



● MKTG6234

# A Ray of Sunlight:

SUNSEI'S SEGMENTATION AND  
POSITIONING ANALYSIS FOR  
MARKETING SUCCESS

Prepared by: Team T

April 2023

### **Executive Summary**

Sunsei is a sunscreen brand committed to providing high-quality sun protection products that prioritize the health and well-being of customers' skin. The sunscreen market has seen steady growth in recent years, but misconceptions about sunscreen usage remain a challenge. Sunsei conducted primary data collection through a survey to understand the characteristics that make a sunscreen product ideal for potential market segments and encourage more people to adopt daily sun protection. The results of market segmentation analysis identified three distinct segments: "Running SPF fans," "Price-sensitive swimmers," and "Daily lotion sun protectors." Sunsei will target segment 2 and 3, who are primarily price-sensitive consumers with a moderate level of concern for quality and students who prioritize daily sunscreen use, respectively.

The positioning analysis showed that Sunsei should target the space between Segment 2 and 3 in the market. It also revealed similarities and differences among sunscreen brands, with CeraVe, Cetaphil, and La Roche Posay being perceived as similar, Neutrogena as different, and Sunbum, Hawaiian Tropic, and Banana Boat grouped together as similar. Coppertone was perceived similarly to these three brands despite being in a different quadrant. Segments 2 and 3 were dominant in the examined attributes, with Neutrogena and La Roche Posay leading in market shares and average preferences. Coppertone ranked low in being well-known.

The managerial implications of the segmentation strategy involve targeting two distinct groups, "Price-Sensitive Swimmers" and "Daily Lotion Sun Protectors." Sunsei aims to carve out a niche as the "sunscreen for everyone, even those who do not know" by incorporating moisturizing qualities that double as skincare and prioritizing hydrating properties and non-greasiness. The product will be offered in different sizes, including travel sizes, and will feature color-changing bottles that indicate when harmful UV rays are present. Future plans include incorporating additional skincare ingredients, developing a tinted sunscreen with skincare and makeup benefits, and offering sun sticks for convenient application. Finally, the price could be increased to \$20 and maintained at that level to maximize profitability while maintaining affordability.

## Table of Contents

<b>PROJECT SCOPE.....</b>	<b>4</b>
PURPOSE OF PROJECT: .....	4
KEY OBJECTIVES: .....	4
STATEMENT OF WORK: .....	4
MAJOR DELIVERABLES: .....	4
KEY MILESTONES.....	4
MAJOR CONSTRAINTS .....	4
<b>MOTIVATION AND CONTEXT .....</b>	<b>5</b>
SUNSEI: A BRAND COMMITTED TO SKIN HEALTH.....	5
INDUSTRY OVERVIEW .....	5
<i>Competitors</i> .....	6
<b>STUDY DESIGN .....</b>	<b>7</b>
PRIMARY DATA COLLECTION.....	7
<b>ANALYTICAL RESULTS .....</b>	<b>8</b>
SEGMENTATION ANALYSIS.....	8
<i>Segment 1: Running SPF Fans</i> .....	8
<i>Segment 2: Price-Sensitive Swimmers</i> .....	8
<i>Segment 3: Daily Lotion Sun Protectors</i> .....	9
CONFUSION MATRIX.....	9
POSITIONING ANALYSIS .....	10
<b>MANAGERIAL IMPLICATIONS.....</b>	<b>10</b>
MARKETING STRATEGY .....	11
<b>FUTURE WORK.....</b>	<b>11</b>
<b>LIMITATIONS .....</b>	<b>12</b>
<b>APPENDICES .....</b>	<b>14</b>
APPENDIX 1: SUNSCREEN SURVEY DESIGN .....	14
APPENDIX 2. SEGMENT DESCRIPTION.....	15
APPENDIX 3. SEGMENT PERSONAS .....	16
APPENDIX 4. POSITIONING ANALYSIS RESULTS .....	18
<b>SOURCES .....</b>	<b>20</b>

## Project Scope

### Purpose of Project:

- To apply key marketing analytics concepts and tools we have learned this semester and apply them to a real-life business scenario by collecting data, analyzing it, and interpreting the results.

### Key Objectives:

- Develop and market a new product in a particular industry to a specific segment(s) based on segmentation and positioning analysis with info drawn from primary data gathered from a customized survey.

### Statement of Work:

- Select a market industry and choose a subset to focus on.
- Research the current market and significant players in the industry.
- Identify critical issues and challenges in the industry.
- Create a new brand.
- Create a survey that collects perceptual, preference, segmentation, and discriminant data.
- Review data for significant errors.
- Reconcile the data in Engenius and run segmentation and positioning analysis.
- Analyze the results to determine the number of segments within the market.
- Select a segment(s) to market a new product.
- Create a product that satisfies the wants and needs of the segment(s) and position the product to differentiate it from competitors.
- Determine pricing strategy and product price.
- Market the new product to each target segment.

### Major Deliverables:

- Identify the factors that attract or deter everyday users from using certain types of sunscreens and uncover any untapped niches in the market.
- Understand the characteristics that make a sunscreen product ideal for these niches and encourage more people to adopt daily sun protection.
- Promote skin health and prevent skin cancer through accessible and effective sun protection products.

