Identifying the supply chain management of the rabbit farming business in Bekasi Municipality, Indonesia

Amelia Rahma, Medi Nopiana, Alvira Anggraini

Faculty of Economics and Business, Universitas Singaperbangsa Karawang, 41361 Karawang, West Java, Indonesia. Corresponding author: M. Nopiana, medi.nopiana@fe.unsika.ac.id

Abstract. This research aims to identify the application of supply chain management in a rabbit farm in Bekasi Municipality, West Java Province, Indonesia. Supply chain management is key for a firm, including Micro, Small, and Medium Enterprises (MSMEs), in ensuring the efficiency and effectiveness of all business processes, so that the firm can operate more competitively and maintain its business continuity. It is no exception for agricultural-based MSMEs, including rabbit farms. The research method employed descriptive analysis. Based on supply chain management analysis, the research results indicate several challenges in the development of the "Abi Zam Rabbit" rabbit farm, notably limited capital and feed availability. To overcome these challenges, facilitation is needed from relevant stakeholders, including the government and banks, so that the farmer gains easy credit with affordable interest rates and collateral. Obtaining adequate business capital enables the farmer to realize the relocation of the farm. Thus, the business can continue to develop, including the farmer obtaining feed easily in a new farm location (particularly green fodder).
Key Words: descriptive analysis, operations management, rabbit supply-side.

Introduction. The development of Micro, Small, and Medium Enterprises (MSMEs) in Indonesia is currently being encouraged. MSMEs are expected to be the main pillars of the national economy, alleviate poverty, and create jobs and business opportunities. The government continues to develop regulations conducive to MSME development. Through synergy between all parties, particularly the government and the private sector, the commitment to fostering MSMEs must be consistently implemented to create increasingly resilient MSMEs (The Coordinating Ministry for Economic Affairs 2021; The Ministry of Finance 2023; Hidayat 2024).

The agricultural sector is one of the MSME business fields with potential in Indonesia, including rabbit farming (Bahar et al 2016; Hetharia & Suparman 2022; Ananta et al 2024). It is because rabbit farming is still relatively undeveloped. Yet, the products produced by rabbit farming promise significant economic value, especially for communities in suburban and rural areas.

Therefore, to develop MSMEs in the rabbit farming sector, it is necessary to examine it from various scientific perspectives, including operations management, specifically regarding supply chain management in the livestock business. Theoretically, supply chain management can ensure the efficiency and effectiveness of activities from raw material procurement, production, and product distribution to the end consumer. Improving the efficiency of rabbit farming businesses through the implementation of supply chain management can save costs, thereby increasing their competitiveness and maintaining business sustainability (Binus University Online no date; PT. Soltius Indonesia no date). Based on the description, this research aims to identify the implementation of supply chain management in the rabbit farming business in Bekasi Municipality, West Java Province. The research location was chosen for interesting reasons, considering that it operates in an urban area, where it is difficult to obtain green fodder supplies, and the availability of livestock land is limited.

Based on a literature search, no research has been reported on the implementation of supply chain management in rabbit farming businesses in Bekasi Municipality. Research related to the issue is still very finite. So far, only Wicaksono (2017) discussed the implementation of supply chain management at a rabbit farm in Batu Municipality, East Java Province, including the rabbit meat supply chain system at the farm. Meanwhile, research on rabbits in Bekasi Municipality was conducted by Nopiana et al (2025), discussing the visitors' perception of a rabbit recreation park.

Material and Method

Time and location of the research. This research was conducted from September to November 2025, located at a rabbit farm named "Abi Zam Rabbit" in Pedurenan Urban Village, Mustikajaya Subdistrict, Bekasi Municipality, West Java Province, Indonesia.

Administratively, Pedurenan Urban Village is one of four urban villages in the Mustikajaya Subdistrict. This urban village has the largest area in the Mustikajaya Subdistrict, namely 7.63 km^2 or 30.82% of the total area of the subdistrict. This urban village includes 25 Community Units and 183 Neighborhood Units. The population of this urban village in 2024 was 58,784 people, with a population density reaching 7,704 people per km^2. The distance from this urban village to the capital of Mustikajaya subdistrict is 3 km, while the distance to the capital of Bekasi Municipality is 15 km (The Bekasi Municipality Central Bureau of Statistics 2025).

Analysis methods, data, and data collection. The research utilizes a descriptive analysis method based on the results of data and information collection through observation and in-depth interviews with informants. The selection of informants was based on a non-probability sampling technique through purposive sampling. This research primarily relies on primary data for analysis, while secondary data is used to support and enrich the research findings. Primary data was sourced mainly from expert informants, namely the managers of the rabbit farm, who had adequate knowledge and extensive experience in directly managing the rabbit farm. In addition, secondary data was sourced from various publications of scientific research as well as official institutions, such as the Central Bureau of Statistics and other institutions.

