Columbia Business School
Executive Education

Required Try-It Activity 5.1: Using Data Value Templates

Develop an innovative data initiative that draws on using data more effectively using one of the four data value templates you learned about in this module. To begin, answer the following questions:

1. What is the industry, organization, or business unit you will focus on?

Manufacturing Industry – specifically automotive and industrial equipment manufacturers who operate continuous production lines where unexpected equipment failures result in significant downtime costs, quality issues, and safety risks. This includes companies with complex machinery like injection molding, CNC machining, and assembly line operations

2. Which data value creation template will you use? As a reminder, the templates are insight (revealing the invisible), targeting (narrowing the field), personalization (tailoring to fit), and context (providing a frame).

Insights Template (Revealing the Invisible) – This initiative will reveal hidden patterns in equipment behavior that predicts failures 3-6 months before they occur. The goal is to uncover invisible deterioration signals that transform reactive maintenance into proactive organization, preventing costly unplanned downtime

3. What data will you need to make this new initiative work? For example, would you need data about your customers' behaviors or preferences? Would you need data from third parties?

Primary Data Required:

- Real-time sensor data from equipment (vibration, temperature, pressure, electrical current)
- Historical maintenance records and failure patterns
- Production schedules and operational context data
- Environmental conditions (humidity, ambient temperature)
- Energy consumption patterns and operator behavior data
- Supply chain data for parts availability and lead times

4. How will you get this data? How will you convince your customers or partners to give it to you? Remember that customers are more willing to share data with an organization if they see the value in sharing it.

Data Acquisition Strategy:

- Deploy IoT sensors with edge computing capabilities across critical equipment
- Integrate existing maintenance management system with real-time data streams
- Implement data collection protocols during planned maintenance activities

Value Proposition for Data Sharing

- Demonstrate immediate ROI through pilot programs showing 40-60% reduction in unplanned downtime
- Provide benchmarking insights against anonymized industry peers
- Offer predictive alerts that prevent catastrophic failures worth 10x the investment cost
- Create partnership model where equipment vendors share data in exchange for insights that improve their product designs

5. How will your organization or industry benefit from this initiative? What is the measurable outcome you are hoping for?

Measurable Outcomes:

- **Downtime Reduction:** 40-60% decrease in unplanned equipment failures
- **Cost Savings:** $500k-$2M annually per production line through prevented failures
- **Maintenance Efficiency:** 30% reduction in maintenance costs through optimized scheduling
- **Quality Improvement:** 25% reduction in defects caused by deteriorating equipment
- **Safety Enhancement:** Early detection of potentially dangerous equipment failures
- **Extended Equipment Lifespan:** Optimal maintenance timing increases asset utilization by 15-20%