### Key Milestones

- Present final report and presentation to BOD on Thursday, April 27, 2023
- Obtain funding for the new product by June 1, 2023
- Finalize the sunscreen formula and color-changing container by September 30, 2023
- Patent formula and color-changing container by August 31, 2023
- Select marketing mix by December 31, 2023
- Create ads/etc. by February 28, 2024
- Release and promote new sunscreen product by April 1, 2024

### Major Constraints

- Coding survey data numerically

## Motivation and Context

### Sunsei: A Brand Committed to Skin Health

As global temperatures continue to rise at an alarming rate, the need for effective sun protection has become more important than ever. Research shows one in five Americans will develop skin cancer before the age of 70 (Patlola et al., 2023). As a company with roots in hot climates where sunscreen application is not always a cultural norm, we understand the importance of promoting safe sun practices. Studies indicate that four out of five cases of skin cancer could be prevented by reducing UV radiation exposure and practicing simple protective measures such as applying sunscreen (Merten et al., 2016).

At "Sunsei," we believe that everyone deserves access to high-quality sun protection that prioritizes the health and well-being of their skin, regardless of their location or background. Our mission is to provide effective and accessible solutions that empower our customers to live their lives to the fullest without worrying about the harmful effects of UV radiation. We are committed to promoting skin health and helping to prevent skin cancer, so that our customers can enjoy the sun safely and with confidence.

"Sunsei" is a unique brand name that reflects our commitment to preserving the health and vitality of our customers' skin. By combining the words "sun" and "sei," which means "life" in Japanese, we aim to evoke the idea of safeguarding and cherishing one's skin as a precious and essential aspect of a healthy and fulfilling life. We believe that by providing effective sun protection solutions, we can help our customers enjoy the sun safely and confidently, knowing that their skin is being cared for with the utmost attention and respect.

### Industry Overview

Our company operates in the skincare industry, with a focus on sun protection. Specifically, we are interested in the market for sunscreen products, which is a subset of the larger skincare industry. The sunscreen market has seen steady growth in recent years, as more and more people become aware of the dangers of UV radiation and the importance of protecting their skin from the sun's harmful rays. According to the report on the sun care cosmetics market by Grand View Research, the global market size was valued at USD 8.5 billion in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 8.3% from 2023 to 2030. This growth is expected to continue in the coming years, as rising temperatures, and increased sun exposure due to outdoor activities and travel further drive demand for effective sun protection products.

Sunscreen is a highly versatile product that offers opportunities for companies like Sunsei operating in the skincare industry. With various ingredients and types of sunscreens sold at different price points, there is a vast market for sun protection products that cater to the diverse needs and preferences of customers. Users may look for a sunscreen product that not only protects their skin from harmful UV rays but also offers additional benefits, such as skincare ingredients like niacinamide and hyaluronic acid. Additionally, customers may prefer different types of sunscreens, such as gel-based, water-based, or mineral-based, depending on their skin type and personal preferences. For example, men may be looking for a sunscreen that is stronger

for sports and outdoor activities, while others may be interested in starting a skincare routine without unnecessary frills. These factors create niches within the sunscreen market that companies like Sunsei can tap into to offer targeted products and expand their customer base.

However, the sunscreen market also faces several challenges. One of the biggest challenges is the misconception that sunscreen is only necessary during the summer months or when spending extended periods of time in direct sunlight. In reality, UV radiation is present year-round and can cause damage even on cloudy or overcast days. Additionally, many people do not apply sunscreen correctly, failing to use enough or reapply frequently enough to provide adequate protection. This highlights the importance of education and awareness campaigns to promote safe sun practices and the proper use of sunscreen.

Finally, the sunscreen industry is also facing manufacturing challenges, particularly in finding ingredients that meet specific SPF standards. This can lead to inadequate protection from harmful UV rays, making testing and evaluation crucial. Achieving effective sun protection while ensuring a non-greasy, non-white cast formula requires extensive trials and innovations. Different formulations appeal to different customer segments, highlighting the importance of formula effectiveness in attracting consumers.

In the highly competitive sunscreen market, numerous established players compete while new entrants continue to emerge.

### Competitors

- **Neutrogena:** A leading skincare brand, Neutrogena offers a broad range of sunscreen products to cater to different skin types and sun protection needs. Dermatologist-recommended and tested, their marketing targets individuals who value reliable and high-quality products.
- **Sunbum:** has fun and adventurous marketing that appeals to outdoor enthusiasts and travelers who need sunscreen for extended periods. Their products are designed to cater to different skin types and offer effective sun protection to those who are active and enjoy spending time in the sun.
- **Coppertone:** A long-standing brand, Coppertone offers a wide range of sunscreen products for children, sports enthusiasts, and individuals with sensitive skin. Their marketing emphasizes the reliability and effectiveness of their products in protecting against harmful sun rays, targeting individuals who prioritize sun protection.
- **Hawaiian Tropic:** known for its exotic fragrances and natural ingredients like coconut oil and aloe vera. Their marketing often emphasizes their connection to tropical locations and the idea of beach vacations. Hawaiian Tropic targets customers who value indulgent and luxurious sunscreen experience with unique fragrances.
- **Banana Boat:** offers a variety of products catering to different skin types and needs, including water-resistant formulas and high SPF ratings. Their marketing highlights the brand's association with fun and adventure and targets outdoor enthusiasts, sports enthusiasts, and individuals who spend time in the sun.



