Analysis of consumer behaviour in purchasing fresh fish in traditional and modern market (case study: Medan Sunggal District, Medan City)

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Abstract. This study aimed to analyse the characteristics of fresh fish consumers in Traditional Markets and Modern Market and to analyse consumer behaviour in buying fresh fish based on fresh fish and market attributes in Traditional and Modern Market. The research method used was descriptive analysis method and Fishbein model analysis. The results showed that the characteristics of consumers who bought fresh fish in Sunggal Market were women in the age range of 31-40 years old with senior high school as their last education level and an average income of around IDR 2,000,000 - IDR 4,000,000 with the number of family members was of four people. While the characteristics of consumers who bought fresh fish at Smaro Superstores were women in the age range of 31-40 with an average undergraduate education as their last education level and a monthly income was more than IDR 5,000,000 with family member of five people. The most important fresh fish and market attributes in Sunggal Market were fish freshness and location proximity. While the most crucial attributes of fresh fish and market attributes in the Smaro Superstore Market were fish hygiene and product diversity.

1. Introduction

The fisheries sector is one of the agricultural sub-sectors that plays a role in providing food need for the people of Indonesia. The products produced by the fisheries sector also provide benefits in fulfilling community nutrition, especially the fulfilment of animal protein nutrition. According to [1], the fisheries sector is a very important sector, not only as a source of animal protein but also economically as a provider of employment and a source of foreign exchange.

The number of households of Medan City community continues to increase every year. However, the fish consumption of the people of Medan is still low, probably due to the inadequate availability of fish in the market and the people's income. In addition, the process of selecting places to shop is now a bit of a problem when the modern market is gradually eroding the existence of traditional markets. Nowadays, the people in Medan have a lot of choices of places to shop for fresh fish both in the Traditional Market and in the Modern Market.

Even modern markets selling fresh fish in some areas of Medan City are starting to develop, it does not mean that all people will switch to shop at the modern market. Consumers have different characteristics that make every decision to purchase fresh fish to be varied, there are those who buy in modern markets and those who buy in traditional markets. Various basic considerations of consumers are the reason consumers make purchases in traditional markets and modern markets. The increasingly
fierce market competition condition encourages traders to compete to provide products in accordance with consumer needs and market products produced with a good marketing strategy. The goal is to continue to get the trust of consumers and the most important thing is to give satisfaction to consumers. Based on the description above, this study intended to find out more about consumer behaviour in purchasing fresh fish in traditional and modern markets.

2. Data and method

2.1 Methods for determining the location of research
Determination of the location of research was carried out deliberately (purposive) by considering the objectives of the study. The research location was conducted in Medan City, namely Sunggal Market (Traditional Market) and Smarco Superstore (Modern Market).

2.2 Data collection methods
Data collected in this study were primary data and secondary data. Primary data obtained directly through interviews with respondents using a list of questions (questionnaires) which was made in advance. While secondary data were data obtained from other relevant sources and from other relevant agencies that could support this research.

2.3 Methods for determining the sample size and sampling technique
In determining the sample size used in this study, the accidental sampling method was used, namely the technique of determining samples based on coincidence, i.e. anyone who accidentally met with the researcher could be used as a sample [2]. In this study, 60 samples were taken, this was in accordance with the theory [3] for research that the smallest sample size for analysis in statistics is 30 samples.

2.4 Data analysis methods
To analyse consumer behaviour in purchasing fresh fish in Traditional and Modern Markets, descriptive analysis and analysis of Fishbein model were utilized. Nonparametric statistics were widely used in social studies. Data obtained in social research were generally in the form of categories or ranks [4]. Descriptive analysis was a data analysis in the form of respondent's identity and purchasing decision making process. Data that were the respondent's identity and the purchasing decision-making process were grouped based on the similarity of answer, then presented based on the number of respondents. The largest percentage was the dominant attitude of each variable studied.

