

**BUSINESS CASES WITH DATA SCIENCE**

**MASTER’S DEGREE PROGRAM IN DATA SCIENCE AND ADVANCED ANALYTICS – MAJOR IN BUSINESS ANALYTICS**

***Wonderful wines of the world market segmentation***

Group S – Business Case #1

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# INTRODUCTION

This report was written with the purpose of analyzing and clustering the dataset provided by the wonderful Wines of the World. While reaching this goal, the data handling was processed to extract the maximum value and minimum redundancy.

Wonderful Wines of the World is in the wine industry for seven years. Four years ago they started creating a database with all their costumers purchases and a variety of characteristics from them, like income, age, frequency and some others. The wine industry has a lot of competition between producers, distribution and retails. Thousands of different wines around the world are produced and consumed every day and according to wine specialists, it’s a very sensitive business once its costumers should have a very personalized and

Explain:

Marketing mix

Business cases

Wine industry

# BUSINESS UNDERSTANDING

## Background

To properly understand the project and its business it´s important that the first phase starts by understanding the background. Wonderful wines of the world is a seven year-old international company, also known as WWW, that focus its business on selling wines from all over the world. Characterized by distributing from the producer to the consumer different and interesting wines through several channels worldwide.

With a strong website, ten small stores in major cities around the USA, new catalogues sent to its costumers every six weeks and a telephone retail channel, WWW have a huge variety of approaching its clients. Added to the fact of having aggressive promotions actions in wine and food magazines. Therefore, with lots and different clients, one of this company´s priorities right now is to better understand their client´s behaviour.

Chart, bar chart

Description automatically generated

Figure 2.1 – number of purchases in the past 18 months

Chart

Description automatically generated

figure 2.2 – Income per household

Throw-out these two figures we can quickly understand a bit more about costumers’ income and purchases. In the figure 2.1. we see a huge drop of purchases from the fifth item to the six – passing from more than 500 clients purchasing 5 items in the last 18 months to just more or less 200 clients buying 6 items. Regarding figure 2.2. there is a regular income per household from WWW´s costumer’s sample.

## Business Objectives

WWW pretends to know more about the different types of customer and their behaviour in order to improve their relationship with them. According to the company - “*Our customers are highly involved in wine industry and have sufficient money to indulge their passion for wine*” - however, they don´t have specific knowledge about costumers once until know all actions were based on feedbacks from salespeople and intuition.

Our objective as business consultant is to improve and understand how WWW´s costumers behave and the different characteristics of its clients in order to design a better and efficient marketing approach. For this analyse was provided by the company a dataset with almost 3% of all clients with several variables/characteristics about them. This marketing approach has been done with different marketing tools and perspectives.

## Business Success criteria

Our main criteria to evaluate the success of the project in a more overall and broad way is to provide the most useful information about each type of customer with the goal of reducing uncertainty surrounding costumers including everything about then, from purchases to wine preferences, which is crucial for a better business performance.

In a more objective and specific method, we are also measuring success from three parameters: 1. decrease the churn rate by being able to identify potential clients lost and the ones about to stop buying. 2. XXXXXXXXXXXXXX 3. XXXXXXXXXX

## Situation assessment

For this project was made available, as already mention above, by the wonderful wines of the World organization two documents: 1. An excel with all data from WWW´s costumers with 10.000 observations (purchases from clients in the last 18 months) and 30 variables (containing income, purchases, wine types, between lot more). This excel was extracted from a dataset with time span of 4 years with around 350.000 customers’ purchases. 2. A metadata file with the general context and all variables explained.

For the process of analyzing and segment the costumers, our team of three Data Scientists consultants have used Python programing language on a Jupyter notebook file containing all phases of the costumer segmentation development. For all tasks, including everything from choosing and changing variables to the creation of clusters and final analysis we used resources from the libraries: Pandas, NumPy, SciPy and Sklearn for processing data, Matplotlib, Seaborn and Plotly for data visualization. CONFIRMMMMM

### Risks and Contingencies

After carefully analyzing the resources through different techniques and python tools, it was considered as a risk a small amount of outliers that were removed and some redundant features XXXXXXXXXXXX

## Determine Data Mining goals

State project objectives in technical terms.

# PREDICTIVE ANALYTICS PROCESS

Describe only the major steps involved in the process. Do not replicate what is already described in the Notebook. If necessary reference the reader to the Notebook.

## Data understanding

Bla, bla.

## Data preparation

Bla, bla.

## Modeling

Bla, bla.

## Evaluation

Results described in technical terms (e.g., reached an Accuracy of 95%).

# RESULTS EVALUATION

Describe the degree to which the model meets the business objectives. If that cannot be done without the application of the model in a real environment, describe how could that be done.

Assess the data mining results in respect to the business success criteria.

# DEPLOYMENT AND MAINTENANCE PLANS

Describe how the strategy to deploy the model into production (necessary steps, persons involved, systems that may require changes, etc.).

State how after deployment the model’s performance should be monitored and maintained.

# CONCLUSIONS

Final remarks on the project.

## Considerations for model improvement

Bla, Bla

# REFERENCES

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

# APPENDIX (OPTIONAL)