



## **Driving Success: Analyzing Ford KA's Market Segmentation Evolution and Targeting Strategies**

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## Question 1

Ford and other car manufacturers used demographic (gender, age, marital status, number of children, income), psychographic (preference, attitude), and product (small, lower medium, upper medium, executive, luxury, cabriolets, sports utility vehicles, minivans, coupes) segmentation. Specifically, Ford used this information to come up with customer attitude groups: Sensible Classics, Attention Seekers, Freedom Lover, and No Nonsense Neutral.

Historically, customers have often chosen small cars for their affordability and utility, including features such as stability and better fuel economy.<sup>1</sup> In response, car manufacturers marketed their products by highlighting attributes such as low prices, efficiency, practicality, and safety. Moreover, cars were segmented into A and B categories with distinct length ranges, with each category featuring models and makes and targeting specific customer groups. However, as the small car market began to saturate, and with the rise of alternatives such as ride-sharing, customers seek more personalized experiences tailored to their specific lifestyle and traveling needs.

The current segmentation approach proves ineffective for several reasons. Firstly, it separates demographics and psychographics, missing the potential synergy of combining both factors and shifting the focus from product-centric to a limited reflection of customer trends. This oversimplification hampers understanding diverse motivations in car-buying decisions. Secondly, the model overly simplifies customer groups into attitude categories, causing flawed groupings due to mismatches between customer responses and predefined groups. Thirdly, relying solely on gender oversimplifies preferences and behaviors, risking generalized assumptions. Additionally, in the evolving French car market with increased fragmentation and changing demographics, marketing the Ka like competitors may not align, as the current diverse demographics differ from historical segmentation strategies.

To improve segmentation in the future, a more comprehensive strategy should be used. This includes integrating both demographic and psychographic inputs in data analysis to provide a more nuanced understanding of customer preferences. Additionally, clustering psychographic questions into broader categories can determine a more accurate assessment of customers' characters and preferences. This approach can better adapt to the dynamic nature of the current French car market.

## Question 2

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<sup>1</sup>

<https://www.wardsauto.com/news-analysis/small-stature-big-market-why-automakers-maintain-their-small-car-focus>

In examining the cross-tabulations for PreferenceGroup and Q1 (*Appendix 2.1*), specifically addressing the question "I want a car that is trendy" (coded on a 7-point scale from 1=strongly disagree to 7=strongly agree), distinct patterns emerge within each preference group (Ford Ka Choosers, Ford Ka Non-Choosers, and the Middle). The data suggests that Ford Ka Choosers tend to be mostly neutral or strongly agree that they desire a trendy car. On the other hand, Ford Ka Non-Choosers appear predominantly neutral and, for the most part, are not particularly concerned with the trendiness of their cars. Interestingly, the Middle preference group, individuals who did not strongly express a preference for or against the Ford Ka, show a strong inclination towards desiring a trendy car. This implies that Ford Ka Choosers and the Middle Preference group place importance on car trendiness, potentially finding the Ford Ka appealing in this aspect. In contrast, Ford Ka Non-Choosers may have reservations about the car unrelated to its trendiness, leading them to opt for alternatives.

To improve exploratory analysis, the following visualizations were/would be helpful:

- **Bar Charts:** Create individual bar charts for each preference group to visually depict the distribution of respondents across different Q1 rating scores (*Appendix 2.2*).
- **Scatter Plots:** Utilize scatter plots with Q1 scores on the X-axis and preference groups on the Y-axis to explore any discernible patterns or clusters.
- **Balloon Plots:** Visualize the relationship between PreferenceGroup and Q1 using balloon plots, adding depth to the analysis (*Appendix 2.3*).

