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Analysis Positioning Map and Competitiveness of Kampung Unggul Balitnak Chicken based Farmer's Perception in Jember Regency

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Abstract. The purpose of research was analysis of Kampung Unggul Balitnak (KUB) position compared by joper, male layer, broiler, and arab. The research had done in twenty subdistrict, Jember Regency. Research method was used by *snowball sampling*. Data analysis for knowing KUB position compared by joper, male layer, broiler, and arab was *Multi Dimensional Scaling* (MDS) based on product quality (X1) and business efficiency (X2). Knowing competitiveness used PAM matrix. The result of analysis showed the commodity had similarity by KUB was joper. Positioning map showed joper had near position with KUB. Result of coefficient competitiveness PAM matrix showed KUB had highest coefficient than joper and arab but lower than broiler and male layer.

1. Introduction

Fulfillment of protein needs for Indonesia's from poultry commodities were broilers. Broiler was cheaper than price of ruminant products, so that development of poultry industry was increased. While protein kampung's as protein needs still lower than broiler. But development to continue of kampung's to be done to maintain germplasm and improve genetic quality. So that kampung can compete with broilers. Development of kampung now began to be noticed and directed to the formation of chickens that have production advantages, such as that done by Agricultural Research and Development (BPPTP) Ciawi Bogor Ciawi by production of Kampung Unggul Balitnak (KUB) chickens 2009. KUB was superior chickens from strain selection. It was female line for 6 generations with the advantage of high egg production (hen day 45% to 50%), peak production of 65%, egg production 160 to 180 eggs/year, feed consumption of 80 to 85 gram, the nature of incubation of 10% of the total population, the first age to lay eggs 22 to 24 weeks, egg weights 35 to 45 grams, and feed conversion 3.8 [1]. KUB chicken has dual purpose but is more focused on egg production.

KUB at this time have spread in several regions in Indonesia including West Java Province, NTB, Banten Province and East Java Province. The acceleration of KUB development was done through the selection of development center areas in each province, specifically for East Java, Jember was one of the districts used as a development center since 2017 which was centered on

UD Surya Unggas Jaya Gumukmas Subdistrict, however its development so far has only 3 breeders with a population of 1,500, it is felt that the development has not been rapid so this condition was what drives the need to do a research on the competitiveness of KUB products with other commodity.

The concept of competitiveness can refer to the opinion of Simanjuntak (1992) in [2] said that competitiveness was the ability of a producer to produce a commodity of good quality with fairly low production costs so that prices that occur in international markets can be produced and marketed by producers with sufficient profits. Thus, producers can maintain production. The competitiveness of a commodity in this case can be interpreted as the ability or ability of agricultural commodities to maintain profitability and market share so that producers have the ability to produce agricultural commodities so that they can sustain their business [2]. The concept of competitiveness and the concept of comparative advantage was introduced by Ricardo around the 18th century (1823), hereinafter known as the Ricardian Ricardo model or The Law of Comparative Advantage. Ricardo's comparative advantage theory was later refined by Haberler (1936), who suggested that the concept of comparative advantage was based on the Opportunity Cost Theory. Competitiveness was important to be studied at various levels by developing a comprehensive model that was able to measure the competitiveness [3]. Many studies have been conducted to determine competitiveness at the country, industry and company level, but there are several studies that focus at the company level by developing strategies to be able to compete globally [4] [5].

Competitiveness Multidimensional scaling analysis was used in marketing to identify, identify the following: 1. The many dimensions and traits used to prepare different brands in the market; 2. Positioning the brand under study in this dimension; and 3. The ideal brand placement of customers in this dimension.

[6] states that MDS was related to making graphics (maps) to describe the position of an object with other objects, based on the similarity of these objects. On the other hand, [7] revealed that MDS, or also known as perceptual mapping was a way that allows researchers to determine images that were perceived relative to a collection of objects (institutions, products or other matters relating to general perception). Perceptual mapping will produce a perceptual map.

2. Materials and Methods

The research was one in twenty sub district Jember Regency based territorial representation, that was west, east, north, and south. Sub district was used Tanggul, Umbulsari, Wuluhan, Ajung, Ambulu, Balung, Bangsalsari, Gumukmas, Jenggawah, Jombang, Kalisat, Kencong, Ledok Ombo, Panti, Puger, Semboro, Sukorambi, Sukowono, Sumber Baru, and Sumber Jambe. It was done on six month.

