

Group Work Task Description

SBD2 – HS25

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1 Overview

In this group work you will work along the data science pipeline to come up with new insights for marketing. That is, you will need to clearly define a business problem before actually turning to the data to gain actionable insights which you ultimately communicate using suitable figures and graphs. By successfully completing this assignment, you will demonstrate that you are capable to work as a team on real data, from data exploration to the presentation and communication of key results.

To do so, you are given a data set of roughly 150'000 publicly shared, web-scraped Digitec transactions. This raw data (the only thing added is a FSO community identifier of the corresponding Swiss municipality based on API queries using a service from the Swiss Post) include information about the purchased product, its price, purchase time and date, the wider product category, and sales rank within that category (among a few other things that aren't that interesting). This data should be used to gain insights for a new marketing campaign by combining it with known demographics of the population in Switzerland to then come up with some ideas for a targeted marketing approach.

2 Task Description

2.1 Objectives

The main objectives of this group work are:

1. Sketch a new marketing campaign based on insights from past purchases: Use four findings from your data analysis analogous to the latest campaign by Galaxus ([click here for the campaign](#); i.e., you don't need to design the campaign, but concentrate on four striking, catchy findings)
2. Identify a suitable unit of analysis (e.g., municipalities, regions, cantons, etc.), aggregate the data to this level, and join them with additional, publicly available data from the Federal Statistical Office ([click here for the data](#); e.g., to calculate per capita purchases or to look at associations with demographics).
3. Perform necessary data quality checks, justify your decisions, generate meaningful new features.
4. Generate adequate (interactive) graphs to efficiently communicate your main insights.
5. Work as an agile team with the following three roles (each team member is responsible for one role, but also contributes to the others):

- a) *Oversight and communication*: Develop a communication strategy (story) and keep a clear focus on deliverables.
- b) *Data engineer*: Combine and preprocess the data, generate relevant features.
- c) *Analyst*: Generate visuals and key figures for efficient communication.

2.2 Deliverables

Groups are expected to submit the following:

A detailed report, written and compiled in Quarto (submit the .qmd as well as knitted HTML or PDF file) outlining ...

- the business problem and the chosen unit of analysis (e.g., in which cantons / regions / municipalities do we observe most sales? Are there certain products which sell particularly well in certain areas?)
- an overview of the data used to tackle the problem
- a discussion of the steps taken and decisions made during data cleaning and preprocessing
- the main findings and insights, supported by suitable figures
- a recommendation for a new marketing campaign based on four key insights

A presentation of max. 20 minutes, followed by 10min Q&A, summarizing the key points from the report, supported by suitable figures and graphs.

3 Assessment Criteria

The group work will be evaluated based on two rubrics, one for the written report and one for the presentation. Both rubrics will be available on Moodle. The main criteria evolve, in both cases, around the clarity of the underlying decision-making process (data augmentation and preparation, feature selection, etc.), and the communication of key insights using suitable visualizations.

3.1 Individual Contribution

While teams distribute the three roles described above among their members, all team members are expected to contribute to all parts of the project (i.e., while your main role might be to come up with a strategy and to communicate key insights, you are also expected to contribute to data cleaning and preprocessing as well as the generation of suitable figures). We therefore ask you to document your individual contributions in the written report (e.g., through a short paragraph or table at the end of the report).

4 Submission Guidelines

Please submit your report (both .qmd and knitted HTML or PDF file) as well as your presentation slides (PDF or PowerPoint) on Moodle by **Monday, December 8th, 2025, 23:59**.