



Our Mission

TO COMBINE SCIENCE, NATURE, AND TECHNOLOGY TO CREATE
PREMIUM HAIR COLOR AND HAIR CARE PRODUCTS THAT DELIVER
PERFECT RESULTS WHILE PRIORITIZING HAIR HEALTH.

"GREAT HAIR IS NOT A PRIVILEGE, IT'S A
PROMISE."

THE PRODUCT

CITRUS BLISS



- Refreshing Citrus Fragrance

Energizes and lasts all day.

- Nourishing Formula

Contains hyaluronic acid, B vitamins, vitamin E, and niacinamide to strengthen hair and reduce hair fall.

- Innovative Nanoparticulate Delivery System

- Powered by chitosan.

Encapsulates orange oil for controlled fragrance release.

- Why Choose Citrus Bliss?

Combines hair care benefits with long-lasting fragrance retention.

A delightful and nourishing experience in one bottle.

PRODUCT FLOWCHART

1. Research Phase

- Review the functions of all ingredients.
- Study similar formulations for reference.
- Understand safety and compatibility of ingredients.

2. Formulation Design

- Determine appropriate concentrations for each ingredient.
- Create a draft formulation plan.
- Prepare a list of materials and equipment required.

3. Preliminary Testing

- Conduct small-batch preparation of the shampoo.
- Test ingredient solubility, mixing compatibility, and pH balance.

4. Adjustments and Optimization

- Modify ingredient ratios as needed for texture, stability, and consistency.
- Adjust pH levels to 4.5–5.5 for scalp compatibility.
- Ensure proper foaming and conditioning properties.

5. Encapsulation Process

- Perform Chitosan encapsulation of Orange Oil.
- Verify nanoparticulate formation and scent stability.

6. Stability Testing

- Evaluate the product under different conditions (temperature, light, humidity).
- Test for microbial stability using Ethylparaben as a preservative.

7. Final Batch Preparation

- Scale up to prepare a larger batch.
- Verify uniform consistency and final product quality.

8. Packaging and Labeling

- Sterilize and fill bottles with the final product.
- Create and attach labels with instructions and storage guidelines.

PRODUCT INFORMATION

FUNCTIONAL INGREDIENTS IN SHAMPOO

MAIN SURFACTANTS AND CONDITIONERS

- **Polysorbate 80 (8%)**: Non-ionic surfactant, emulsifier, and foam enhancer.
- **Chitosan (1%)**: Encapsulating agent for conditioning

Moisturizers and Scalp Health

- **Hyaluronic Acid (1%)**: Provides humectant benefits to retain moisture.
- **Niacinamide (2%)**: Reduces hair loss, strengthens hair, and moisturizes.
- **Pro-vitamin B5 (1%)**: Adds elasticity, volume, and shine.

Preservatives and pH Balancers

- **Ethylparaben (0.5%)**: Ensures the preservation of the product.
- **Citric Acid (0.5%)**: Adjusts pH and dissolves chitosan.

Fragrance and Antioxidants

- **Orange Oil (1%)**: Provides a pleasant fragrance and antioxidant benefits.
- **Vitamin E (0.5%)**: Nourishes hair follicles, increases blood circulation, and supports growth.

Base Ingredient

- **Demineralized Water (qs.100%): Acts as the solvent.**

Steps for Preparing Shampoo

1-Preparing the Base

- **Weigh and dissolve Chitosan in demineralized water in a beaker**
- **Gradually add Citric Acid to dissolve Chitosan while stirring.**
- **Heat the mixture gently (not exceeding 40°C) to ensure complete dissolution.**

2-Encapsulating Orange Oil

- **Weigh and add Orange Oil to the Chitosan solution while stirring to create a stable nanoparticulate system.**
- **Stir for 30 minutes to form a uniform encapsulated solution.**

3-Creating the Surfactant Base

- **Weigh Sulfonpon 1216 G and Tween 80 separately.**
- **Dissolve Sulfonpon in demineralized water until clear, then mix with Tween 80 to form a uniform surfactant base.**

4-Adding Active Ingredients:

- Weigh and add Niacinamide (Vitamin B3), Pro-vitamin B5, Vitamin E, and Hyaluronic Acid to the base mixture.
- Stir to evenly distribute all active ingredients.

5-Final Assembly

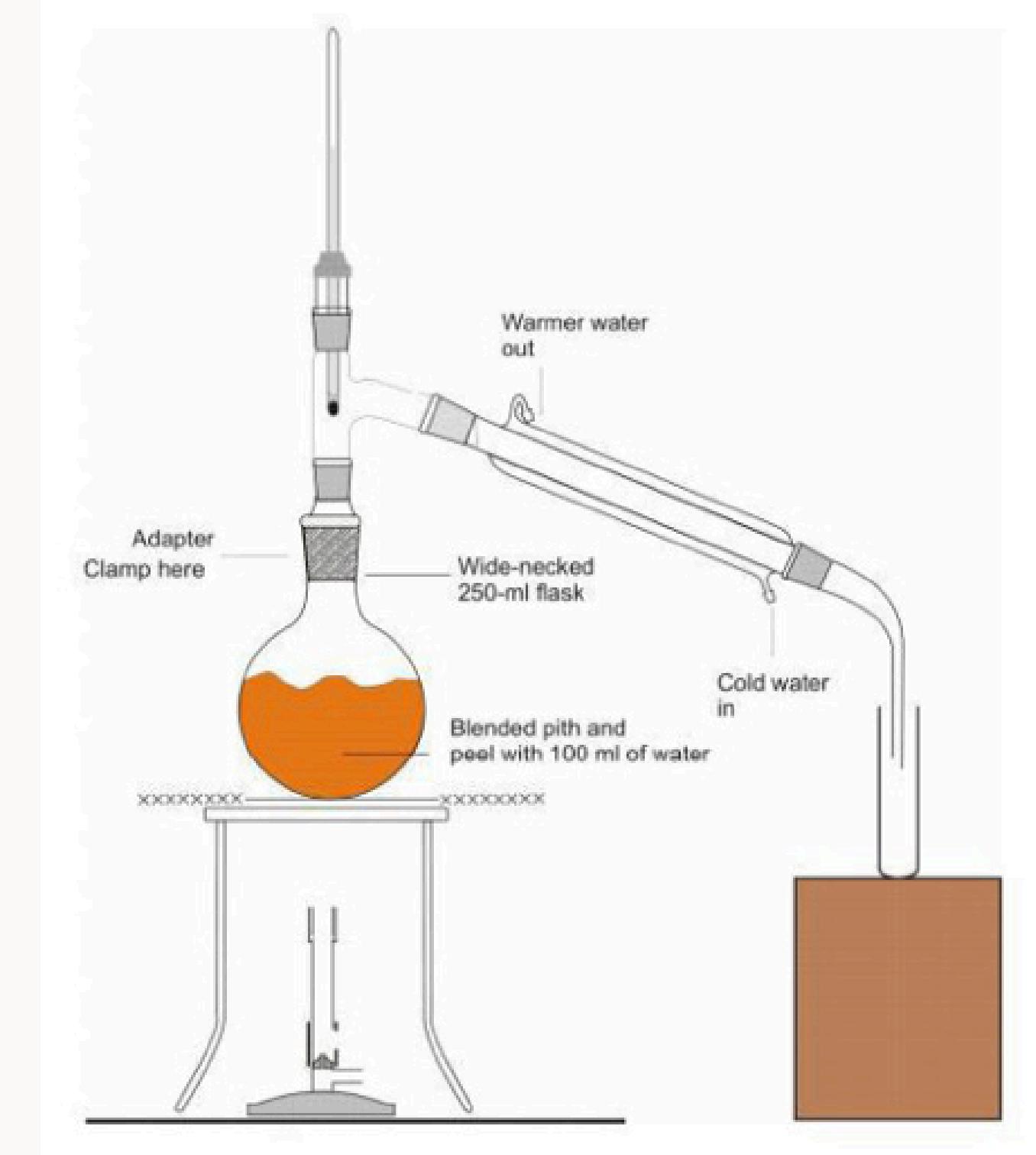
- Add the prepared Chitosan-encapsulated Orange Oil to the base and stir gently for uniform dispersion.
- Incorporate Ethylparaben as a preservative.

