

TernAkses: Livestock investment based on crowdfunding through custodial services and millennial farms planning

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Abstract. Gross Domestic Products in a country becomes an important focus in measuring the level of welfare of the people. One of the sectors contributing to Indonesia's high GDP is the agriculture sector in the livestock sub-sector. Indonesia is able to contribute from the livestock sub-sector to meet the food needs of the community at large. However, problems arise in accessing capital and sales of livestock products that make the livestock sub-sector's contribution fluctuate each year, so that Indonesia must import livestock products to meet public demand. The development of crowdfunding-based financial technology as a breeder capital strategy through capital contributions supported by the integration of livestock partners and millennial farms planning. Through innovations based on the digitalization of financing and marketing of livestock products and supported by a positive trend of internet growth. TernAkses is an investment service innovation and sale and purchase of livestock products based marketing. Access can solve existing problems through funding programs, partnerships, training, assistance, marketing and livestock sharing. TernAkses uses websites and applications that can be accessed through a broad range of community smartphones. In its application, the synergy of related stakeholders is needed to be able to implement the concept.

1. Introduction

The sustainability of a country's economy becomes the focus of the government in providing public welfare [1]. The country can see how successful it is in carrying out these policies through increasing Gross Domestic Product (GDP) every year [2]. However, over the period of 2011-2015, the level of state revenue has decreased from 6.16% to 4.87% and tends to stagnate at 5% in 2016-2019 [3]. One sector that contributes an important contribution to the country is the agricultural sector in the livestock subsector products [4]. The contribution of the livestock sub-sector to the 2018 national GDP is 1.57% [5]. Meanwhile, for the formation of the GDP of the agricultural sector in 2017, the livestock sub-sector contributed 15.87% and showed a positive trend each year. In 2017, the value of livestock exports reached US \$ 623.9 million or Rp. 8.5 trillion and Indonesian livestock products have been able to penetrate more than 110 countries. Although livestock is a traditional sector of the community in various regions [6], the contribution of the livestock sector is able to compete on the national to international level [7].



One of the productive areas in optimizing the livestock sub-sector is East Java Province [8]. East Java has large potential and prospective livestock resources to be developed optimally through the role of technology in the industrial revolution era 4.0. East Java will become a pilot area that will develop other areas that have a livestock base. Table 1 illustrates data of four productive areas of livestock in East Java.

Table 1. Data on productive areas for livestock in East Java [9].

Region	Category		
	Broilers	Beef	Goat
Malang	29.128.017	234.761	258.317
Jember	11.794.938	258.205	53.374
Tulungagung	8.644.073	122.652	197.174
Blitar	4.030.800	156.386	154.100

Table 1 shows the selected areas and potentials of East Java farms that can be utilized to increase the income of local farmers. This is also supported by the existence of artificial insemination that is able to facilitate farmers to improve the genetic quality of livestock, increase the birth rate of superior livestock that have an impact on increasing the income of farmers [10]. However, based on the secondary data available, despite the artificial insemination of the economy of East Java breeders is still not optimal and is relatively weak in order to help farmers get more income. Thus, there is a need for new innovations to help increase existing resources for piloting and driving agriculture in other productive areas [11]. *Firstly*, the classics that are generally accepted by farmers depend on the lack of access to capital and marketing of breeders' products, thus making it difficult to cut capital to raise livestock again.

Departing from these problems, the innovations we offer provide a bridge between farmers and investors to provide access to capital and the sale and purchase of livestock products as a production activity [12]. *Secondly*, this innovation promotes progress in the field of finance on a crowdfunding basis based on shared interests and ideologies [7,13,14]. The choice of crowdfunding method is also supported by the number of internet users who have reached 171 million people [15]. Many benefits will later be felt by those who are part of the management and partners of the program [16,17].

2. Methods

This innovation prioritizes research and development of existing research [4]. The approach of the research method is qualitative descriptive with primary data and secondary data. The analysis technique used is Business Model Canvas consisting of nine building blocks of research.

The technical steps used in the study are as follows:

2.1. Secondary data collection

Secondary data was obtained from the livestock sector agencies to cluster potential areas of livestock in East Java before direct observation.

2.2. Primary data collection

Data were obtained by observing breeders in 4 districts in East Java including, Bangkalan, Sidoarjo, Tuban, Malang, Blitar, Jember and Tulungagung. This data serves to determine the productivity of local farmers who will become livestock partners.