### Question 3

To implement demographic segmentation, we selected  $k=5$  for the k-Means analysis. We selected an optimal  $k$  using a scree plot to show the total within-cluster sum of squared (WSS) vs. different  $k$  values (*Appendix 3.1*). We observe when  $k>5$ , the WSS decreases at a declining rate. Thus, 5 clusters prevent overgeneralization and overfitting. Then, we created a parallel plot to visualize the demographics (*Appendix 3.2*). Below are the segments:

- **Career-focused females:** Middle-income females in their 30s with no children, married, or have a roommate
- **Budget-conscious families:** Lower-middle income families (late 20s/early 30s) with a few children who are first-time car purchasers
- **Independent Connoisseur:** High-income, single, old ( $>44$  years old) man with no children.
- **Family-focused millennials:** Upper-middle income married people in their 30s with large families
- **Budget-conscious young couples:** Low-income, young ( $<25$  years old), married males with no children

#### Question 4

To focus on the main themes in the psychographic questionnaire, we selected 6 of 62 questions (*Appendix 4.1*) by grouping them based on similarity. For psychographic segmentation, we selected  $k=5$  for the k-Means analysis. The optimal  $k$  was selected using the scree plot with the WSS vs. different  $k$  values (*Appendix 4.2*). We observe when  $k>5$ , the graph starts to plateau. Thus, 5 clusters will prevent overgeneralization and overfitting. Then, we created a parallel plot to visualize the psychographics (*Appendix 4.3*). Below are the segments:

- **Practical people:** People who use good quality, masculine cars with character for basic transportation purposes.
- **Image-conscious people:** People who place importance on the car's looks over functions and quality.
- **Eco-loving trendsetters:** People who prefer fuel efficiency, trendy, and masculine cars.
- **Minimalists:** People who prefer a trendy car without character. Low importance on quality.
- **Quality seekers:** People who prefer good quality, fuel-efficient, no preference for trendy and masculine cars.

#### Question 5

We recommend implementing a psychographic segmentation to target specific market segments. We aim to appeal to two distinct markets: individuals seeking trendy cars and those who prefer masculine features. This strategic segmentation aligns with the unique preferences and characteristics of these customer clusters, optimizing the appeal and relevance of the Ford Ka in the market.

To identify our target customer type, we created a cross-tabulation of PreferenceGroup against all 5 clusters (*Appendix 5.1*). Identifying that the ratio of PreferenceGroup 1 to PreferenceGroup 2 is highest within Clusters 2, 3, and 4, and considering the substantial representation of the 3 PreferenceGroups (marketed as Middle) in these clusters, we recognize these clusters as promising target markets. Consequently, we intend to develop a tailored marketing strategy aimed at engaging customers within these three clusters.

These clusters have 2 common traits (*Appendix 4.3*). The customers show high preference on the trendiness and masculine features of their cars. Therefore, in our commercials, we will strategically incorporate "trendiness" as a key theme, while also highlighting masculine features. This will be achieved by keeping the ads attitude to the latest trends and ensuring that our promotional content features both male and female main characters, avoiding any limitations in representation. In our commercials, we aim to redefine the perception of masculinity by showcasing diverse representations. Masculinity doesn't have to adhere to the traditional notions of being bulky, bold and black; it can also be embodied in a lean, colorful object.

