

Implementation of the Ternakloka Application membership method in increasing livestock sales in Kota Pari Village

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ABSTRACT

Livestock has an important role in improving the economy of rural communities. However, there are still obstacles faced by breeders in Kota Pari Village. The main problems are the sale of livestock, difficulties in promoting livestock or bringing livestock to traditional markets and the involvement of middlemen in the process of buying and selling livestock. Overcoming these problems, the researchers implemented the website-based Ternakloka membership application membership method. The membership method which is based on fuzzy set theory allows for more flexible classification of data into categories. This study tested the Ternakloka application using the membership method in Kota Pari Village. The results of this implementation indicate a significant increase in the availability of livestock information to potential buyers. The evaluation results show that the Ternakloka application with the membership method has succeeded in increasing efficiency and transparency in selling livestock in Kota Pari Village. With better information accessibility and implementation of a more effective marketing strategy, livestock sales have increased which has a positive impact on the economy of the farming community. This research provides evidence that the use of livestock application technology using the membership method can be an innovative solution and has the potential to improve the welfare of farmers and encourage the growth of the livestock industry in rural areas.

Keywords: Application, Ternakloka, Membership, Implementation, Kota Pari Village

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1. INTRODUCTION

Kota Pari Village is one of the villages producing cattle and goats [1, 2]. The majority of livelihoods in Kota Pari Village are breeders because Kota Pari Village has natural resources in the form of grass which is animal feed throughout the year. However, even though they have potential, breeders still face a number of challenges in optimizing the sales potential of their livestock. One of the critical challenges is the limited accessibility of information related to the location and condition of livestock to be sold, both for the breeders themselves and for potential buyers.

The importance of mapping and monitoring livestock data is becoming increasingly relevant with the increasing demand for high quality livestock products in the market. Without proper access to this information, valuable business opportunities may be missed and the operational efficiency of the farmer may be compromised. In addition, the lack of data analysis and appropriate marketing strategies can also hinder efforts to increase livestock sales in Kota Pari Village [3, 4, 5].

This study aims to implement the membership method in the website-based Ternakloka Application as a solution to increase livestock sales in Kota Pari Village. The membership method based on fuzzy set theory allows for more flexible classification of data into categories, which takes into account the degree of membership of the data in each category [3,4]. The use of this method is expected to overcome the limitations of existing livestock mapping and monitoring, as well as assist in making strategic decisions in livestock marketing [5, 6, 10]

Website-based Ternakloka applications are built using the PHP programming language and MySQL database. Researchers tested and evaluated the Ternakloka Application that had been implemented using the membership method in Kota Pari Village. Data was collected from breeders and prospective livestock buyers through interviews and surveys. In addition, historical data on livestock sales have also been analyzed to compare the effectiveness of the application before and after the implementation of the membership method.



In the future, this research is expected to make a significant contribution to the development of the livestock industry in Kota Pari Village or other similar villages or areas which are livestock producing areas. Besides that, it can provide new insights in increasing the use of technology in the livestock industry, as well as making a positive contribution in overcoming the problem of livestock sales in rural areas. A website-based application is needed to support business promotion and sales [7, 8, 9, 10]. Besides that, the participation of human resources in the village must also be increased with various improvements and knowledge of the use of technology [11, 12, 4].

2. RESEARCH METHOD

This study uses the membership method. In the context of the website-based Ternakloka application, "membership" refers to the method or concept used to classify livestock data or information into certain groups based on their degree of membership in each of these groups. So that the Ternakloka application can make it easier for prospective buyers to choose the required livestock based on the classification of livestock data.

This membership method is based on fuzzy set theory [13, 14, 15]. Fuzzy set is a mathematical approach that allows an element or data to have a level of membership in a certain set, not just a full member or not a member at all [20, 21]. In the website-based Ternakloka application, the membership method allows classifying livestock data based on the level of membership or association with certain attributes or categories.

The implementation of the membership method has also involved several developments in the Animal Husbandry application, with the aim of obtaining an application that suits the needs of livestock breeders, especially livestock breeders in Kota Pari Serdang Bedagai Village so that it can be used to determine the limits of the Animal Husbandry application. In general, the Animal Husbandry application contains modules that breeders can use in uploading livestock to be promoted and modules for potential customers who will make buying and selling transactions. To access the Ternakloka application, breeders and buyers must log in first by accessing the link <https://www.ternakloka.com/> then to access as a premium seller users must subscribe to a membership that is valid for a certain period.