6-Final Adjustments:

- Check the shampoo pH (target: 4.5–5.5); adjust with Citric Acid if needed.
- Transfer the mixture into sterilized bottles, ensuring no air is trapped.
- Label appropriately

What is steam distillation?

Steam distillation works by lowering the boiling point of a mixture through the combined vapor pressures of two immiscible substances. This allows the extraction of essential oils from plants without exposing them to high temperatures, preserving their structure and quality. Additionally, the reduced boiling point improves energy efficiency and saves energy in the process.





- Distilled orange essential oil contains 90-95% limonene, which gives it a citrus scent and provides antioxidant and antimicrobial properties.
- Limonene is used in pharmacy as a supplement, drug carrier, or solubility enhancer, and in chemical engineering as a natural solvent or flavoring.
- It is valued in both health and industrial sectors for being environmentally friendly and beneficial to health.



Procedure

1. The orange part of the orange was grated with a grater.
2. The collected grated orange was weighed to be 35 gr.
3. The grated orange was transferred to the round bottom flask with a funnel.
4. 150 ml of water was added to the round bottom flask.
5. The flask was placed in the heating mantle and fixed with a clamp and flask.
6. Then the condenser and distillation head flask were fixed.
7. The pipes were attached to the condenser and the condenser was filled with cold water.
8. The heater was turned on and the water-potakal mixture was waited for a drop.
9. The system was stopped 1 hour after the first drop was seen. The solvent extraction process was started with the collected flask.
10. The ethyl acetate and the collected oil-water mixture was transferred to the separatory funnel.
11. The separatory funnel was shaken and the upper layer, the organic layer, was collected.
12. The process was repeated 2 more times.
13. The remaining water in the collected organic layer was drawn with calcium chloride.
14. Calcium chloride and the collected essential oil were separated from each other using filter paper.
15. The collected essential oil was placed in the rotary evaporator and all remaining water was removed.

SWOT ANALYSIS

Strengths & Weaknesses

STRENGTHS

High-Quality Ingredients: Includes Hyaluronic Acid, Niacinamide, and Vitamin E for hair health.

Multi-functional: Offers cleansing, conditioning, moisturizing, and antioxidant benefits.

Natural Appeal: Contains Orange Oil and Citric Acid for fragrance and pH balance.

Weaknesses:

Market Differentiation: Needs a strong unique selling proposition to stand out.

Opportunities & Threats

Opportunities:

Rising Demand for Natural Products: Consumers are looking for health-focused, natural shampoos.

Hair Health Trends: Leverage ingredients promoting scalp health and hair growth.

Product Line Expansion: Introduce variants for different hair needs.

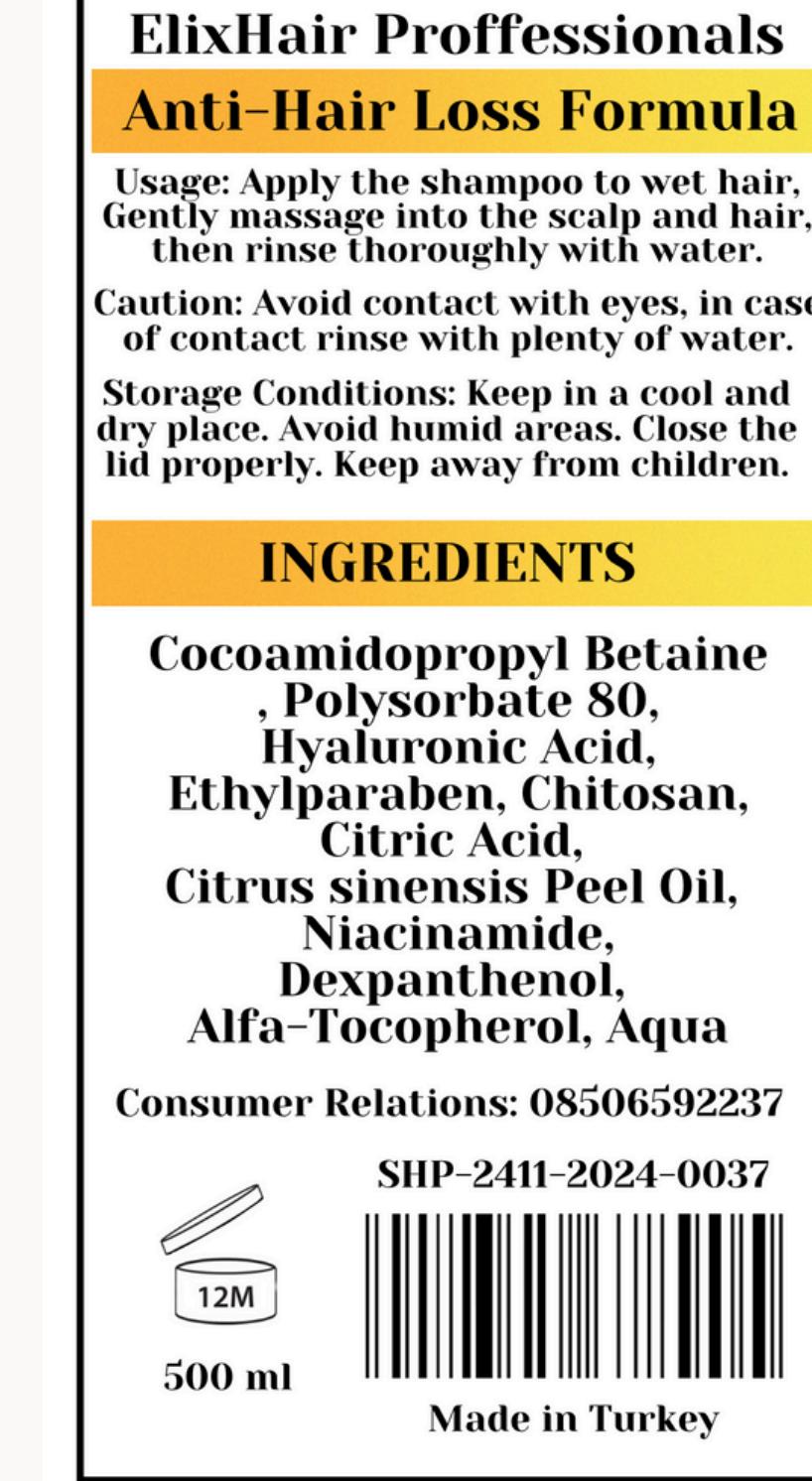
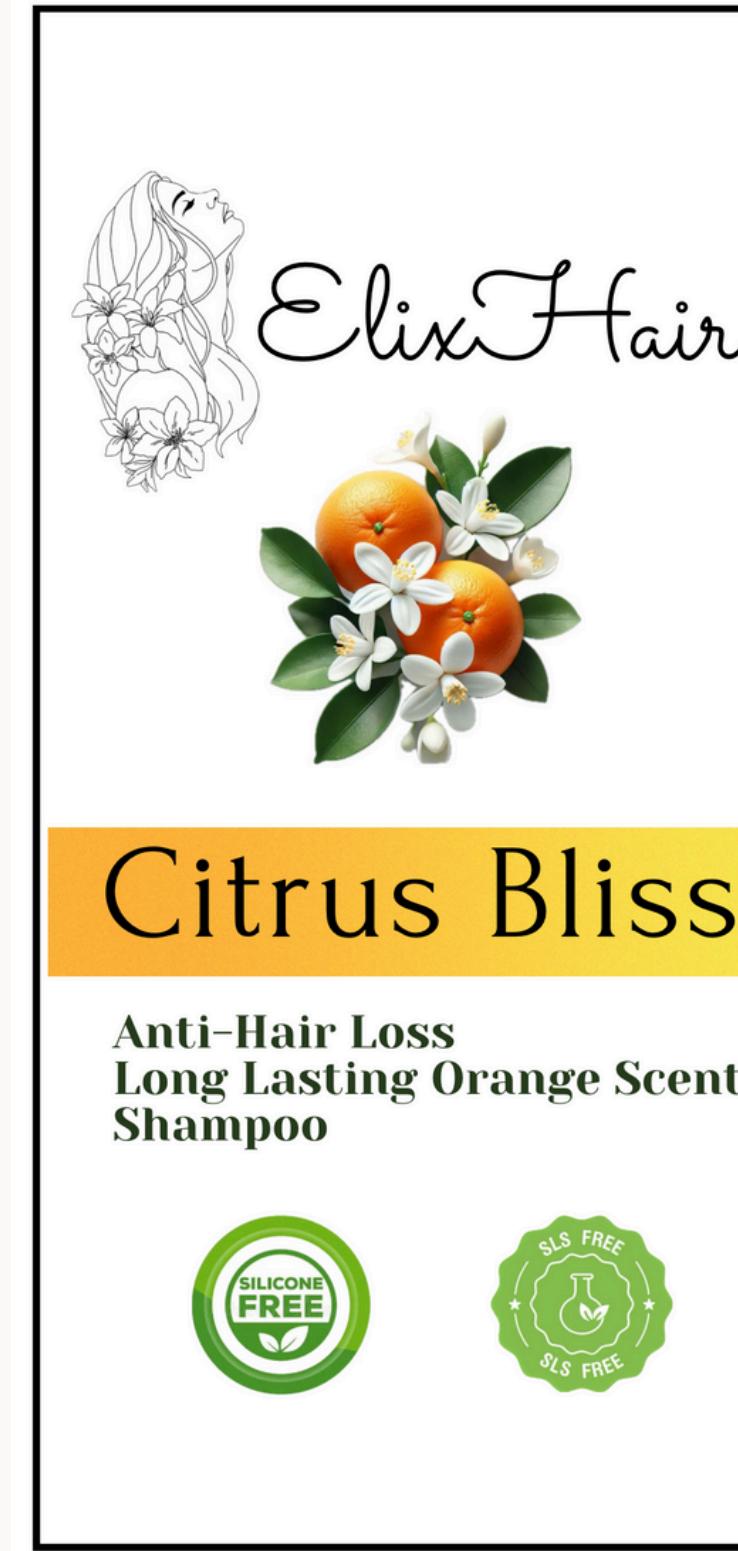
Threats:

