Analysis of Satisfaction Consumers Beef Jerky Using IPA (A Case Study in Banda Aceh, Aceh Province - Indonesia)

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Abstract

Beef jerky in Banda Aceh has its own characteristic from other beef jerky trade that exists in others areas in Aceh Province and Indonesia Region, so its necessary to produce the beef jerky in accordance with the wishes and expectations of consumer on the market. Hence, is beef jerky product development in Banda Aceh are able to meet the needs and desires of consumers on the market. The purpose of this research is to develop beef jerky product in Banda Aceh relevance with the needs and desires of consumers on the market, by using Importance and Performance Analysis method. Here, consumers are involved from two middle scale of livestock industries, they are Blangrakal and Gunung Seulawah. The result of the research is the level of customer satisfaction of the beef jerky product in both beef jerky of livestock industries in Banda Aceh, still low from 100% ie 57.64%. so that the level of concordance between the satisfaction (performance) of both beef jerky industries and expectations (importance) of consumers overall still below expectations (importance) of consumers. The value of the importance (Y) = 4.67 and performance (X) = 2.69 to the position at First Quadrant (Q1) namely the First Priority (Concentrate Here), they are 1) ADS Business Actor gives freedom to the consumer to submit complaint of product / service and finish it well, 2) provide the right guidance and education to consumers via seminars, talk shows, training, workshops and so on, 3) an increase in the frequency of purchase of products/ services by consumers, 4) easy of payment technical products/ services by consumers, 5) consumers get discounts on products / services.

Keywords: Beef Jerky, Livestock industry, Satisfaction Consumers

1. Introduction

Analysis of the quality of beef jerky products of livestock industry in Banda Aceh through identification of beef jerky consist of taste, aroma, color, ease of obtaining product, packaging, variation of packing size, ownership (Hartono, 2017) and service while the specification of company performance obtained through response of business leaders beef jerky is improving the quality of raw materials, improving the quality of human resources, agro industry technology, packaging technology, storage process and cooperation with the distributors showed a strong positive influence occurred in every improvement in the performance specification, namely improving the quality of human resources to technology and packaging. Market research on a scale needs to be done to determine the change of desire and customer satisfaction so as to compete with other companies that have the same product. Consumer satisfaction is the result of a combination of company performance specifications so it is necessary to cooperate with various parties, be it government agencies or universities, establish partnerships with distributors and consumers, (Kusdiarni, 2014).

Research Report on Commodity / Product / Primary Business Type of Agroindustry of Aceh Province (2012) that problems in micro, small and medium agro industry development generally related to (1) capital aspect caused by limited information on access to fund, ability to make fund proposal, and (2) the marketing aspect of micro, small and medium agroindustry less get access to commodity marketing to potential market resulted in not able to develop business optimally so that can not sell commodity in amount (3) the aspect of managerial ability is still weak visible from the absence of adequate planning, control and evaluation of business, this is due to the low quality of human resources, in addition to the status of business that is private or family property, (4) Aspects of technology adoption power also (5) botton pattern upgrading aspect, because the top down pattern is no longer relevant to be applied because not all groups or institutions have the ability to develop their products and the experience of the agroindustry actors. Agroindustry needs the same assistance, so it is expected that the assistance given can be on target. Overcoming these problems, it is necessary to consider new paradigms such as empowering groups and rural economic institutions.

Creating consumer behavior such as product satisfaction, customer loyalty, and service quality can determine success in the implementation of marketing concepts. Consumers trying to obtain goods that can meet their needs or expectations better or able to provide a better level of satisfaction to consumers. Consumer satisfaction is a feeling of happiness that arises after being compared to performance or product results with their

expected (Philip, 2007). When the performance or product results exceed expectations, the consumer satisfied and vice verse if the performance or product results are not in accordance with expectations, the consumer disappointed. The influence of consumer's performance including individual characteristics is influenced in the decision making process in purchasing products such as respondent's identity, motivation and preference (Engel, 1995).