Variabels is used in this research was; Quality of product (X_1) is compared factor by quality that was production by KUB, joper, male layer, broiler dan arab. Business efficiency (X_2) was a measure of success assessed in terms of the amount of resources /costs to achieve production results from the maintenance of KUB, joper, male layer, broilers and arab.

Data Conformity value obtained from the results of the study was analyzed using MDS, a method that was able to present perceptions and customer preferences spatially by using a visual display. [8] state that MDS was a method for transforming multivariate data into simple dimensional spaces.

3. Results and discussion

3.1 Position of KUB's Quality

The result showed stress value 5,845% that means *goodnes of fit* best dan *R Square* 98,423% by coordinate *positioning map* showed in Table 1 and *positioning map* showed at fig. 1.

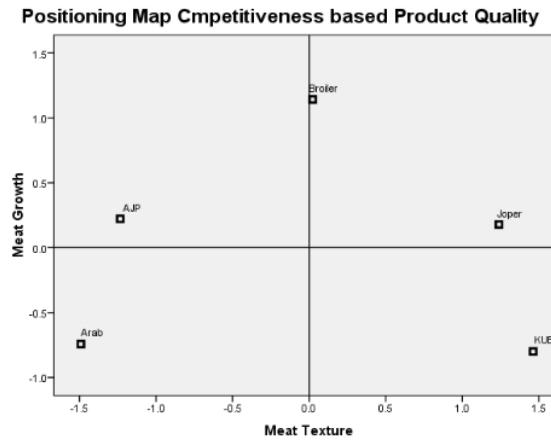


Figure 1. Positioning Map Competitiveness based Product Quality

Positioning map showed KUB has higher coordinate of meat texture than joper, Broiler, AJP dan Arab, but has lowest meat growth. Coordintae value of meat texture has high score, farmer perception that KUB similarity by kampung chicken Indonesia's, this matter based by perception of meat texture KUB was solid and rough. If meat texture of KUB was compared to joper, the texture of joper was similar to those of the chewiness broiler meat. This matter suspected there was different by giving of feed. KUB was give conventional feed that mix themselves and formula were Zea mays, Oryza sativa waste, and concentrate while joper was gave feed likes broiler. Besides that crossing between KUB and joper was also different, KUB was crossing of pure strain of native chicken for 6 generations [1] while in joper was a cross between bangkok chickens and layer. KUB has meat growth slower than joper. Because KUB was double type likes arab. It means KUB can be meat or egg product. KUB meat production cared for ten weeks and weight of harvesting 0.516 kg, while joper has weight of harvesting 0,873 kg for 10 weeks.

Tabel 1. STRESS Function Conformity Value

STRESS (%)	Goodness of fit
>20	Bad
10-20	Enough
5,1-10	Good
2,5-5	Better
<2,5	Best

Ginanjjar (2008)

Table 2. Positioning Map of KUB by Quality Product

Comodity	Dmension1 (Meat Texture)	Dimension 2 (meat growth)
KUB	1,4628	(-0,7997)
Joper	1,2396	0,1787
Male layer	(-1,2341)	0,2220
Broiler	0,0227	1,1420
Arab	(-1,4911)	(-0,7428)

3.2 Business Efficiency(X_2)

The result showed stress value 5,425% that means *goodnes of fit* was best dan *R Square* 97,365% by coordinate *positioning map* showed in Table 3 and *positioning map* showed at fig. 2.

Table 3. *Positioning Map* of Business Efficiency

Comodity	Dmension1 (Meat Texture)	Dimension 2 (meat growth)
KUB	0,6518	(-1,1776)
Joper	0,5919	(-0,2912)
Male layer	(-1,1015)	(-0,4519)
Broiler	1,4142	1,1454
Arab	(-1,5564)	0,7754

The result showed comodity have profitable business were began most profitable broiler, KUB, Joper, male layer, and Arab, while based on business efficiency were broiler, Arab, Joper, male layer, dan KUB. *Positioning map* showed positon of KUB had similarity by joper because there was on one quadrant. The study of KUB business commodities is less efficient because the consumption of rations for every kilogram of meat produced was higher, because the feed given to KUB were conventional feed so that the weight was lower, where as based on business commodities can benefit after broilers this is because KUB produces better meat quality and breeders likes kampung so that the price of KUB chicken was more expensive than Joper but under broiler because broiler profit lies in the high value of business efficiency. [9] said that kampung had great factor from consumer perception what meat was more organic than broiler, so that kampung more expesive. Based on farmer's perception KUB had meat structure likes kampung and taste of meat better than joper. KUB wasa substitute for the kampung which was commercially cultivated in Jember Regency. According to [1] KUB was that it has the proportion meat and the formation of meat produced faster than kampung.