Competitive Market: Strong competition from well-established brands.

Regulatory Compliance: Must meet strict regulations for preservatives and surfactants.

Consumer Skepticism: Potential doubts about the effectiveness of some natural components.

PACKING DESIGN



MARKETING

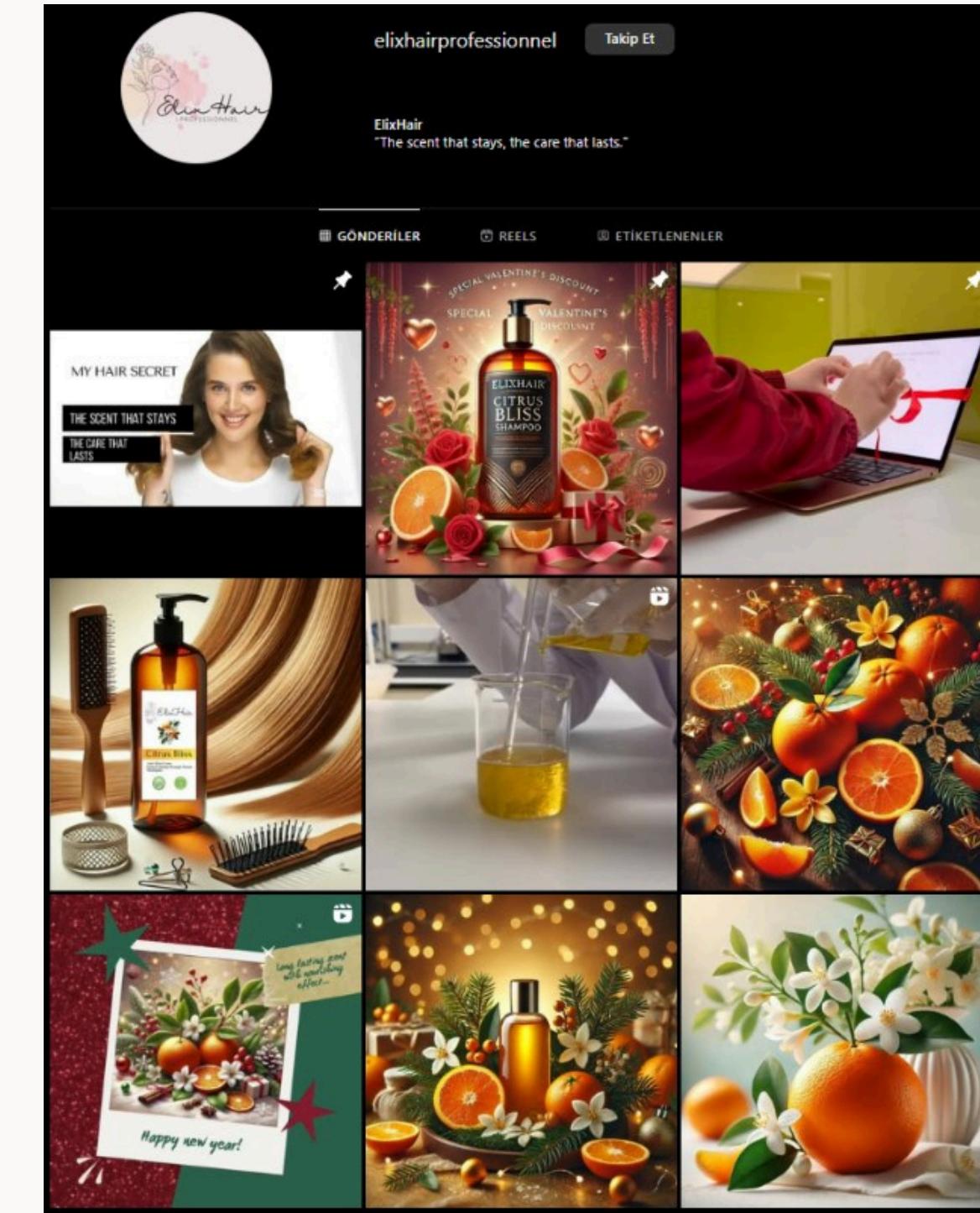
The scent that stays , the care that lasts...