Actor	Job
<i>Administrator</i>	<ol style="list-style-type: none"> 1. Set membership fees & confirm payments 2. Set the classification of animals 3. Communicate in discussion forums
<i>seller users Premium</i>	<ol style="list-style-type: none"> 1. Purchase a membership 2. Upload photos and descriptions of farm animals 3. Download the livestock digital marketing module 4. Communicate in discussion forums
<i>Buyer users</i>	<ol style="list-style-type: none"> 1. Access the livestock data offered 2. Enter the shopping cart 3. Make purchases and payments
<i>Executive</i>	<ol style="list-style-type: none"> 1. View membership sales reports

Figure 1. Membership Implementation in the Ternakloka Application

Using the membership method in the Ternakloka application provides various advantages and benefits that contribute to increasing efficiency and effectiveness in livestock management and livestock sales. Following are some of the main advantages of using the membership method in the Ternakloka application [22, 23, 24]:

1. Flexibility in Data Classification:

The membership method in the Ternakloka application allows for more flexible data classification. Unlike traditional classification methods that consider data as full members of a group, the membership method considers the level of data membership in each group. This is useful when livestock data has overlapping or complex attributes, so it can provide more accurate classification results.

2. Deeper Data Analysis:

The membership method allows deeper and more detailed data analysis. By combining numerical and linguistic data, the Ternakloka application can identify the level of membership of livestock in certain categories. For example, for livestock health attributes, the application can provide information about a certain level of health, such as "healthy," "fairly healthy," or "less healthy," not just "healthy" or "unhealthy" as in the binary classification method.

3. More Accurate Livestock Location Mapping:

The membership method allows for more accurate mapping of livestock locations. Ternakloka application can utilize geographic information and other attributes to map livestock locations with membership levels in

certain groups. This makes it easier for farmers to monitor and manage their livestock based on their precise location.

4. **More Accurate Decision Making:**

By using the membership method, the Ternakloka application can provide more comprehensive and accurate information to breeders and prospective livestock buyers. This helps breeders to make more informed decisions, including livestock management, selection of livestock types according to market needs, as well as effective marketing strategies.

5. **Increased Efficiency and Transparency in Livestock Sales:**

With better access to information through the Ternakloka application, prospective livestock buyers can obtain complete and reliable information about the condition of the livestock and the location of the farm. This increases efficiency in the sales process and helps increase trust between sellers and buyers.

6. **More Optimal Livestock Management:**

The membership method in the Ternakloka application allows for more optimal livestock management. Farmers can easily identify livestock health conditions and locations that require special attention, thereby increasing livestock productivity and welfare. By utilizing the membership method in the Animal Husbandry application, breeders and stakeholders in the livestock industry can experience great benefits in livestock management and marketing. The implementation of this technology can be an innovative solution in facing challenges [25] and increasing efficiency in the livestock industry in the digital era [26].

The research step is a series of systematic steps carried out by the researcher. starting from planning, collecting, analyzing, and interpreting data to answer research questions and until the specified targets have been met . Each research step has an important role in achieving valid, reliable and relevant research results. The following are the research stages of the website-based Ternakloka application with the membership method as follows:

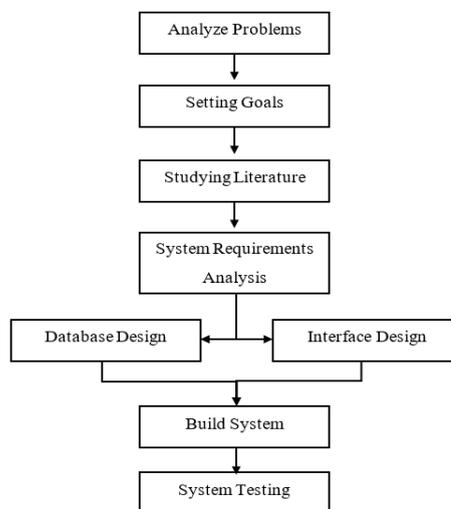


Figure 2. Research Stagesc

3. RESULTS AND DISCUSSION

The steps for implementing the Ternakloka application are carried out by integrating the concept of the membership method in livestock data analysis, mapping livestock locations, as well as presenting relevant information to livestock breeders and prospective livestock buyers.

3.1. Application Testing Results

After implementing the website-based Ternakloka application with the membership method, we tested this application in Kota Pari Village Serdang Bedagai [27]. The test results show that the Ternakloka application has succeeded in providing more accurate and comprehensive information regarding the condition of livestock and the location of livestock.

