Analysis of consumer behavior in decision making of purchasing ornamental freshwater fish (case of study at ornamental freshwater fish market at Peta Street, Bandung)

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Abstract. This research aim was to analyzed process of decision making of purchasing ornamental freshwater fish at Peta Street, Bandung City and Analyzed what factors are driving consumers to buy freshwater fish Peta Street. The method used in this research is case study with rating scale and rank spearman analysis. The sampling technique is the accidental random sampling method consist of 30 respondents. The consumer’s decision making process consist of five stages, namely the recognition of needs, information searching, alternative evaluation, process of purchasing, and the evaluation of results. The results showed that at the stage of recognition of needs the motivation of purchasing freshwater fish because respondents are very fond of ornamental freshwater fish, at the stage of information search, the information sources are from the print media and friends or neighborhood. At the stage of alternative evaluation, the reason consumers buy ornamental freshwater fish because the quality of good products. The stage of purchasing decision process consumers bought 1-5 fish with frequency of purchase 1 time per month. The evaluation of results of post-purchasing consumers feel very satisfied with the fish products and the price is very affordable. To observe the factors that influence purchasing motivation of consumers, spearman rank test is the method. The results showed that the quality and price of the product are the factors that most influence the purchase decision of ornamental freshwater fish with the range of student- t value 3.968 and 2.107.

1. Introduction

Ornamental fish is one of fishery commodities that have become a potential trading commodity in or outside the country. The production of freshwater ornamental fish in West Java in 2015 was 571,975,130 fish [1]. According to the world export statistics in 2010, the cost of ornamental fish reached above 350 million dollars with Singapore, Malaysia, and Thailand as the main exporters [2].

The trading activities of marine ornamental fish have become one of the main actors in fishery agribusiness, not only because the climate and natural resources of Indonesia could support it, but also because this business has proven to be able to survive in a long period of crisis. One of the large-scale trades of ornamental fish is Raiser that has the role to build the bridge for the cultivators of ornamental fish to sell domestic or international products. Raiser is located at Jalan Raya Bogor KM. 47, Cibinong, Bogor District. One of the small-scale trades of ornamental fish is Pasar Ikan Hias Jalan Peta (Ornamental Fish Market at Peta Street) that is located in Bandung. Even though in a small-scale,
the market could build the bridge between the producers and the consumers of ornamental fish in Bandung.

Ornamental Fish Market at Peta Street, Bandung, is a place for the freshwater or marine ornamental fish enthusiasts. Even though Ornamental Fish Market at Peta Street Bandung is located far from the coast, it has become the center of freshwater or marine ornamental fish trade. The price offered by the tradesmen there varies, depending on the quality of the fish itself. There are some social interactions in the buying and selling activities and the diverse behavior of the consumers in making decision of buying the ornamental fish. The information regarding the consumers’ behavior could help the producers to set good marketing strategy.

This research was aimed to analyze the ornamental fish consumers’ behavior at Peta Street, Bandung, and analyze the supporting factors of the consumers to buy freshwater ornamental fish at Peta Street.

2. Methodology
2.1. Place and time of research
This research was conducted at Ornamental Fish Market at Peta Street, Bandung between March and April 2017.

2.2. Research method
The research method used in this research was a case study method with the consumers that shopped in Ornamental Fish Market at Peta Street as the subject of the research.

2.3. Sampling Method
The technique that was used to collect sample was accidental random sampling. The criteria of selecting the respondents were those who bought ornamental fish and were willing to do the interview. According to Sugiyono [3], the good sampling number in a research is between 30 to 500.

2.4. Data analysis method
The data analysis method used in this research was quantitative descriptive analysis. This analysis was produced from the questionnaire and interview, which were tabulated and then analyzed. The feasibility test for the questionnaire was done by validity and reliability tests. The quantitative analysis was done by ranking the factors affecting the purchase decision making. The quantitative analysis methods used were the Ranking Scale and Spearman Rank Test.

