

**Data Mining Project**

**MASTER DEGREE PROGRAM IN DATA SCIENCE AND ADVANCED ANALYTICS**

**A2Z INSURANCE – A CUSTOMER SEGMENTATION**

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# Introduction

In this report we will show a customer segmentation model that has the objective to find clusters and understand the customer´s behavior of an insurance company A2Z Insurance, a fictional Portuguese company. In order to perform this study, we analyzed a total of 13 variables and 10296 observations.

During this project various data preparation techniques were applied such as treatment of data incoherence, missing values, filtering of outliers, data normalization together with clustering techniques like k-means, hierarchical clustering, t-SNE.

Using these techniques and with the insights that they provided us about the data we were able to construct various groups of customers that represent the patterns present in the data and the different customers’ profiles.

In the end considering all the previous work on the development of the clusters and with the knowledge we gained about the data we were able to develop a marketing approach that we think best suits each of the different customers’ profiles.

# Exploration of the Dataset

## Title 1.1

### Title 1.1.1

**The following instructions should be followed for the writing of the report:**

This word file provides a "standard" proposal structure. The format of the report (headers, spacings, fonts, and other formations) should be employed as defined in this template. However, students may change the structure and the titles according to their needs.

The report should be written in English.

In the case references point to the “source code” make sure the code is correctly annotated.

All bibliographic references should be presented in the APA standard; this standard also applies the formatting of references and respective forms of referencing throughout the text[[1]](#footnote-1).

# Title 2

## Title 2.1

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Figure 2.1 – Illustrative figure

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Table 2.1 – Illustrative table

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### Title 2.1.1

Example of unnumbered list:

* Item 1
* Item 2
* Item 3

#### Title 2.1.1.1

Example of numbered list:

1. Item 1
2. Item 2
3. Item 3

# References

Author, A. A., Author, B. B., & Author, C. C. (Year). Title of article. *Title of Periodical, volume number* (issue number), pages.

# Appendix (Doesn’t count for the 10page limit)

1. Example of a footnote. [↑](#footnote-ref-1)