

# Title: Supplier Insights and Quality Dashboard

## 1. Seasonal Trends in Defects and Downtime

An analysis of defects and downtime over time reveals a clear seasonal pattern. Both defects and downtime tend to peak during the **fall months** and are at their lowest during **summer**. This trend suggests that external factors such as environmental conditions, supply chain fluctuations, or operational changes during different seasons may be impacting production quality. Further investigation into seasonal influences could provide insights for mitigating these variations.

## 2. Year-over-Year Comparison

Comparing data between **2018 and 2019**, it is evident that defects and downtime were **higher in 2019**. This increase raises concerns about potential deteriorations in supplier quality

## 3. Worst-Performing Vendors

The vendors contributing most to defects and downtime are **Avamm, Meejo, and Yombu**. These suppliers consistently report high defect rates, leading to increased downtime in production.

## 4. Most Affected Plants

The manufacturing plants experiencing the highest levels of defects and downtime are **Charles City, Hingham, and Twin Rocks**. These locations are significantly impacted by defective raw materials, leading to operational inefficiencies and lost production time.

## 5. Correlation Between Vendors and Material Quality

A strong **positive correlation** exists between the **worst-performing vendors** and the **poorest-quality supply (raw materials)**.

## 6. Variations in Supplier Performance

While some vendors show slight variations in supply quality depending on **location and material type**, overall, the worst-performing vendors consistently underperform

**regardless of these factors.** This suggests that the issue is not tied to specific materials or plants but rather reflects systemic quality problems within these suppliers. Identifying whether these suppliers have weak quality control measures across their operations could help determine whether continued business relationships are viable.