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Defining the Problem

In the previous video, you learned that a problem can be defined as "a failure to meet the desired level of performance." There is a gap, between the observed and the desired level of performance, that causes your company, or your customers, pain. Note that many organizations prefer to use the term "opportunity" rather than "problem."

This reflects the optimistic perspective that all problems can be seen as "opportunities for improvement." However, for simplicity, we generally use the term "problem" throughout this module.

Regardless of the problem-solving approach that you use, the first step is to identify and clearly define the problem. If you don't have a well-defined problem, you won't collect the right data, you won't be able to identify the root causes, and you will be unable to implement solutions that address the problem. Developing a clear problem statement enables all team members and stakeholders to share the same understanding of the issue.

A problem statement is a concise definition of the problem. It establishes the context around the problem and communicates the importance of solving the problem. A problem statement describes these four elements of the problem: what, when, where, and how much (or how many).

For example, suppose that the problem you're addressing is related to a manufacturing defect that causes high scrap rates and low yields. You might start with an initial problem statement, using your current understanding of the problem.

Then you refine this problem statement by asking a series of questions: What: What is the defect? What part numbers or components have the defect?

WHEN: When was the defect first seen? When was the defect last seen? How often does the defect occur? WHERE: Where, on the part, is the defect? Where is the defect first observed? Where, in the manufacturing process, is the defect occurring? How much or how many: How many parts have the defect? How much of any one part is affected? How severe is the defect? How much does the defect cost us?

Let's consider the problem statement for a case study, Anodized parts. In this scenario, a company, Components Inc., manufactures black anodized aluminum parts for stereo equipment.

The company is experiencing high scrap rates, resulting in very low yields. Here is the initial problem statement: The yields for black anodized parts are extremely low.

After asking questions to drill into the problem, investigating the problem, and collecting baseline data, the team develops this revised problem statement: Currently, the black anodizing process has very low daily yields, usually below 40%, and is averaging 19% yield. This results in high scrap and rework costs. Also, Components Inc.'s largest customer is threatening to find another supplier if quality and on-time delivery are not substantially improved.

In the past six months, scrap and rework costs have totaled approximately $450,000 and on-time delivery is below 60%. This statement clearly communicates the context around the problem, the severity of the problem, and why it is important that the problem be solved. To learn more about defining the problem and developing a problem statement, see the Read About It for this module.

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