



## Digitalization of rabbit farming in Medan City, Indonesia

Rulianda Purnomo Wibowo <sup>\*1</sup>, Galih Ari Wirawan Siregar <sup>2</sup>, Hayatunnufus <sup>3</sup>,  
Khaliqi <sup>1</sup>, Herfita Rizki Hasanah Gurning <sup>4</sup>

<sup>1</sup>Agribusiness Department, Faculty of Agriculture, Universitas Sumatera Utara, Indonesia

<sup>2</sup>Animal Husbandry Department, Faculty of Agriculture, Universitas Sumatera Utara, Indonesia

<sup>3</sup>Computer Science Department, Faculty of Computer Science and Information Technology, Universitas Sumatera Utara, Indonesia

<sup>4</sup>Development Economics Department, Faculty of Economics and Business, Universitas Sumatera Utara, Indonesia

\*Corresponding Author: [rulianda\\_wibowo@usu.ac.id](mailto:rulianda_wibowo@usu.ac.id)

### ARTICLE INFO

#### Article history:

Received 19<sup>th</sup> October 2024

Revised 11<sup>th</sup> March 2025

Accepted 20<sup>th</sup> November 2025

Available online

<https://talenta.usu.ac.id/jst/index>

E-ISSN: 2621-4830

P-ISSN: 2621-2560

#### How to cite:

R.P. Wibowo, G.A.W. Siregar, Hayatunnufus, Khaliqi, H.R.H. Gurning "Digitalization of rabbit farming in Medan City, Indonesia," *Journal Saintech Transfer*, vol. 8, no. 2. pp. 119-124. 2025.

### ABSTRACT

Rabbit farming is presently being developed as an alternative source of animal protein in Indonesia. Some of these challenges include the appropriate keeping of records related to production processes and the marketing of products. In response to the challenges encountered by rabbit farming group, a proposed solution entails offering training on the use of digital applications for financial bookkeeping and marketing purposes. This community service initiative is geared towards facilitating the implementation of an Android application aimed at enhancing the operational efficiency of rabbit farming businesses. The approach used in this community service is Participatory Rural Appraisal. The results of the Community Service activities indicated that the farmers were proficient in using the Adorabbit application and followed the instructions effectively. Based on this observation, the adorabbit application was inferred to provide significant assistance to rabbit farmers in Medan City, specifically in the areas of recording rabbit production and managing finances, thereby, enabling the enhancement and expansion of their livestock businesses.

**Keyword:** Digitization, Rabbit, Recording

### ABSTRAK

Peternakan kelinci di Indonesia mulai dibudidayakan sebagai alternatif sumber protein hewani. Beberapa permasalahan yang dihadapi diantaranya adalah pembukuan proses produksi dan pemasaran produk. Berdasarkan permasalahan kelompok ternak kelinci maka diberikan solusi mengadakan penyuluhan tentang penggunaan aplikasi dalam membuat pembukuan keuangan dan pemasaran secara digital. Tujuan dari pengabdian ini adalah memberikan pendampingan dalam implementasi aplikasi android untuk membantu peternak dalam menjalankan usaha ternak kelincinya sehingga usaha ternak dapat dilakukan secara optimal. Pendekatan yang digunakan dalam pengabdian ini adalah Participatory Rural Aprasial. Hasil dari kegiatan Pengabdian Masyarakat ini menunjukkan bahwa para peternak telah mahir dalam menggunakan aplikasi Adorabbit dan mengikuti instruksi secara efektif. Berdasarkan hasil pengamatan ini, aplikasi Adorabbit dapat disimpulkan dapat memberikan bantuan yang signifikan bagi para peternak kelinci di Kota Medan, khususnya di bidang pencatatan produksi kelinci dan pengelolaan keuangan, sehingga dapat meningkatkan dan mengembangkan usaha peternakan mereka.

**Keyword:** Digitalisasi, Kelinci, Recording



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International.