2. Methodology

2.1. Location and Time of Research

The study was conducted in two livestock industries in Banda Aceh, Aceh Province-Indonesia. They are Blangrakal and Gunung Seulawah, for 5 months from March-July 2016.

2.2. Sampling Technique and Data Collection

The research method used by survey is exploitative and descriptive method. Exploitative research method aims to get a picture of the phenomenon is temporary and or permanent about the development of both of livestock industries, while the description method aims to obtain more information about the development of livestock industries within a certain time (longitudinal or cross Sectional) by describing the object of research in the present situation based on fact as it is (quantitative data collection from qualitative), then compiled, clarified, analyzed and interpreted

Population is a set of objects that will be used as research materials with characteristics of the same characteristics, which consists of the number of infinite and infinite (Supangat, 2007), while the sample is part of the number and characteristics possessed by the population, when studied the sample then the conclusion Will be applicable to the population, so the samples taken in the study must be truly representative of the population (Sugiyono, 2009). Here, in the IPA method of sampling on consumers of beef jerky Accidental Sampling is the sampling based on the reality or the presence of consumers at that time, that is 20 people.

2.3. Data Analysis

2.3.1.Instrument Validity Test

Techniques of validity testing using product moment pearson correlation technique with 5% singnification level to determine the closeness of the influence between independent variables with dependent variables through how to correlate between the score of question items to the total score. If the total value of pearson correlation> 0.3 is declared valid and vice versa is not valid with its critical value, where its chore score (r) can be used formula (Arikunto, 2002).

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{(N \sum X^2 - (\sum X)^2)(N \sum Y^2 - (\sum Y)^2)}} \tag{1}$$

Information:

r_{xy} = correlation score
N = Number of samples
X = Score of question items
Y = Total score of items

Data reliability is the level of ability of a research instrument to be able to measure a variable repeatedly and able to produce information or data the same or very little varied, in other words the instrument is able to show the accuracy, stability and consistency in generating data from the measured variable (Arikunto, 2002).

Refractory testing technique using alpha cronbach coefficient with 5% significance level if the correlation coefficient greater than 0.6 indicates reliability of reliability both so if cylindrical alpha cronbach is less than 0.6 indicates poor reliability. (Sekaran, 2003; and Sugiyono, 2009).

$$r_{11} = \left(\frac{k}{k-1} \right) \left(1 - \frac{\sum \sigma b^2}{\sigma_t^2} \right) \tag{2}$$

Information:

r_{11} = Instrument reliability (coefficient alpha cronbach)
k = number of questions or questions
σ_t^2 = total variance
$\sum \sigma_b^2$ = the number of varans of the item

The variance formula used:

$$\sigma^2 = \frac{\sum X^2 - \frac{(\sum X)^2}{n}}{n} \tag{3}$$

Information:

n = Number of respondents

x = Value of the selected score (total score of each item)

Then, steps taken in the IPA analysis are:

A. Giving weight / value, done by making Likert scale with a scale of five for physical data adjusted to five categories of responses according to the question.

B. Calculating the level of compliance which is the comparison of the performance score of the service with the importance score. The level of conformity will determine the order of priority Importance and Performance as follows that the calculation of consumer satisfaction can be used in determining the priority of improvement of the company's performance on the attributes of beef jerky that affect consumer satisfaction. Against all attributes that affect the satisfaction is expressed by the formula below.

$$\bar{\bar{X}} = \sum_{i-1}^{n} \overline{X_i}/k \tag{4}$$

and

$$\bar{\bar{Y}} = \sum_{i-1}^{n} \overline{Y_i}/k \tag{5}$$

Information:

$\overline{X}$ = Interest score

$\overline{Y}$ = Expectation score

k = Number of respondents

C. Creating a Cartesian diagram Importance-Performance Matrix, which is a wake consists of four parts bounded by two lines intersecting perpendicular to the point of axis (average $\bar{x}$ and $\bar{Y}$).

