Nordic Sensing Co.

Problem Statement

What opportunities exist for Nordic Sensor Company to reduce failure rate to below 5% for the InSense energy tracking sensor by identifying manufacturing system defects or isolating the weak links in the supply chain (factory-specific or part-specific) ahead of fulfilling massive orders for key accounts (date to be determined).

Context

Nordic Sensor Company (NSC), is a top-five player in the IoT sensor space. Their product, the InSense energy tracking sensor currently has an unacceptable failure rate of 15%. 1-2% failure rate is the normal range. The reasons for the high failure rate "could be due to a combination of faulty parts and poor manufacturing". There are currently 26 suppliers for the seven InSense sensor parts. Management's objective is to identify the root cause of the failures through analysis and remedy the issues to get failure rates below 5% ahead of the major product fulfillment (date to be determined).

Criteria For Success

All findings and resolutions to the high failure rate should be implemented ahead of the major rollout (date to be determined). This may include cutting ties with the responsible factory or updating manufacturing methods.

Scope of Solution Space

The resolutions will be applied where the failures are occurring such that there is a marked decrease in the failure rate. Acceptable failure rate is 5%. Ideally, the failure rate will be 1-2%. This scope of the solution is manufacturing processes, parts, and supply chain.

Constraints within solution space

The Manufacturing Analytics team will need the entire record related to manufacturing processes, parts, and suppliers. Currently, the data is only a portion of the full record required for a thorough analysis. Data needs appropriate column labels and perhaps more cleaning.

Stakeholders to provide key insight

Tony R. Abraham, MBA - Vice President, InSense
Vince Maccano- Head of Data Science

Key data sources
Supplier & parts data ‘from Singapore’
Excel file(s) from Cert (limited to 20,000 observations)

Prepared by: Prem Ananda, Springboard Data Science
06.29.2020