



Proposed Packaging of Assar Fish Products with Methods Quality Function Deployment

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ABSTRACT

Generally, selling fish asar by the community, the seller only wraps or packs fish asar in the traditional way, using banana leaves. Traditional asar fish packaging is also still carried out in the Sorong city area, especially in the market and its surroundings. So that action or change is needed so that the asar fish which is the interest of the residents of the city of Sorong is still protected by the cleanliness and quality of the asar fish product. The packaging used to pack asar fish products is Polypropylene (PP) plastic packaging. The choice of packaging with this material is because it is strong, resistant to chemicals, heat, oil, transparent, and flexible. Quality Function Deployment is a product development system that starts from product design, manufacturing process until the product is in the hands of consumers, where product development is based on consumer desires. This study aims to produce packaging designs for asar fish products that meet consumer desires using the Quality Function Deployment method. The research begins with distributing questionnaires, identifying consumer desires, determining the value of importance rating, technical response, technical correlation matrix, relation matrix, planning matrix, determining target specifications, making House of Quality. The resulting packaging design is in the form of a rectangle measuring 35 cm x 18 cm, made of Polypropylene (PP) plastic, packaging using a sticker measuring 12 cm x 12 cm and the packaging is pressed using a sealer.

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INTRODUCTION

Asar fish or smoked fish dominate the processed fishery products located at the Asar Fish Home Industry on Jalan Jenderal Sudirman, Klademak 1, especially in Sorong City. Asar fish is a product of traditional fish processing to preserve, give color and add a distinctive taste to processed fishery products. Asar fish is produced from the combination of salting and smoking methods which aims to reduce the water content in the fish so that bacteria are not given the opportunity to live and reproduce. This can make the fish have the ability not to rot for a long time [1].

In general, selling fish asar by the community, the seller only wraps or packs fish asar in the traditional way, using banana leaves. This causes asar fish can still be swarmed by flies or other insects. Something that has been infested by a fly or insect then indirectly the insect has contaminated the food it infests, through vomit, dirt, or simply transferring germs that are on the surface of its body so that it can cause a decrease in the quality of the product [2].

One of the factors to maintain the quality of a product is to package the product, so that it is hygienic and protected from dirt and contamination. Traditional asar fish packaging is also still carried out in the Sorong city area, especially in the market and its surroundings. So that actions or changes are needed so that the asar fish which is the interest of the residents of the city of Sorong is still protected by the cleanliness and quality of the asar fish product. The packaging used to pack asar fish products is Polypropylene (PP) plastic packaging. The choice of packaging with this material is because it is strong, resistant to chemicals, heat, oil, transparent, and flexible. Packaging is an activity or action taken by a company to package, wrap, or protect a product so that it is clean and fast [3].

Quality Function Deployment is a product development system that starts from designing the product, the manufacturing process until the product is in the hands of consumers, where product development is based on consumer desires [4]. As is known, regional developments and food needs in the city of Sorong and its

surroundings are increasing and to achieve their respective desires they must obtain healthy, hygienic and quality food for health. Determining consumer needs for packaged fish products is aimed at convincing consumers that packaged products that will be designed is in accordance with its functions and needs so that it becomes the basis for designing more specific products and to maintain the quality of asar fish products [5].

According to Kotler and Armstrong (2012), packaging is a packaging process that involves designing and producing activities, the main function of the packaging itself is to protect the product so that the product quality is maintained [6].

The development of functional packaging also occurs when packaging is currently used as a communication medium. Packaging is currently used as a medium by companies to communicate with their customers by providing the company's service number on the packaging. Packaging also serves to communicate a certain image. According to Cenadi (2000), to make good packaging, the packaging must be simple, functional, and create a positive emotional response, which indirectly says to buy the product [7].

According to Azizah (2009), plastic is a polymer of long chains of atoms that bind to each other. These chains form many repeating molecular units, or "monomers." The term plastic covers products of synthetic polymerization, but there are several natural polymers that include plastics. Plastics are formed from organic condensation or addition of polymers and can also be formed using other substances to produce economical plastics [8].

RESEARCH METHODS

The technique or method used to collect data is to make direct observations of objects in the field, therefore in the preparation of this final project several data collection techniques are used, namely:

1. Observation

This data collection technique is intended to obtain primary data by making observations from data sources (respondents) directly in

the field.

2. Interview

Data collection techniques that are widely used in descriptive research. Interviews were conducted orally in individual face-to-face meetings. The technique of collecting data by interview is that the researcher directly meets the respondent and asks questions and answers. This question and answer will later obtain the necessary data.

3. Sampling Probability

A sampling technique that provides equal opportunities for each element (member) of the population to be selected as a member of the sample. Simple Random Sampling is said to be simple (simple), because the sampling of members of the population is carried out randomly without regard to the strata in the population.

4. Questioner

Used to collect data from respondents, where researchers make questions that have been arranged in such a way as to determine the extent of the application of QFD in the design of asar fish packaging products. In this study, questionnaires were distributed to asar fish customers.

5. Literature Review

Literature study was conducted to obtain information and references to be obtained from books, newspapers, magazines, results of previous research, as well as documents from related agencies.

The method used in the design of asar fish product packaging is the Quality Function Deployment method, which is a product development system that starts from product design, manufacturing process until the product

is in the hands of consumers, where product development is based on consumer desires.