Results and Discussion

The rabbit farm business profile. The "Abi Zam Rabbit" rabbit farm is managed by a farmer named Mr. Dede Koswara, whose hobby is raising animals such as rabbits, chickens, ducks, and catfish, which he then developed into a profitable business. He started his rabbit farm in 2018 and temporarily halted it due to capital constraints in 2021. Despite the initial pause, he is currently working to revive his business by reorganizing the cages, procuring new rabbits, and improving maintenance operations. He hopes that the experience from his previous venture will help him avoid similar obstacles in the future and move the farm towards a more sustainable business.

The 2019-2020 period was the golden age of this rabbit farm, reaching its peak production capacity, raising to 50 rabbits. It is a stark contrast to the current farm, where he only raises a smaller number of rabbits: 7 rabbits, consisting of 2 males and 5 females, in the breeding process. The rabbits raised are Rex rabbits, which can be used for both meat and ornamental purposes (Figure 1). Besides meat rabbits and pet rabbits, the rabbit farm delivers the same products, such as rabbit seeds, waste, and feed.

Figure 1. The type of Rex rabbit that is cultivated.

Supply chain management of the rabbit farm

The upstream part of the supply chain at the rabbit farm. This section covers rabbit stock and feed, medication, cages, and labor. Initially, the rabbit farm began with a fattening system, adopting two pairs of rabbits obtained from farms around the Bekasi Municipality or Regency. Over time, the rabbit stock of the farm was also obtained from rabbit farms in various regions, such as Lembang (Bandung Barat Regency), Sukabumi Municipality or Regency, and Garut Regency. However, stock from outside areas often fails to grow optimally due to environmental differences, temperature, or stress factors for the animals. Due to the high failure rate when relying on stock from outside areas, the farmer is currently planning to develop his own rabbit breeding (local stock) in the hope that the resulting rabbits will grow better and be of higher quality.

The rabbit's feed on the farm is mainly produced in-house in the form of pellets (Figure 2). Initially, the farmer purchased the feed from outside (trader), but over time, he began producing it himself to reduce costs and ensure adequate nutritional quality for the rabbits. The raw materials employed in the feed must contain fiber, protein, vitamins, and energy. Fiber-rich feed is obtained from forages sourced from grasses, garden waste, and grass clippings. Protein sources include soybean pulp and young soybeans, while cornmeal and wheat bran are used to supplement vitamin and energy requirements.

Figure 2. The pellets are utilized as rabbit feed.

The feed is made using 50% soybean pulp as the main ingredient. The pulp is derived from the remains of blended soybeans, which are then separated from the water through a filtering process. Furthermore, 30% of young soybeans are added as a supplement. Other ingredients include a mixture of corn flour and wheat bran, or the outer layer of the wheat kernel. All ingredients are then thoroughly mixed before being processed into pellets using a machine (Figure 3). Pelleted rabbit feed is more durable, convenient to administer, and maintains a stable nutritional content. Although green fodder is still available from the environment around the farm (particularly roadside areas, empty land, or former plantations), the usage of green fodder is more focused on as additional or alternate feed, not as the main feed.

Figure 3. The pellet-producing machine.

The farm's medicine supply utilizes only natural ingredients such as Javanese turmeric, saffron, and pure honey. The farmer also purchases several chemical medications for rabbits experiencing illnesses such as scabies and diarrhea. As the farm owner, the farmer employs only himself, although his wife and children occasionally assist with feeding the rabbits. The farmer also constructs the cages himself. Therefore, almost all inputs for production in this rabbit farm are managed through the owner's own initiative and efforts. It demonstrates that this business is indeed based on MSMEs, which possess characteristics, as described by Hidayat (2024), including: employing few workers, relatively low assets, low production costs, being managed by individuals or small groups, using simple technology, as well as being independently managed and having its own resources.

The production process on this rabbit farm. The activities begin with feeding, the breeding process, and rabbits' care and health. Rabbits are generally fed twice a day. However, on this farm, feeding should not be limited to a single type of material or a specific amount, given that rabbits have a wide variety of feed options. Feed is usually placed, and the rabbits will adjust their feeding needs. Once they are full, they will stop consuming. It is crucial because rabbits are very susceptible to hunger. When there is a lack of food, rabbits easily become stressed. It can seriously impact production activities, such as stunted growth and the sudden disappearance of young rabbits, because the rabbit mother may prey on its own young. This phenomenon is a natural response to rabbits' stress and nutritional deficiencies. Rabbits can actually meet their forage needs with grass and various types of leaves. Basically, just grass has been sufficient to meet basic nutritional needs, but providing a variety of forage plants is highly recommended (Figure 4). A variety of plants can boost rabbit immunity, improve production, and accelerate rabbit growth, as well as make them less susceptible to illness.

