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Developing organic feed stuff as the main component of broiler chickens' feed with canvas model in East Java: A Case Study of Analysis on Organic Rice and Corn in Malang and Tulungagung

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Abstract. In general, this research aimed to: [1] analyze the market profile and supporting institution regarding the obtainability of productions and demands; [2] investigate the agribusiness institution and organization on empowering the organic feed availability especially for the broiler chickens. This research belonged to surveying research through accommodating surveys respectively piloted in Malang and Tulungagung. Therefore, the method for this research referred to survey recruiting 62 respondents in total that was assisted by interview to the main informants, group discussion, and document analysis (converted as secondary data). Moreover, for analyzing the data, the descriptively qualitative and interpretative design was accommodated by means of Business Canvas Model (BCM) approach. By and large, the conclusions of this research were formulated as follows: [1] in accordance with the market profile and supporting institution regarding the availability of productions and demands, the market reinforcement was of necessity in order to advance the productions' values as well as the farmers' incomes in supplying the organic feed; and [2] regarding the agri-business institution and organization on providing the broiler chickens with organic feed, the highly serious exertion from all of elements, exclusively all the stakeholders, was of compulsory in addition to empower the progress and success of organic farming. In addition, the management of farmers' institutions centralizing on production was required to be maintained. Therefore, the collaboration of various farmers' institutions was of urgency to be reinforced.

1. Introduction

The number of various problems that will be formulated as the main concern of analysis in developing organic rice and corn cover: (1) the lack of capital authorization, (2) the lack of technological mastery in production, (3) the bumpiness of supporting facilities, and (4) the lack of marketing or institutional supports. Those aforementioned cases are presumed: (1) to drive the productivities, both quantity and quality, low; (2) to affect the occurrence of price fluctuation; and (3) to lower the incomes and additional values gained by the farmers. Moreover, it has been clearly explicated that the development on agri-business of organic rice and corn, particularly on the upstream one, has not significantly met the expectation yet. This occurrence is affected by: (a) the dynamic supplementary performance on the productions' institutions that are supported by the capital institutions; (b) the mid-leveled agri-business institutions tending to be powerless due to the implementation of technological productions; (c) the lack of farmer groups' capabilities in functioning the organic rice and corn resources and farming production factors; and (d) the lack of distributional institutions in supporting the facilities of production referring to the lack of the facility availability in terms of quantity and farmers' accessibilities.

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East Java constitutes one out of central organic feed providers that does need to be intervened by the government in search of significantly being developed. However, all this time, there have not been any development model that allows supporting organic feed as the main component of broiler chickens' feed in which the organic feed is supposed to be the mainstay for establishing the robust betterment.

Therefore, the research on developing the organic feed as the main component of broiler chickens' feed in East Java by means of canvas model is of urgency to pilot. There are 4 reasons we cut our teeth on the Business Model Canvas: (1) a design goal when creating the Lean Canvas was ensuring it was accessible to anyone in the company (not just the business folks) because good ideas can come from anywhere. (2) Lean Canvas prioritizes getting your customer-problem-solution foundation in order first -- making it ideal for early stage innovation projects and startups. It's easy to see how if your customer and problem assumptions aren't in order, everything else on your canvas falls apart. (3) The Business Model Canvas attempts to overcome it's lack of customer-centricity by pairing it with the Value Proposition Canvas. (4) Creating a better business modeling tool or a better business model canvas was never the point. Lean Canvas is part of a bigger Continuous Innovation framework that helps you systematically uncover what customers want and build products they cannot refuse.

2. Research Method

This research was originally piloted in Malang and Tulungagung. Those areas were selected purposively by considering the fact that both are the centrals of developing the organic rice and corn in East Java. Moreover, the sub-districts that were selected as the location for piloting the research consisted of Sumber Gempol, Kalidawir, and Rejotangan sub-districts by officially engaging 31 respondents in total covering 27 farmers and 4 collector sellers. Whereas, in Malang, the recruited sample comprised 31 respondents consisting 30 farmers and 1 single collector seller in which all of whom were originally from Lawang and Tajinan sub-districts. The qualitative research by means of multi-methodic case study was accommodated through various survey methods, they are: field observation, in-depth interview to the case respondents, interview to the main informants, group discussion, and data analysis (on the secondary data). In addition, the in-depth interview (including to the main informants) was conducted to dig out the information related to the availability of organic feed in both research locations. At last, the descriptively qualitative and interpretative analysis by means of BMC approach was accommodated to fulfill the need of the data analysis.

3. Results and Discussion

3.1 Customer Segments

This research exhibited that, instead of widely marketing their products, farmers preferred to stagnantly offer their rice and corn to only the wholesalers, livestock farmers, and the middlemen who had been their regular customers around the locations of the research due to the production which was relatively lower than the total needs and to the fact that their areas were identically renowned as the livestock producers. Consequently, offering the products to the groups of the target customers as well as the market segments seemed impossible since the production was moderately limited. Precisely, the markets' segmentation based on the customers' economic levels (standard, high, or even be based on the incomes or other aspects) was complicated to be mapped.