<http://doi.org/10.32734/jst.v8i2.13668>

### 1. Introduction

Rabbit farming is presently being developed as an alternative source of animal protein in Indonesia. In addition, this form of agricultural endeavor currently possesses substantial economic worth, rendering it an enticing venture [1]. Rabbits have the ability to grow and reproduce quickly, both through household and industrial scale business patterns [2]. Rabbit meat production in Indonesia has exhibited a favorable trend from 2020 to

2022, amounting to an approximate production rate of 490 tons in 2022, which was concurrent with the rise in rabbit population from 2021 to 2022.

Accordingly, Indonesian consumers are increasingly identifying health-conscious preferences, favoring meals with high protein and low-fat content. It is important to clarify that rabbit meat comprises protein and fat contents of 21% and 8% respectively [3]. Compared to beef and chicken meat, its protein content is relatively high, and the fat is significantly low. Based on these facts, consumers are advised to consume more rabbit meat, since it is considered healthier.

The increasing demand for this commodity is significantly driving the development of rabbit farming sector in the country. In Indonesia, North Sumatra is one of the most significant rabbit-producing provinces, which has experienced an increase in rabbit population from 2020 to 2022. This population was determined to be approximately 14,660 heads [4]. Despite this substantial production rate, rabbit farmers in the province still encounter several challenges. Some of these challenges include the appropriate keeping of records related to production processes and the marketing of products. These issues are predominantly faced by rabbit farmers in Medan City, North Sumatra, which is one of the central areas for rabbit meat production in the country.

When engaging in rabbit production, it is important that farmers distinctly identify the breeds they are raising. This practice is essential to avoid inbreeding among rabbit, which can adversely affect their quality of life and result in a population reduction. However, members of rabbit farming group in Medan City manage their rabbit farms conventionally and lack proper codification or identification for the breeds being raised.

Another significant issue faced by rabbit farmers is marketing and financial management. This is primarily due to the fact that both marketing and financial management activities are conducted conventionally, often resulting in frequent recording errors and suboptimal marketing outcomes. This situation has also been exacerbated by the COVID-19 pandemic, which has in turn affected rabbit farming sector in Indonesia over the past three years. The pandemic limited conventional rabbit marketing methods, where buyers traditionally approach rabbit farmers directly and relied on word-of-mouth information [5]. Considering these adverse effects, there is a necessity for technological innovation among rabbit farmers in Medan City to establish alternative markets through the use of existing information technology [6].

In response to the challenges encountered by rabbit farming group, a proposed solution entails offering training on the use of digital applications for financial bookkeeping and marketing purposes. Digitization includes the process of converting documents and archives into digital format [7]. In this regard, rabbit farmers are expected to receive comprehensive training on digital financial bookkeeping and marketing using a specialized e-commerce application tailored to their specific needs. The training program proposed in this study covered materials specifically designed to address the challenges faced by farmers. This community service initiative is geared towards facilitating the implementation of an Android application aimed at enhancing the operational efficiency of rabbit farming businesses. In the current generation, data processing can be accessed via various devices such as mobile phones/smartphones [8].

## **2. Methods**

In response to the challenges faced by rabbit farmers, a solution was implemented. Following discussions with one of the respondents, this solution entailed the implementation of technology to aid the effective marketing of their products, while maintaining the financial records via a mobile application. Multiple continuous and collaborative methods were used as part of this initiative, they include:

1. Using Participatory Rural Appraisal to actively engage group members, with farmers as the primary subjects and universities serving as facilitators in the process.
2. Devising a comprehensive method, where all community engagement activities are carried out simultaneously, comprising human resources, and conducted through counseling and mentoring.

Following this, these methods were then implemented in five stages:

Table 1. Stages of community service activities

No	Type of Activity	Farmer Participation	Activity Outputs	Problems and Solutions
1	Observation or initial survey	As a source of information about the problems that exist in the community service location	Knowing the problems and looking for appropriate solutions and methods	Through community service programs, namely marketing and financial bookkeeping applications training.
2	Interview with farmers	As a source of information about readiness to participate in community service programs	Planned community service program	Organizing counseling to solve problems in the field
3	Socialization of community service	As an active participant, prepare a place during the training	Rabbit farmers understand the purpose of community service, are willing, and can implement this program.	Using motivational methods and encouraging partners to participate in community service actively
4	Application usage training	As a training participant		Monitoring
5	Evaluation, monitoring, and ongoing assistance	Monitoring and evaluation with the community service team	Partners rabbit farmers can take part in training on the use of applications	Conducting routine application maintenance