Figure 4. The rabbits are fed green fodder.

The most common diseases encountered when raising rabbits are bacterial diarrhea and scabies. For treatment, the farmer relies more on traditional remedies utilizing honey, Javanese turmeric, and saffron, or administers their own medication without bringing the rabbits to the Animal Health Center.

Rabbit breeding is generally quite fast and easy, with gestation lasting approximately 28–31 days. In one birth, a rabbit mother can produce between 5 and 10 offspring, depending on genetic factors and the quality of the feed provided. The better the nutritional intake, the higher the chance of a litter being born. According to Mr. Dede Koswara's comprehension, rabbits can also be mated with those of the same descent (consanguineous marriage), with the possibility that some offspring will be born with defects, but this is unlikely and rarely happens. To maintain the physical quality of rabbits, crossbreeding is usually carried out, especially for specific purposes. Newborn rabbits are placed on wood fibers and allowed to suckle from their mothers.

The distribution and marketing of this farm's products. The breeding stock on this farm can be sold live or as meat only. Breeding stock is ready for sale at six to seven months of age, weighing approximately 2 kg. Meanwhile, the rabbits for consumption result in the meat weighing approximately 2 kg (after shrinkage to approximately 1.5 kg, as bones and organs are not included in the weight). The young are released to market at one to two months of age, when they are weaned.

The rabbit farm sells the baby rabbits for IDR 50,000 per head, the adult rabbits for consumption of IDR 40,000–50,000 per kg, and the breeding rabbits for IDR 70,000 per head. The sales activity of the farm is carried out directly towards consumers upon receipt of orders. Regarding the distribution and marketing, rabbits prepared for sale are usually offered directly to individual consumers who visit the farm. Restaurant owners, meanwhile, require rabbit stocks to meet their rabbit meat needs. Short-distance deliveries are packaged in cardboard boxes, while long-distance deliveries are packaged in a wooden basket. Marketing the product is conducted through WhatsApp, Google Business, and personal Facebook pages. Customers come not only from around Bekasi Municipality but also from outside the region, such as Bogor Municipality and Regency, Tangerang Municipality and Regency, and as far away as Palembang City.

Byproducts generated from the farm's production activities include rabbit urine and feces. Utilization of the wastes increases the farm's income. Urine is collected regularly and then marketed to Bogor Regency, Karawang Regency, and the Nagreg area (Bandung Regency) to meet the need for organic fertilizer, particularly for rice and corn farming. The selling price is IDR 3,000 per liter. Furthermore, the rabbit manure is also used as organic fertilizer. Some of the manure is used for internal needs, particularly fertilizing the banana trees around the farm, while the remainder is sold to customers between IDR 15,000 and IDR 30,000 per sack.

The farm's challenges currently facing business sustainability. The farmer had planned to move the farm to a new location in Ciawi Subdistrict, Bogor Regency (near the Poultry and Various Livestock Assembly and Testing Center, Ministry of Agriculture). The goal of the plan was to improve the farm business development, which was supported by a more suitable environment and facilities. Perhaps, the farm's current location in Mustikajaya Subdistrict, Bekasi Municipality, is already inadequate due to the location in an urban area with a relatively dense population and limited land availability for business development.

As an initial step in the farm business development, some of the parent stock, along with some machinery and cage equipment, were sold, with the plan to replace them with new ones after the move. However, the plan stalled due to limited capital, while new land has been prepared. Hence, the lack of sufficient capital due to the farm business could not yet be operated at the new farm location. As a result, the farm must now start from scratch in a micro-scale business at the old location (currently in Mustikajaya Subdistrict, Bekasi Municipality) with a smaller number of parent stock. The situation means that the production cannot operate optimally, with sales determined in accordance with a limited number of orders.

However, the farmer hopes to have some additional capital in the short term to expand the business. This includes replacing the cage equipment and expanding the farm's capacity to occupy the area behind the farmer's house.

Conclusions. The results of identifying the supply chain management implementation of the "Abi Zam Rabbit" rabbit farm in Padurenan Urban Village, Mustikajaya Subdistrict, Bekasi Municipality, Indonesia, revealed several challenges in developing this business. The primary challenge is limited capital, mainly for relocating the farm to a more conducive location. Relocating a livestock business requires high costs and support from relevant stakeholders to ensure adequate capital availability. Therefore, facilitation and guidance from relevant stakeholders, particularly the Bekasi Municipality government (through the Agriculture Office) and banks, are essential for facilitating access to banks for livestock farmers' capital needs. Furthermore, the central government is actively promoting the provision of People's Business Credit (KUR) to MSMEs, offering low interest rates and easy collateral.