- **La Roche Posay:** a French skincare brand that offers dermatologist-recommended sun protection products for various skin types and needs. Their marketing emphasizes the brand's commitment to developing products that are effective and gentle on the skin, targeting individuals who prioritize dermatologist-recommended and tested products.
- **Cetaphil:** offers sunscreen products for sensitive skin and conditions like eczema. Their marketing emphasizes the brand's connection to dermatology and their commitment to developing gentle and effective products for individuals with sensitive skin or skin conditions.
- **Cerave:** offers sunscreen products catering to different skin types and sun protection needs, including those with sensitive skin. Their marketing emphasizes the brand's commitment to developing effective yet gentle skincare products, targeting individuals who prioritize gentle and effective skincare.

This research aims to identify the factors that attract or deter everyday users from using certain types of sunscreens, as well as uncovering any untapped niches in the market. Our goal is to understand the characteristics that make a sunscreen product ideal for these niches and encourage more people to adopt daily sun protection. We believe that the sunscreen market offers a significant opportunity for growth and impact in promoting skin health and preventing skin cancer through accessible and effective sun protection products.

## Study Design

For our project, we decided to create a survey to capture primary data rather than using publicly available data. The proposed questions will allow us to run segmentation and positioning analyses and guide us to potential market segments and how to differentiate ourselves from competitors.

1. **Segmentation:** With our survey, we will be creating different personas to understand what kind of users are currently out there. The survey will allow us to get a real insight into the users and we will be able to choose a niche we plan to target with our product with the help of segmentation.
2. **Positioning:** Understanding our competitors on different characteristics such as “greasy”, “non greasy”, “light weight”, “tinted”, “heavy duty”, etc. and understanding where our survey answers place preferences, combined with our personas will allow us to effectively choose a market area with characteristics that have not been tapped in yet, and which persona would use it so that we can effectively market it to them.

## Primary Data Collection

Survey Design – segmentation & positioning (see Appendix 1)

1. **Segmentation:** Questions 8-18 (Appendix 1) give us a general understanding of the sunscreen market and the types of benefits customers seek. Questions in our survey revolving around basis variables allow us to group customers with similar wants and needs into multiple segments. This information will allow us to consider which target

segment(s) we want to market a new product to, thus satisfying their needs based on their values.

2. **Segmentation:** Questions 1-7 (Appendix 1) capture descriptor information. The responses to these questions will help us characterize and describe our segments. We collected the following descriptor information: age, gender, occupation/lifestyle, proximity to the water, skin type, and typical outdoor activities.
3. **Positioning:** Question 19 (Appendix 1) asks customers to rate our competitor's attributes on a scale of 1-5; 1 means you completely disagree, and 5 means you completely agree. We intend to use this information to organize a strategy to create a new product that satisfies the consumers' needs and includes attributes that are distinctly different from our competitors.

Link to survey: [https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV\\_4PeQISnnQDCbJga](https://qfreeaccountssjc1.az1.qualtrics.com/jfe/form/SV_4PeQISnnQDCbJga)

## Analytical Results

### Segmentation Analysis

The results of market segmentation analysis conducted for SUNSEI identified three distinct segments: "Running SPF fans," "Price sensitive swimmers," and "Daily Lotion Sun Protectors." The decision of number of segments was carried out using a combination of screen plot observation and dendrogram clustering, with the results indicating that a three-cluster model had a higher accuracy rate (68%) than a four-cluster model (48%). Additionally, the analysis revealed that segments 2 and 3 of the four-cluster model were overlapping, covering populations with similar attributes but differing in terms of purchase location. Therefore, 3 segments were the most accurate decision with segment 1 accounting for 61% of the population, while segments 2 and 3 accounted for 14% and 25%, respectively. See Appendix 2. Segment Description

#### Segment 1: Running SPF Fans

Segment 1 consists of active consumers who prefer lotion over spray application and prioritize high SPF sunscreen products. They are willing to spend \$21-\$40 on sunscreen and prefer to purchase it in physical stores, particularly supermarkets. Brand reputation is particularly important to them, and they have a high purchase frequency and apply sunscreen regularly. They are predominantly students with moderate skin type combination, mostly female and with an average age of 21-22. Marketers targeting this segment should focus on building a strong brand image and reputation and consider promoting their products in physical retail locations to increase visibility.

#### Segment 2: Price-Sensitive Swimmers

Segment 2 is a group of price-sensitive consumers who are primarily swimmers with a moderate level of concern for quality. They are only willing to spend anything under \$20 on sunscreen and apply it infrequently. Marketers targeting this segment should focus on offering cost-effective



sunscreen options that provide basic sun protection and promoting the importance of regular sunscreen use. This segment consists of a mix of students and working professionals with a moderate skin type combination and an average age of 23 years old. They prefer spray sunscreen more than other segments and have a higher proportion of males than females. Lotion scores high but still less than other segments.

### Segment 3: Daily Lotion Sun Protectors

Segment 3 is mostly made up of female students with combination skin living in both coastal and inland areas. They prioritize daily use of sunscreen with SPF 50, prefer buying it online, and are price sensitive. They moderately value brand reputation and purchase sunscreen every 2-3 months, applying it once a day. Marketers should offer cost-effective, quality lotion sunscreen options with SPF 50, promote the convenience of online purchases, and highlight the health benefits of daily sunscreen use. This segment has an average age of 20, predominantly female gender distribution, and is an important target audience for sunscreen marketing.