1. **Livestock Location Mapping:**

The application of the membership method in mapping the location of livestock allows for a more flexible classification based on geographical attributes and the conditions of the cattle pens. With more accurate mapping, breeders can easily access location information and optimize livestock management in their livestock areas.

2. Livestock Health Analysis:

Ternakloka application with membership method is able to analyze livestock health based on clinical data and health parameters. The results of the analysis provide more in-depth information about the health condition of livestock, thereby helping farmers to take timely preventive and treatment measures.

3. Livestock Classification:

With the membership method, the Ternakloka application can classify types of livestock based on certain attributes, such as cows, goats or chickens. This provides benefits for prospective livestock buyers in finding the desired type of livestock according to their needs.

3.2. Discussion of Findings

The implementation of the website-based Ternakloka application using the membership method makes a positive contribution in optimizing livestock farming activities and livestock sales in Kota Pari Village. Presentation of data and information that is more complete and easily accessible has helped breeders to make more informed decisions in the management of their livestock.

In addition, this application has also increased transparency and openness in the process of selling livestock. Prospective buyers have better access to information on livestock conditions and farm locations, resulting in a more efficient buying process and increased trust between sellers and buyers.



Figure 3. Application View

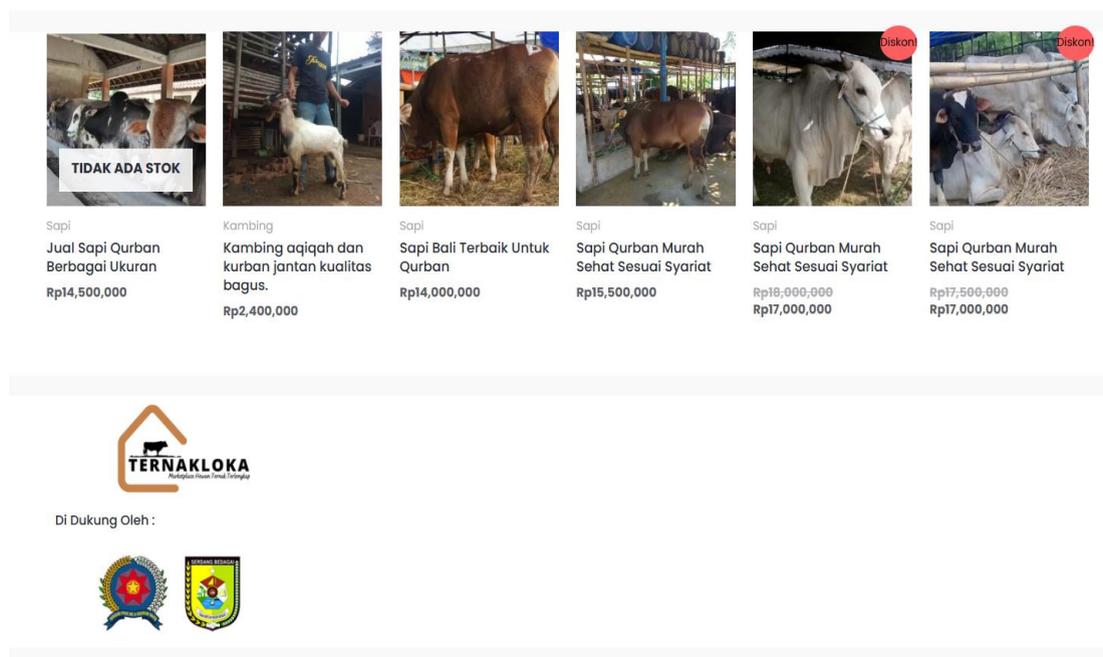


Figure 4. Seller Application View

4. CONCLUSION

The implementation of the website-based Ternakloka application with the membership method has brought positive changes in the livestock industry, especially in Kota Pari Village. The use of the membership method in data analysis and mapping of livestock locations has increased the efficiency of livestock management and assisted in making strategic decisions for farmers. This research can be used by other villages in Indonesia that have a profile of livestock producing villages such as Kota Pari Village. Not only cattle and goats that will be promoted with this application, but this application can also promote processed livestock products from upstream to downstream such as Nugget, yogurt, sausages and others. Besides that, it can also help breeders in selling livestock waste such as livestock manure.

This application also provides benefits for prospective livestock buyers by providing access to more complete and accurate information. Thus, the website-based Ternakloka application with the membership method can be an innovative solution in increasing livestock productivity and marketing in rural areas such as Kota Pari Village. Nonetheless, the continuous improvement and further development of this application needs to be considered to deal with the changing and ever-evolving market demands.

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