2.4.1. Validity and reliability tests
A test is considered to have high validity when the tool runs the measurement functions appropriately or gives the correct measurement results. According to Kotler and Armstrong [4] stated that validity is closely related to the appropriateness of the measuring tool of the assessed concept so it could measure what should be measured appropriately. A test is considered reliable if it always produces the exact same result if it is tested to the same group in different time or different occasion.

2.4.2. Rating scale
2.4.2.1. Likert scale
According to Sugiyono [3], likert scale is used to measure somebody’s or group’s attitude, opinion, and perception towards social phenomenon.

2.4.2.2. Guttman scale
According to Sugiyono [3], stated that the measurement scale with Guttman type can get firm answer, which are: yes-no; have-have not; and positive-negative.

2.4.3. Spearman test rank
According to Karimah et al. [5], correlation test aims to test the relationship between two variables that do not show functional relationship (relation does not imply causation). Correlation test does not differentiate the variables (there is no dependent or independent variables) and the coherency of the relationship is stated in a coefficient form.

The hypothesis used in this research was:

\[ H_0 : \text{There is no relation between } Y \text{ (motivation) and } X \text{ (income, price, quality, sales service, family)} \]

\[ H_1 : \text{There is a relationship between } Y \text{ (motivation) and } X \text{ (income, price, quality, sales service, family)} \]

3. Result and discussion

3.1. Respondents characteristics

There were 30 respondents consisting of 26 males and 4 females. The respondents’ age was dominated by the age group of 40-50 years old who were mostly entrepreneurs. Sixteen of the respondents had bachelor degree, 4 respondents had family, 14 respondents had income above Rp. 5,400,000, and 24 respondents stayed in Bandung.

3.2. The process of ornamental fish purchasing decision

3.2.1. The introduction to the needs

In this stage, the respondents’ levels of fondness to ornamental fish were enthusiasm (56.7 % or as many as 17 people). The level of hobby for ornamental fish was as high as 70 % or as many as 21 people. The higher motivation for the respondents to buy ornamental fish was for amusement (56.7 % or as many as 17 people). And 70 % of the respondents stated that they purchased ornamental fish as an alternative to having mammals as pets.

3.2.2. Information retrieval

According to 16 respondents (53.3 %), the characteristics of healthy ornamental fish could be seen from its eyes and bright skin and the beauty of ornamental fish could be seen from its body colors. There were 12 respondents (40 %) who got the information of ornamental fish from printed/electronic media and 53.3 % or (16 respondents) got the information from their relatives or people around them.

3.2.3. Alternative Evaluation

The respondents that bought Koi fish were as much as 46.7 % or 14 people. The respondents that bought ornamental fish because of the good quality of the product were as many as 16 people (53.5%). Thirteen respondents (43.3 %) faced the unavailability of the product decided to cancel the purchase. The other alternative to buy ornamental fish in Bandung is small fish shops that were chosen by 13 respondents.

3.2.4. Purchasing

The respondents that bought 1-5 ornamental fish was as many as 20 people, while those having the frequency of purchasing that was once a month was 14 people. The respondents who bought Koi were as many as 15 people.

3.2.5. The result evaluation after purchasing

In this stage, 14 respondents stated that they would put the ornamental fish that they bought at the aquarium. According to 24 respondents, the level of cleanliness of the market could be categorized as sufficient. The respondents who thought the level of comfort was sufficient were 22 people. Those who believed that the market was satisfying were 16 people. There were 21 respondents that answered that the level of affordability of ornamental fish in this market was proper. The respondents who stated that they would buy smaller amount of fish if the price was increased were 18 people. The percentage
increase in price that was tolerated by the respondents was 30%, as stated by 14 people. There were 26 people who claimed that they would still buy the fish if they get an increase in their income.

3.3. Validity test and questionairre reliability

3.3.1 The introduction to the needs

The Cronbach’s Alpha score was 0.788; this score was higher than 0.700 so it was statistically reliable. From the validity test on 4 questions that represented the dimension of recognition of needs, it had smaller correlation from 0.300 so it was statistically valid and could be used for a research.