**See Appendix 3. Segment Personas.**

### Confusion Matrix

	Predicted 1	Predicted 2	Predicted 3	Total
Segment 1	43	0	5	48
Segment 2	8	3	0	11
Segment 3	12	0	8	20
Total	63	3	13	79

**Confusion matrix (count).** The model has correctly classified 54 of the 79 observations. The off-diagonal elements are classification errors.

	Predicted 1	Predicted 2	Predicted 3	Total
Segment 1	90%	0%	10%	100%
Segment 2	73%	27%	0%	100%
Segment 3	60%	0%	40%	100%

**Confusion matrix (%).** The global hit rate of the model is 68%. The diagonal elements represent segment-specific hit rates.

The confusion matrix provides information on how well a model predicted the correct classification of observations for each segment. Segment 1 had 48 observations, of which 43 were correctly predicted as belonging to Predicted 1, resulting in a hit rate of 90%. Segment 2 had 11 observations, with only 3 correctly predicted as Predicted 2, resulting in a hit rate of 27%. Segment 3 had 20 observations, with 8 correctly predicted as Predicted 3, resulting in a hit rate

of 40%. Overall, the model had high accuracy in predicting Segment 1 but performed poorly in predicting Segments 2 and 3.

### Positioning Analysis

After conducting the positioning analysis, we gathered insightful results that were then used to determine the optimal positioning for our product. The analysis revealed that the first four dimensions explained 99.9% of the variance, and the first 2 explained 88% of the variance. Based on this, we identified similarities and differences among various brands.

We found that CeraVe, Cetaphil, and La Roche Posay are perceived to be similar, whereas Neutrogena is perceived as different from all the brands. Sunbum, Hawaiian Tropic, and Banana Boat are grouped together as being similar, and although Coppertone is in a different quadrant, it is perceived similarly to the previous three brands. Most of the attributes that we surveyed showed a positive correlation, with some being uncorrelated.

Additionally, we found that all attributes, except for "well-known," were well-captured by the first two dimensions, whereas "well-known" was captured in the third dimension. With these technical aspects in mind, we were able to make multiple observations and segmented the market into three segments based on the best results from our previous analysis.

Segment 2 and 3 dominated most of the attributes we examined, with La Roche Posay and Neutrogena leading in market shares and having the highest average preferences among survey takers. Furthermore, Neutrogena and La Roche Posay had the highest average perception compared to other brands, while Coppertone ranked low in being well-known.

Based on these findings, we concluded that we should position our product in between Segment 2 and 3 and aim to occupy the ignored space in the middle.

### Managerial Implications

The Managerial Implications of our segmentation strategy involve targeting two distinct groups: "Price-Sensitive Swimmers" and "Daily Lotion Sun Protectors." Although no single sunscreen targets either segment exclusively, we have found continued success by capitalizing on the attributes that hold value for one or more segments.

Our brand, Sunsei, aims to carve out a niche as "sunscreen for everyone, even those who do not know." To achieve this, we plan to incorporate moisturizing qualities that double as skincare, catering to the needs of our combination skin segments. Our formula will also prioritize hydrating properties and non-greasiness, ensuring customer satisfaction.

While our ideal product size begins at 50 ml (approximately 1.69 oz) for SPF 50, priced at \$20, we will introduce a price penetration strategy starting at \$14.99. Customers tend to resist switching their skincare and sunscreen products. Therefore, we will offer sizes that cater to different

preferences, including travel sizes, and expand to 88 ml (approximately 2.98 oz) for lotions and 148 ml (approximately 5 oz) for sprays.

Our packaging will feature color-changing bottles that indicate when harmful UV rays are present as a reminder to apply and reapply sunscreen regularly. This visual cue will educate customers on the importance of sunscreen wear and keep them safe from potential sun damage.

To effectively market our product to these segments, we will employ a targeted approach that speaks directly to the needs and preferences of each group.

### Marketing Strategy

To appeal to Segment 2: Price-Sensitive Swimmers and other budget-conscious swimmers, we should focus on offering cost-effective sunscreen options that provide basic sun protection and are suitable for swimming. Highlighting the benefits of sunscreen for aquatic activities may increase the relevance of sunscreen for this segment. Emphasizing the affordability and value for money of their products can also help appeal to this segment's price sensitivity. Product promotions and in-store displays may be effective for reaching this segment, who prefer to shop at physical stores.

For Segment 3: Daily Lotion Sun Protectors, offering cost-effective, quality lotion sunscreen options with SPF 50 and promoting the convenience of online purchase may prove to be an effective strategy to pursue. Highlighting the health benefits of daily sunscreen use and natural and sustainable ingredients may also appeal to this segment.

In addition, as part of our marketing strategy, we should launch an educational campaign to raise awareness about the importance of sunscreen use for all skin types and ages. This campaign could include social media posts, email newsletters, and educational content on our website and would focus on raising awareness of the importance of using sunscreen as part of a daily routine. This can be incorporated as a key aspect of the marketing strategy (including the packaging color system). By educating our customers on the benefits of sunscreen and proper application techniques, we can increase demand for our products and position ourselves as a trusted and knowledgeable brand in the sunscreen industry.

