MBA Digital Business & AI

**Master of Business Administration in Digital Business & AI**
**2024-2026**

# GRADING CASE 2

Friedrich-Alexander-Universität Erlangen-Nürnberg

## Predicting Late Sales Orders for Rustic Roasters (1)

After completing the initial Business Intelligence report for Rustic Roasters, the Sales Department now wants to take the next step: proactively predicting which orders are likely to arrive late. Several customers have reported receiving shipments after their requested delivery dates, leading to dissatisfaction and potential loss of business.

To support more proactive logistics planning and customer communication, the Sales Department is seeking a predictive model that can estimate the likelihood of an order being delivered late at the time the order is placed.

**Your Task:**

Develop a machine learning model that predicts whether an order will be delivered late based on available order, customer, product, logistics, and warehouse data.

## Predicting Late Sales Orders for Rustic Roasters (2)

**Objectives:**

- Prepare a clean and comprehensive dataset for modeling by integrating the existing Excel files.
- Engineer meaningful features that might influence delivery performance.
- Explore different modeling approaches to predict late deliveries and compare their results.

**Expected Deliverables:**

- **A Jupyter Notebook** demonstrating your approach, including:
  - Data preparation and feature engineering
  - Model training and evaluation
  - Code comments to explain key steps

- **A brief report or presentation** (e.g., 5–8 slides) summarizing:
  - Key predictive features
  - Comparison of different modeling approaches with relevant metrics
  - Business implications and practical recommendations