Consumer Preference on Catfishes (Patin and Lele) Sweetmeat Product

R S Sundari¹, D S Umbara¹, B W Fitriadi¹, M Sulaeman²

¹Universitas Perjuangan Tasikmalaya, West Java, Indonesia
²Politeknik Triguna Tasikmalaya, West Java, Indonesia

*ristina.sitisundari@yahoo.com

Abstract. Catfish sweetmeat is a new innovation of sweetmeat as food diversification made of catfish bream. To find out a product if it is able or not to meet consumer’s necessity measured by preference on those products. This research aimed to indentify consumer’s preference on two sweetmeat catfish. The raw materials are such lele and patin by those attributes influenced to consumer due to decide to buy the product. The method used Conjoint Analysis. The result determined that consumer prefer to decide to eat Patin than Lele catfish though higher price. Consumer rather confuse because of those are economic in price. Those both of catfishes are cheaper than beef in the market. The better taste of sweetmeat catfish the more prefer to eat. They said, why not to eat catfish that have the same taste as others even those have soft texture and easier to digest.

1. Introduction

Something new in Catfish processing is sweetmeat product. Introduction and Socialization activity was needed to know consumer preference level before spreadout and distribute. Sweetmeat product basically was the unique sweetmeat that characterized by fish raw matter in which smoother, so it easy to be chewed even by kids.

Preference meant consumer tend to consume a product than others. Preference formed by consumer against a product. People act upon their preference, so there are consumer action could be predicted. Consumer Preference on a product could be known by determine attributed factors on product that can influence their mind to choose the product [11].

From those mentioned introduction would showed the response and comment of consumers on needed and expected sweetmeat characteristic that will be the base for developing of catfish market.

2. Methodology

The research used survey method to 100 panelist/respondent by trying/tasting two kinds of fish sweetmeat that researched, and then the panelist answering questioner. The step of this research begin with introduction survey, variable identification, questioner arrangement, carrying out of research, collecting, analyzing data. Either Primary data or Scondary dat were collected from respondent and reference.
Respondent was determined purposively (purposive judgment sampling) taken from people nearby campus University of Perjuangan Tasikmlaya. Sample amount recommended on conjoint research 100 samples where conjoint research was correlation research because there is the correlation within attribute inside then combine stimulate to get respondent valuation deal with the best attribute combination according to consumer preference [7].

Variable used in this research was product attribute. Product attribute is the elements of product that considered important matter and made the based to decide either choosing or buying [11] such as made below:

| Table 1. Identification of Attribute and Level |
|-----------------|-----------------|-----------------|
| No. | Attribute | Level | Note of Level |
| 1. | Taste | 1 | Similar to beef sweetmeat |
| | | 2 | Fish |
| 2. | Color | 1 | Brown |
| | | 2 | Golden brown |
| 3. | Texture | 1 | Raw |
| | | 2 | Soft |
| 4. | Structure | 1 | More Fibrous |
| | | 2 | Fibrous |
| 5. | Price | 1 | 20.000 – 25.000 IDR per 100 g |
| | | 2 | 25.000 – 30.000 IDR per 100 g |

One of method to know consumer preference is Conjoint Method. Conjoint Method known is suitable for understanding consumer reaction and for evaluating the combination of product attribute then could be determined which product does have potency to be developed. Forming combination stimulate combined attribute level become one stimulate or profile that formed by software SPSS 24 for windows conjoint method. Combining stimulate was done to gain respondent scoring to the best attribute combination based on consumer preference. Combination Stimulate-identified based on attribute and level such as: 2x2x2x2x2, hence it gained 64 combinations. Gained Combination stimulates was not showed at all as question but only chosen 16 primary stimuli and 2 (two) addition as the best comparer. After operationalize variable can be collected data as by Likert scale skoring as follow:

| Table 2. Questioner Likert Scale |
|-----------------|-----------------|-----------------|
| No. | Statement | Score |
| 1. | Very agreed/like | 5 |
| 2. | Agreed/like | 4 |
| 3. | Agreed/like enough | 3 |
| 4. | Disagreed/dislike | 2 |
| 5. | Very disagrees/dislike | 1 |

Respondent scoring due to attribute and stimulates combination was the matter for doing consumer analysis preference by Conjoint Methods. Hence they result each utility value, total utility value for their each attributes, and level of importance.