### Future Work

Sunsei's future is bright. Down the road, we intend to incorporate additional skincare ingredients like hyaluronic acid and niacinamide to enhance the benefits of sunscreen. These ingredients help skin retain moisture and promote collagen production, respectively. Other benefits from these ingredients include supporting a healthy skin barrier, reducing the appearance of aging signs, maintaining a youthful appearance, and improving skin elasticity. Furthermore, a tinted sunscreen with skincare and makeup benefits could be developed to broaden the product line. We could also focus on reducing pore size and emphasizing the product's moisturizing benefits, especially for men.

Furthermore, a tinted sunscreen with skincare and makeup benefits could be developed to broaden the product line and target segment 3. Additionally, the development of sun sticks could ensure a convenient application method for all customers. Finally, the price could be increased to \$20 and maintained at that level to maximize profitability while maintaining affordability.

## Limitations

Based on the marketing survey we conducted for our sunscreen brand, there are several limitations we should keep in mind when interpreting the results:

1. **Small sample size:** With only 79 responses, our survey might not be representative of the entire population of sunscreen users. The results of our survey may be skewed due to the small sample size, and it may not be possible to draw accurate conclusions or make informed decisions based on the data collected.
2. **Non-response bias:** The substantial number of null values in the dataset may indicate that some participants did not answer the questions or chose not to participate in the survey. This could introduce bias in the results, as those who did not respond may have different preferences or opinions compared to those who did.
3. **Manipulation of data:** Replacing null values with the mode in Python can result in the manipulation of data, which can affect the accuracy of the results. But in the given situation, this was the best option we had to run our analysis smoothly.
4. **Data Accuracy:** The data collected is based on participants' self-reported responses, which may not always accurately reflect their true opinions or behaviors. Respondents may not remember certain details accurately, or they may be hesitant to disclose certain information.
5. **Limited scope:** The survey was limited to customers who use sunscreen in general, and not specific to our brand of sunscreen. This means that the results may not be applicable to customers who use other brands or those who do not use sunscreen at all. Individuals not currently using sunscreen may need a different set of questions to understand their thoughts about it. This information could be used to create a strategy to convert these individuals into our customers.
6. **Lack of follow-up:** A single survey may not provide enough information to fully understand the needs and perceptions of customers. Additional follow-up surveys or interviews may be necessary to gain deeper insights into customer preferences and behaviors.
7. **External factors:** External factors such as changes in market trends, competitor actions, or socio-economic factors may impact customer preferences and behaviors, which may not be captured by the survey.
8. **Missing demographic information:** One limitation of our survey is that we did not include a question about the income group of the respondents. This information could have provided valuable insights into the purchasing power and affordability of our target market. Without this information, it may be challenging to develop targeted marketing strategies that effectively reach and resonate with the intended audience. In future

surveys, it may be beneficial to include questions about relevant demographic information to better understand the needs and preferences of our target market.

It is important to keep these limitations in mind when interpreting the results of our survey. Additional research and analysis may be necessary to validate the findings and make informed decisions based on the data collected.

## Appendices

### Appendix 1: Sunscreen Survey Design

#### Introduction:

Hello! We are a “Sun-sei” a sunscreen brand dedicated to providing high-quality protection for our customers’ skin health in the sun. We are conducting a market segmentation survey to gain a better understanding of our target market's preferences and needs. Your feedback will help us tailor our products to better meet your specific needs and preferences. We appreciate your time and input!

Privacy policy: all responses to this survey will remain anonymous and confidential. We will not collect any personally identifiable information, and your responses will only be used for research purposes. Your feedback will be aggregated with other responses and analyzed in the aggregate. Your individual responses will not be shared with any third parties or used for any other purposes without your explicit consent.

Part 1.

#### Segmentation Questions:

1. What is your age range? (Under 18, 18-24, 25-34, 35-44, 45-54, 55-64, 65 or older)
2. What is your gender? (Male, Female, Other)
3. Where do you live or spend most of your time? (Coastal area, Inland area, Lakefront property, Riverfront property, Other (please specify))
4. Which of the following best describes your skin type? (Dry, oily, combination, sensitive, other (please specify))
5. Occupation/Lifestyle: What best describes your occupation or lifestyle? (Student, working professional, athlete, retired, unemployed, other (please specify))
6. Do you spend time outdoors? (Yes/No)
7. Typical outdoor activities or hobbies: What are some of your typical outdoor activities or hobbies? (Hiking, picnicking, Swimming, or surfing, playing beach volleyball or frisbee, Running or jogging Biking or cycling, Snowboarding, or skiing)
8. Do you wear sunscreen? (Yes/No)
9. How often do you wear sunscreen? (Every day, often, occasionally, rarely, never)
10. What level of SPF do you prefer? (15, 30, 50, 100, no preference)
11. What is your preferred type of sunscreen (lotion, stick or spray)? (Lotion, stick, spray, no preference)
12. How often do you apply sunscreen? (Every 2 hours, every 4 hours, once a day, as needed, rarely)
13. How often do you buy sunscreen? (Every month, every 2-3 months, every 6 months, once a year, rarely)
14. Where do you purchase sunscreen? (Drugstore, supermarket, online, specialty store, other)
15. What is your preferred sunscreen brand? (Open-ended question)
16. How much are you willing to spend on sunscreen? (Less than \$10, \$10-\$20, \$20-\$30, more than \$30)



17. How important is sunscreen quality? (Very important, somewhat important, not very important, not at all important)
18. How important is brand recognition? (Very important, somewhat important, not very important, not at all important)

## Part 2.

### Positioning questions:

Please put in a number for each brand with regards to the statement on the left: 1 completely disagrees, 5 completely agrees.

