

Problem Statement Worksheet (Hypothesis Formation)

Identify the cause of the growth of the InSense failure rate from 1-2% to 15%, by tomorrow morning, through analysis of manufacturing and supplier data going back two quarters.

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1 Context

Nordic Sensing Co. (NSC) is a top-five player in the IoT sensor space focusing on energy consumption and production. NSC's newest offering in the residential energy usage space, InSense, had a 1-2% failure rate during manufacturing during early-stage development testing. Factories in Asia have been refocused solely on InSense, manufacturing a new sensor every 30 minutes. The current sensor failure rate has jumped to 15%.

2 Criteria for success

Identify which manufacturer or supplier is driving InSense manufacturing failures, either through the manufacturing process or through supplier issues, in order to bring the failure rate down from 15% to below 5%.

3 Scope of solution space

The solution space is constrained by the data available, which is an Excel spreadsheet containing manufacturing and supplier data for the last two quarters.

4 Constraints within solution space

Limited to only the data available in the spreadsheet, as well as time required to do a thorough analysis by tomorrow morning.

5 Stakeholders to provide key insight

Tony R Abraham, MBA. VP InSense
Vince Maccano, Head of Data Science
Jessica Jones - QA/QC Engineer

6 Key data sources

Excel spreadsheet from Tony R. Abraham, VP InSense, listing manufacturing data for the last two quarters and identifying failed units.

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