

MSCI - Data Science for Metals Companies Olin Business School, Washington University

This program is designed to help drive modern critical thinking and analysis in managing metals related businesses. We will cover and demonstrate approaches to rethinking your business using data science and analytics. A central goal of this program is to assist MSCI members in understanding how to achieve improvements and gains through the development of an information/data strategy as it pertains to their fundamental operations and business performance.

Pre-work

Data science and analytics can feel complicated. Thus, we have made it a point to develop a program that is as self-contained as possible. There are, as a result, only a few readings that are assigned as pre-work. Please review them carefully prior to the session.

NOTE: All participants are expected to bring a laptop with Microsoft Excel installed with “Solver Add-In” and “Analysis ToolPak”.

Day 1

Modern Data Analytics, Forecasting and your P&L

Topic 1: An overview of data science as it is today, and a crash-course in top-line predictive analytics

- Readings: Demystifying Data Science (in packet)
- What is forecasting? – From Time-Series to Monte Carlo
- Working with external data (costs and volumes) – MetCo [distributed in session]

Topic 2: Rethinking Operational Excellence and Profitability

- Strategy & Process Excellence Primer
- Analyzing Profitability: Manzana – HBS Case 9-692-015 [in packet]

Homework: Benton Industrial Tools (distributed in class)

Day 2

Performance Management & Data Strategy

Topic 3: Simple ways to understand performance (data envelopes and benchmarking)

- Measuring & Managing Productivity – Benton Tools
- Automating Productivity (lessons from Amazon)

Topic 4: Developing a Data Strategy

- Lessons in Visualization
- Measuring Competitive Advantage
- Building the Data Organizations