2.3. Determination of innovations in the animal husbandry sector

Further research after secondary and primary data are obtained in knowing the condition of farmers, animal husbandry innovation research is carried out that can solve the current problems of farmers.

2.4. *Research financial innovation models.*

Determination of the financing model studied to be able to invite all parties to collaborate to help with livestock financing issues.

2.5. *Animal husbandry marketing research*

Research offline or online marketing that fits the cattle market target.

2.6. *Formation of business model canvas*

Development of investment systems and product sales using a base website and android application. The use of the website is aimed at raising funds from various parties by accessing the following link www.ternakakses.wix.com/mysite/. While, product sales using an android application base that is easily accessed by the public through the following link <https://os.bikinaplikasi.com/download/ternakkses>.

3. Results and discussion

The innovations made encourage livestock to remain productive by utilizing progress in the industrial revolution 4.0 era [18]. Innovation is problem-solving from upstream to downstream needs to be done to help local farmers [17]. Based on secondary data, that livestock production has increased every year and some areas in East Java are the areas with the best prospects for livestock in Indonesia, such as Malang, Jember, Blitar, and Tulungagung.

Primary data from observations in breeders in Bangkalan, Tuban, Sidoarjo, and Malang areas were obtained that the problem of capital became the main problem in running the farm. Farmers choose the path of debt on some parties so that the farm can run even though the profits of the farm are lower than running a farm with independent capital and even tend to suffer losses. In addition, farmers who produce are still having difficulty in marketing access, generally, their production will be taken by middlemen in large quantities at low prices and there is a large difference in profits when livestock products are sold in the market. For this reason, farmers want a better marketing path than now in order to get a decent profit difference.

Based on the results of the research, by obtaining the main problems of farmers and supported by research developments in the field of innovation in animal husbandry, finance, and digital innovation models are obtained those answer livestock problems from providing capital to helping farm marketing through innovations offered namely TernAkses. The innovations made encourage livestock to remain productive by utilizing progress in the industrial revolution 4.0 era. Innovation is problem-solving from upstream to downstream needs to be done to help farmers. Innovation through Access has different characteristics from other livestock businesses. If in general livestock businesses only sell and buy or provide access to capital, but TernAkses has its own characteristics that make it different from businesses or similar platforms. TernAkses is designed to be a platform that is oriented to the use of online and offline crowdfunding-based websites and android applications with partner distributors. This is to break the chain of middlemen who always harm the farmers.

The TernAkses program can be carried out from upstream to downstream, as follow:

- Productive farmers' data collection. TernAkses will record farmers who have capital problems, productive assistance and sales to be able to increase their production;
- Livestock partner verification. The farmer will be given an MOU to collaborate to run the livestock project;
- Dissemination and Education. This socialization and education activity refers to projects that will be carried out with several activities such as, enclosure management, enlargement, selling, etc.;
- *Millennial farm planning*. Farmers and TernAkses will determine how much capital is needed and the sales market that will be addressed in one project going forward;
- Platform. It will be funded by investors in general by issuing shares [19];

- Funding livestock pens from investors. After the funds are collected, it will be given in stages to the farmers to avoid human error when the project is carried out and the bookkeeping process is well established
- Production guidance and assistance. Running a livestock project will be accompanied by academics/ practitioners who are experienced in their fields in order to obtain quality farm output.
- Sale of livestock. After the farm output is obtained it will be marketed in accordance with market segmentation in the planning stage and will work closely with TernAkses distributor partners;
- Share the sales. After all sales funds have been collected in accordance with the initial contract, it will be distributed according to partners, breeders, investors, distributors and TernAkses.

The services offered to potential investors are very important in the creation of a farm system based on Access. Therefore, TernAkses provides a variety of services so that investors can choose their own needs in the process of investing a risk/no risk. The types of animals that will become partners include, laying hens, beef chickens, dairy cows, beef cattle, catfish and goats. The TernAkses services provided to consumers, as follows:

- Buat Ternaku (Create my farm). That is a feature to plan a privately owned farm that will be managed with partners to ensure the success of the investment invested;
- Investasi Peternakan (Livestock Investment). It is a feature to invest in animal husbandry by providing capital to farmers;
- Jastip Ternak (Livestock depository service). It is a feature of livestock entrust services in which capital is provided to purchase livestock for breeders that will be raised by farmers and use a contract system or share the results when the animals are sold as adults or ready to sell;
- Spesial Qurban (Special Qurban). Namely features that provide access to the general public to be able to make contributions or personal sacrifice during the Eid al-Adha;
- Spesial Aqiqoh (Special Aqiqoh). Namely features that provide access to people who will do aqiqoh to their families with costs that can be adjusted according to ability.