Fishbein multi-attribute analysis in this study was used to identify dominant attributes of fresh fish and markets in Traditional and Modern Markets. The Fishbein model explains that consumer behaviour towards an object behaviour (product or brand) is largely determined by consumer behaviour towards the attributes evaluated [5].

\[ Ao = \sum_{i=1}^{n} b_i e_i \]  

3. Results and discussion

3.1 Consumer characteristics
The average consumer who bought fresh fish in the Sunggal Market and Smarco Superstore was 100% women. This is because housewives know better what is needed by the family in daily life. The biggest percentage of fresh fish consumers in Sunggal Market was in the age range of 31-40 years old at 63.33%. While the largest percentage of fresh fish consumers at Smarco Superstore was also in the age range of 31-40 years old by 70%. This is likely because consumers who are dominated by housewives are starting to realize the benefits of consuming fresh fish having high protein and acid content.
Based on the level of education, the number of fresh fish consumers in Sunggal Market with the highest education level was 17 people or 56.67%. This might be seen from the perspective of respondents who on average assessed prices in traditional markets to be cheaper. According to the results, consumers buying fresh fish in Smarco Superstore were the number of consumers with Bachelor (S1) as the highest level of education, in the number of 17 people or 56.67%. This is due to the fact that respondents have a view of shopping in the modern market having the comfort and convenience of buying the needs sought. According to [6], the higher the social class of the respondent, the higher the education level.

Based on the level of income, respondents buying fresh fish in Sunggal Market were mostly in the group with monthly income of IDR 2,000,000 - IDR 3,000,000 or 36.67%. While the respondents of fresh fish in Smarco Superstore were mostly in the income group per month more than IDR 5,000,000 or 50%. Based on the number of family members, it showed that the number of family members of fresh fish consumers in Sunggal Market was at most 4 people or as much as 50%. While the number of family members of fresh fish consumers in Smarco Superstores was at most 5 people or 36.67%.

3.2 Consumer purchasing decision process
Based on the introduction of needs, analysis results show that the main motivation of consumers to buy fresh fish both at the Sunggal Market and Smarco Superstore is to meet the nutritional and vitamin needs of the family. While those who decided to buy fresh fish both at the Sunggal Market and at the Smarco Superstore were generally the wives. This is because according to [7], one of important role of mother/wife in the family is to make arrangements for the expenditure of family needs.

3.3. Consumer behaviour towards fresh fish attributes in traditional and modern markets
The results of the analysis of consumer behaviour on the attributes of fresh fish in the Sunggal Traditional Market and at the Smarco Superstore can be seen in Table 1 and 2.

| No | Attribute   | Behaviour Value (Ao) | Behaviour Category |
|----|-------------|----------------------|--------------------|
| 1  | Fish Freshness | 2.22                 | Positive           |
| 2  | Fish Texture  | 1.70                 | Positive           |
| 3  | Fish Hygiene  | 1.62                 | Positive           |
| 4  | Fish Aroma    | 1.25                 | Positive           |
| 5  | The Price     | 1.21                 | Positive           |
|    | Total         | 7.99                 | Positive           |

| No | Attribute    | Behaviour Value (Ao) | behaviour Category |
|----|--------------|----------------------|--------------------|
| 1  | Fish Freshness | 2.42                 | Very Positive      |
| 2  | Fish Texture  | 2.26                 | Positive           |
| 3  | Fish Hygiene  | 2.24                 | Positive           |
| 4  | Fish Aroma    | 1.41                 | Positive           |
| 5  | The Price     | 1.05                 | Positive           |
|    | Total         | 9.40                 | Positive           |

Based on the results of calculations and analysis of research that has been done, consumer behaviour towards the overall attributes of fresh fish in Sunggal Market can be categorized as positive. The freshness of fish has become the main attribute of consumers in Sunggal Market because generally fresh fish consumers who shop at Sunggal Market are more confident in the products,
especially fish in Sunggal Market, which are always fresh because every day these products are believed to continue to change every day.

Based on the results of calculations and analysis of research that has been done, consumer Behaviour towards the overall attributes of fresh fish in Smarco Superstore can be categorized as positive. Fish hygiene is the main attribute of consumers in Smarco Superstore because it is supported by the physical attributes of fresh fish in the modern market which are usually handled more carefully by the Smarco Superstore, so that fish remains durable and clean from dirt.