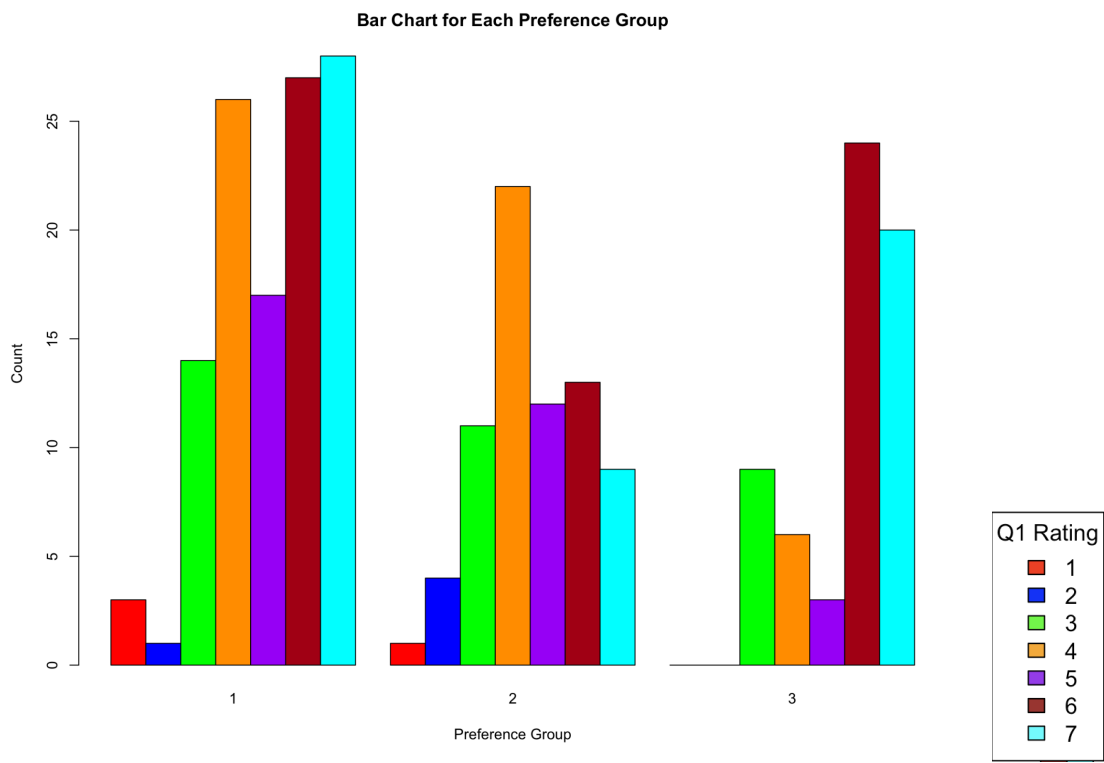
# Appendices

## Appendix 2.1

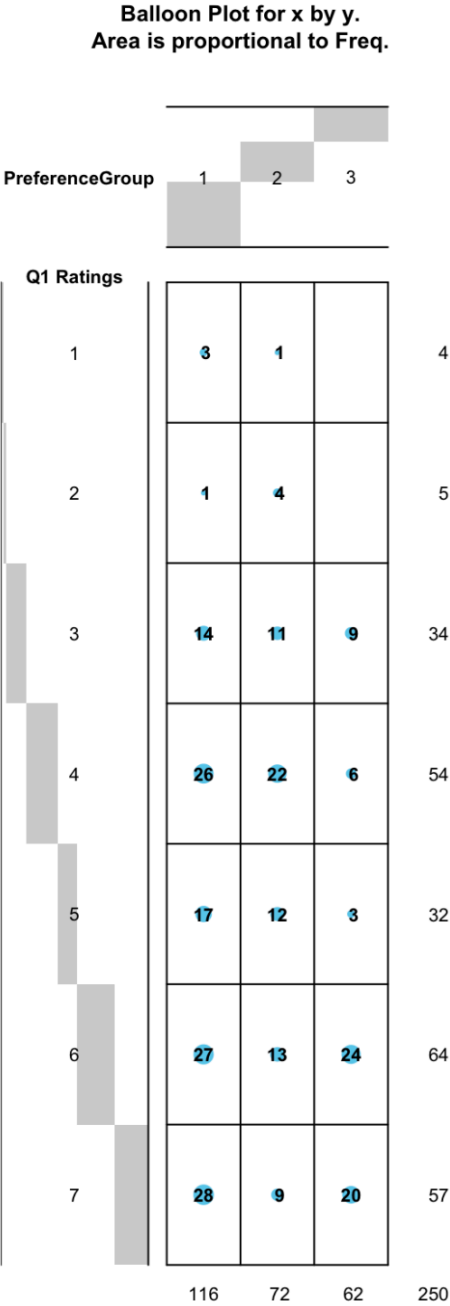
```
> xtabs(~ PreferenceGroup + Q1, data = df_ford)
```

```
      Q1  
PreferenceGroup 1  2  3  4  5  6  7  
1      3  1 14 26 17 27 28  
2      1  4 11 22 12 13  9  
3      0  0  9  6  3 24 20
```