Utility value is value gained due to consumer evaluation indicating consumer preference level deal with attribute evaluation, the positive score indicated high consumer’s preference level on product level and negative score indicated less consumer’s preference level on product level after gained utility value then gained total utility value with the following conjoint method:

$$\mu(x) = \beta_0 \sum_{i=1}^{m} \sum_{j=1}^{k_i} \beta_{ij} X_{ij}$$

where

- $\mu(x)$ = Utility Total
- $\beta_0$ = Average constant of respondent’s value on each profile
- $\beta_{ij}$ = coelisien
Ij = part worth of utility score
Ki = level attribute j and i
m = sum of attribute
Xij = dummy variable attribut I level j
(has 1 value when related level appearance otherwise 0)

To define attribute importance level i (Ai) by the following formula:

\[ Wi = A \times 100\% \]  \hspace{1cm} (2)

Note:
\[ I_i = (\max(\ldots) - \min(\ldots)) \text{ for each } i \]

After all being counted to get the best combination stimuli of shredded product attribute based on consumer’s preference. And the result is an attribute importance level explained by scoring use percentage. Each level utility value and attribute importance was analyzed by conjoint analysis using IBM SPSS 24 for windows.

3. Result and Discussion
3.1. Correlation Test for Data
Correlation test indicated the correlation between attribute combination and consumer preference of catfish sweetmeat shredded. The test result could be seen in the table below:

| Criteria               | Score | Sig.  |
|------------------------|-------|-------|
| Pearson'R              | .763  | .000  |
| Kendall’s Tau          | .684  | .000  |
| Kendall’s Tau for Holdouts | .810  |       |

(Sumber: processed primary data, 2017)

Based on table 3, can be seen that correlation between attribute combination and consumer preference has 0.763 in Pearson’R correlation and 0.000 significant. It mean 76.3% is the strong \[8\] Kendall’s tau Holdouts has 0.81 correlation index mean very high correlation between comparer stimulate.

3.2 Utility score on each level based on consumer preference
Utility score is opinion of respondent that expressed by number and deal with principal in conjoint analysis \[7\]. Utility value by conjoint method described consumer valuation toward attribute by numeric indicating consumer preference level. The highest and positive value described consumer preferred level and the lowest even negative value described not preferred of consumer. Table 4 showed Utility in each level of attribute based on consumer preference.

| Attribute | Level Attribut     | Utility Estimate | Std. Error |
|-----------|-------------------|------------------|------------|
| Taste     | 1. Similar to beef| -.176            | .046       |
|           | 2. Fish clear     | .176             | .046       |
| Color     | 1. Brown          | .068             | .047       |
|           | 2. Golden brown   | -.068            | .047       |
| Texture   | 1. Rather raw     | .070             | .047       |
|           | 2. Silky          | -.070            | .047       |
| Price     | 1. 20,000 – 25000 IDR | -.76            | .067       |
|           | 2. 25,000 – 30,000 IDR | .76            | .067       |
|           | Constant          | 3.286            | .47        |

Resource: Processed Primary Data, 2017
The table showed that consumer preferred to patin catfish sweetmeat shredded taste by positive analysis 0.176 and accepted by consumer. Consumer prefered to eat patin catfish because according to them that the patin catfish taste was similar to beef. Whereas lele catfish was specific. On color, consumer prefer to brown belong lele catfish by 0.068 utility score, Consumer prefer to lele catfish in 0.070 utility score than patin catfish. It indicated consumer prefer to eat raw sweetmeat in 0.068 utility score, but price attribute prefer to patin in 0.766 utility score or on 25.000 – 30.000 IDR.

3.3 Consumer Preference
Conjoint calculation was used to know attribute combination most preferred by summing each level coefficient of attribute based on utility score number. Consumer preference gained based on series in order.

Total utility score obtained by conjoint analysis indicating score of all combination stimulate resulted. In this research attribute combination most preferred are Patin catfish sweetmeat in which similar to beef taste, brown, rather raw and 25.000 – 30.000 IDR in Price.it was probable because belong to positive utility score on taste 0.176 and price 0.76 for patin catfish sweetmeat, color 0.068 and texture 0.070 for lele catfish sweetmeat.