### 3. Results and Discussion

#### 3.1. Implementation of community service activities

In the initial phase of the Community Service team at North Sumatra University, a survey was conducted to lay the groundwork for implementing training sessions focused on financial statement recording. In the second stage, the team carried out training activities on the comprehensive steps taken to effectively draft financial reports. In the third stage, training regarding the correct usage of the Android application for the implementation of digital recording of financial reports was provided. A total 25 rabbit farmers to be participant in this community service with characteristic in the Table 2.

Table 1. Rabbit farmer characteristics

Characteristic	Description	Total	Percentage
Sex	Male	19	76
	Female	6	24
Age (Years)	< 26	0	0
	26 - 35	7	28
	36 - 45	16	64
	>45	2	8

The team undertook a journey from North Sumatra University to the community service location, which comprised an approximate duration of 30 minutes. Following this, at the location, several activities were carried out. In the first activity, the team conducted a survey in preparation for the implementation of community service endeavors, which were implemented on Sunday, July 03, 2022, at 10.00. This activity consisted of two concurrent information sessions. Alongside the counseling efforts by the community service

team, they also gathered additional information regarding the needs of rabbit farmers.



Figure 1. Material delivery by Dr. Rulianda Purnomo Wibowo.

In this activity, Dr. Rulianda Purnomo Wibowo delivered relevant material on proper business financial record-keeping, and Galih Ari Wirawan Siregar provided materials on effective recording of rabbit development. It is also important to acknowledge the active participation of 25 rabbit farmers in Medan City, with the activity lasting until 01:00 p.m. Before the training and socialization of the Adorabbit application, the farmers were still recording their livestock manually. This often led to mistakes in the breeding process, which resulted in a decline in livestock population and a decrease in sales. However, after the training and outreach sessions, the farmers gained a better understanding of how to systematically document their livestock. The Adorabbit application has proven to be helpful in enabling them to manage both their farms and finances more effectively. In addition to delivering the materials, the team also proceeded with further service activities by providing direct assistance in the use of the Adorabbit application, allowing the farmers to immediately apply what they had learned.



Figure 2. Submission of material by Galih Ari Wirawan Siregar, S.Pt., M.Si.

Following the execution of this activity, the community service team successfully compiled and developed an Android-based livestock management application named ADORABBIT, which was specifically designed for rabbit farmers. This application was made available over a month, and it was developed to furnish registered users with comprehensive information pertaining to rabbit livestock recording, marketing, and basic financial management.