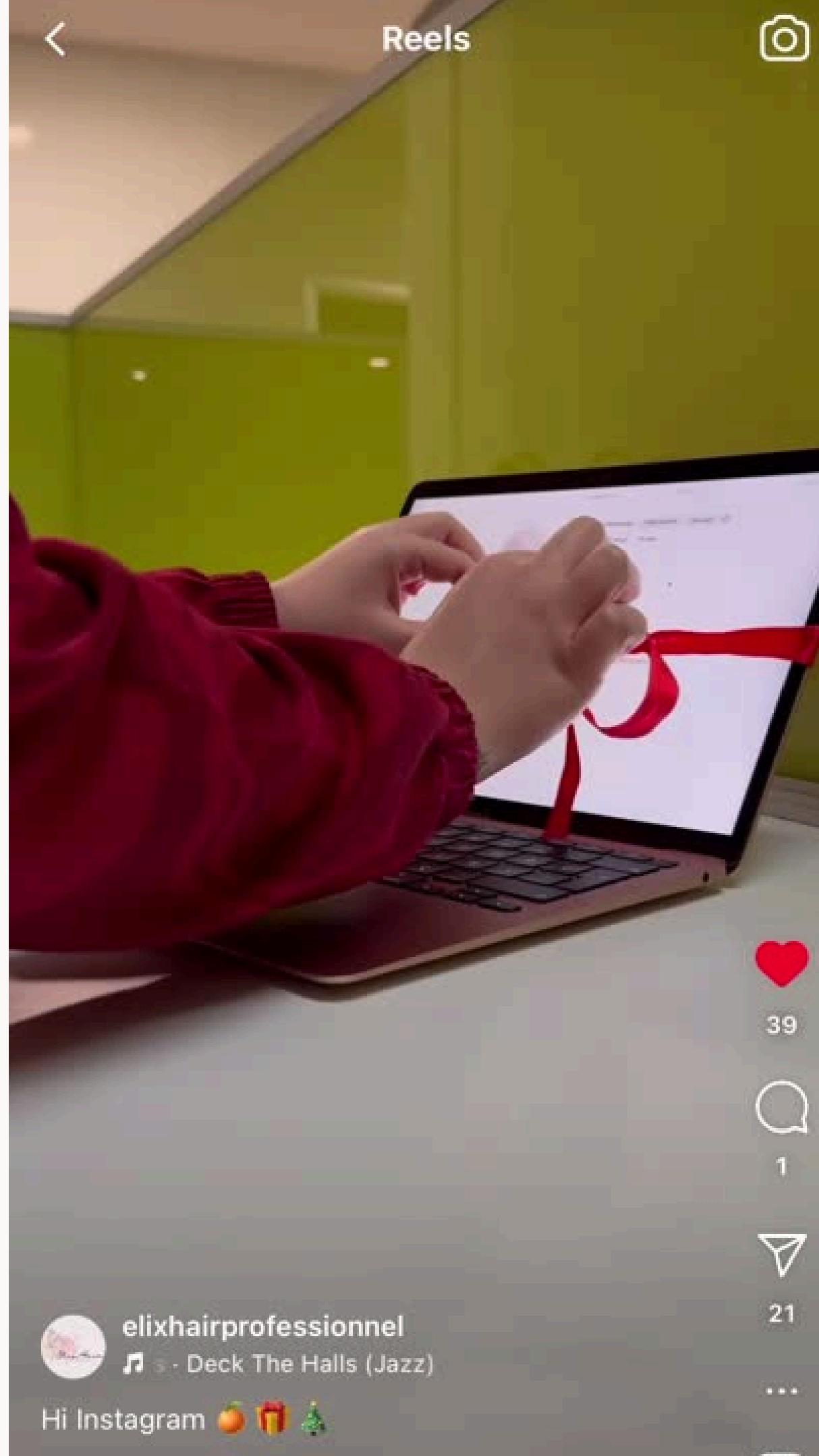


Brand logo



INSTAGRAM ACCOUNT TO REACH CONSUMERS AND CONSUMER CANDIDATES





*Announcing the brand ,
product and the Instagram
account for people*



elixhairprofessionnel

♪ - Deck The Halls (Jazz)

Hi Instagram 🍊🎁🎄



39



1



21

...

New beginnings for the new year





*Valentine's day
discount*

A young woman with long, wavy brown hair is smiling broadly at the camera. She is wearing a white t-shirt and has her hands raised, holding two long strands of her hair. The background is plain white.

MY HAIR SECRET

THE SCENT THAT S

THE CARE THAT
LASTS



QUALITY FUNCTION DEPLOYMENT OF THE SHAMPOO

**Nilüfer Kanlı
Can Tüzünsoy**

CONTENT

1 Purpose

2 Surveys

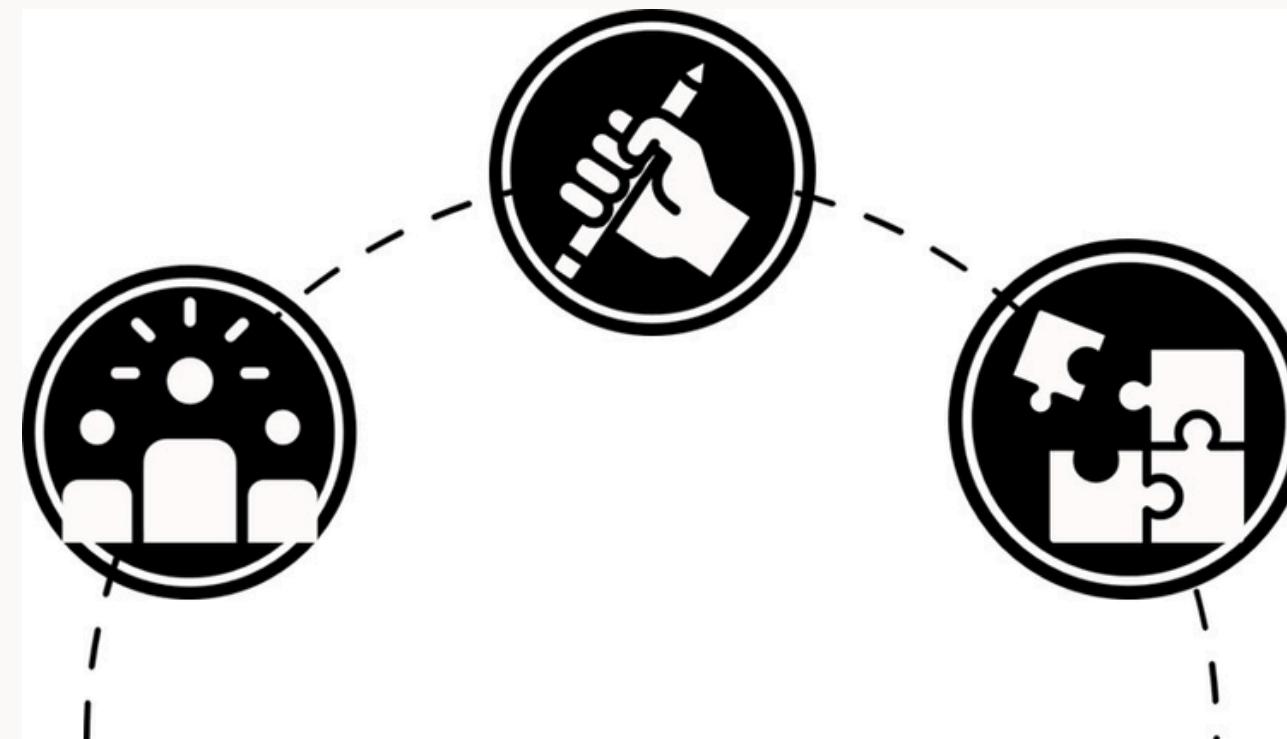
3 Quality Function Deployment

4 Conclusion



PURPOSE

The aim of our project is to conduct a survey about the anti-hair fall shampoo we are planning to launch, gathering people's thoughts, expectations, and essential requirements for a shampoo. With the collected data, we intend to perform a quality function deployment. Through quality function deployment, we can assess customer satisfaction and identify the differences between us and our competitors.



OUR SURVEYS

We conducted two surveys for our project and distributed them to gather responses from participants. The goal of the first survey was to identify our competitors, understand people's perceptions of the shampoo we plan to launch, determine their expectations from a shampoo, and establish the essential requirements for such a product. The purpose of the second survey was to evaluate how well the top two competitors, selected based on the highest ratings, fulfill these specified requirements.