Besides the capital aspect, the farmer must ensure sufficient feed supplies and avoid shortages. The key to any livestock business, particularly rabbits, is feed availability. If feed is available in adequate quantities, and the breeding stock is healthy, as well as the offspring thrive, the farm business will continue to operate and generate profits for the owner.

Acknowledgements. The authors would like to express their deepest gratitude to the manager and owner of the "Abi Zam Rabbit" farm, Mr. Dede Koswara, who has given permission and is willing to share his knowledge and experience with us.

Conflict of interest. The authors declare that there is no conflict of interest.

References

Ananta R., Kalista M. M., Pratiwi Z. Y., Kuntari W., 2024 [Production and marketing of meat rabbits: a systematic review]. Botani: Publikasi Ilmu Tanaman dan Agribisnis 1(2):109-117. [in Indonesian]

Bahar S., Bakrie B., Sente U., 2016 [Profile of rabbit farming in the urban area of the Special Capital Region of Jakarta and its potential and development opportunities]. Jurnal Ilmiah Respati 7(2):613-617. [in Indonesian]

Hetharia L. F., Suparman, 2022 [Potential for rabbit breeding development in Sereh Village, Sentani District, Jayapura Regency]. Jurnal Pertanian Terpadu Santo Thomas Aquinas 1(1):7-12. [in Indonesian]

Hidayat D. A., 2024 [Developing MSMEs for a strong national economy]. Available at: https://www.djkn.kemenkeu.go.id/kanwil-jatim/baca-artikel/16933/Pengembangan-UMKM-demi-Perekonomian-Nasional-yang-Kuat.html. Accessed: March, 2025. [in Indonesian]
Nopiana M., Azzahra F., Ryanjani S. A., Purnamasari P., 2025 Visitors' perception of rabbit recreation park in Bekasi Municipality, West Java, Indonesia. Rabbit Gen 15(1):1-10.
Wicaksono A. F., 2017 [Supply chain analysis of rabbit meat at the Arema "Oit" Restaurant in Songgoriti, Batu Municipality]. BSc thesis, Universitas Brawijaya, Malang, Indonesia. Available at: https://repository.ub.ac.id/id/eprint/138104/. Accessed: March, 2025. [in Indonesian]
*** Binus University Online, no date [The importance of supply chain management for a company]. Available at: https://online.binus.ac.id/2020/04/10/seminar-online-supply-chain-4-0/. Accessed: May, 2025. [in Indonesian]
*** The Bekasi Municipality Central Bureau of Statistics, 2025 Mustikajaya subdistrict in figures 2025. Bekasi, Indonesia, 79 pp.
*** The Coordinating Ministry for Economic Affairs, 2021 May 5 [MSMEs become an important pillar in the Indonesian economy]. Available at: https://ekon.go.id/info-sektoral/15/347/berita-umkm-menjadi-pilar-penting-dalam-perekonomian-indonesia. Accessed: March, 2025. [in Indonesian]
*** The Ministry of Finance, 2023 Jun 27 [The contribution of MSMEs to the Indonesian economy]. Directorate General of Treasury, Ministry of Finance. Available at: https://djpb.kemenkeu.go.id/kppn/lubuksikaping/id/data-publikasi/artikel/3134-kontribusi-umkm-dalam-perekonomianindonesia.html. Accessed: March, 2025. [in Indonesian]
*** PT. Soltius Indonesia, no date [The importance of supply chain management in business companies]. Available at: https://www.soltius.co.id/id/blog/pentingnya-supply-chain-management-dalam-perusahaan-bisnis. Accessed: March, 2025. [in Indonesian]

Received: 20 November 2025. Accepted: 12 December 2025. Published online: 30 December 2025.
Authors:
Amelia Rahma, Faculty of Economics and Business, Universitas Singaperbangsa Karawang, 41361 Karawang, West Java Province, Indonesia, e-mail: 2210631020091@student.unsika.ac.id
Medi Nopiana, Faculty of Economics and Business, Universitas Singaperbangsa Karawang, 41361 Karawang, West Java Province, Indonesia, e-mail: medinopiana@yahoo.co.id; medi.nopiana@fe.unsika.ac.id
Alvira Anggraini, Faculty of Economics and Business, Universitas Singaperbangsa Karawang, 41361 Karawang, West Java Province, Indonesia, e-mail: 2210631020088@student.unsika.ac.id

How to cite this article:
Rahma A., Nopiana M., Anggraini A., 2025 Identifying the supply chain management of the rabbit farming business in Bekasi Municipality, Indonesia. Rabbit Gen 15(1):25-31.