Perceptual Data & Perceptual Data(Mangement) Attibutes							
Attributes	Store Brand	Neutrogena	Sum Bum	Hawaiian Tropic	Coppertone	Banana Boat	La roche posay
This brand is well known							
This brand has a good reputation							
This sunscreen is of premium quality							
This brand offers the product in different sizes							
I like the SPF Level of this sunscreen							
I like the non-greasy or non-sticky formulation							
I like that the product is water resistant							
I like the scent or fragrance of the product							
I like the packaging design and visual appeal							
I consider this sunscreen to be expensive							
I like how easy it is to apply							
I like how the brand uses cruelty-free ingredients							
I like how the product has hydrating properties							
This brand is recommended by a dermatologist							

## Appendix 2. Segment Description

### Segment description

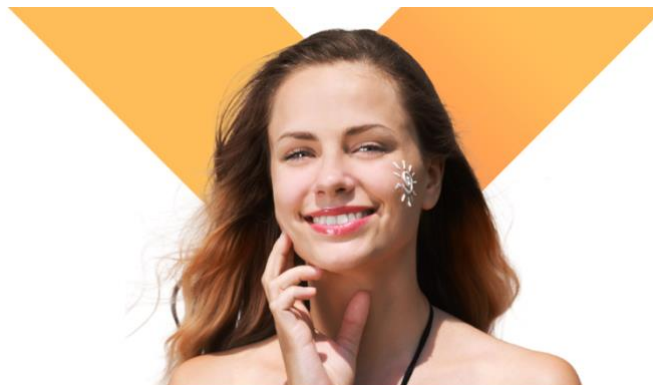
	Population	Segment 1	Segment 2	Segment 3
frequency	3.80	3.81	1.55	5.00
application	2.49	2.63	1.09	2.95
purchase_frequency	3.01	2.98	1.18	4.10
quality	4.10	4.17	3.55	4.25
brand	3.25	3.54	2.73	2.85
spf_50	0.633	0.563	0.545	0.850
spf_100	0.038	0.021	0.000	0.100
type_spray	0.152	0.167	0.364	0.000
type_lotion	0.785	0.729	0.636	1.000
pur_m_sprmrkt	0.380	0.563	0.182	0.050
pur_m_online	0.392	0.271	0.636	0.550
range_20	0.190	0.146	0.182	0.300
range_30	0.051	0.083	0.000	0.000
range_40	0.063	0.104	0.000	0.000
Running	0.633	0.688	0.636	0.500
swimming	0.114	0.125	0.182	0.050

**Segment description.** Average value of each segmentation variable, overall for each segment (centroid). Segmentation variables that are statistically different from the rest of the population are highlighted in red (lower) or green (higher).

	Population	Segment 1	Segment 2	Segment 3
Age	21.6	21.8	23.0	20.3
Gender = Female	0.709	0.708	0.455	0.850
Residence_Locale = Coastal area	0.329	0.313	0.182	0.450
Residence_Locale = Inland area	0.620	0.646	0.818	0.450
Skin_Type = Oily	0.177	0.125	0.273	0.250
Skin_Type = Combination	0.519	0.458	0.455	0.700
Skin_Type = Dry	0.190	0.229	0.273	0.050
Occupation = Student	0.671	0.688	0.545	0.700
Occupation = Working professional	0.316	0.292	0.455	0.300

**Descriptor data per segment.** Average value of each descriptor, overall and within each cluster. Descriptors that are statistically different from the rest of the population are highlighted in red (lower) or green (higher).

### Appendix 3. Segment Personas



Name : Emily  
Gender : Female  
Age : 21  
Location : Inland area  
Activity : Likes running, hiking, and spending time outdoors

#### SHOPPING HABITS:

- Spends between \$20-\$40
- Places high importance on brand reputation
- Values quality
- Prefers to shop at physical stores
- Particularly, supermarkets
- Purchase product every 6 months

#### SKIN CARE CONCERNS

- Needs a sunscreen that is easy to apply
- Applies sunscreen infrequently
- Is a high-quality seeker
- Skin type: combination with slight oiliness & dryness

*Segment 1*



Name : Maya  
Gender : Female  
Age : 20  
Location : Coastal area  
Activity : Enjoys indoor activities such as reading, painting, and listening to music.

#### SHOPPING HABITS:

- Prefers to purchase sunscreen online for convenience and a wider range of options.
- Has a limited budget of under \$20 for sunscreen products.
- Prefers sunscreen over spray.
- Values quality and price so products with brand reputation being moderately important.

#### SKIN CARE CONCERNS

- Has a combination skin type with minimal dryness and oiliness.
- Understands the importance of daily sunscreen application and applies once a day.
- Prefers natural and sustainable sunscreen products due to health-consciousness.