Lele catfish sweetmeat more preferable on texture and color attribute. But consumer prefer to choose taste that similar to beef as they known has no fish aromatic. It belongs to patin catfish sweetmeat even though the price was higher than lele. But the price is still much lower than beef in the market. According to their opinion those both patin and lele catfish sweetmeat is still very pure no any mixture than ever in beef sweetmeat and much cheaper than other sweetmeat. It is reasonable because the price of beef raw matter is much higher until 4 times. Hence, consumer prefer to choose patin catfish sweetmeat.

3.4 Consumer Importance Level on Attribute of Catfish Attribute
Conjoint Analysis also indicating consumer importance on obtained catfish sweetmeat attribute. Importance level on attribute is the whole obtained of any step conjoint analysis. According to [9], in score order importance sequence showed that those attribute preferred and attended by consumer than other attribute and also the attribute level had influence level in choosing the product to be consumed. Importance level of catfish sweetmeat as seen figure 1 below:

![Importance Level of Attribute](Image)

**Figure 1. Importance Level of Attribute**
Based on the table above, the highest sequence of attribute importance level is taste of catfish sweetmeat 41.235%, the second is price 32.905% and the third is color 13.340% and the last is texture. From the most consumer attention until the least.

So, we know that taste is the most important for consumers to decide consuming catfish sweetmeat. Contrast to [3] theory that price is the main factor influencing consumer when buy some product.

4. Conclusion
Consumer prefer to consume:
1. Patin catfish sweetmeat has utility score 0.176 on taste attribute and 0.76 on price attribute. Lele catfish shredded has utility score 0.068 on color attribute and 0.070 on texture attribute
2. Consumer importance level indicated the highest to taste attribute 41.235 percent, price attribute 32.905 percent, color attribute 13.340 percent and texture attribute 12.520 percent.
3. Consumer preferred to decide consuming catfish sweetmeat based on taste first, then price to choose patin catfish sweetmeat.

5. Recommendation
Catfish sweetmeat should be developed as substitution for those beef or chicken sweetmeat to fulfill nutritious food of family food security, the price is low enough, economic, and love to eat. Furthermore research to consumer’s behavior and perception on catfish sweetmeat.

6. References
[1] Albari and Amalia, Dewi 2008 Analisis Preferensi Konsumen terhadap Paket Atribut Spesifikasi Produk sebagai Compromise Effect terhadap Pembelian Notebook. Sinergi. Kajian Bisnis dan Manajemen Vol. 10 No. 2 Hal 67-79. ISSN 1410-9018.
[2] Dinas Perikanan dan Kelautan 2014 Laporan Statistik Perikanan dan Kelautan Jawa Barat. Pemerintah Propinsi Jawa Barat. Bandung.
[3] Kotler, P dan Amstrong, G. 2012 Prinsip-prinsip Pemasaran Jakarta: Erlangga
[4] Puspitasari, Nia Budi and Hasya, Afina 2014 Analisis Preferensi Konsumen terhadap Produk Cocacola, Pepsi dan Big Cola di Kota Semarang Seminar Nasional IENACO. ISSN: 2337-4349: 603-610.
[5] Nasution 2011 Metode Research: Penelitian Ilmiah. Jakarta: Bumi Aksara
[6] Rezki, Fauziah 2012 Strategi Pemasaran Produk Abon Ikan Pada Industri Rumah Tangga di Kota Makassar (Studi Kasus UD.Fatimah Azzahrah, UD.Ilo Mandiri, UD. Nurul Jaya Lestari Makassar). STIE Makassar. Makassar.
[7] Santoso, S. 2010 Statistika Multivariat. Jakarta: PT Elex Media Komputindo
[8] Sugiyono 2014 Metode Penelitian Kuantitatif, Kualitatif dan R & D. Bandung: Alfabeta
[9] Supranto, J. 204. Analisis Multivariat. Arti dan Interpretasi. Jakarta: Rieka Cipta
[10] Suryani 2007 Pengertian Abon Ikan. Yogyakarta: Aditya Media Yogyakarta
[11] Tjiptono 2008 Strategi Bisnis Pemasaran. Yogyakarta: Andi

Acknowledgment
This research was granted by Universitas Perjuangan Tasikmalaya hence thank you very much for make us easier.