KIEL UNIVERSITY OF APPLIED SCIENCE

DATA SCIENCE PROJECT PITCH

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PROBLEM STATEMENT

BUSINESS CONTEXT

- A retail company facing challenges in targeting marketing campaigns effectively
- This is due to a lack of detailed customer segmentation
- Limited awareness of the purchasing behaviour and demographic of different customer groups.

IMPACT

- This could lead to reduced customer engagement.
- Inefficient marketing spend.

PROPOSED SOLUTION

APPROACH:

- For this project, I am proposing to implement a range of different clustering algorithms to segment the customers in a customer dataset.
- With the aim of grouping the customers based on their purchasing behaviour and demographic.

METHODOLOGY:

- Preprocessing.
- Exploration of different Clustering Algorithms and optimization.
- Implementation of PCA on the dataset and investigating how it influences clustering.
- Visualization.

DATASET OVERVIEW

For this project, I will be using a customer dataset collected from a marketing campaign. This is a public dataset sourced from Kaggle, which was originally provided by Dr. Omar Romero-Hernandez.

DATASET DESCRIPTION:

- The dataset consists of 15 quantitative variables, including customer demographic information like year of birth, income, and spending details.
- It also contains 13 categorical variables related to customer profiles and marketing responses, such as Education, marital status, etc.

RELEVANCE:

The dataset offers comprehensive insights into customer purchasing patterns, essential for effective clustering.

Expected Outcomes & Value

GOALS:

- Group the customers into different clusters.
- Identify distinct customer clusters/groups to tailor marketing strategies.

VALUE PROPOSITION:

- Enhanced customer engagement.
- Increased sales.
- Optimized marketing expenditures.