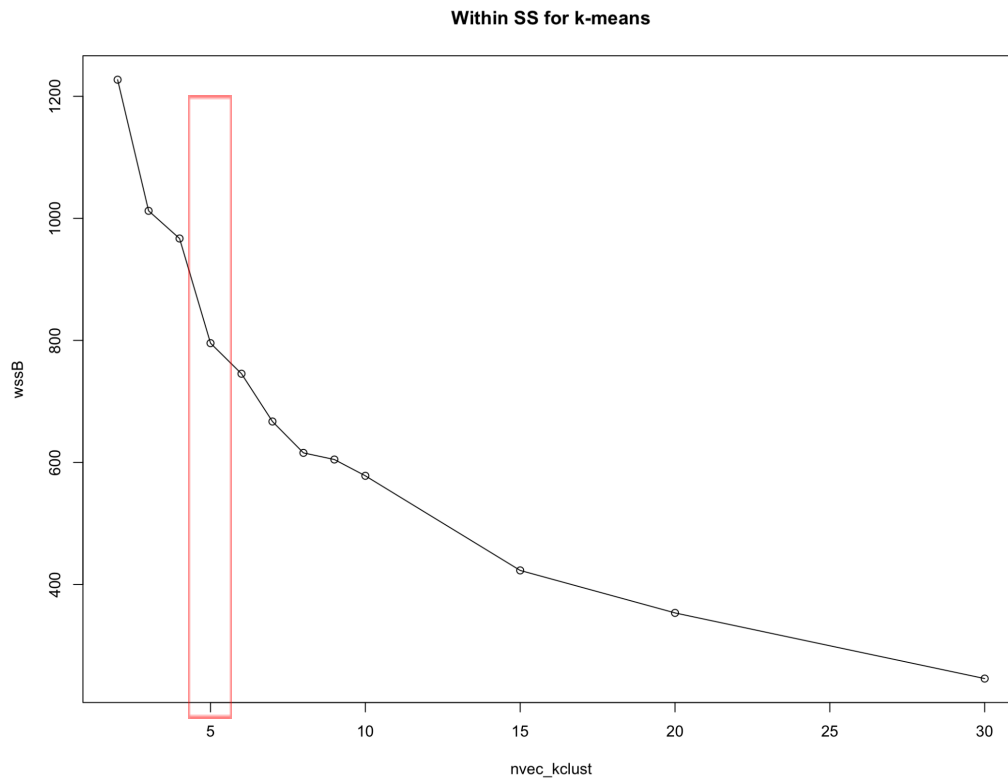
# Appendix 2.2



# Appendix 2.3

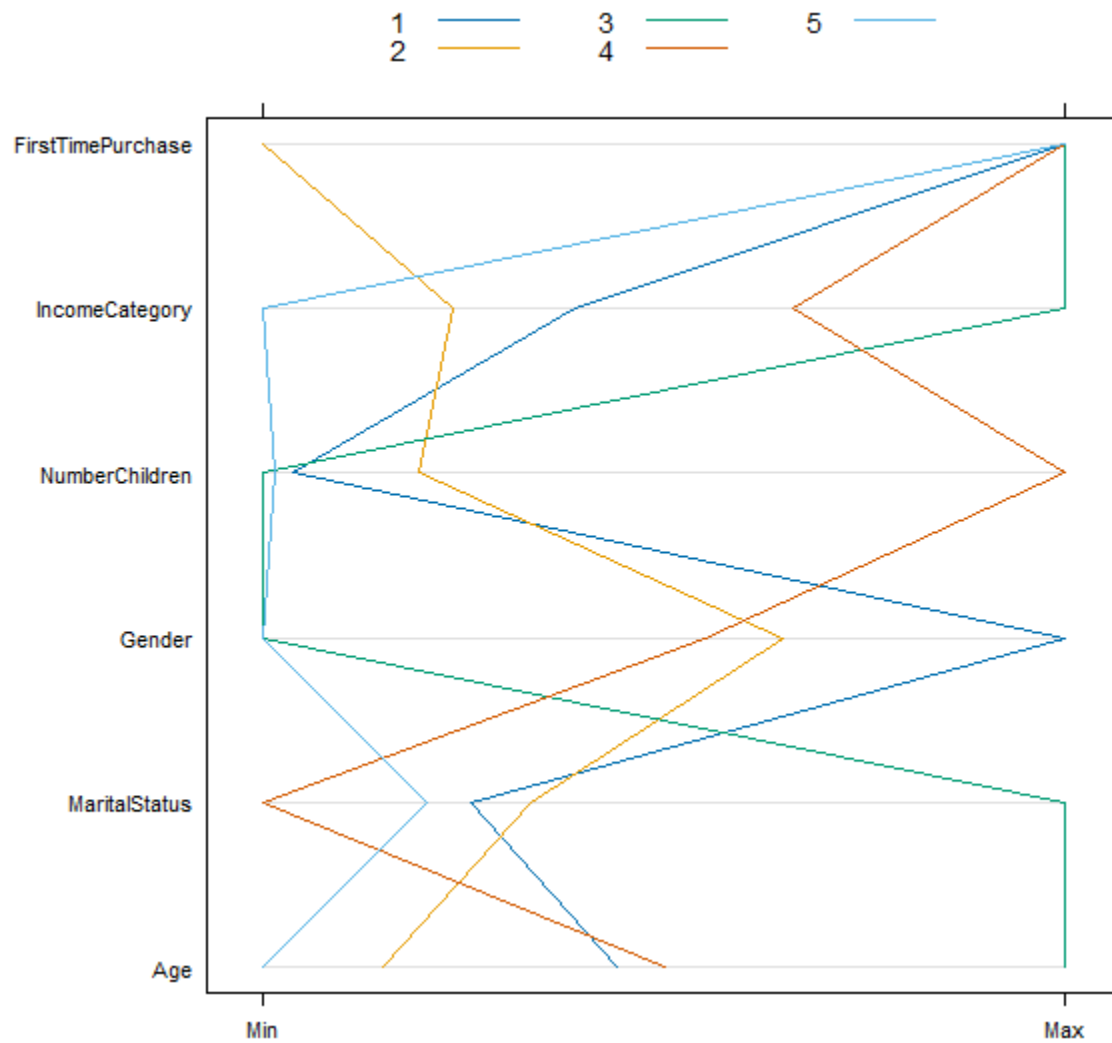


## Appendix 3.1





## Appendix 3.2



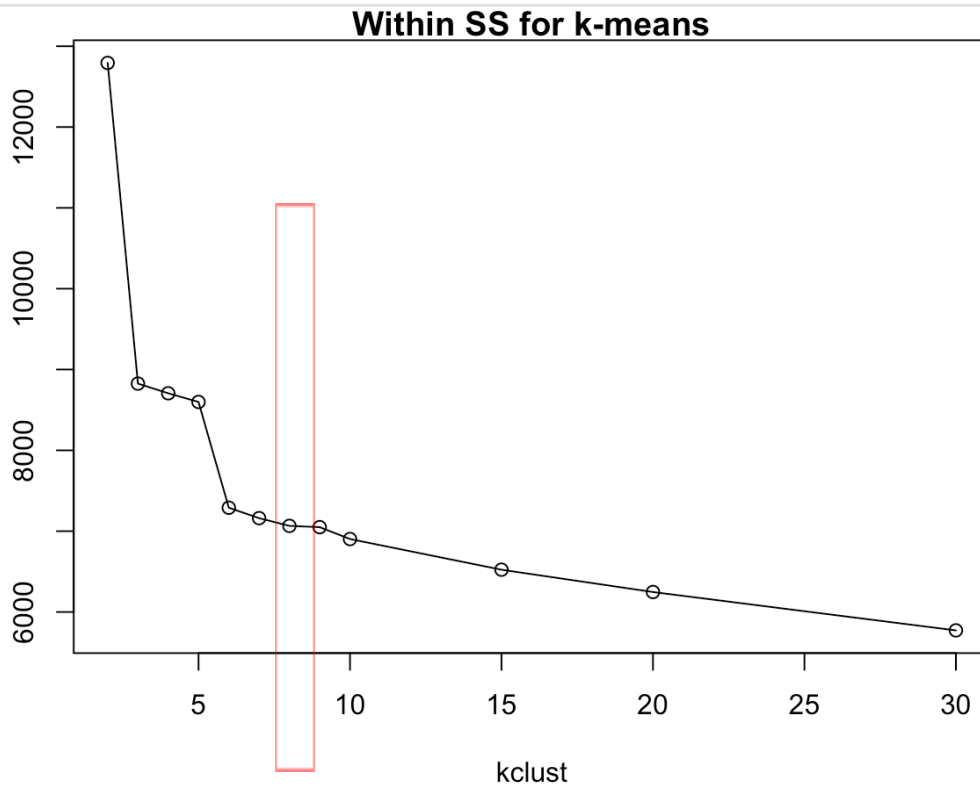
- Cluster 1: Career-focused females
- Cluster 2: Budget-conscious families
- Cluster 3: Independent Connoisseur
- Cluster 4: Family-focused millennials
- Cluster 5: Budget-conscious young couples