3.4. Consumer behaviour towards market attributes in traditional and modern markets

The results of the analysis of consumer Behaviour towards market attributes in the Sunggal Traditional Market and Smarco Superstores can be seen in Tables 3 and 4.

| Table 3. Value and category of consumer behaviour towards market attributes in Sunggal Traditional Market |
|-------------------------------------------------|--------------|-----------------|
| No     | Attribute               | Behaviour Value (Ao) | Behaviour Category |
| 1      | Location Proximity      | 2.65             | Very Positive     |
| 2      | Trader’s Hospitality    | 1.99             | Positive          |
| 3      | Product Diversity       | 1.73             | Positive          |
| 4      | Place Comfort           | 1.46             | Positive          |
| 5      | Market Layout           | 0.79             | Neutral           |
| 6      | Place Cleanliness       | 0.64             | Neutral           |
| 7      | Means of Parking        | 0.56             | Neutral           |
| Total  |                         | 9.81             | Positive          |

Based on the results of calculations and analysis of research that has been done, consumer Behaviour towards the overall market attributes in Sunggal Market can be categorized as positive. The proximity of the location becomes the main valuer attribute of consumers in Sunggal Market because the average distance of consumers' residence to the traditional market location is quite close and easily accessed, so that consumers have a very positive Behaviour towards the Sunggal Market.

| Table 4. Value and category of consumer behaviour towards market attributes at Smarco Superstore |
|-------------------------------------------------|--------------|-----------------|
| No     | Attribute               | Behaviour Value (Ao) | Behaviour Category |
| 1      | Location Proximity      | 2.28             | Positive          |
| 2      | Trader’s Hospitality    | 2.13             | Positive          |
| 3      | Product Diversity       | 2.07             | Positive          |
| 4      | Place Comfort           | 1.62             | Positive          |
| 5      | Market Layout           | 1.19             | Positive          |
| 6      | Place Cleanliness       | 1.02             | Positive          |
| 7      | Means of Parking        | 0.65             | Neutral           |
| Total  |                         | 10.96            | Positive          |

Based on the results of calculations and analysis of research that has been done, consumer Behaviour towards the overall market attributes in Smarco Superstore can be categorized as positive. Product diversity is the main attribute of consumer appraisal at Smarco Superstore because various products or basic needs are also available at this Smarco Superstore, so consumers have the highest positive Behaviour towards Smarco Superstore.
4. Conclusion
The characteristics of consumers buying fresh fish at Sunggal Market were women in the age range of 31-40 years old with an average senior high school as their last education level and average income ranging from IDR 2,000,000 - IDR 3,000,000 with a number of family members of 4 people. Whereas the characteristics of consumers buying fresh fish at Smarco Superstore were women in the age range of 31-40 years old with an average bachelor (S1) as their last education level with monthly income was more than IDR 5,000,000, with a number of family members of 5 people. Motivation or reasons owned by consumers consuming fresh fish were to meet the nutritional needs and vitamins of the family and the wives who acted as housewives were playing a role in making decisions on purchasing fresh fish in the family. Based on the analysis of the multiple attributes of Fishbein on fresh fish and market in the Sunggal Traditional Market and Smarco Superstore, the consumer's Behaviour towards the overall attributes of fresh fish in the Sunggal Market can be categorized as positive. The freshness of fish has become the main attribute of consumer assessment in Sunggal Market. Whereas consumer Behaviour towards the overall attributes of fresh fish in Smarco Superstores can be categorized as positive. Fish hygiene is a major attribute of consumer evaluation at Smarco Superstore. For market attributes, consumer Behaviour towards all market attributes in Sunggal Market can be categorized as positive. The proximity of the location becomes the main attribute of consumer valuation in Sunggal Market. While consumer Behaviour towards the overall market attributes at Smarco Superstore can be categorized as positive. Product diversity is a key consumer appraiser attribute at Smarco Superstore.

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