Using the insights from these surveys, we determined the customer importance ratings for various product requirements and evaluated the performance of the competitors.

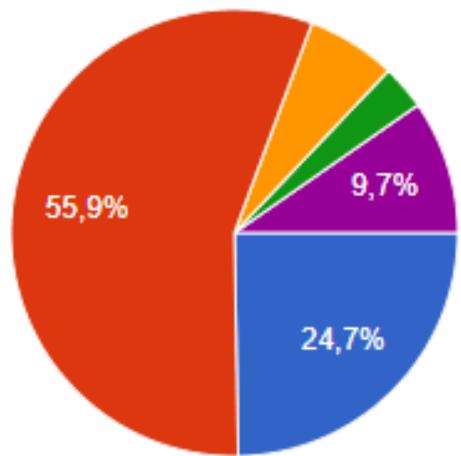




Among these essences
orange essence got the
highest score

Choose one of the below shampoo essences

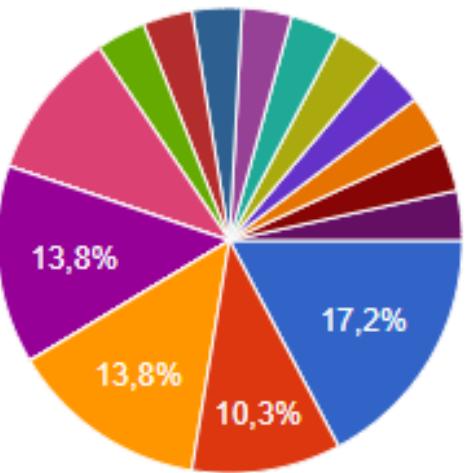
93 yanıt



- Rosemary oil (biberiye yağı)
- Orange oil (portakal yağı)
- Eucalyptus oil (okaliptüs yağı)
- Peppermint oil (nane yağı)
- Lavender oil (lavanta yağı)

Which shampoo brand do you use?

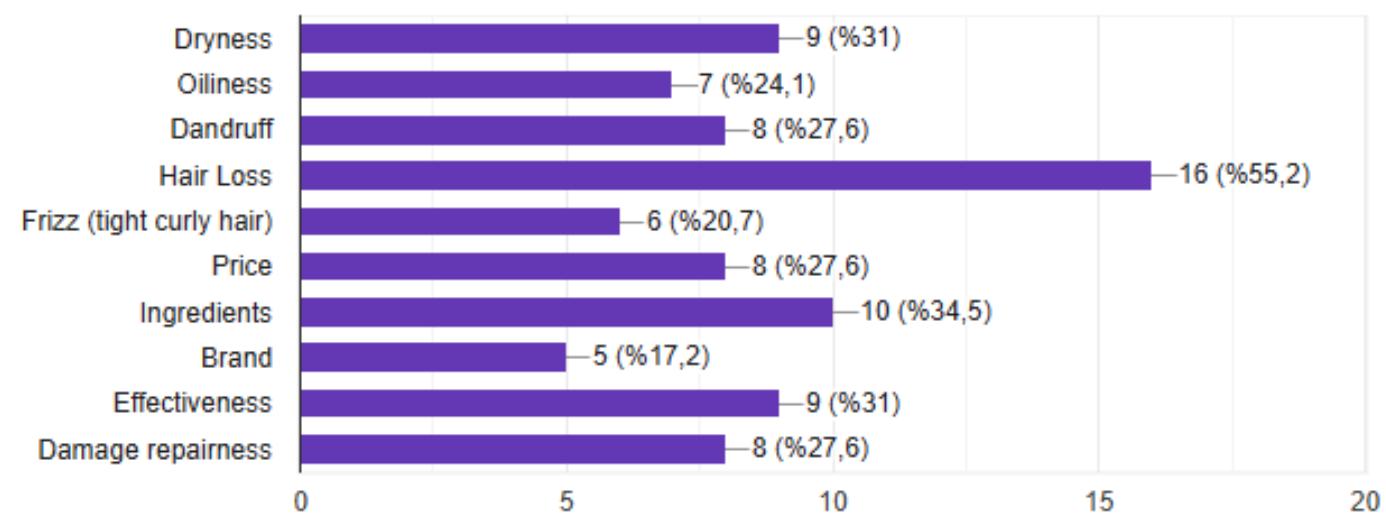
29 yanıt



- Head & Shoulders
- Yves Rocher
- Pantene
- Palmolive
- L'Oreal
- Dove
- Herbal Essences
- TTO

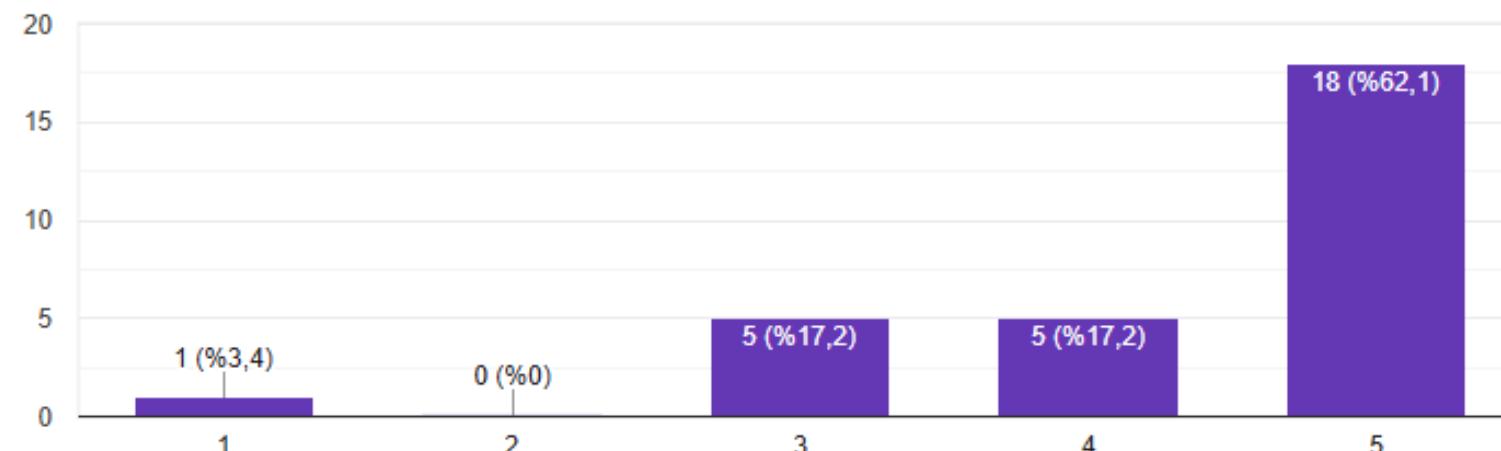
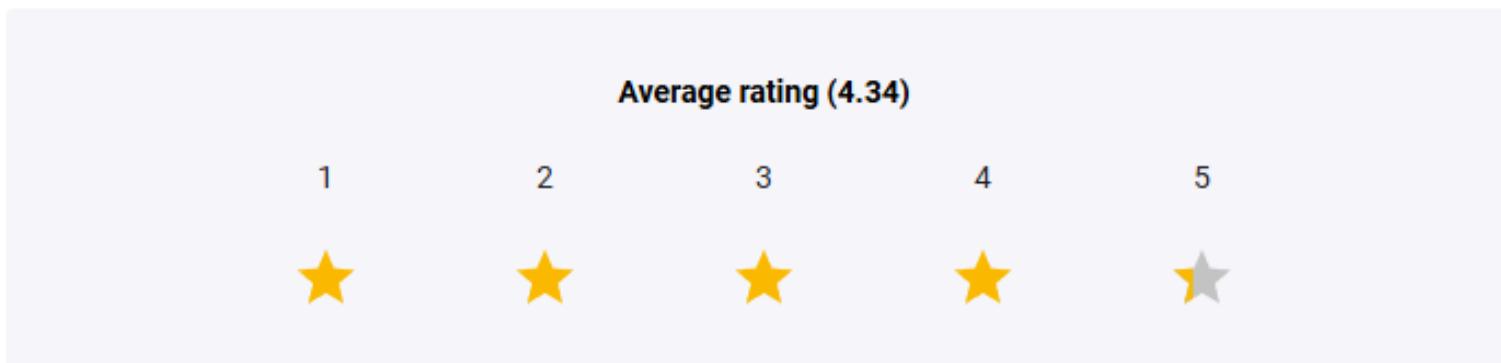
Primary concern when buying a shampoo?