## Appendix 4.1

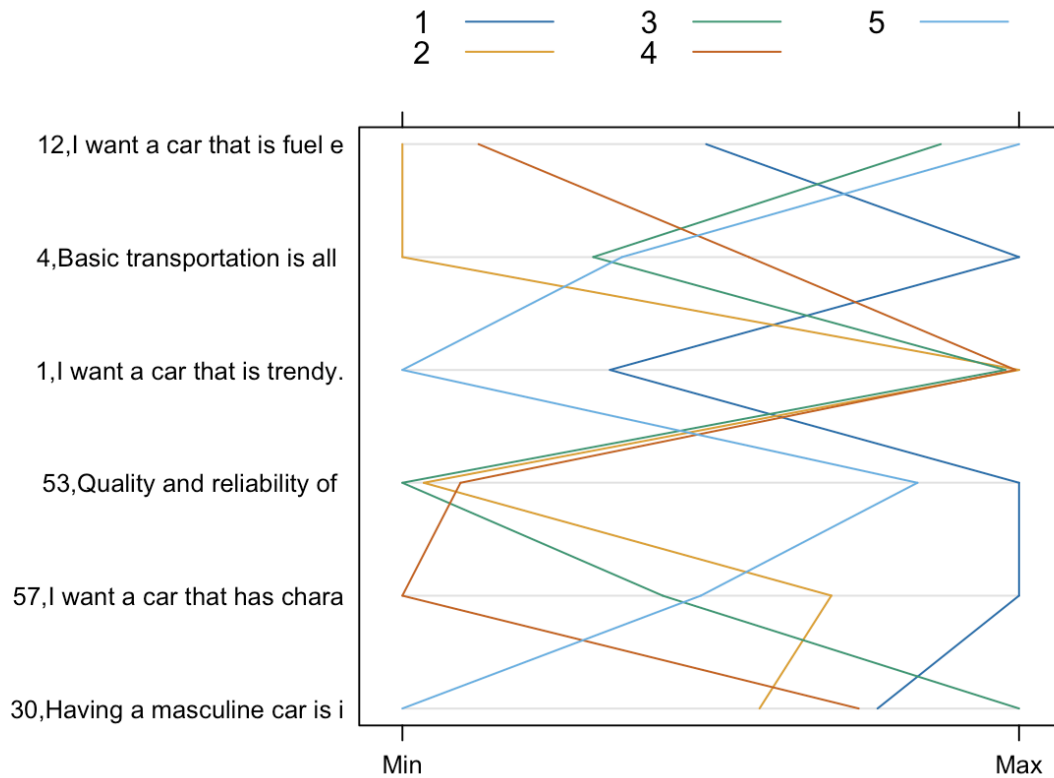
The “Questionnaire Category” column indicates the 8 themes in the questionnaire, and the sample question was the question which best exemplifies the analysis in this category. We ultimately did not choose the “national make” theme as its definition can have subjective interpretations across nationalities. Furthermore, we observed that the “environmentally friendly” theme may be closely tied to fuel efficiency, and including this category would be redundant.

No.	Questionnaire Category	Sample Question
1	Fuel efficiency	12 - I want a car that is fuel economic.
2	Basic transportation	4 - Basic transportation is all I need.
3	Trendy	1 - I want a car that is trendy.
4	Quality and reliability	53 - Quality and reliability of products are my main concerns.
5	Character	57 - I want a car that has character.
6	Masculinity	30 - Having a masculine car is important to me
7	National Make	60 - When buying a car I only consider a national make.
8	Environmentally friendly	16 - I want a car that is environmentally friendly.

## Appendix 4.2



## Appendix 4.3



- Cluster 1: Practical people
- Cluster 2: Image-conscious people
- Cluster 3: Eco-loving trendsetters
- Cluster 4: Minimalists
- Cluster 5: Quality seekers

## Appendix 5.1

```
> xtabs(~ df_ford$PreferenceGroup + grpA$cluster)
```

	grpA\$cluster				
df_ford\$PreferenceGroup	1	2	3	4	5
1	29	34	18	20	15
2	32	13	4	13	10
3	4	31	10	14	3