Moreover, the products were actually rice brans and corns. The farmers mostly sold the brans to their closest neighbors since there were some farmers who had their own livestock. In fact, the need of brans, particularly in one of the research locations (Tulungagung), was significantly high due to the fact that Tulungagung was familiarly known as the central producer of laying hens. As the consequence, the demands of brans were dramatically high. This explicated the positive values on making business of organic rice because brans were mostly expended by the farmers themselves.

3.1.1 Value Propositions The products that were offered to the consumers were relatively restricted on the kinds of products, such as: rice bran and peeled corns. In Tulungagung, one of the research

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locations, the corn produced by the farmers was unpeeled and peeled ones. The unpeeled corn priced 4,400 rupiahs per kilo while the peeled one was 4,700 rupiahs per kilo. Meanwhile, the brans that were produced by the farmers consisted of two kinds, namely: (1) soft brans which were resulted from the highly standardized grinding process for producing the livestock feed, particularly known as bekatul, and (2) hard brans which were resulted from the rice grinding process, regularly renowned as dedak, and were usually distributed to the surrounding livestock farmers.

3.2 Channels

The organic feed products, from both rice and corn, were allowed to be distributed through innumerable procedures depending on the customers' segmentations that had been successfully established by the farmers. Occasionally, the distribution was executed through directed and coordinated marketing engaging the middlemen (such as: wholesalers, non-distributors, marketing agents, or sometimes websites) of which marketing distribution was not via selling and buying forums anymore. In conclusion, the information that had been successfully established by the farmers in marketing the rice bran and corn would be based on their own spoken information.

3.3 Customer Relationships

Farmers were to make and maintain the intact relationship with the customers in search of continually increasing the number of customers and establishing the nice engagement with the customers by means of informational technology-based patterns, especially for informatively and communicatively approaching the customers. The mentioned procedures were supposed to help the farmers engage with the customers well. By having a fully intact relationship, farmers were allowed to easily express anything to the consumers when they both were in the transaction process, exclusively when talking about price of rice bran and corn. Besides, the farmers selling the rice brans were to only set the price based on the fee of grinding process. Therefore, in term of price, it was equitably cheap.

3.4 Revenue Streams

The income resource of the organic feed business was of considerable strategy in determining the success of organic feed business. The profit that had been acquired from this business was accumulated by the deviation between the income of whole turnovers and the whole budgets. Moreover, the result of this research explored that the positive value that had been successfully achieved in making business in organic rice and corn was relatively low because the production scale was also intended to other non-organic plants.

3.5Key Activities

The number of activities that were executed by the farmers to make profits within their businesses were still limited in terms of cultivation aspects covering planting, maintaining, and harvesting. Afterwards, the plan on the production or the harvesting session and the standardization on the volume of market products to keep the stability of the market price had not been realized by most of farmers. This explicated that the incompetency of farmers in production drove them problematic, particularly in keeping the stability of production as well as quality and the continuity of the particular quota of availability demanded by the markets.

3.6 Key Resources

The farmers in Tulungagung had the averagely excellent backgrounds of education, 45% of whom graduated from senior high school. Besides, there was a great potential of productive ages that allowed the farmers to upgrade the quality of their farming businesses. The farmers who developed the organic feed were more productive because 40.90% of whom aged 40-55 years old averagely.

The field areas that were planted by the farmers were fairly narrow accumulating 0.1 to 2.5 hectare (there were 81.82% of farmers). Consequently, it was of complication for farmers to develop their businesses' scales. In addition, 78.12% of those who developed the organic feed, consisting of rice bran and corn, did not join the recommended formal institutions, Farmers Association for instance,

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since they prescribed that most of formal institutions were intended for merely formality. This was also supported by the experience backgrounds of the farmers that were relatively high, 5 to 40 years.

3.7 Key Partnerships

The farmers' success in developing the organic feed was entailed by the pleasant teamwork having been engaged with various parties, institutional organizations and others. The farmers' organizations held the very crucial role in cultivating the organic farming. This alluded the socialization and certification matters. In addition, the agri-business products of low-leveled farmers would be of difficulty to be realized if there was no support from other farmers' organizations. In some areas, farmers' organizations had been well-established, but, it was different from other areas of which farmers were getting difficult in establishing the expected one. The research revealed that optimization on farmers' formal institutions related to the organic cultivation was still in shortage. These institutions tended to only act as the media for effortlessly coordinating and organizing the programs that were incorporated with the official agencies so that the establishment would be government-based.

3.8 Cost Structures

The various kinds of costs which had to be paid for by the farmers in developing the organic feed covered planting, maintaining, and harvesting costs. Practically, the costs of transportation were assured by the collector sellers or those farmers who voluntarily came to haul the feed. However, it had been clearly comprehended that almost all of activities that were executed by the farmers did need costs.