The ease of using platform technology in the form of websites and android applications allows people to choose the access of their choice in daily life. The following is a model of using a website platform. The public who will make a contribution can visit the website provided by www.ternakakses.wix.com/mysite/. On the home page, the public can see information about the farm, the location of the farm, the purpose of the farm, and most importantly, the livestock project to choose from. The livestock project menu contains, for example, livestock capital funding, services for livestock deposit, my husbandry, special aqiqoh and special qurban Society can choose according to needs. Then, interested people can log in to assess farms and make payments through available payment channels and fill in investor biodata that is useful for issuing investment shares.

Furthermore, the community that becomes an investor will have a useful account to view the prospects of the farm which will be uploaded for 1 month via the web and email investors to find out the transparency of the farm's running. End of the period, the community will receive a profit sharing according to the type of investment chosen.

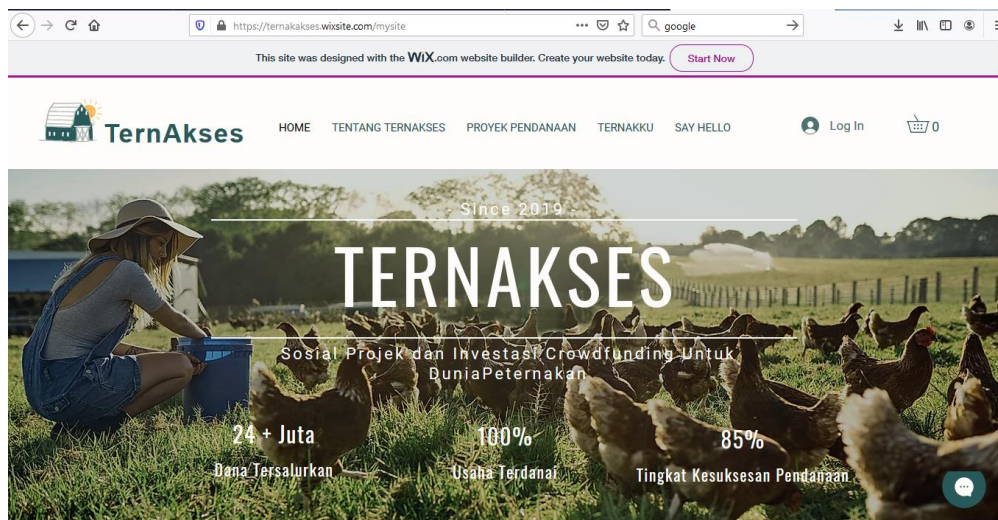


Figure 1. Home page of TernAkses website.

The wider community who will make contributions and buy farm animals can download the TernAkses android application provided through the play store, apps store, etc. The use of this android application can be used in choosing the type of funding, but the content of the menu is available more on animal sales from farm partners TernAkses [17] The menu in the android application is more complete than the website, the public can see livestock products ranging from dairy cows, beef cattle, catfish, laying hens, broilers and goats. How to use the application menu like applications in general, people can log in, choose funding projects/buy livestock products, then choose the quantity purchased, then fill out the available biodata, then make payments according to the payment channels available and the last will get information on the results purchases through the user's account and email.



Figure 2. Home page.



Figure 3. Product page.



Figure 4. Payment page.

It is hoped that with the ease of use of this website and android application it will be easier for the public

to use our products and help farmers get access to funding and sales of livestock products [16]. A strategic approach is used in carrying out this program by using STP analysis (*segmenting, targeting, positioning*). The STP analysis is as follows:

3.1. Market segmenting

Market segmentation in the implementation of the TernAkses program includes youth, students, adults and agencies. From several existing segments, this crowdfunding investment product selects a target market for all age ranges of at least 17 years;

3.2. Marketing targeting

From the market segmentation described above, it can be explained as follows:

3.2.1. *Remaja (adolescence)*. The crowdfunding investment product and the sale and purchase of TernAkses animals provides an opportunity for teens over the age of 17 to start investing that can be used as savings in the future. This age becomes a very productive age to start cheap investments according to their financial capabilities;

3.2.2. *Mahasiswa (Student)*. The crowdfunding investment product and the sale and purchase of animals of TernAkses invites students to contribute to the livestock sector. As an agent of change, a student can help farmers through investments that they can choose and can receive revenue outside of college activities;