3. Result and Discussion

3.3.1. Test Validity and Reliability

The validity test in the research was done statistically by using correlation of product moment pearson technique through SPSS Program Version 16, with 5% signification level to know the closeness of influence between independent variable and dependent variable through correlation between item question score to total score. Based on the results of validity test in this study indicates that the value of r count of each indicator is greater than the value of r table, with r table value of 0.444, so that all questions in the questionnaire are valid and can be used for research.

In reliability testing using the Cronbach's alpha coefficient with a real 5% level, if the correlation coefficient greater than 0.6 indicates reliability of reliability and if cronbach's alpha is less than 0.6 indicates poor reliability. Reability test technique by comparing the calculated value of cronbach's alpha value with r table obtained on the validity test that is = 0.444. thus the question used in this study is proven to be reliable or reliable and can be relied upon as a variable measuring tool, they are consumer performance (0.915) and consumer importance (0.945).

3.3.2. Importance Performance Analysis in Beef Jerky Blangrakal Industry (BI)

Based on the Total Conformity Rate (Total) on the performance of BI and the consumer's expectation is the product of = 483 and = 675 multiplied by 100 then the value obtained is still below 100% ie 71.56%, then the level of conformity between performance (Performance) Consumers as a whole is under the expectation (importance) of consumers, so as a whole the company Blangrakal Industry still have to increase consumer expectations to get customer satisfaction.

Based on the results of the research, the average score of the performance level (performance) of BI and consumer's expectation is = 3.50 and = 4.89, then the BI Cartesian Graph lies in Second Quadrant (Q2) ie the average score of 3.00-5.00 and performance 3.00-5.00, as shown in Figure 3.3.1 below.
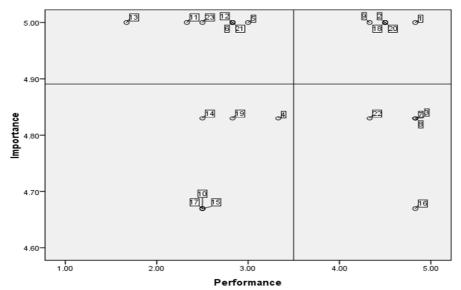
Figure 3.3.2. Importance-Performance Diagram of BI Matrix

Based on Figure 3.3.2. above provides that the existing system of BI business actors has a high value and must be kept "keep up good work" or Priority Achievement, which means that the level of consumer expectation and performance of BI is considered important by fulfilling good quality standards (achievements continued), and product/service attributes on BI performance values and consumer expectations are considered above average so that consumers become satisfied. It is of relevance to Hartono (2017) that product attributes such as price, quality, color, taste, texture and packaging produced by the performance of business actors influence consumer expectations.

In the attribute variable in each of Cartesian Quadrant in BI as follows:

A. The Q1 Quadrant, namely Importance 3.00-5.00 and Performance 1.00-2.99 (Concentrate Here) comprises variables of consumer freedom of complaint (V5), rights of education and education by consumers (V6), payment of products / services (V12), product discount (V13), distance of purchase location (V14), texture of beef jerky (V21), and consumer satisfaction (V23). According to Featherstone (2015) every consumer is free to address complaints from products contaminated with foreigners, and the ease of getting products in the market can increase business profits (Sedghi, 2017) through easy payment process (ONTSI, 2015), and softer, preferably by consumers (Li, 2013) to increase customer satisfaction.

B. Quadrant Q2 namely Importance 3.00-5.00 and Performance 3.00-5.00 (Keep Up Good Work) that business actors have been working well and consumers are satisfied on the safety, safety and product safety (V1) variables, the suitability of the price with the product (V2), Product quality (V9), excellent service (V18), and the color of beef jerky (V20). This is in line with Hartono (2017) that product quality and product prices can provide high Importance and Performance to consumers. Attention to the healthy lifestyles of consumers is one of the trends that can affect the satisfaction of konusmen in buying food products, (Kang, et al., 2015).