4. Conclusions

In general, the conclusions regarding this research were formulated as follows: In accordance with the market profile and the supporting institutions regarding the availability of productions and demands, it is of urgency to establish the market greater in search of increasing the productions and the farmers' incomes during the production of organic feed.

Alluding to the agri-business institutions and organizations of organic feed, the serious exertion and full attention from all the stakeholders were of inevitability to support the implementation and success of organic farming, especially in empowering the availability of broiler chickens' organic feed. In addition, the organization of farmers' institutions in production was required to be maintained while the farmers' associations as well as the other similar associations were obligatory to be strengthened.

5. References

- [1] Ahmed M H, Atti K A, Malik H E, Elamin K M, and Dousa B M 2014Ginger (Zingiber officinale) Root Powder As Natural Feed Additive For Broiler Chicks *Global Journal of Animal Scientific* 383-389.
- [2] Ameh G, Eze S, and Omeje F 2013Phytochemical Screening and Antimicrobial Studies on the Methanolic Bulb Extract of Allium sativum*L. Afr. J. Biotechnol.* 1665-1668.
- [3] Kader G, Nikkon F, Rashid M A, and Yeasmin T 2011 Antimicrobial Activies of The Rhizome Extract of Zingiber zerumbet Linn *Asian Pacific Journal of Tropical Biomedicine*409-412.
- [4] Kusnandar, Padmaningrum D, Rahayu W, and Wibowo A 2013 Rancang Bangun Model Kelembagaan Agribisnis padi Organik dalam Mendukung Ketahanan pangan *Jurnal Ekonomi Pembangunan* vol 14 chapter 1(*Indonesia, June 2013*)pp 92 101.

IOP Conf. Series: Materials Science and Engineering 532 (2019) 012022 doi:10.1088/1757-899X/532/1/012022

- [5] Onyimonyi A E, Chukwuma P C, dan Igbokwe C 2012 Growth and hypocholesterolemic properties of dry garlic powder (Allium sativum) on broilers. *African Journal of Biotechnology*vol 11 chapter 11 pp 2666–2671.
- [6] Karangiya V K, SaysaniH H, Patil S S, Patil D D, Garg K S, Murthy N K, Ribadiya and Vekariya S J 2016 Effect of Dietary Supplementation of Garlic, Ginger and Their Combination on Feed Intake, Growth Performance and Economic in Comercial Broilers *Vet Word* vol 9 chapter 3 pp 245-250.
- [7] Rahayu I, Widodo W, and Sutanto A 2015 Produksi Pakan Organik Ayam Broiler Untuk Keamanan dan Ketahanan Pakan dan pangan Di Indonesia *Laporan Penelitian Uanggulan Perguruan Tinggi*(Malang: Universitas Muhammadiyah Malang).
- [8] Rahayu I D, Widodo W, and Sutanto A 2018 The effect of fermented organic feed usage on the health status of kampong chicken *International Journal of Biosciences(IJB)* vol 12 chapter 4 p 35-42.
- [9] Selim N, Youssef S, and AF. Abdel Salam A S 2013 Evaluation of Some Natural Antioxidant Sources in Broiler Diets: 1-Effect on Growth, Physiological, Microbiological and Immunological *International Journal of Poultry Science*vol 12 pp 561-571.
- [10] Singh C B et al 2012 Biological and chemical properties of Zingiber zerumbet Smith: A review. *Phytochemistry Reviews*
- [11] Stoilova I et al 2007 Antioxidant activity of a ginger extract (Zingiber officinale) *Food Chemistry* vol 102 (3) pp 764–770.
- [12] Suriya R,ZulkifliI and AlimonA R 2012 The Effect of Dietary Inclusion of Herbs As Growth Promotore in Broiler Chicken *Journal of Animal and Veterinary Advances* vol 11 (3) pp 346-350.
- [13] Takeli A, KutluH R, Celik L and DoranF 2010 Determination Of The Effects Of Z. Offinale And Propolis Extracts On Intestinal Microbiology And Histological Characteristics In Broilers*Int. J. Poult. Sci* vol 9 pp 898-906.
- [14] Wahyuningsih S 2007 Pengembangan Agribisnis Ditinjau dari Kelembagaan vol 3 (1) pp 9-20.
- [15] Widodo W 2008 Ketahanan Pakan Unggas di Tengah Krisis Pangan *Naskah Pengukuhan Guru Besar* (Malang: Universitas Muahmmadiyah Malang).
- [16] Widodo W, Rahayu I D, Sutanto A 2018Nutritive Content Assessment of Organic Feedstuff from Various Regions in East Java Province: Indonesia asPotential Exploration Efforts of Local Poultry Feed. *International Journal of Biosciences (IJB)* vol 12 (3) pp 18-23.