

Designing Ar-Fhat Bakery Toast Packaging Using The Quality Function Deployment (Qfd) Method

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ABSTRACT

The determining factor for the success of a product lies with the consumer, therefore a design that is strictly adapted to the needs and desires of the consumer is needed. In a situation of intense competition, in order to increase sales volumes and market mastery, it is increasingly realized the need for a marketing strategy that is not only based on the needs of consumers, but also competitors who target the same target consumers, by therefore, companies need to anticipate various opportunities and obstacles in the marketing process. Packaging products with an elegant and unique look from competing products will provide their own selling value to the products produced. If done correctly, the company will understand consumer needs and translate them into product designs that are not only effective but also have a good image in the eyes of consumers. From the results of the analysis using the method QFD on Ar-Fath Bakery can it is known the packaging material to be used, the variety of models, the length of the packaging, the width of the packaging and also the height of the packaging where for the main material, namely ivory paper and for printing design drawings using digital printing materials. For the model variation used is an attractive and safe packaging design during delivery by adding full attributes to the packaging of Ar Fhat Bakery toast. For the length of the packaging using a size of 20 cm, the width of the packaging is 10 cm and the height of the packaging uses a size of 6 cm.

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INTRODUCTION

The determining factor for the success of a product lies with the consumer, therefore an appropriate design is needed that is tailored to the needs and desires of the consumer[1]. Ar-Fath Bakery products are one of the toast trading businesses that are widely dominated among the public so that they are able to compete with other trading business products [2]. In a situation of fierce competition, in order to increase sales volumes and market mastery, it is increasingly realized the need for a marketing strategy that is not only based on the needs of consumers, but also competitors who the same target consumer target[3], therefore companies need to anticipate various opportunities and obstacles in the marketing process[4].

Marketing is a process plan and execute a series of concepts, promotions and concepts of distribution of ideas, goods and services to create an exchange that satisfies individuals, organizations and societies [5]. To design a product well, the design team must know what they are going to design, and what the customer expects from the product. Packaging can simply be interpreted as an object used to wrap or to protect an item to be neat or clean[6]. Packaging has a very important function, namely to wrap or protect an item to be neat or clean[7].

In the production of food products very it is important to pay attention to the taste and appearance of the product. When viewed from the point of view of the attractiveness function, high taste without paying attention to the appearance of the product will be less successful in marketing, and vice versa. Packaging products with an elegant and unique look from competing products will provide its own selling point for the products produced[8]. To maintain the quality of these food products and by developing their production in an increasingly rapid competition, an effort is needed among them through attractive packaging designs[9]. The attractiveness of a

product is also inseparable from the shape of the packaging. Therefore, packaging should be able to influence consumers to buy the products offered. Viewed from the appearance side and from the shape of the product with the appropriate color so that the product looks attractive[10]. The method used in overcoming these problems is QFD because the method is one of the tools used to find out the wishes of consumers. QFD is known as a system for translating sounds customers "Voice of Customer" into the needs of the company[11]. QFD is an effective tool used by companies to identify customer desires, expand market share, and develop strategies to achieve customer satisfaction[12]. QFD is not a problem-solving tool, but it is very useful in identifying what to do to increase market share. This is achieved by translating customer needs and expectations into measurable, actionable and potentially enhanceable items, through the planning and design stages[13]

RESEARCH METHODS

2.1 Time And Place

Of Research Research Place Ar- Fath Bakery toast outlet located on Jalan Tamalanrea Raya Block A No.13, Makassar City, south Sulawesi. The time for the study to be carried out is for 1 month.

2.2 Data Collection

The type of data used in this study, namely quantitative data, namely data that is measured and calculated directly as a variable number or number, as well as qualitative data, namely data from explanations of verbal words that are not can be analyzed in the form of numbers or numbers that give and show the quality of the object of research carried out. The data sources used in this study are primary data, namely data obtained directly from observations of questionnaires and interviews, as well as secondary data which are data obtained from literature reviews such as books, journals, articles related to research that is being done.