C. Quadrant Q3 is Importance 1.00-2.99 and Performance 1.00-2.99 (Low Priority) consists of variable clarity of product information (V3), service given (V7), product compensation (V8), skill and skill (V16), and tidiness as well Packaging (V22). According to Kang (2013) that information on the clarity and truth of the product implies the purchase of products by consumers as well as the services provided to consumers can increase consumer loyalty to the product (Liu, 2008), justification of the return of damaged products merk compensation to the consumer (Appleton, 2015) can increase consumer satisfaction.

D. Quadrant Q4 is Importance 1.00-2.99 and Performance 3.00-5.00 (Over Priority) consists of available variables of suggestion and criticism media (V4), market location (V10), Distance of market location to consumer (V14), employees have a sense of beloging in Work (V15), work discipline (V17), and taste of product (V19). According to Fanani (2008), strategic product marketing can improve business actors, and commitment of employees to organizational commitment has an effect on the product (Atak, 2010) that also affect consumer satisfaction.

3.3.3. Importance Performance Analysis in Beef Jerky Gunung Seulawah Industry (GSI)

Based on Total Adequacy Value (Total) on performance GSI and consumer's expectation is profit sharing from = 755 and = 1.473 multiplied by 100 then the value is still below 100% that is 51.27%, hence the level of conformity between performance (performance) GSI as a whole is below the expectations of consumers, so as a whole the GSI company still has to increase the consumer's expectation to get customer satisfaction.

The average value of GSI performance level and consumer expectation are = 2.34 and = 4.57. Graph

Cartesian GSI company position is in First Quadrant (Q1) that is consumer average score is 3.00-5.00 and performance (performance) GSI is 1.00-2.99, as shown in Figure 3.3.2. below this.
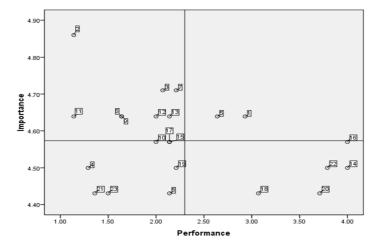

Figure 3.3.2 Importance-Performance Diagram of GSI Matrix

This shows that consumer expectation is high but GSI performance is low, so GSI must be "concentrate here" or need concentration in improving the service quality of those attributes. This quadrant also shows that ADSGS requires immediate system upgrading and is given a high priority because the product / service attributes at the consumer's level of expectation are above average, but less attention from marketers, where the performance level is still below average, Less satisfying consumers. This is in accordance with Hartono (2017) states that the performance (performance) of business actors on product attributes such as price, color, taste, texture and packaging produced influence on consumer expectations. Perez (2017) also stated that processed meat products have a very high differentiation compared to fresh meat, therefore product quality requires a new way in product attributes to provide quality signals to consumers and gain customer satisfaction.

Variables in each Quadrant in GSI, as follows:

A.Quadrant Q1 is Importance 3.00-5.00 and Performance 1.00-2.99 (Concentrate Here) consists of price matching variables with product (V2), clarity of product information (V3), rights of education and consumer education (V6), service (V7) Frequency of purchase by consumer (V11), product payment technique (V12), and product discount (V13). Creating products in accordance with the wishes and expectations of consumers or consumer pretensions can create satisfaction to consumers (Hartono, 2017) as well as transformation of education to consumers can evaluate marketing (Stockmann, (2008) .This is to get customer satisfaction.

B. Quadrant Q2 is Importance 3.00-5.00 and Performance 3.00-5.00 (Keep Up Good Work) consists of product variables providing security, convenience, and safety for the consumer (V1), and the freedom of consumer complaints (V5). According to Joel (2008) that traditional food products should be guaranteed consumer safety so that consumers feel satisfied.

C.Quadrant Q3 is Importance 1.00-2.99 and Performance 1.00-2.99 (Low Priority) consists of media availability suggestion and criticism variable (V4), product compensation (V8), sales location (V10), employees feel belog in in work (V15) , Work discipline (V17), taste of product (19), texture of beef jerky meat (V21), and consumer satisfaction (V23). According to Yao (2016) that the products that can affect consumer satisfaction of the purchased product is determined by the taste, texture and price of the product.

