

SIX SIGMA - ANALYZE PHASE

Six Sigma aims to define the causes of defects, measure those defects, and analyze them so that they can be reduced. We consider five specific types of analyses that help to promote the goals of the project. These are source, process, data, resource, and communication analysis. Now we will see them in detail.

Source Analysis

This is also called **root cause analysis**. It attempts to find defects that are derived from the sources of information or work generation. After finding the root cause of the problem, attempts are made to resolve the problem before we expect to eliminate defects from the product.

Three Steps to Root Cause Analysis

- **The open step:** During this phase, the project team brainstorms all the possible explanations for current sigma performance.
- **The narrow step:** During this phase, the project team narrows the list of possible explanations for current sigma performance.
- **The close step:** During this phase, the project team validates the narrowed list of explanations that explain sigma performance.

Process Analysis

Analyze the numbers to find out how well or poorly the processes are working, compared to what's possible and what the competition is doing.

Process analysis includes creating a more detailed process map, and analyzing the more detailed map, where the greatest inefficiencies exist.

The source analysis is often difficult to distinguish from process analysis. The process refers to the precise movement of materials, information, or requests from one place to another.

Data Analysis

Use of measures and data *those already collected or new data gathered in the analyze phase* to discern patterns, tendencies or other factors about the problem that either suggest or prove/disprove possible cause of the problem.

The data itself may have defect. There may be a case when products or deliverables do not provide all the needed information. Hence data is analyzed to find out defects and attempts are made to resolve the problem before we expect to eliminate defects from the product.

Resource Analysis

We also need to ensure that employees are properly trained in all departments that affect the process. If training is inadequate, you want to identify that as a cause of defects.

Other resources include raw materials needed to manufacture, process, and deliver the goods. For example, if the Accounting Department is not paying vendor bills on time and, consequently, the vendor holds up a shipment of shipping supplies, it becomes a resource problem.

Communication analysis

One problem common to most processes high in defects is poor communication. The classic interaction between a customer and a retail store is worth studying because many of the common communication problems are apparent in this case.

The same types of problems occur with internal customers as well, even though we may not recognize the sequence of events as a customer service problem.

The exercise of looking at issues from both points of view is instructive. A vendor wants payment according to agreed-upon terms, but the Accounting Department wants to make its batch processing uniform and efficient. Between these types of groups, such disconnects demonstrates the importance of communication analysis.

Conclusion

Analysis can take several forms. Some Six Sigma programs tend to use a lot of diagrams and worksheets, and others prefer discussion and list making. There are many tools that can be used to perform analysis like Box Plot, Cause and Effect Diagram, Progressive Analysis, Ranking, Pareto Analysis, Prioritization Matrix, Value Analysis, etc. The proper procedure is the one that works best for your team, provided that the end result is successful.

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