RESULTS AND DISCUSSION

3.1 Result

3.1.1 Karakteristik Respond

Table 1. Consumer Characteristics of Ar-Fhat Bakery toast in makassar citybased on age

Usia	Jumlah	%
16 th	1	1%
17 th	1	1%
19 th	1	1%
20 th	1	1%
21 th	7	7%
22 th	31	31%
23 th	44	44%
24 th	8	8%
25 th	2	2%
26 th	1	1%
27 th	1	1%
28 th	1	1%
36 th	1	1%
Total	100	100%

Sumber : Data diolah 2021

From the results of this study from a sampling of 100 respondents, it can be concluded that the most consumers of Ar-Fhat Bakery toast in Makassar city are 23 years old.

3.1.2 Research Instrument Test

a. Validity Test

Table 2.Risk Reduction Results

No	No.Pernyataan	Fhitung	Ftabel	Keterangan
1	1	0,788	0,195	VALID
2	2	0,678	0,195	VALID
3	3	0,751	0,195	VALID
4	4	0,480	0,195	VALID
5	5	0,775	0,195	VALID
6	6	0,423	0,195	VALID
7	7	0,335	0,195	VALID
8	8	0,730	0,195	VALID
9	9	0,722	0,195	VALID
10	10	0,646	0,195	VALID

Sumber: Data Diolah 2021

Based on the data processing above, it can be seen that there is no data that is not valid then all coesioner questions are used because r counts $>$ r table.

b. Reliability Test

Table 3.Risk Reduction Results

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.758	.876	11

Sumber: Data diolah, 2021

Based on the results of data processing for the reliability test above, a cronbach's Alpha value of

0.758 was obtained, which means that it is between $0.61 < r < 0.80$ or is included in the high reliability criterion based on the reliability intrepeation table above.

3.1.3 House of Quality

a. Filling in the customer wish sub matrix

Table 4.Consumer Desires

Customer Requirement (WHAT's)		
Fungsional	Utama	Melindungi makanan
		Mudah ditutup
		Mudah dibuka
		Mudah dikeluarkan dari kemasan
Desain	Tambahan	Tahan Dari Minyak
	Bentuk Rangka	Persegi Panjang
	Dimensi PXLXT	19CM x 15CM x 5CM
	Warna Kemasan	Biru, Cream, Merah, dan Putih
	Tambahan	Desain kemasan mencantumkan label informasi
		Menggunakan segel pada kemasan berbentuk stiker
Bahan	Rangka	Ivory
	Stiker	Digital Print
	Tambahan	Tidak mengandung komponen yang berbahaya
		Tidak mudah rusak

Sumber Data Diolah, 2021

Based on the voice of the consumer producing the attributes / parameters of the product design, the task of the designer is to translate the attributes of the product into a technical parameter more specifically.

b. Filling of the Technical Response Sub Matrix

Table 5.Technical Response of Packaging Desai

No	Respon Teknis
1	Volume Kemasan
2	Jenis Bahan
3	Pemilihan jenis front dan gambar
4	Usia pakai
5	Berat kemasan
6	Teknik pelipatan kemasan

Sumber: Data Diolah 2021

c. Importance to Customer

Table 6.Importance To Customer

No.	Atribut	Jumlah Responden	Total Skor Keinginan	Importance To Customer
1	Kemasan mudah ditutup	100	280	2.80
2	Kemasan mudah dibuka	100	441	4.41
3	Makanan mudah dikeluarkan dari kemasan	100	441	4.41
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	100	460	4.60
5	Kemasan tidak mudah rusak	100	321	3.21
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	100	435	4.35
7	Kemasan mudah dibawa	100	442	4.42
8	Bentuk kemasan rapi	100	328	3.28
9	Kemasan menarik	100	303	3.03
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	100	312	3.12

Sumber: Data Diolah 2021

The Value of Importance To Customer shows how much the level of desire for each attribute of the packaging design of Ar-Fhat Bakery toast in Makassar City.

d. Customer Satisfaction Performance

Table 7.Customer Satisfaction Performance

No	Atribut	Jumlah Responden	Total Skor Kepuasan	Customer Satisfaction Performance
1	Kemasan mudah ditutup	100	455	4.55
2	Kemasan mudah dibuka	100	463	4.63
3	Makanan mudah dikeluarkan dari kemasan	100	479	4.79
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	100	487	4.87
5	Kemasan tidak mudah rusak	100	456	4.56
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	100	461	4.61
7	Kemasan mudah dibawa	100	484	4.84
8	Bentuk kemasan rapi	100	478	4.78
9	Kemasan menarik	100	475	4.75
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	100	469	4.69