D.Quadrant Q4 is Importance 1.00-2.99 and Performance 3.00-5.00 (Over Priority) consists of distance variable of product purchase location (V14), skill (V16), service (V18), color of beef jerky (V20), and neatness and packaging forms (V22). The location of sales and the price of the product may affect the consumer's desire that impact on customer satisfaction so as to reduce the company's profit (Sedghi, 2017).

4. Conclusion

4.1. Beef Jerky Product

The level of conformity between performance (performance) and expectations (importance) to consumer satisfaction in both Livestock Industries Aceh is still below 100% on (a) the indicator of the use of ingredients and the manufacture of beef jerky products guaranteed security, comfort, and safety for consumers, so that both Livestock Industries Aceh must make products according with the expectation (consumer) to reach consumer satisfaction. When viewed from the results obtained, that both are BI (96.67%) and GSI (73.85%). (b) In the products / services that consumers buy in accordance with the price paid, the level of customer satisfaction appropriateness on the performance (performance) and expectations of both ADS Aceh are BI (90%) and GSI

(76.47%), (c) the acceptance of the information received by the consumer is clear, true and honest are BI (100%) and GSI (62.12%), (d) the availability of media suggestion and consumer criticism toward the product/service are BI (86.96%) and GSI (25.39%), (e) consumer's expectation on giving freedom to consumer to product complaint are BI (60.00%) and GSI (44.62%), (f) the granting rights of education and consumer education are BI (0.57%) and GSI (27.69%), (g) on the perpetrators of Livestock Industries Aceh provide compensation to consumers of products / services received are BI (100%), and GSI (37.1%), (h) on product/service quality are BI (86.67%) and GSI (47.69%), so that both Livestock Industries Aceh should improve performance (Performance) to meet the consumer's expectation to get customer satisfaction in beef jerky product.

4.2. Performance Livestock Industries Aceh.

Level of satisfaction of consumer satisfaction between performance (performance) and consumer's expectation still below 100% on (a) expectation at location of product sale/service are BI (53.57%) and GSI (46.88%), (b) consumer expectation on the payment technique of beef jerky product / service are BI (56.67%) and GSI (43.08%), (c) distance of location of product/service purchasing by consumer are BI (51.72%) and GSI (44.44%), (d) company employees have sense belonging in work are BI (53.57%) and GSI (46.88%), (e) on employees who have skill are 103.57% means BI has met the expectations (importance) of consumers, while GSI (87.50%), (f) employees toward discipline in their work are BI (53.57%) and GSI (46.88%), (g) employees in providing excellent service to consumers are BI (90%) and GSI (69.35%), (h) on the taste of beef jerky products made are BI (58.62%) and GSI (49.21%), (i) on aceh beef color produced are BI (90.00%) and GSI (83.87%), (j) on the texture of the beef jerky product to consumer's favorite level are BI (56.67%) and GSI (30.65%), (k) on the neatness and form of packaging of beef jerky products purchased by consumers are BI (89.66%) and GSI (84.13%), (l) on consumer satisfaction form toward beef jerky products are BI (50.00%) and GSI (33.87%). Therefore both Livestock Industries of beef jerky in Banda Aceh should improve to get consumer satisfaction

References

Arikunto (2002).Prosedur Penelitian Suatu Pendekatan Praktek. Edisi Revisi V. Cetakan Keduabelas. PT. Rineka Cipta. Jakarta. (In Indonesia)

Appleton, M.K., Pascal, P.M. and Jayne, V.W. (2015). Energy Compensation in The Real World: Good Compesation for Small Portion of Chocolate and Biscuits Over Short Time Periods in Complicit Consumers Using Commercially Available Food. Research Report. *Appetite* 85 (2015): 104-11-. Published by Elsevier Ltd

Atak, M., and Erturgut, R. (2010). An Empirical Analysis on The Relation Between Learning Organization and Organizational Commitment. Procedia. ScienceDirect. *Social and Behavioral Sciences* 2 (2010): 3472-3476.