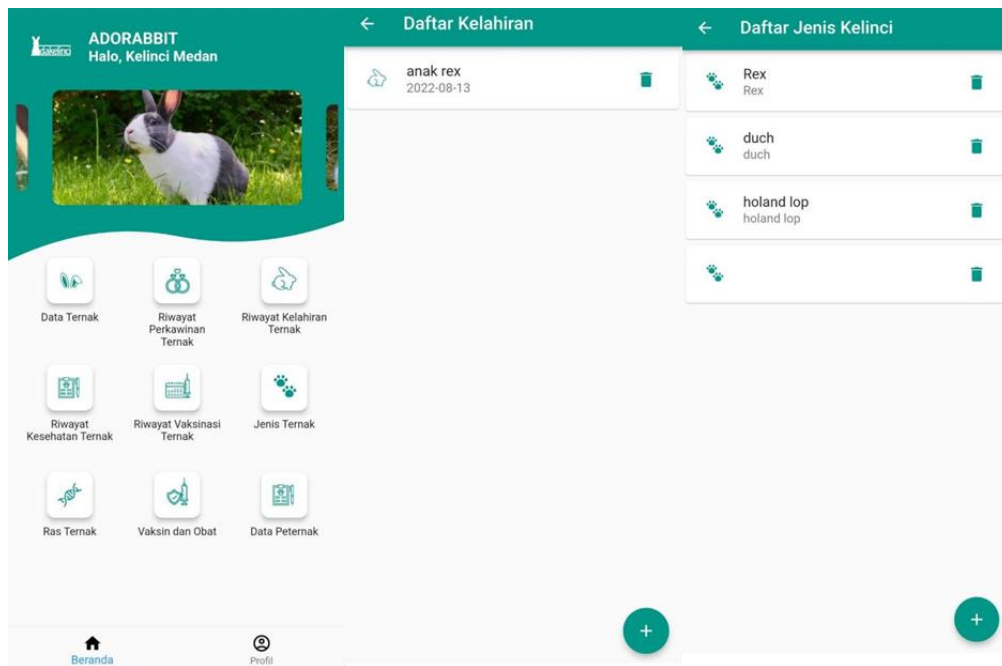


Figure 3. Adorabbit app view.

Several features were integrated into the ADORABBIT application interface, which is as follows:

1. *Data Ternak* (Livestock Data): This feature is used by farmers to record or classify the breeds of rabbit being raised by allocating codes or names to the farm animals.
2. *Riwayat Perkawinan Ternak* (Livestock Mating History): This feature is used to record rabbit marriages, hence, ensuring farmers avoid inbreeding.
3. *Riwayat Kelahiran Ternak* (Livestock Birth History): This feature is used to record the birth history of new rabbit and will be directly connected to rabbit livestock data owned.
4. *Riwayat Kesehatan Ternak* (Livestock Health History): This feature is used to record the history of diseases suffered by rabbit during their growth process.
5. *Riwayat Vaksinasi Ternak* (Livestock Vaccination History): This feature is used to record the vaccination activities that have been carried out on rabbit.
6. *Jenis Ternak* (Livestock Type): This feature is used to classify whether rabbit produced are intended for consumption or meant to serve as ornaments.
7. *Ras Ternak* (Breed): This feature is used to record the results of rabbit breed identification.
8. *Vaksin dan Obat* (Vaccines and Drugs): This feature is used to record the types of drugs and vaccines given to rabbit.
9. *Data Peternak* (Farmer Data): This feature allows for the identification of rabbit farmers in Medan City, thereby, promoting the exchange of information and media for livestock sales among the community

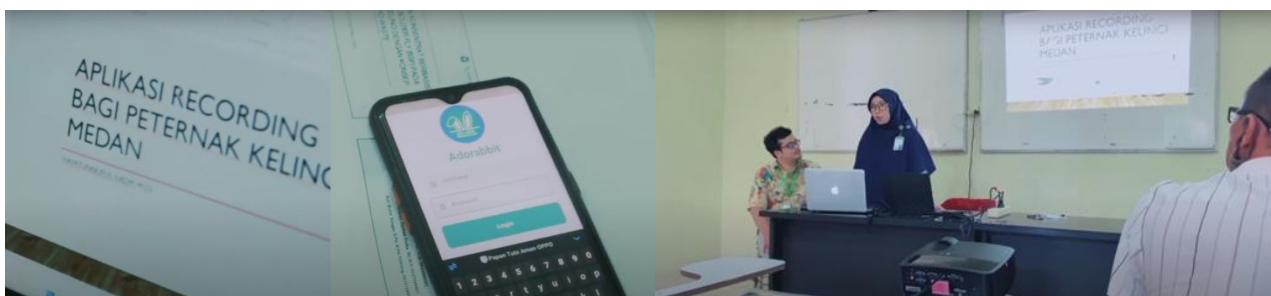


Figure 4. Adorabbit application implementation training.

Each phase of the training program for rabbit farmers included measurable indicators to assess knowledge and skill development. The first session (July 3, 2022) on recordkeeping and marketing was evaluated using pre- and post-tests, along with practical exercises in livestock data entry and marketing planning. During the



survey and FGD phase (July 4 – August 6, 2022), indicators focused on the farmers' ability to identify digital needs for the ADORABBIT application. The second session on financial bookkeeping assessed participants' understanding of basic accounting and their ability to record transactions. The final training (August 13, 2022) on digital literacy measured both familiarity with and usage of the ADORABBIT app. Monitoring showed that 80% of participants applied new skills in recordkeeping and 75% used the app within two weeks, indicating positive impact and adoption. After taking part in training, rabbit breeders are expected to be able to demonstrate changes with increased insight and skills which will later be able to support them in fulfilling their needs [9].

