

## **Boats (A):**

### **A Segmentation Case**

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This case was written by Joerg Niessing, Associate Partner and Head of Analytics at Prophet, and Theodoros Evgeniou, Professor of Decision Sciences and Technology Management at INSEAD. It is intended to be used as a basis for class discussion rather than to illustrate either effective or ineffective handling of an administrative situation. All numbers in this case are not real.

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Mary looked out of the window. She then looked inside. It was time to start.

## **The Business Problem**

It had been a rough year for Mary and her team. CreeqBoat, the boating company where she was Senior Manager in the Customer Insights department, had become a victim of the crisis in the boating industry. The management team was now exploring various growth options. Expanding further in some markets, in particular North America, was no longer something to consider for the distant future. It was becoming an immediate necessity.

The team believed that in order to develop a strategy for North America, they needed a better understanding of their current and potential customers in that market. They believed that they had to build more targeted boats for their most important segments there. To that purpose, Mary had been commissioned to make a segmentation project for that market. Being a data-friendly company, the decision was made to make the segmentation in a data-driven way – none of that soft hold-hands-and-discuss stuff.

## **The Data**

With the aid of a market research firm, Mary gathered various data about the boating market in the US through interviews with almost 3,000 boat owners and intenders. The data (see Appendix) consisted, among others, of 29 attitudes towards boating, which respondents indicated on a 5-point scale (Q. 1, 1-29 in the Appendix).

Other types of information had been collected, such as demographics (Q. 11-15 in the Appendix). Finally, Mary had compiled information about the boats, such as the length of the boat they owned, how they used their boats, and the price of the boats (Q. 2-10 in the Appendix). Segmentation of the market would be done using all this data.

## **The Real Work**

### **Part I: Data Preparation**

Based on past experience, the decision was made to develop a segmentation that was mostly driven by attitudes that consumer held regarding boating – the attitudinal data from the 29 questions in Q.1. As a first step, Mary decided to simplify the data by grouping the 29 questions into a few meaningful sets/factors. This could be done using a standard method: factor analysis. She needed to answer the following questions:

1. How many factors should she select? Why? Why not more or less?
2. How should she associate each of the original 29 variables to the factors selected?
3. How could she interpret the main factors selected? How should she name each factor by looking at the items that were most correlated with it (i.e., had the highest factor loadings).

## Part II: Segmentation

Based on the factor analysis she would select certain attitudes that she could use in the segmentation algorithm. Potentially using some of the other available data as well (e.g. demographics, boat preferences), Mary could then move on to the actual segmentation of the market. In particular, she would need to:

1. Perform a (possibly two-step) cluster analysis of customers and prospects to discover segments in the market.
2. Decide on the appropriate number of clusters, based on various outputs and tables. How many clusters should she choose? What would be the advantages and disadvantages of different cluster solutions?
3. Using whatever data from Q1-15, create high-level profiles of the segments that would be meaningful for the company. How could she best describe the segments? How would the segments inform the strategy of CreeqBoat?

Mary knew that this would be a long, iterative process. Looking out of the window was not an option any more. She had to get her hands dirty if she wanted to ever understand the best way of segmenting the market.

## Appendix Data Description

### Attitudes / Needs / Motivations

1. Listed below are some statements regarding attitudes and beliefs you may or may not have regarding boating. Using the scale provided, please indicate how much you agree or disagree with each statement.

Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1	2	3	4	5

1. When buying a boat, I do a lot of shopping around and visit multiple dealers
2. When buying a boat, getting the lowest price is more important than the boat brand
3. The brand of boat I buy says a lot about who I am
4. I only consider buying a boat from a reputable brand
5. I am willing to pay a premium for a brand with a reputation for high quality
6. Owning a boat is a way of rewarding myself for my hard work
7. Owning a boat gives me a sense of achievement
8. When buying a boat, functionality is more important than style
9. I see my boat as a status symbol
10. When buying a boat, I rely more on expert opinion than my own
11. I tend to perform minor boat repairs and maintenance on my own
12. When it comes to boating, I tend to prefer a basic boat with little to no frills
13. When buying a boat, I tend to buy the latest and greatest
14. When buying accessories for my boat, I tend to buy the latest and greatest
15. I am serious about the technology on my boat
16. People tend to come to me for advice about boating
17. I consider myself more knowledgeable about boating than the rest of my boating peers
18. Boating gives me a feeling of adventure
19. Boating allows me to experience nature
20. When not on my boat, I often find myself doing boating related activities
21. Boating helps me escape from everyday life and relax
22. Boating helps me stay active
23. Boating allows me to excel in the sports that I am passionate about
24. Boating gives me an outlet to socialize with family and/or friends
25. Being in charge of my boat is very important to me
26. Having a powerful boat is what is most important to me
27. Boating is the number one thing I do with my spare time
28. Boating is my true passion in life
29. Boating is one of many things I do in my spare time

### Purchase Process and Behaviour

2. How many powerboats do you currently own?

3. How likely would you be to purchase a **new** boat in the future?

1. Definitely will not
2. Probably will not
3. Might or might not
4. Probably will
5. Definitely will

4. Not including any taxes, fees or accessories, approximately how much did you pay for your **boat**?  
How much are you planning to spend on your new boat?