Sumber: Data Diolah 2021

Customer Satisfaction Performance is a consumer assessment as a level of consumer satisfaction with the packaging design of Ar-Fhat Bakery toast in Makassar city that exists today.

e. Goals / Goals

Table 8.Goal Values of Each Attribute

No	Atribut	Nilai Sasaran/Goal
1	Kemasan mudah ditutup	4
2	Kemasan mudah dibuka	4
3	Makanan mudah dikeluarkan dari kemasan	4
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	4
5	Kemasan tidak mudah rusak	4
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	4
7	Kemasan mudah dibawa	4
8	Bentuk kemasan rapi	4
9	Kemasan menarik	4
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	4

Sumber Data Diolah 2021

The goal here shows how much satisfaction performance is expected to be achieved by the company in order to meet every consumer's desire.

f. Goal Reduction and Satisfaction Level

Table 8.Gap Values For Each Attribute

No.	Atribut	Nilai Tingkat Kepuasan	Nilai Sasaran	Gap
1	Kemasan mudah ditutup	4.55	4	0.55
2	Kemasan mudah dibuka	4.63	4	0.63
3	Makanan mudah dikeluarkan dari kemasan	4.79	4	0.79
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	4.87	4	0.87
5	Kemasan tidak mudah rusak	4.56	4	0.56
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	4.61	4	0.61
7	Kemasan mudah dibawa	4.84	4	0.84
8	Bentuk kemasan rapi	4.78	4	0.78
9	Kemasan menarik	4.75	4	0.75
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	4.69	4	0.69

Sumber: Data Diolah 2021

From the results of the comparison between the target and the level of consumer satisfaction, it can be seen that the value on the packaging does not contain harmful components, which has the largest gap value of (0.87). This means that the larger the gap that occurs indicates that the packaging does not contain harmful components, it is still far from the target to be achieved.

g. Point of Sale

Table 9. Point of Sale Values of Each Attribute

No.	Atribut	Sales Point
1	Kemasan mudah ditutup	1,5
2	Kemasan mudah dibuka	1,5
3	Makanan mudah dikeluarkan dari kemasan	1,5
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	1,5
5	Kemasan tidak mudah rusak	1,5
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	1,5
7	Kemasan mudah dibawa	1,5
8	Bentuk kemasan rapi	1,5
9	Kemasan menarik	1,5
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	1,5

Sumber Data Diolah 2021

The point of sale is determined by the toast company Ar-Fhat Bakery where this value reflects the ability to sell the product based on how important the customer's attributes can be met

h. Summarization Ratio

Table 10. Value Improvement Ratio

No	Atribut	Sasaran (Goal)	Nilai Tingkat Kepuasan	Improvement Ratio
1	Kemasan mudah ditutup	4	4.55	0.87
2	Kemasan mudah dibuka	4	4.63	0.86
3	Makanan mudah dikeluarkan dari kemasan	4	4.79	0.83
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	4	4.67	0.82
5	Kemasan tidak mudah rusak	4	4.56	0.87
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	4	4.61	0.86
7	Kemasan mudah dibawa	4	4.64	0.82
8	Bentuk kemasan rapi	4	4.76	0.84
9	Kemasan menarik	4	4.75	0.84
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	4	4.69	0.85

Sumber Data Diolah 2021

Improvement Ratio or increase ratio is a measure of how much must be done by the company in an effort to change the packaging design of Ar-Fhat Bakery toast in accordance with consumer wishes, Improvement Ratio is obtained from the comparison between levels information to be achieved (goals) and the current level of satisfaction. This value is calculated as follows Improvement ratio = goal divided by the level of satisfaction.

i. Row Weight (Raw Weight)

Table 11. Row Weights of Each Attribute

No	Atribut	Importance To Customer	Improvement Ratio	Sales Point	Raw Weight
1	Kemasan mudah ditutup	2.80	0.87	1,5	3.65
2	Kemasan mudah dibuka	4.41	0.86	1,5	5.68
3	Makanan mudah dikeluarkan dari kemasan	4.41	0.83	1,5	5.49
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	4.60	0.82	1,5	5.65
5	Kemasan tidak mudah rusak	3.21	0.87	1,5	4.18
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	4.35	0.86	1,5	5.61
7	Kemasan mudah dibawa	4.42	0.82	1,5	5.43
8	Bentuk kemasan rapi	3.26	0.84	1,5	4.13
9	Kemasan menarik	3.00	0.84	1,5	3.81
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	3.12	0.85	1,5	3.97

Sumber: Data Diolah 2021

For the largest row weight value is the packaging that is easy to open, namely with a value (5.68), meaning that the most prioritized in making the design design of the ar-Fhat Bakery toast packaging design in Makassar city is the easy-to-open packaging design that according to consumers of Ar-Fhat Bakery toast in Makassar.

