

**MGTA601**

**Assignment II**

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**December 10, 2022**

## Table of Contents

<b><i>Executive Summary .....</i></b>	<b><i>3</i></b>
<b><i>Definition of Problem .....</i></b>	<b><i>3</i></b>
<b><i>Description of Data.....</i></b>	<b><i>3</i></b>
<b><i>Analysis .....</i></b>	<b><i>4</i></b>
<b><i>Results.....</i></b>	<b><i>4</i></b>
<b><i>Conclusion .....</i></b>	<b><i>5</i></b>

## **Executive Summary**

The Ford Ka is a popular small car model offered by the Ford Motor Company. To effectively market the Ford Ka, it is important to understand the preferences and characteristics of its potential customers. This report presents the results of a market research study that was conducted to identify the target customer segment for the Ford Ka.

Based on the results of the market research study, the target customer segment for the Ford KA is likely to be young, urban, and relatively affluent individuals who are in the market for a small, affordable car. Females with one or fewer children are likely to be interested in the Ford KA. By focusing its marketing efforts on this customer segment, the Ford Motor Company can effectively promote the Ford KA and increase its sales.

Overall, the market research study suggests that the Ford KA is well-suited for young, urban, and relatively affluent individuals who are in the market for a small, affordable car. By targeting this customer segment and using a variety of marketing strategies, the Ford Motor Company can effectively promote the Ford KA and increase its sales.

## **Definition of Problem**

The problem addressed in the Ford Ka (A): The Market Research is to identify the target customer segment for the Ford Ka, a popular small car model offered by the Ford Motor Company. To effectively market the Ford Ka, it is important to understand the preferences and characteristics of its potential customers.

## **Description of Data**

The study included a survey of 250 individuals who were asked about their preferences and attitudes towards small cars in general, as well as their specific opinions about the Ford Ka. The data from the survey includes information about each respondent's gender, age, marital status, income category, and whether they have children.

The data was merged by respondent to create a single record for each individual. Factors were correctly identified that are relevant to the analysis and ensure that they are coded correctly. Access to the survey questions and their rankings would improve analysis of data.

## **Analysis**

For predictive modelling, I used logistic regression which can be used for developing targeted marketing strategies based on the likelihood of a customer choosing the Ford KA. I also used classification tree and random forest to identify potential customers who are likely to choose the Ford KA over other compact car options. For exploratory modelling I clustered using k-means to identify groups of consumers with similar characteristics

## **Results**

In my exploratory model, I used clustering to identify groups of consumers with similar characteristics, such as age, income, and location, that are likely to be interested in the Ford KA. I found that the optimal number of clusters with the normalized dataset was 4, as shown in Appendix A.4. Each cluster represents a distinct group of consumers that can be segmented based on their responses to the psychographic survey questions. These clusters provide valuable information about which questions in the survey can be used to target specific groups of customers who are likely to choose a Ford KA.

In my stepwise logistic regression model, I used data from the Ford KA case study to identify factors that are significant in determining the likelihood of a customer choosing a Ford KA (See Appendix B). I found that being female and having one child were both significant factors in predicting whether a customer would choose a Ford KA. This suggests that the marketing team should focus their efforts on targeting female consumers with one child. In terms of the specific impact of these factors on the likelihood of choosing a Ford KA, I found that females increase the likelihood by 0.76, while individuals with one child increase the likelihood by 1.37. In contrast, individuals with two or more children only increase the likelihood by 0.147.

This may be due to the size of the car, as the Ford KA is a compact car that may not be suitable for larger families.

Using classification tree, I was able to identify the factors that are most important in determining an individual's preference for the Ford KA. As shown in Appendix C, each node of the tree represents a factor that influences an individual's preference for the Ford KA. For example, I found that if an individual answered on the higher scale for question 61 of the psychographic survey, they would be less likely to prefer the Ford KA. In addition, I found that questions 18, 32, 1, 34, 60, 61, 39, and 25 are all determinant of the preference for the Ford KA according to the classification tree. One interesting finding from the classification tree is that if an individual is between 40 to 44 years of age, they would be less likely to prefer the Ford KA. This may be because the Ford KA is targeted towards young, urban consumers, and individuals in this age range may not fit into this target demographic.

These models did output high errors, which can limit the usefulness of the model for identifying targetable customers for the Ford KA. This can occur if the model is based on a limited set of data or if the data is not well-suited for clustering. In this case, the model may not be able to accurately identify targetable groups of customers, leading to high errors.

To reach the target customer segment, the Ford Motor Company can use a combination of marketing strategies. The company can use targeted advertising to reach young, urban consumers who are likely to be interested in the Ford KA (digital, social media, print and television ads). In addition, the company can use in-store promotions and special offers to attract potential customers who are considering purchasing a small, affordable car.

## **Conclusion**

In conclusion, the Ford KA is a compact car that is targeted towards young, urban consumers. To identify potential target customers for the Ford KA, the marketing team can use a combination of predictive and exploratory modeling. Predictive modeling can help the team

identify potential customers who are likely to choose the Ford KA over other compact car options, while explanatory modeling can help the team identify groups of consumers with similar characteristics that are likely to be interested in the Ford KA. By using these approaches, the marketing team can develop targeted marketing strategies that are based on data-driven predictions and a deep understanding of the data. Overall, the use of predictive and explanatory modeling can help the marketing team identify targetable customers for the Ford KA and develop effective marketing strategies that are tailored to the specific needs and preferences of these customers.