29 yanit



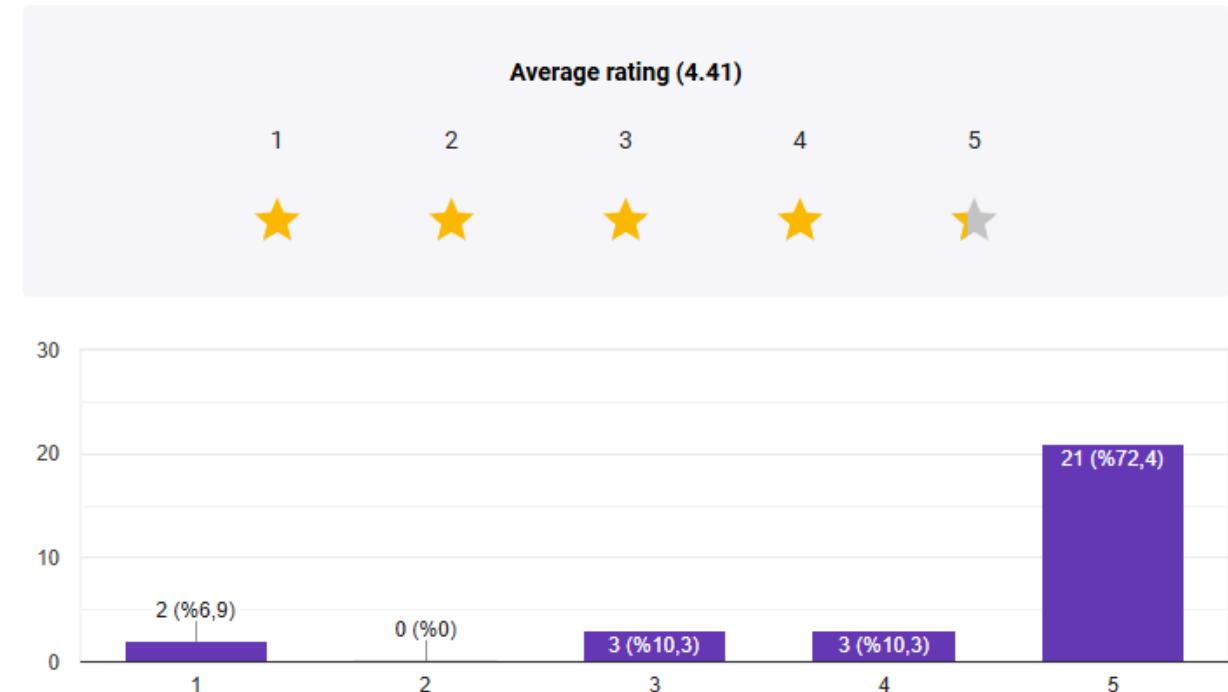
Repairing Damage

29 yanit



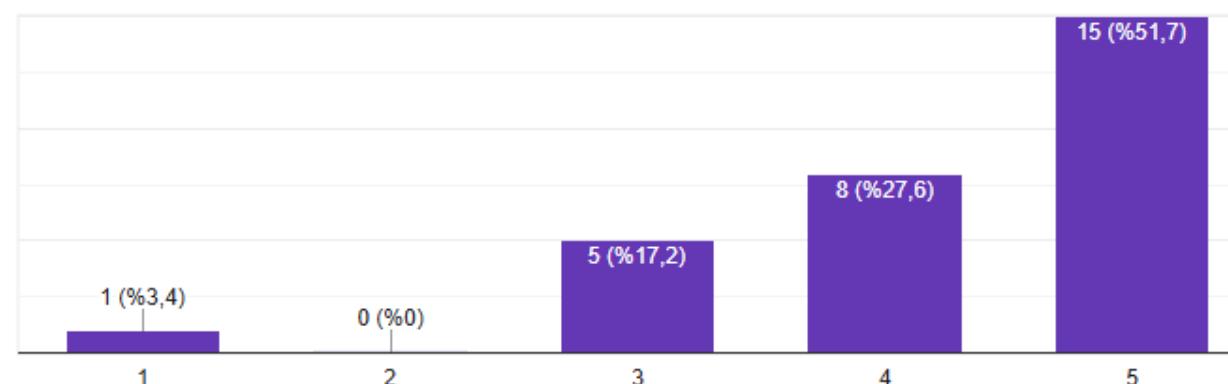
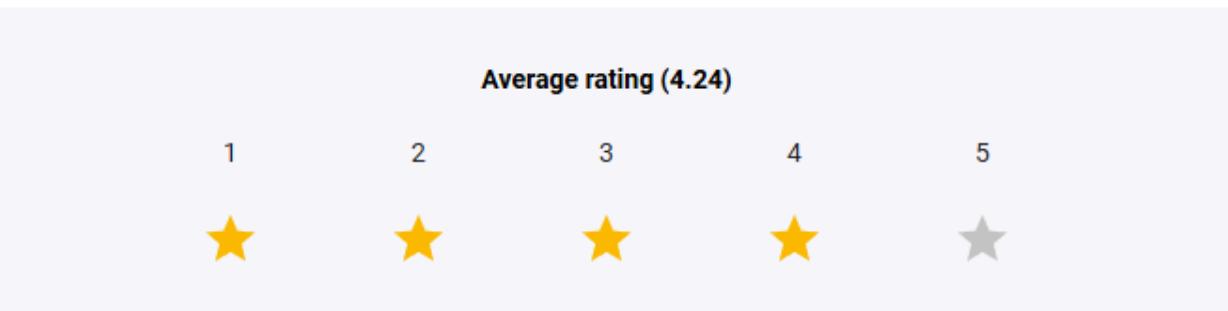
Stopping hair loss

29 yanit



Pleasant Fragrance

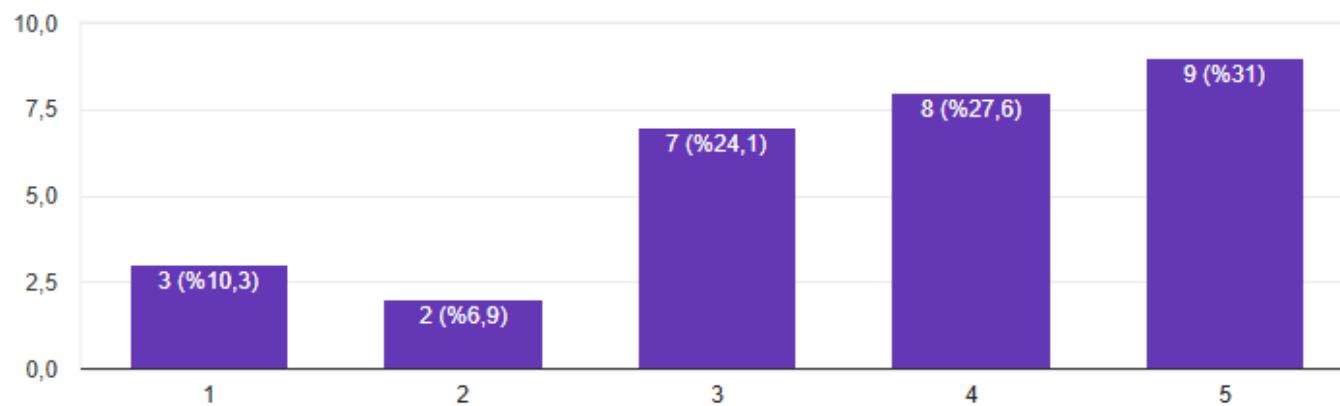
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Enhancing Volume