#### 4. Conclusions

In conclusion, the results of the Community Service activities indicated that the farmers were proficient in using the Adorabbit application and followed the instructions effectively. Based on this observation, the adorabbit application was inferred to provide significant assistance to rabbit farmers in Medan City, specifically in the areas of recording rabbit production and managing finances, thereby, enabling the enhancement and expansion of their livestock businesses. Furthermore, the farmers were encouraged to maintain consistency in recording their rabbit business activities, including both production and sales, as it was anticipated to provide great benefits for the development of other rabbit farms in the city.

#### 5. Acknowledgements

This Community Service activity was made possible through the USU NON-PNBP funding in accordance with the Mono Year Community Service Implementation contract for Fiscal Year 2022, with contract number 319/UN5.2.4.1/PPM/2022, dated May 25, 2022.

#### References

- [1] A. R. Fadhillah, S. W. Iriananda, W. Purnomowati, and R. Julia, "Implementasi aplikasi sinici kudo pada peternakan kelinci Peci P' Rama di Kabupaten Tulungagung," [Implementation of the Sinici Kudo application at the Peci P' Rama rabbit farm in Tulungagung Regency] *Jurnal Aplikasi Sains dan Teknologi*, vol. 6, no. 1, pp. 673–682, 2022.
- [2] S. Bahar, *Pedoman Teknologi Budidaya Kelinci di Perkotaan*, [Guidelines for Rabbit Farming Technology in Urban Areas] Balai Pengkajian Teknologi Pertanian (BPTP), Jakarta, 2018.
- [3] S. Istiana and A. Z. Zakariya, "Potensi pengembangan ternak kelinci mendukung peningkatan gizi masyarakat di Kota Batu," [The potential for rabbit farming supports improved nutrition for the community in Batu City] in *Seminas Nasional Menggagas Kebangkitan Komoditas Unggulan Lokal Pertanian dan Kelaut*, 2013. pp. 229–235.
- [4] Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian, *Statistik Peternakan dan Kesehatan Hewan 2022*, [Livestock and Animal Health Statistics 2022]. Jakarta: Direktorat Jenderal Peternakan dan Kesehatan Hewan Kementerian Pertanian; 2022.
- [5] F. Fahrudin and M.S.A Prnat, "Pendampingan peternak kelinci dalam strategi pemasaran melalui media sosial guna meningkatkan ekonomi," [Assisting rabbit farmers in marketing strategies through social media to improve the economy] *Lamahu: Jurnal Pengabdian Masyarakat Terintegrasi*, vol. 2, no. 2, pp. 95–102, 2023.
- [6] A. Alfraita, E. Aisiyah, and M. L. Dila, "Rintisan pemasaran kelinci di desa pecalukan dengan memanfaatkan media sosial," [Initiating rabbit marketing in Pecalukan Village by utilizing social media] *Jurnal Abdi Bhayangkara*, vol. 2, no. 02, pp. 688–698, 2020.
- [7] B.T. Mahardika, "Analisis dan perencanaan sistem informasi manajemen peternakan sapi berbasis online pada CV. Fadel Indah Aji," [Analysis and planning of an online cattle farm management information system at CV. Fadel Indah Aji] *Jurnal Teknologi Informasi*, vo. 3, no. 1, pp. 1-13, 2017.
- [8] H.A. Rusdiana, M.M. Moch, S.T. Irfan, M. Kom, H.M.A Ramdhadi, *Sistem Informasi Manajemen*, [Management Information System], CV Pustaka Setia, Bandung, 2014.
- [9] S. Fatine, "Pemberdayaan masyarakat kota dibidang ekonomi melalui UMKM Ladu Arai Pinang di Lubuk Buaya Kota Padang," [Empowering urban communities economically through the Ladu Arai Pinang MSME in Lubuk Buaya, Padang City [Empowering urban communities economically through the Ladu Arai Pinang MSME in Lubuk Buaya, Padang City] *Lamahu: Jurnal Pengabdian Masyarakat Terintegrasi*, vol. 1, no. 2, pp 78-83, 2022.