# **MyOnlineShop Internship Program**

**Team Ace** **Week 2: Market & Category Demand Analysis**  
**Submission:** Tuesday, 22nd July 2025

### **Welcome to Week 2: Analyzing Market Demand**

In Week 1, you explored the MyOnlineShop business model, familiarized yourselves with key metrics, and practiced navigating mock datasets. This week, we shift gears and dive into real-world, publicly available data as a way to sharpen your analysis skills and simulate the type of work you'll be doing with our internal datasets in the coming weeks.

To do that, we’ll use a dataset based on product listings from **Jumia**, one of Africa’s largest e-commerce platforms. This dataset gives us a useful external lens through which we can better understand product demand trends, pricing patterns, and category performance — all of which are relevant to our strategy at MyOnlineShop as we plan our product assortment and category focus.

The objective for Week 2 is to identify which product categories show the highest potential demand, based on signals such as price points, review volume, and customer ratings. While both teams will use the same dataset, you will approach the problem from different analytical angles. Your work this week should help simulate the kind of demand insights we will later seek from our own platform data.

## **About the Dataset**

You will be working with a public dataset sourced from Jumia Egypt’s product listings. This dataset contains details such as product name, category, price (in Egyptian Pounds), number of reviews, and average customer rating.

The dataset includes the following columns:

* **id**: Unique product ID
* **product\_name**: Name of the product
* **price**: Product price (may contain formatting or need conversion)
* **reviews\_count**: Number of customer reviews (signal of demand or popularity)
* **avg\_rate**: Average rating (signal of satisfaction)

[**Link to dataset**](https://www.kaggle.com/datasets/ahmedwaelnasef/jumia-products-2024-dataset)

Before analyzing the data, please read it using the appropriate encoding to avoid errors:

Note: If you are using Python, you could do it like this:

pd.read\_csv('filename.csv', encoding='ISO-8859-1')

You are free to clean, structure, or modify the dataset as needed to support your analysis.

### **Category Demand Based on Popularity and Engagement**

Your analysis should focus on uncovering **product popularity and customer engagement** using the number of reviews and average rating as your main signals. Think of reviews as a proxy for interest and interaction — products with more reviews are likely receiving more traffic and purchases. High average ratings can be interpreted as a sign of customer satisfaction or perceived value.

Start by grouping products into their respective categories (you may infer these from the product names using keyword tagging or create your own basic classification). Once grouped, calculate:

* The average number of reviews per product
* The average rating per category

Then, normalize these metrics and create a **weighted category score** that helps you rank which categories/product are the most "engaged with" or "in demand" from a user behavior perspective.

Your final output should be a **market demand dashboard** that shows which categories are generating the most interest, alongside a brief summary of insights. Use visualizations (bar charts, heatmaps, etc.) to make your findings intuitive and presentation-ready.

## **What to Submit by Tuesday**

By the end of the week, your team is expected to submit the following:

1. **Market Demand Dashboard**: A visual summary of your analysis (charts, tables, key stats) in any format you prefer (Google Slides, Tableau, Power BI, Jupyter Notebook, or even Excel).
2. **Insights Summary**: A one-page explanation of your methodology, the insights you discovered, and what the results might mean for a platform like MyOnlineShop as we think about category prioritization or pricing strategies.

You will present your work during the next stand-up. This is your opportunity to not only show your technical work but also practice data storytelling — clearly explain what you did, what you found, and why it matters.

## **A Few Reminders**

Please document your code and logic clearly, especially if you used any assumptions in how you grouped or filtered the data. It’s okay to make educated guesses — just make sure your reasoning is transparent.

Use this week to refresh and reinforce the core skills you learned during your analytics training: data cleaning, grouping and aggregation, creating derived metrics, and effective visualization. The goal isn’t just to crunch numbers — it’s to extract meaning and translate it into business-relevant insights.