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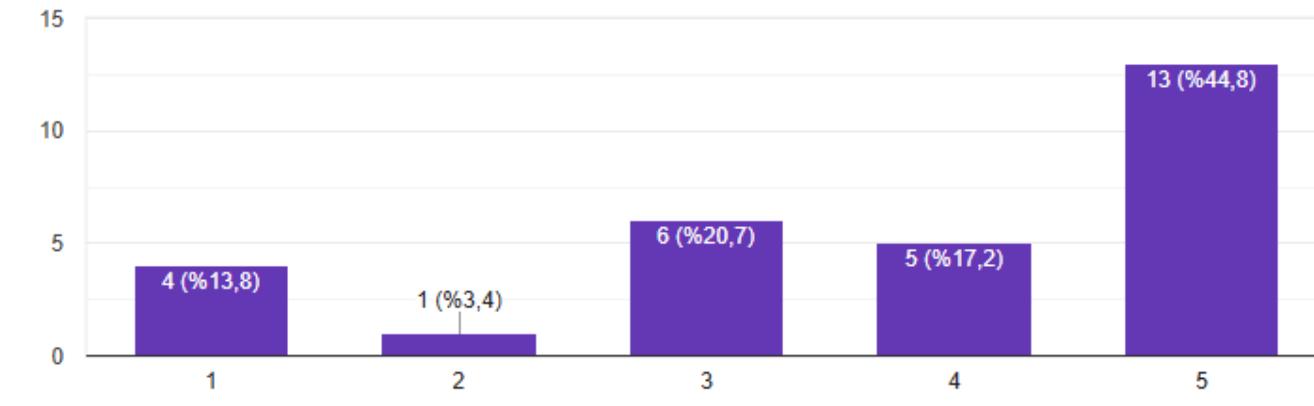
Average rating (3.62)



Cruelty Free Testing

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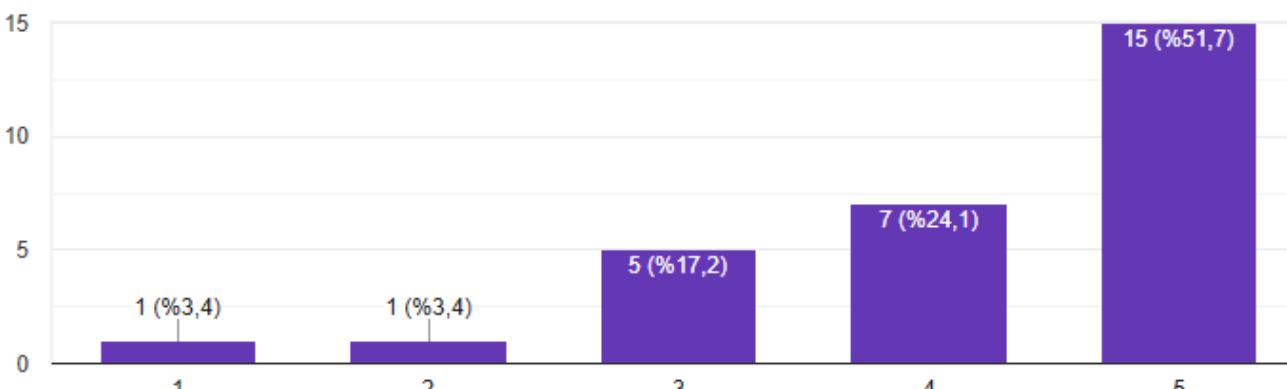
Average rating (3.76)



Easy Rinsability

29 yanit

Average rating (4.17)



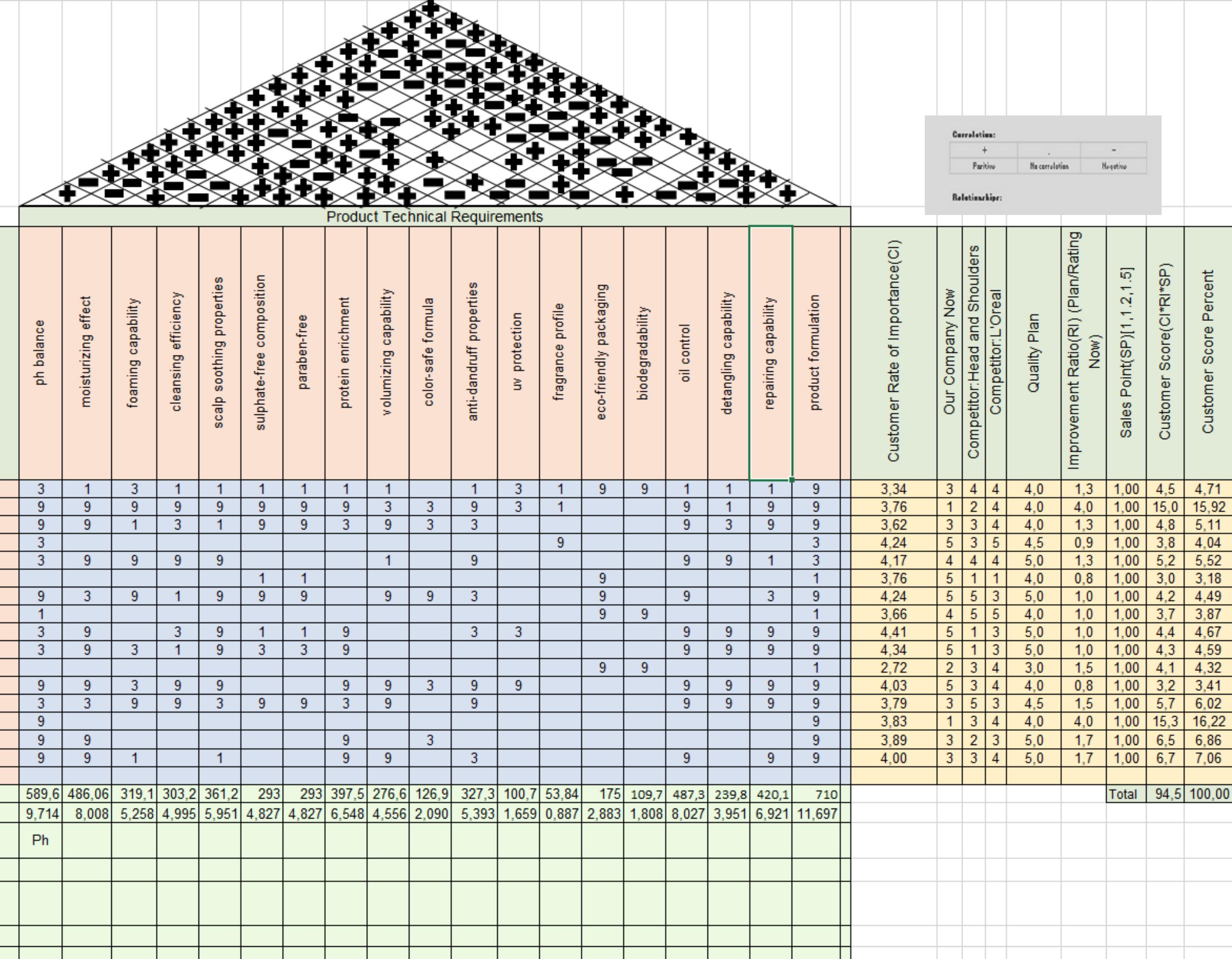
QUALITY FUNCTION DEPLOYMENT

What is QFD?