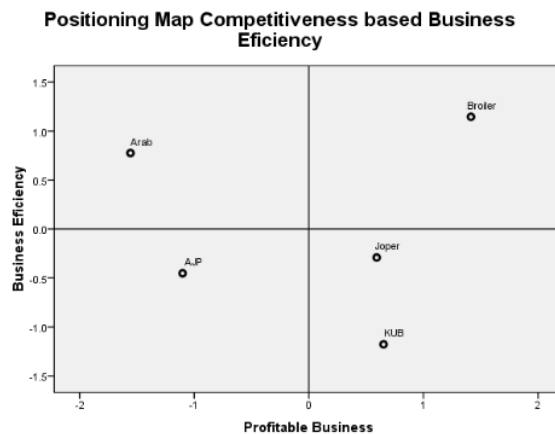


Figure 2. Positioning Map Competitiveness based Business Efficiency

3.3 Analysis Competitive Advantage

Analysis of competitive advantage can be seen from the analysis of private profit or Private Profitability (PP) and analysis of the ratio of private costs or Private Cost Ratio (PCR). Private profit was profit calculated based on the price actually received by farmers after being influenced by government policy. This value is obtained from financial revenues minus financial costs both tradable and non-tradable. Based on the calculation results in Table 4, it can be seen that KUB production activities had private profitably Rp 2,570,000.00 per period with a capacity of 500 animals. If the value of private profit is greater than zero, it means that the KUB in the study was financially feasible to work on the conditions of existing policies and market failures.

How resource allocation was directed towards achieving financial efficiency can be measured using a ratio PCR. PCR was the ratio between non-tradable input costs and the difference between revenue and tradable inputs at the level of financial prices (private prices). An activity is said to be financially efficient or can be said to also have a competitive advantage if the PCR value was smaller than one ($PCR < 1$). The smaller the value of PCR, the higher the level of competitive advantage of a business activity. The analysis that has been carried out produces a PCR with a value of 0.52 ($PCR < 1$). This means that KUB chicken is financially efficient or in other words has a competitive advantage. A PCR value of 0.52 can be interpreted that to increase the value added of output by one unit at the financial price an additional domestic factor cost of 0.52 is needed.

Table 4. Score of DRC and PCR for each Comodity 500 chickens

Comodity	DRC	PCR
KUB	0,60	0,52
Joper	0,70	0,90
Male layer	0,55	0,52
Broiler	0,37	0,37
Arab	0,41	0,40

KUB PCR value compared to similar poultry commodities, has a smaller value than joper and male layer. This means that the KUB from financial side was more competitive when compared to the same kind. That KUB has minimum competitors can help KUB development process in Jember Regency as sustainable. However, the KUB PCR calculation results were still relatively low when compared by broiler.

3.4 Analysis Comparative Advantage

Analysis of comparative advantage by scoring *social profitability* (SP) and ratio used *Domestic Resource Cost* (DRC). It was different by competitive advantage, scoring on comparative advantage based on *shadow prices*. Social profit was the difference between social income and social cost could be tradable or non tradable. Ratio domestic resource was could from ratio input non tradable with the difference between revenue and tradable inputs at the level of social prices (economic analysis).

The result of KUB analysis had a social profit of Rp 2,000,000.00. It means that market conditions that do not experience any policy distortion, KUB production still has profit. In addition, the analysis that has been done produces a DRC value of 0.6. If DRC value was less than one, it meant a business had efficient on economic or it had comparative advantage. Result competitiveness compared on arab chicken KUB higher as scoring PAM matrix. It happened because on arab scoring there were double output, egg and meat. KUB just count by meat production. If KUB compared by broiler, KUB had matrix value higher. It happened because production of broiler biggest. Analysis showed that KUB which is being developed at UD Surya

Unggas Jaya was feasible to run both based on calculations on financial analysis and economic analysis. In addition, KUB chicken production can be said to have competitive advantages and comparative advantages. This can be seen from the PCR and DRC values that are smaller than one.

4. Conclusions

Positioning map showed KUB had highest coordinate for meat texture was, but had low growth meat. Result of research commodity that has profitable in a row was broiler, KUB, Joper, male layer and Arab, while scoring based commodity business efficiency were broiler, arab, joper, male layer, dan KUB. Positioning map showed KUB position had similarity with Joper because they was on one quadrant. KUB had competitive and comparative advantage. It showed by coefficient score DCR and PCR less than 1 (DRC=0,60 dan PCR=0,52) so that KUB was better development as substitution product or replacing village production.

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