

Final Exam

Instructions

1. The analytics case study should be completed prior to your interview. The exercise is meant to test your analytical approach and is not comprehensive.
2. Included in this package is a description of the case study, a series of guiding focus questions and the accompanying dataset.
3. One of your interviews will focus on a review of this analytics case study. In the interview you will be asked to walk through your approach to answering the key questions posed in the study.
4. The focus areas are meant to help guide you through the exercise. You can expect the interviewer to ask you questions related to the focus areas, but also may ask questions outside of the focus areas.
5. **Please prepare materials to help explain your approach to the interviewer.** For example, you could prepare graphs or analyses that support the drivers you have identified and your recommendations.
6. **At the end of exercise, send your materials back to your interview contact.**

Sports Wear Group wants to leverage advanced analytics for boosting marketing campaign. You need to meet with the customer to present your advanced analytics capabilities and position its value.

Overview

Sports Wear Group is one of the leading retailers industry in the region, with more than 50 branches across the region. It runs multiple lines of business applications, mainly in the sport goods industry. They are in the middle of their digital transformation journey and they want to keep leading the market by satisfying their customers and meeting their expectation.

Business Environment and Goals

Sports Wear Group will releasing an advanced analytics RFP. Each of the vendors will be given a 30 min slot to present their analytics capabilities and the value that their technology presents in front of us; including the value from both a technical and business perspective.

The first part of the meeting will include people from two teams, the marketing team and the management team. We want to see the value from using your platform for advanced analytics and the data platform challenges that accompany it. Given the data sample we provided from our sales databases, we want to know if using advanced analytics you can help the marketing team. While the marketing team will be interest to see if they can increase their efficiency, the management team want to know if using advanced analytics may increase sales in general.

Finally, for another 30 min, our data scientist team is interested in the data science process you are using and the details of the algorithm you are using to solve the proposed problem.

We are considering leveraging the cloud.

Tasks

We need a consultant to discuss the following:

- Think about how you will be conducting the business conversation (*purpose, agenda ... etc.*)
- Discuss and confirm your understanding of the organization's business climate and goals

- Explore the problem and its impact to the company
- Communicate the business value of your advanced analytics platform offering that addresses the problem or *need* the customer has communicated
- Address any customer objections
- ***Explaining the details of the machine learning model is crucial. Pick a model at your choice (e.g. Logistic Regression) and be ready to go through the details of the algorithm.***
- Close the meeting with clear next step(s)

The Sales Data Sample

The provided data represents information from a marketing campaign. We you provided information about the product in the campaign/offer that was send to a specific customer and the convergence result of this campaign (label attribute). We provided you we every attribute we have about the product, use whatever you see make sense to solve the defined project.

Here is a list of the attributes:

- country: Country name
- article: 6 digit article number, as unique identifier of an article
- sales: total number of units sold in respective retail week
- regular_price: recommended retail price of the article
- current_price: current selling price (weighted average over the week)
- ratio: price ratio as $\text{current_price} / \text{regular_price}$, such that price discount is 1-ratio
- retailweek: start date of the retailweek
- promo1: indicator for media advertisement, taking 1 in weeks of activation and 0 otherwise
- promo2: indicator for store events, taking 1 in weeks with events and 0 otherwise
- customer_id: customer unique identifier, one id per customer
- article: 6 digit article number, as unique identifier of an article
- productgroup: product group the article belongs to
- category: product category the article belongs to
- cost: total costs of the article (assumed to be fixed over time)
- style: description of article design
- sizes: size range in which article is available
- gender: gender of target consumer of the article
- rgb_*_main_color: intensity of the red (r), green (g), and blue (b) primaries of the article's main color, taking values [0,250]
- rgb_*_sec_color: intensity of the red (r), green (g), and blue (b) primaries of the article's secondary color, taking values [0,250]
- label: advertisement result after offering/sending/presenting the offer to the customer. 0 means the customer did not buy and 1 means the costumer did buy.