weeks, did not place the website on the search engine on the front page of Google. At the same time, websites that use SEO that is carried out for two weeks (12 July - 25 July 2021) are tracked on search engines and are on the front page on the 3rd order.

The Testing stage is the final measurement stage, where this stage is carried out after the implementation stage is carried out. The final measurement is carried out on the umkm-sulsel.com website, optimized using SEO On-Page and SEO Off-Page. This stage aims to find out the final result of traffic visits after optimization using Google Analytics for traffic visits
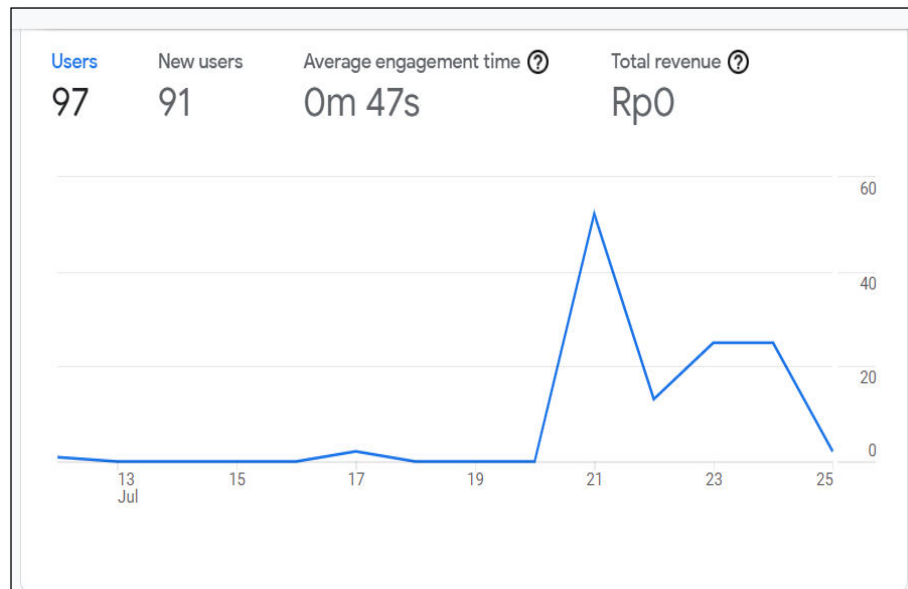

Figure 14. Visitor Graph

4 CONCLUSION

In this work, Users can access the website quickly and easily and find websites in search results with specific keywords related to the cooperative and MSME services by using search engine optimization (SEO). Users can also easily navigate the website and get quality information in making buying and selling transactions in e-commerce

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