#### Segment 2



Name : Alex  
Gender : Male  
Age : 23  
Location : Inland area  
Activity : loves swimming to stay active and unwind after work

#### SHOPPING HABITS:

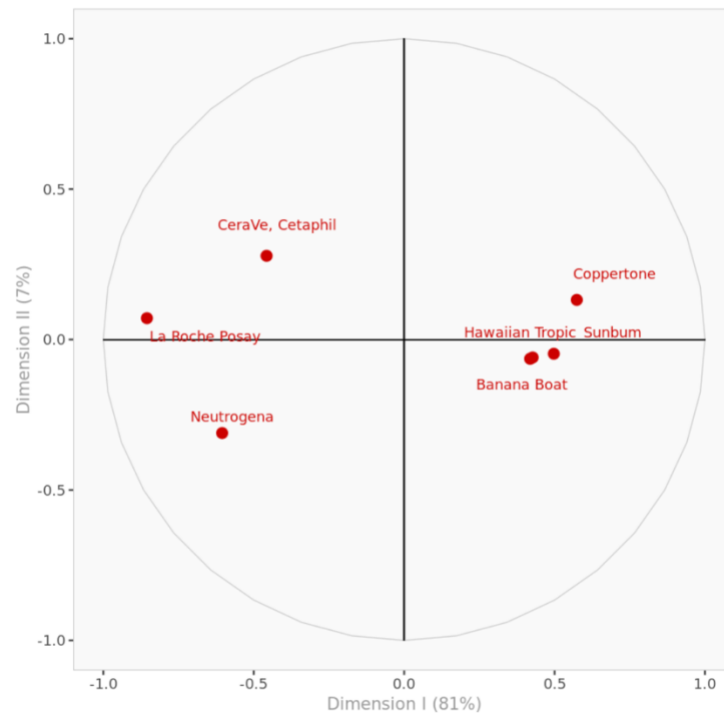
- Highly price-sensitive
- Wants to find cost-effective options that provide basic sun protection suitable for swimming and aquatic activities
- Prefers to shop at physical stores
- Not brand loyal
- Is more likely to purchase sunscreen products that are on sale or offer value for money

#### SKIN CARE CONCERNS

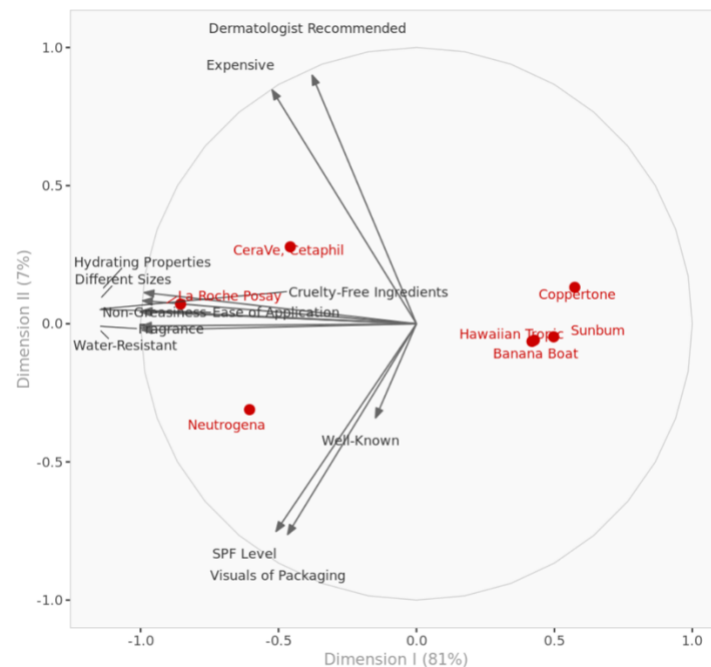
- Needs a sunscreen that is easy to apply
- Applies sunscreen infrequently
- Is a moderate-quality seeker
- Skin type: combination with oiliness and dryness

#### Segment 3

## Appendix 4. Positioning Analysis Results

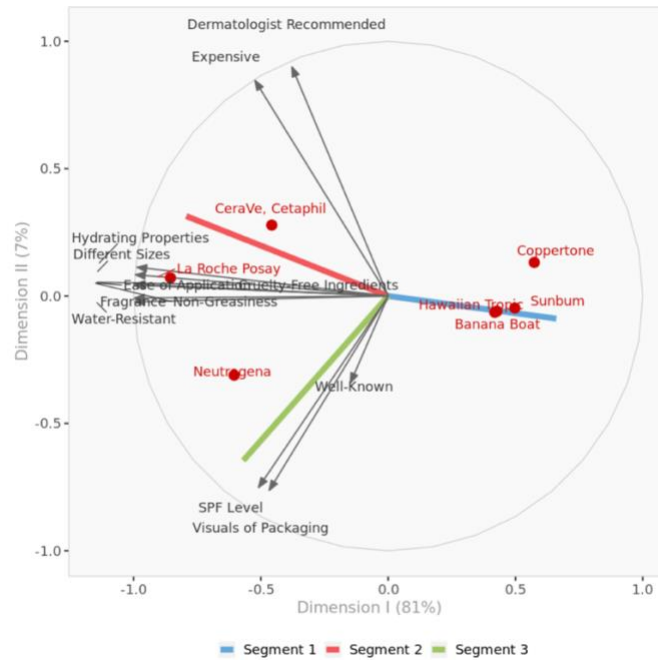


The brands closer together are perceived more similar or have a similar rating on underlying attributes.