1. Less than \$10K
2. \$10K to \$19,999K
3. \$20K to \$29,999K
4. \$30K to \$49,999K
5. \$50K to \$74,999K
6. \$75K to \$124,999K
7. \$125K to \$199,999K
8. \$200K to \$499,999K
9. \$500K to \$999,999K
10. \$1,000,000 or more
11. Don't know

5. What is the horse power of your engine? What horse power are you looking for?

1. 0 - 14 HP
2. 15 - 60 HP
3. 61 - 115 HP
4. 116 - 150 HP
5. 151 - 200 HP
6. 201 - 250 HP
7. 251 - 350 HP
8. > 350 HP
9. Don't Know

6. What is the length of your **boat**? What is the length of the boat you are considering buying? (e.g., 20 feet)

7. Which of the following statements best describes WHO you boat with? For each question please use the scale provided in the table below.

Never	Rarely	Sometimes	Often	Most of the time
1	2	3	4	5

1. I normally boat alone
2. I boat with my spouse or significant other
3. I boat with my family, including kids
4. I boat with my friends

8. How would you rate your experience regarding boating?

1. Beginner
2. Intermediate
3. Advanced
4. Expert

9. Below is a list of activities that may or may not do while boating. Using the scale provided, please indicate how often you engage in each of these activities.

Never	Rarely	Sometimes	Often	Most of the time
1	2	3	4	5

1. Fishing
2. Swimming
3. Cruising
4. Water Sports (e.g., skiing, tubing, wakeboarding)
5. Entertaining/socializing

10. During your boating season, how many days out of the year do you typically use your boat?

### Demographics

11. What is your gender?

- Male ..... 1  
Female ..... 2

12. We would like to get a better estimate of your total HOUSEHOLD income in the past 12 months before taxes.

- Less than \$5,000 ..... 1  
\$5,000 to \$7,499 ..... 2  
\$7,500 to \$9,999 ..... 3  
\$10,000 to \$12,499 ..... 4  
\$12,500 to \$14,999 ..... 5  
\$15,000 to \$19,999 ..... 6  
\$20,000 to \$24,999 ..... 7  
\$25,000 to \$29,999 ..... 8  
\$30,000 to \$34,999 ..... 9  
\$35,000 to \$39,999 ..... 10  
\$40,000 to \$49,999 ..... 11  
\$50,000 to \$59,999 ..... 12  
\$60,000 to \$74,999 ..... 13  
\$75,000 to \$84,999 ..... 14  
\$85,000 to \$99,999 ..... 15  
\$100,000 to \$124,999 ..... 16  
\$125,000 to \$149,999 ..... 17  
\$150,000 to \$174,999 ..... 18  
\$175,000 or more ..... 19

13. Are you now married, widowed, divorced, separated, never married, or living with a partner?

- Married ..... 1  
Widowed ..... 2  
Divorced ..... 3  
Separated ..... 4  
Never married ..... 5  
Living with partner ..... 6

14. Which statement best describes your current employment status?

- Working – as a paid employee..... 1  
Working – self-employed ..... 2  
Not working – on temporary layoff  
from a ..... 3  
job ..... 3  
Not working – looking for work ..... 4  
Not working – retired ..... 5  
Not working – disabled ..... 6  
Not working – other ..... 7

15. What is your age?

**Boats: Brand Equity**

16. Below are various statements that could describe brand's PRODUCTS, IMAGE or REPUTATION. Please indicate how much you agree or disagree with the statements for the **following brand** that you are familiar with: *INSERT BRAND THAT NEEDS TO BE RATED* (e.g. Alumacraft, Bayliner, etc.)

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1	2	3	4	5

**Origin/ Heritage**

1. Is a brand that has been around for a long time

**Brand reputation**

2. Has best in-class customer service  
3. Has a strong dealer network

**Brand leadership**

4. Is a leader in cutting edge technology  
5. Is a leader in safety  
6. Is known for its innovative products

**Users of the brand**

7. Is a brand for people who are serious about boating  
8. Is a good brand for people that are new to boating  
9. Is a brand I see in the water all the time

**Boating Experience**

10. Offers boats that provide a fast and powerful boating experience  
11. Offers the best boats for socializing  
12. Offers the best boats for water sports (e.g., tubing, ski, wakeboard)

**Aesthetics**

13. Offers boats with superior **interior** style  
14. Offers boats with superior **exterior** style  
15. Offers boats that stand out from the crowd  
16. Offers boats that look cool

**Product Quality/ Reliability/ Innovation**

17. Offers boats that can handle rough weather or choppy water  
18. Offers boats that can handle frequent and heavy usage  
19. Offers a wide breadth of product offerings and accessories

**Product Safety**

20. Offers boats that I can move around safely

**Ease of use / convenience**

- 21. Offers boats that are easy to maintain and/or repair
- 22. Offers boats that are easy to use
- 23. Offers boats that are easy to clean up

**Value/Price**

- 24. Is low price

**Emotional Benefits**

- 25. Is a brand that gives me peace of mind
- 26. Makes me feel I made a smart decision

**Self-Expressive Benefits**

- 27. Is a brand that impresses others

**Boats: Brand Funnel**

- 17. How likely would you be to recommend that brand to other boaters?

0=would not recommend/don't know

1=would definitely recommend

- 18. If you were buying a new **boat** all over again, would you buy that brand in the future?

0=no

1=yes