Table 12. Normalized Raw Weight Calculation Results

No.	Atribut	Raw Weight	Raw Weight Total	Normalized Raw Weight
1	Kemasan mudah ditutup	3.65	47.6	0.076
2	Kemasan mudah dibuka	5.68	47.6	0.119
3	Makanan mudah dikeluarkan dari kemasan	5.49	47.6	0.114
4	Kemasan tidak mengandung komponen yang berbahaya untuk makanan	5.65	47.6	0.118
5	Kemasan tidak mudah rusak	4.18	47.6	0.087
6	Kemasan kedap minyak sehingga tidak mudah menyerap minyak	5.61	47.6	0.117
7	Kemasan mudah dibawa	5.43	47.6	0.114
8	Bentuk kemasan rapi	4.13	47.6	0.086
9	Kemasan menarik	3.81	47.6	0.080
10	Kemasan menampilkan informasi yang lengkap seperti nama brand, alamat outlet dan penanda rasa roti bakar	3.97	47.6	0.083

Sumber: Data Diolah 2021

j. Technia Sub Matrix Filling

Table 13. Column Weights and Normalized Contribution of Each Attribute

Atribut	Bobot Kolom	Total Bobot kolom	Normalized contribution
Volume Kemasan	2,247	13,654	0.164
Jenis Bahan	2,178	13,654	0.159
Pemilihan jenis font dan gambar	0,803	13,654	0.058
Ukura pakai	1,407	13,654	0.103
Berat kemasan	2,781	13,654	0.203
Teknik pelipatan kemasan	4,236	13,654	0.310

Sumber: Data Diolah 2021

The technical response that has the largest column weight is about the weight of the packaging, this shows that it has a very strong relationship with consumer desires.

3.2 Discussion

Based on the assessment, the following are the planning stages of ar-fath bakery toast packaging design

a. Packaging Material

For the selection of packaging materials can use plastic, ivory the picture can be seen as follows.



Figure 1. Ivory Paper

b. Supporting Main Materials

For the main and supporting material of ar-fath Bakery toast packaging design on the packaging is to use the main material of ivory paper. And to print the design drawings using digital printing materials.

c. Model Variations

For the variety of models used is an attractive and safe packaging design during delivery by adding complete attributes to the packaging of Ar Fhat Bakery toast.

d. Packaging Length

For the length of the packaging using a size of 20 cm.

CONCLUSION

e. Packaging Width

For the width of the packaging using a size of 10 cm

f. High Packaging

For packaging height using a size of 6 cm The following is the result of the ar Fhat Bakery toast packaging design that is in accordance with the expectations of consumers of Ar-Fhat Bakery toast and the old design drawing of Ar Fhat Bakery toast in Makassar City.

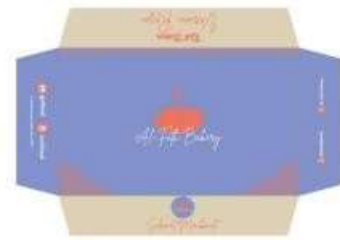


Figure 2. Ar-Fath Bakery's New Packaging Design Pattern



Figure 3. Ar-Fath Bakery's New Packaging Design



Figure 4. Ar-Fath Bakery Design Seal Logo



Figure 5. Comparison of Old and New Packaging of Ar-Fath Bakery

1. Based on the analysis and evaluation, it can

be concluded that the design design of the old packaging of Ar-Fhat Bakery toast lacks the full attributes desired by consumers. So that the new packaging of Ar-Fhat Bakery toast displays several attributes that consumers want, namely: Displaying Brand Name, Displaying Outlet Address, And Displaying Ar Toast Flavor Markers Fhat Bakery

2. To create a new design of packaging Ar-Fhat Bakery toast for consumer safety namely using ivory paper material that is resistant to water, oil and hot steam, changing the shape of the packaging frame that is pxlxt sized =19cmX15cmX5cm, using digital print sticker material and adding a seal for packaging.

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