QFD: QFD, the long form of which is Quality Function Deployment, is an approach that provides quality control based on customer satisfaction and benefiting from their opinions. This approach, used to maximize customer satisfaction, and used to optimize the design, production and features of the product based on customer opinions. The purpose of this technique is to measure how well the product meets expectations and to continuously improve company processes, combining customer ideas with a mathematical model.



House of Quality



CUSTOMER REQUIREMENTS

Product Customer Requirements

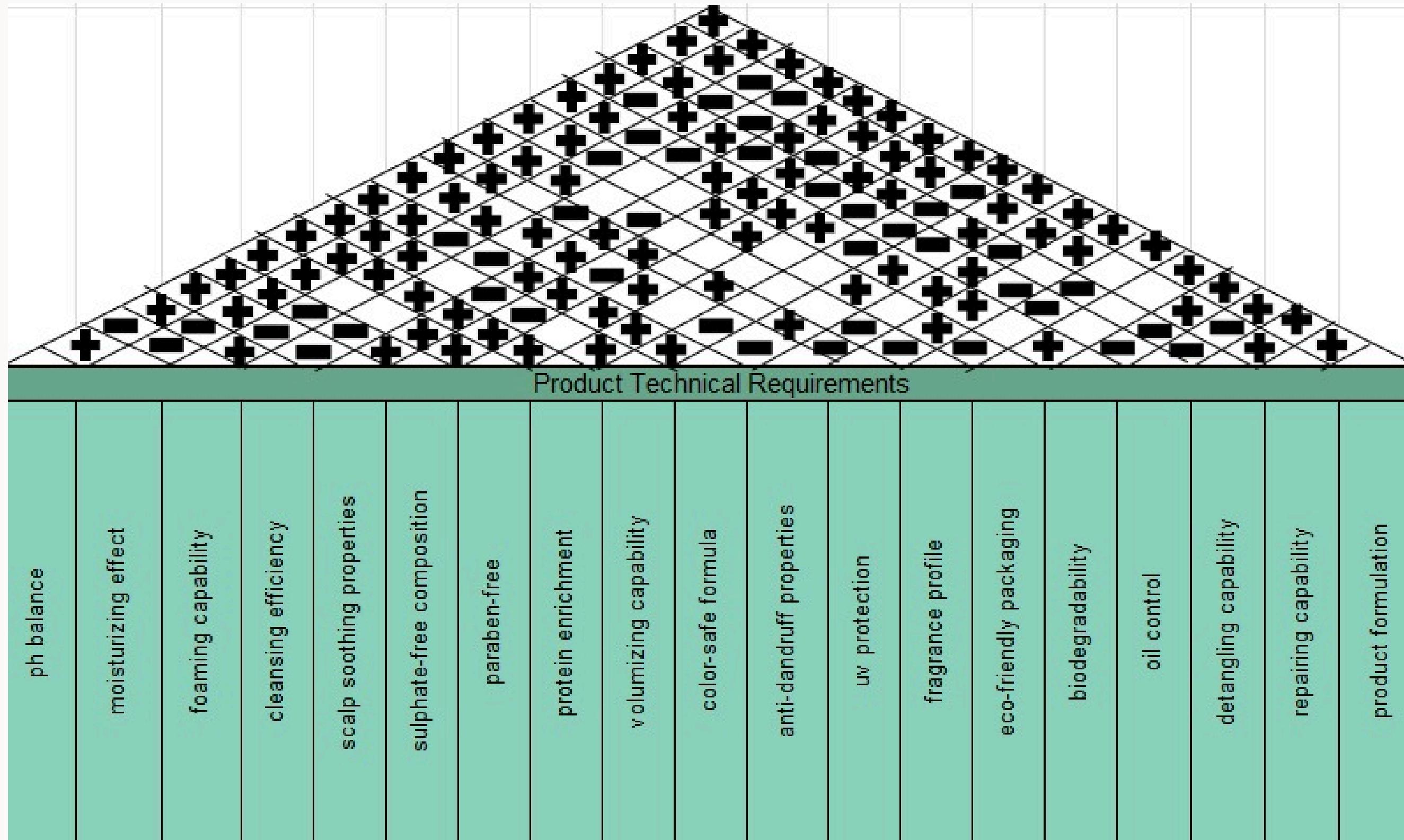
- long shelf life
- treating dandruff
- enhancing volume
- pleasant fragrance
- easy rinsability
- cruelty free testing
- sulfates/parabens freeness
- eco-friendly packaging
- stopping hair loss
- repairing damage
- attractive packaging
- moisturizing capabilities
- clarifying capabilities
- shampoo color
- shine factor
- volumizing capabilities



Product Technical Requirements
moisturizing effect
foaming capability
cleansing efficiency
scalp soothing properties
sulphate-free composition
paraben-free
protein enrichment
volumizing capability
color-safe formula
anti-dandruff properties
uv protection
fragrance profile
eco-friendly packaging
biodegradability
oil control
detangling capability
repairing capability

TECHNICAL REQUIREMENTS

CORRELATION MATRIX



RELATIONSHIP MATRIX

Product Customer Requirements	Product Technical Requirements																	
	ph balance	moisturizing effect	foaming capability	cleansing efficiency	scalp soothing properties	sulphate-free composition	paraben-free	protein enrichment	volumizing capability	color-safe formula	anti-dandruff properties	uv protection	fragrance profile	eco-friendly packaging	biodegradability	oil control	detangling capability	repairing capability
long shelf life	3	1	3	1	1	1	1	1	1	1	3	1	9	9	1	1	1	9
treating dandruff	9	9	9	9	9	9	9	9	3	3	9	3	1	9	9	1	9	9
enhancing volume	9	9	1	3	1	9	9	3	9	3	3	3	9	9	9	3	9	9
pleasant fragrance	3												9					3
easy rinsability	3	9	9	9	9			1		9				9	9	9	1	3
cruelty free testing						1	1						9					1
sulfates/parabens freeness	9	3	9	1	9	9	9	9	9	3			9	9	9	9	3	9
eco-friendly packaging	1												9	9	9			1
stopping hair loss	3	9		3	9	1	1	9		3	3				9	9	9	9
repairing damage	3	9	3	1	9	3	3	9						9	9	9	9	9
attractive packaging													9	9				1
moisturizing capabilities	9	9	3	9	9			9	9	3	9	9			9	9	9	9
clarifying capabilities	3	3	9	9	3	9	9	3	9	9				9	9	9	9	9
shampoo color	9																	9
shine factor	9	9						9		3								9
volumizing capabilities	9	9	1		1			9	9	3					9	9	9	9

CONCLUSION

THE OBJECTIVE OF THIS RESEARCH IS TO PROVIDE A NEW SHAMPOO WITH SPECIAL FEATURES, MAKING IT DIFFERENT IN THE MARKET. THE PRODUCT WILL BE RELEVANT DUE TO ITS UNIQUE CHARACTERISTICS, SUCH AS TREATING DANDRUFF AND BEING SULFATE-FREE—GOOD FOR HAIR AND SCALP HEALTH. CUSTOMER NEEDS WERE OUTLINED THROUGH SURVEYS, AND THE TECHNICAL NEEDS FOR THE PRODUCT WERE SET BASED ON THE ANSWERS. THE TWO BIGGEST COMPETITORS OF THIS PRODUCT, PANTENE AND HEAD & SHOULDERS, WERE CHOSEN BY TAKING INTO ACCOUNT THE CUSTOMER'S CHOICE. AFTER THAT, THE QFD MODEL WAS CREATED TO HELP THE DEVELOPMENT PROCESS.