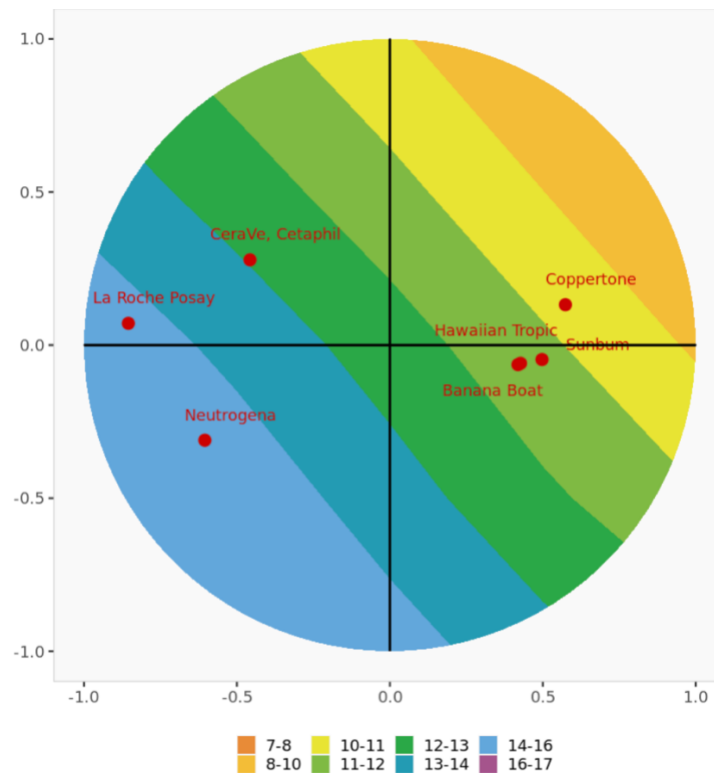


The attributes are either positive (going in the same direction) or almost uncorrelated (perpendicular). No attribute is negatively correlated. The positivity and negativity of the attributes is interesting – Dermatologist Recommended and Expensive rank extremely high in dimension 2, while ease of application and non-greasiness are negative in dimension 1 and SPF

level and visual of packaging are negative in dimension 2. Well – known is the shortest vector, and that is because it is not captured that well in these 2 dimensions. It is better captured in the third dimension.



Segmentation and attributes.



La Roche Posay and Neutrogena lead in market shares.

	CeraVe, Cetaphil	Neutrogena	Sunbum	Coppertone	Hawaiian Tropic	Banana Boat	La Roche Posay
Well-Known	4.2	4.2	4.1	1.9	4.1	4.2	4.3
Different Sizes	4.4	4.4	2.9	3.0	3.0	3.1	4.3
SPF Level	3.2	4.4	2.9	2.9	3.0	3.0	4.5
Non-Greasiness	4.4	4.5	3.1	3.0	3.1	3.1	4.5
Water-Resistant	4.2	4.4	2.9	2.9	3.0	3.0	4.4
Fragrance	4.1	4.3	3.0	3.0	3.2	3.1	4.5
Visuals of Packaging	3.0	4.3	2.9	2.9	3.0	3.0	4.5
Expensive	3.5	3.0	3.0	3.0	3.0	3.0	4.4
Ease of Application	4.3	4.5	3.0	3.0	3.1	3.2	4.6
Cruelty-Free Ingredients	4.2	4.3	3.0	3.0	3.1	3.1	4.4
Hydrating Properties	4.3	4.4	2.9	3.0	3.0	3.1	4.5
Dermatologist Recommended	4.4	3.2	3.0	3.0	3.0	3.0	4.4
	Average preference	Segment 1	Segment 2	Segment 3			
La Roche Posay	4.33	2.83	3.21	4.83			
Neutrogena	4.20	1.75	3.29	4.73			
CeraVe, Cetaphil	3.68	1.75	3.50	3.94			
Banana Boat	3.58	4.17	1.94	4.01			
Hawaiian Tropic	3.31	4.08	2.32	3.53			
Sunbum	2.96	3.58	2.26	3.10			
Coppertone	2.88	3.75	2.06	3.04			

The average perceptual data of each brand along with the average brand preference in each segment.

## Sources

Patlola, M., Shah, A.A., Stead, T., & Thomas, R. K. (2023). Sunscreen use amongst US adults: a national survey. Archives of Dermatological Research. Advance online publication. <https://doi.org/10.1007/s00403-023-02603-8>

Northeastern (2019, June 26). *How to Develop a Project Scope Statement in 8 Steps*. Northeastern University. Retrieved April 23, 2023, from <https://www.northeastern.edu/graduate/blog/develop-project-scope-statement/>

Merten, J. W., King, J. L., Vilaro, M. J., & Largo-Wight, E. (2016). Lifestyle factors associated with sunscreen use among young adults. American Journal of Lifestyle Medicine, 12(4), 331-339. <https://doi.org/10.1177/1559827616661472>

Grand View Research. (2021). Sun Care Cosmetics Market Size, Share & Trends Analysis Report. Retrieved from <https://www.grandviewresearch.com/industry-analysis/sun-care-cosmetics-market-report>

Sen, C. (2022, August 10). *Niacinamide VS Hyaluronic Acid: Benefits + Which One Should You Use?* Skin Kraft. Retrieved April 25, 2023, from <https://skinkraft.com/blogs/articles/niacinamide-vs-hyaluronic-acid#:~:text=Niacinamide%20promotes%20collagen%20production%2C%20supports,appearance%2C%20and%20improve%20skin%20elasticity.>