3.2.3. *Dewasa (Adult)*. The crowdfunding investment product and the sale and purchase of TernAkses animals can be chosen by the general public, namely adults. At this age, investment is very important in order to provide savings from remaining consumption that can be used in the future. Today's age is the main target of TernAkses market in raising capital for livestock production;

3.2.4. *Instansi (Instance)*. Crowdfunding investment products and animal buying and selling TernAkses also engages government and private institutions engaged in animal husbandry that can provide easy access to capital and production inputs to collaborate with each other in increasing farmers' incomes;

3.3. Marketing positioning

Market segmentation determined by TernAkses has an excellent market placement in marketing crowdfunding investment products and buying and selling animals for livestock, as follows:

- Providing affordable investment prices for the community to invest in the livestock sector;
- Give 40% cash back to investors if the farm is having problems.
- Providing 3 types of investment choices ranging from low, medium and high that can be chosen by the community;
- Become an alternative investment for the community with a return of up to 15-25% of net profit;
- Provide integration of partners and millennial farms planning as an effort to maintain the quality of livestock input-process-output.

It is expected that with the innovation of funding and sales of these farms will be able to provide a sustainable impact/sustainability in the future (Frydrych, Bock, Kinder, & Koeck, 2014). After this program, farmers do not need to worry anymore in order to continue to be able to run their livestock business. Because, this program has a level of time that can be done as material for program evaluation to be even better. In the short term, it will be done for 1 year with a target partner of 12 partners, a medium term for 3 years for 35 partners and a long term for 5 years for 100 partners.

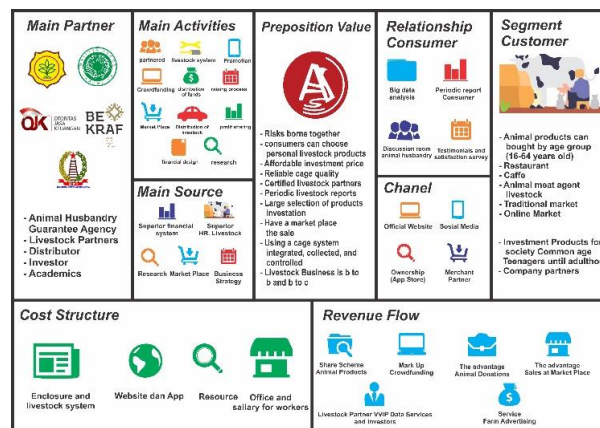


Figure 5. TernAkses business model canvas.

Other approaches so that the public can understand the program outline from TernAkses, we attach with in-depth analysis through the Business Model Canvas (BMC), see Figure 5. The business model developed in the BMC which covers nine building blocks first block Customer Segments includes animal products can have bought by group (16-64 years old), restaurant, cafe, animal, meat agent livestock, traditional market, online market, investment products for society Common Age teenagers until adulthood, Company partners. Second Value Propositions includes risks borne together, consumers can choose personal livestock products, Affordable, investment price, Reliable cage quality, Certified livestock partners, Periodic, livestock reports, Large selection of product infestation, have a market place the sale, using a cage system integrated, collected, and controlled, Livestock business is b to b and b to c. Third Channels includes Official Website, Social media, Ownership, Merchant Partner. Four Customer Relations includes Big data analysis, Periodic report consumer, Discussion room animal husbandry, Testimonial satisfaction survey, Five Revenue Streams includes share scheme animal products, mark-up crowdfunding, the advantage animal donations, the advantage sales at market place, livestock partner VVIP data services and investors, services farm advertising [20]. Six Key Resources Superior financial system, Superior human resource livestock, Research, Market place, Business strategy. Seven Key Activities includes Partnered, Livestock system, Promotion, Crowdfunding, Distribution of funds, Proses production, Market place, Distribution of livestock, Profit Sharing, Financial design, research. Eight Key Partnerships includes Animal Husbandry guarantee Agency, Livestock Partners, Distributor, Investor, Academics. Nine Cost Structures includes Enclosure and livestock system, Website and App, Resource, Office and salary for workers.

4. Conclusion

TernAkses is an innovation of investment services and sales of livestock products in promoting crowdfunding based millennial farm planning to encourage the role of local farmers in gaining access to livestock capital. This investment service makes the general public especially investors feel livestock without having to have livestock and benefit with the same interests in the field of animal husbandry. Through several stages of partners and services based on website and android application platforms to facilitate the community in supporting welfare programs for farmers [21]. It is expected that the synergy of stakeholders will be able to implement the program better in the future.

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