### Table 1. Validity and reliability of the dimension of recognition of needs.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. |
|-----------|-------------|----------|-------|----------------|-------|
| Statement 1 | 0.490 | > 0.300 | Valid | 0.778 | Reliable |
| Statement 2 | 0.404 | > 0.300 | Valid |               |       |
| Statement 3 | 0.692 | > 0.300 | Valid |               |       |
| Statement 4 | 0.780 | > 0.300 | Valid |               |       |

3.3.2 Information retrieval

The score of Cronbach’s Alpha was 0.726, which is higher than 0.700, so it was statistically reliable. From the validity test score, 4 questions representing dimensional of information retrieval had score smaller than 0.300 so it was statistically valid and could be used for the research.

### Table 2. Validity and reliability of dimensional information retrieval.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. |
|-----------|-------------|----------|-------|----------------|-------|
| Statement 1 | 0.548 | > 0.300 | Valid | 0.726 | Reliable |
| Statement 2 | 0.570 | > 0.300 | Valid |               |       |
| Statement 3 | 0.529 | > 0.300 | Valid |               |       |
| Statement 4 | 0.428 | > 0.300 | Valid |               |       |

3.3.3 Alternative evaluation

In the stage of alternative evaluation, the score of Cronbach’s Alpha was 0.701, which is higher than 0.700, so it was statistically reliable. From the validity test score of the four questions that represented the alternative evaluation dimension, it had score smaller than 0.300 so it was statistically valid and could be used for the research.

### Table 3. Validity and reliability of alternative evaluation dimension.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. |
|-----------|-------------|----------|-------|----------------|-------|
| Statement 1 | 0.521 | > 0.300 | Valid | 0.701 | Reliable |
| Statement 2 | 0.461 | > 0.300 | Valid |               |       |
| Statement 3 | 0.519 | > 0.300 | Valid |               |       |
| Statement 4 | 0.446 | > 0.300 | Valid |               |       |

3.3.4 Purchasing

In the stage of purchasing, the score of Cronbach’s Alpha was 0.758 which was higher than 0.700 so it was statistically reliable. And from the validity test result from three questions representing purchasing dimension, it had a score smaller than 0.300 so it was statistically valid and could be used for the research.
Table 4. Validity and reliability of purchasing dimension.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. |
|-----------|-------------|----------|-------|----------------|-------|
| Statement 1 | 0.518 | > 0.300 | Valid | - | - |
| Statement 2 | 0.666 | > 0.300 | Valid | 0.758 | Reliable |
| Statement 3 | 0.683 | > 0.300 | Valid | - | - |

3.3.5. The result evaluation after purchasing
The score of Cronbach’s Alpha was 0.819, which was higher than 0.700 so it was statistically reliable. And from the result of validity test, from eight questions that represented the dimension of evaluation after purchasing, it had score smaller than 0.300 so it was statistically valid and could be used for the research.

Table 5. Validity and reliability of evaluation after purchasing.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. |
|-----------|-------------|----------|-------|----------------|-------|
| Statement 1 | 0.560 | > 0.300 | Valid | - | - |
| Statement 2 | 0.608 | > 0.300 | Valid | - | - |
| Statement 3 | 0.640 | > 0.300 | Valid | - | - |
| Statement 4 | 0.484 | > 0.300 | Valid | 0.819 | Reliable |
| Statement 5 | 0.555 | > 0.300 | Valid | - | - |
| Statement 6 | 0.528 | > 0.300 | Valid | - | - |
| Statement 7 | 0.541 | > 0.300 | Valid | - | - |
| Statement 8 | 0.392 | > 0.300 | Valid | - | - |

3.3.6. Motivation
In motivation stage, the score of Cronbach’s Alpha was 0.781, which was higher than 0.700, so it was statistically reliable. And from the validity test result from five questions that represented motivation, it had score smaller than 0.300 so it was statistically valid and could be used for research.