Engel, J.F., Blackwell, R.D., and Miniard, P.W. (1995). Prilaku Konsumen. Edisi Keenam. Jilid 2. Binarupa Aksara. Jakarta. (In Indonesia)

Fanani, Z., Bambang, A.N, and Wahyuningsih. (2008). Marketing Mix Analysis Affectng The Succes of Selling Chicken in Blitar. *Jurnal Ilmu-ilmu Peternakan Brawijaya*. Vol. 18 (2): 147-159. Malang, Jawa Timur. (In Indonesia)

Featherstone, S. (2015). Dealing with consumer complaints and market recalls in food canning. *A Complete Course in Canning and Related Processes (Fourteenth Edition)*. pages 255-272. Publihed by Elsevier Ltd.

Hartono, B., Nugroho, B.A., and Tafuli, CRV. (2017). Analisis Tingkat Kepentingan dan Kinerja Atribut-atribut Daging Sapi Bali yang Beredar di Kota Kupang Propinsi Nusa Tenggara Timur. Sains Peternakan: *Jurnal Penelitian Ilmu Peternakan* 11 (1):19-25. Malang, Jawa Timur. (In Indonesia)

Joel, E., Fandos, C., Flavian, C. (2008). Consumer Satisfaction: A Key Factor of Consumer Loyalty and Buying Intention of a PDO Food Product. *British Food Journal*. Volume 110, Edition 9, 865-881. Emerald Group Publishing Limited.

Kang, J., Jun, J., and Arendt, S.W. (2015). Understanding Customer's Healthy Food Choices at Casula Dining Restaurant: Using The Value- Attitute- Behavior Model. *International Journal of Hospitality Management*, 48 :12-21.

Kusdiarni, Y. (2004). Analisa Mutu Produk Dendeng Sapi Acek Merek Cakradonya. Studi Kasus pada Blang Rakal Meat Shop, Kota Banda Aceh. Program Pascasarjana Manajemen dan Bisnis IPB. Hak Cita Milik IPB. (In Indonesia).

Li, X., Jacub, B., Anna, W., and Kerstin, L. (2013). Meat Quality, Microbiological Status and Consumer Preference of Beef *gluteus medius* aged in a dry ageing bag or vacuum. *Meat Science* 95 (2013): 229-234. Published by Elsevier Ltd.

Liu, Q., and Zhou,J. (2008). Network effect on Loyalty for Service Systems. *Proceeding on the 17th World*

Congress. The international Federation of Automatic Control. Seoul, Korea. July 6 - 11, 2008.

ONTSI. (2015). Indicators destacados de la sociedad de la informatición. Observatoria Nacional de las Telecomunicaciones y de la Sociedad de la Informatión. Available in http://www.ontsi.red.ontsi/sites/defoult/files/indicadores_destacados_julio_2015.pdf

Perez, C.E., Puig, A.B., Vera, J.B., and Vicente, L.M. (2017). Consumer Profile Analysis for Different Tyoes of Meat in Spain. *Meat Science*. Vol. 129 (2017): 120-126.

Research Report on Commodity / Product / Primary Business Type of Agroindustry of Aceh Province (2012).Komoditi/ Produk/ Jenis Usaha Unggulan UMKM Propinsi Aceh . Propinsi Aceh (In Indonesia)

Sedghi, N., Hassan, S., and Hossein, A.M. (2017). Joint Pricing and Location Decisions in a Heterogeneous Market. *European Journal of Operational Research*. Volume 261: 234-246. Published by Elsevier Ltd.

Stockmann, R., (2008). Evaluation and Quality Management: Principles of Impact-Based Quality Managemen. Peter Lang. Frankfurt.

Sugiyono (2009). Metodologi Penelitian Bisnis. Alphabeta. Bandung. (In Indonesia)

Yao, J., Harmen, O., (2016). Unit Pricing Increases prices Sensitivity Even When Products are on Indentical Size. *Journal of Retailing* 92 (1, 2016): 109-121. Published by Elsevier Inc.