RESULTS AND DISCUSSION

A. Identify Consumer Desires

Consumers' wants or needs for asar fish product packaging can be identified by distributing questionnaires to asar fish customers [9,10]. The distribution of the questionnaire is intended to determine the consumer's desire for the packaging design of asar fish. Questionnaires were distributed to 100 respondents who are asar fish customers in the market. Following are the results of the identification of respondents' desires through a questionnaire:

1. Plastic packaging material.
2. Rectangular shape.
3. Packaging shows the contents of the product (Transparent).
4. Easy to carry packaging.
5. Packaging has a size that matches the packaged product.
6. The packaging material has water resistance.
7. Plastic packaging material in the press.
8. Thickness of packaging material.
9. The packaging design is pasted in the form of a sticker.
10. Packaging using an attractive logo.
11. The packaging includes the manufacturer's address.
12. The packaging includes the net weight of the product.

B. Define Target Specifications

Determination of target specifications on the design of asar fish packaging products is obtained from attribute development on technical responses based on consumer needs. The following is a list of the required target specifications:

Table 1. Target Specifications of Asar Fish Packaging

No.	Consumer Needs	Specification Target
1	Plastic packaging material	Using a type of polypropylene plastic
2	Rectangular shape	Rectangular shape
3	Packaging Color shows product contents (Transparent)	Packaging color (Transparent)
4	Easy to carry packaging	Easy to hold
5	The packaging has the appropriate size for the packaged product	Packing size (35 cm x 18 cm)

6	Packaging materials have water resistance	Material of plastic
7	Pressed plastic packaging material	Pressed using the Sealer tool
8	Packaging material thickness	Thickness 0.03 Micron
9	The packaging design is pasted in the form of a sticker	Sticker size (12 cm x 12 cm)
10	Packaging using an attractive logo	Describing fish
11	The packaging includes the manufacturer's address	Jalan Jendral Sudirman Klademak 1
12	The packaging includes the net weight of the product	400-500 Gram
13	The packaging includes an expiry date information	2 days

C. Technical Responses

Technical response is planning target consumer wants and needs. These consumer wants and

needs will be translated into technical language [9].

Table 2. Technical Responses

No.	Consumer Wants and Needs	Technical Responses
1	Plastic packaging material	Made of strong and flexible material
2	Rectangular shape	Shape that fits the product
3	Packaging Color shows product contents (Transparent)	Color Match
4	Easy to carry packaging	Can be taken anywhere
5	The packaging has the appropriate size for the packaged product	Size that fits the product
6	Packaging materials have water resistance	Material of plastic
7	Pressed plastic packaging material	Material in press
8	Packaging material thickness	Packaging Dimension
9	The packaging design is pasted in the form of a sticker	Stickers affixed to plastic packaging
10	Packaging using an attractive logo	Image variant
11	The packaging includes the manufacturer's address	Manufacturer's address
12	The packaging includes the net weight of the product	Product net weight
13	The packaging includes an expiry date information	Expiration Description

D. Technical Correlation Matrix

The technical correlation matrix is a triangular table that is often combined with fellow technical responses, in the sense that the technical correlation matrix describes the relationship between technical response items [9].

The Goal value shows the goals that researchers want to achieve to meet customer needs by

E. Matrix Relation

The relation matrix shows the correlation between technical response and consumer needs [10, 11].

F. Goal Value Determination

giving a weighted value on a scale of 1 to 5.

Table 3. Goal Value

No.	Consumer Needs	Goal
1	Plastic packaging material	5
2	Rectangular shape	5
3	Packaging Color shows product contents (Transparent)	5
4	Easy to carry packaging	4
5	The packaging has the appropriate size for the packaged product	4
6	Packaging materials have water resistance	4
7	Pressed plastic packaging material	5
8	Packaging material thickness	4
9	The packaging design is pasted in the form of a sticker	5
10	Packaging using an attractive logo	4
11	The packaging includes the manufacturer's address	4
12	The packaging includes the net weight of the product	4
13	The packaging includes an expiry date information	5

G. House of Quality

House Of Quality, the result of the QFD method is the most complete part of product development. There are steps above starting

The New Design of Asar Fish Packaging Products using the Quality Function Deployment (QFD) method produces a target product specification by showing the attributes and technical responses that have been prioritized. This new asar fish packaging

from determining the importance rating value to determining the target specification combined in one form of House of Quality.

H. New Design of Asar Fish Packaging Products

product is designed according to the wishes of consumers. This new asar fish packaging product is expected to have more added value in its design. The new product design for asar fish packaging can be seen in the image below



Figure 1. Design of Asar Fish Packaging

CONCLUSION

In increasing customer satisfaction with the purchase of products sold, things such as maintaining cleanliness and providing good quality of a product really need to be considered. Sellers will be easier to retain and can also add new customers. One of them is in terms of packaging a product to be sold. In addition to maintaining the cleanliness or hygiene of the product, good packaging can also attract the attention of buyers.

The results of the research on the manufacture of asar fish packaging products using the Quality Function Deployment method based on the results of the discussion and analysis can be concluded as follows:

- a. Identify consumer needs or wants.
- b. Determine the value of the importance rating.

- c. Determine technical response.
- d. Determine the technical correlation matrix.
- e. Defines the relation matrix.
- f. Planning Matrix
- g. Define target specifications.
- h. Making House of quality.

After carrying out a series of research stages, the researchers got the final result, namely consumers need packaging that can maintain the quality and hygiene of asar fish products sold in the market today. As for some suggestions and input that researchers can provide, among others, as follows:

1. Asar fish need to use packaging to maintain its hygiene and protect it from dirt and contamination with bacteria or germs.
2. This research does not discuss the existence of competition. Considering that this product is new and there are no other products that are packaged asar fish products.

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