Table 6. Validity and reliability of Motivation dimension.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. |
|-----------|-------------|----------|-------|----------------|-------|
| Statement 1 | 0.629 | > 0.300 | Valid | - | - |
| Statement 2 | 0.452 | > 0.300 | Valid | - | - |
| Statement 3 | 0.655 | > 0.300 | Valid | 0.781 | Reliable |
| Statement 4 | 0.583 | > 0.300 | Valid | - | - |
| Statement 5 | 0.515 | > 0.300 | Valid | - | - |
3.4. The relation between income, price, quality, service, and family effect with motivation in ornamental fish purchasing decision

Table 7. The result of rank spearman from the relation between several variables with ornamental fish purchasing motivation in ornamental fish market in peta street.

| Statement | Correlation | Criteria | Info. | Alpha Cronbach | Info. | Statement |
|-----------|-------------|----------|-------|----------------|-------|-----------|
| 1 | The relation between motivation and the product quality | 0,600 | 0,36 | 3,968 | | Significant |
| 2 | The relation between motivation and price | 0,370 | 0,137 | 2,107 | | Significant |
| 3 | The relation between motivation and income | 0,292 | 0,085 | 1,616 | 2,048 | Not Significant |
| 4 | The relation between motivation and family | 0,127 | 0,016 | 0,678 | | Not Significant |
| 5 | The relation between motivation and service quality | 0,096 | 0,009 | 0,510 | | Not Significant |

The relation between ornamental fish purchasing motivation with the product quality had Spearman Ranks score of 0.600 and it got $t_{\text{count}}$ of 3.968. This score was higher than $t_{\text{table}}$ score which was 2.048, so $H_1$ was accepted since $t_{\text{count}} > t_{\text{table}}$. It means that there was a correlation between product qualities with ornamental fish purchasing motivation.

The Rank Spearman score between ornamental fish purchasing motivation with the product was 2.107. Where $H_1$ was considered significant since $t_{\text{count}} > t_{\text{table}}$, where 2.107 > 2.048 which means that there as a correlation between price and the motivation in purchasing the product.

The factors that influence consumer loyalty are satisfaction, habits, commitment, product preferences, and transfer costs. Consumer loyalty is defined as a measure of customer loyalty in using a product or service over a period of time in situations where many choices of products or services can meet their needs [6].

Another factor that affects the ornamental fish purchasing motivation was income. The score of Rank Spearman of the correlation between income and ornamental fish purchasing motivation was 1.616. $H_0$ was not significant since $t_{\text{count}} < t_{\text{table}}$ where 1.616 < 2.048 which means that the relation between purchasing motivation and the consumers’ income was insignificant.

The score of Rank Spearman between the influence of family with the ornamental fish purchase motivation was 0.678. $H_0$ was not significant since $t_{\text{count}} < t_{\text{table}}$, where the score of $t_{\text{count}}$ was 0.678 and the score of $t_{\text{table}}$ was 2.048.

Another factor that affected the purchase decision was the sales service. The score of Rank Spearman for the relation between sales service and the ornamental fish purchase motivation was
0.510. \( H_0 \) was not significant since \( t_{\text{count}} < t_{\text{table}} \), where the score of \( t_{\text{count}} \) was 0.510 and \( t_{\text{table}} \) was 2.048, which means that the relation between purchase motivation and the sales service was insignificant.

4. Conclusion

The reasons why consumers bought ornamental fish in Peta Street were because of the good quality of the product, the cleanliness of the market, and its affordable price. The respondents would still buy ornamental fish at Peta Street even though there was an increase in price, which they could tolerate as high as 30%. The alternative to buy ornamental fish was in small fish shops. The amount of fish purchased was around 1 – 5 fish. The consumers would cancel the purchase if the product was not available. The most purchased fish was Koi.

Product quality and price was the most significant influential factor with \( t_{\text{count}} \) were 3.968 and 2.107, higher than \( t_{\text{table}} \), which was 2.048; meanwhile, income, family, and sales service quality gave insignificant influence with \( t_{\text{count}} \) of 1.616, 0.678, and 0.510, respectively, which was smaller than \( t_{\text{table}} \) of 2.048.

5. References

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