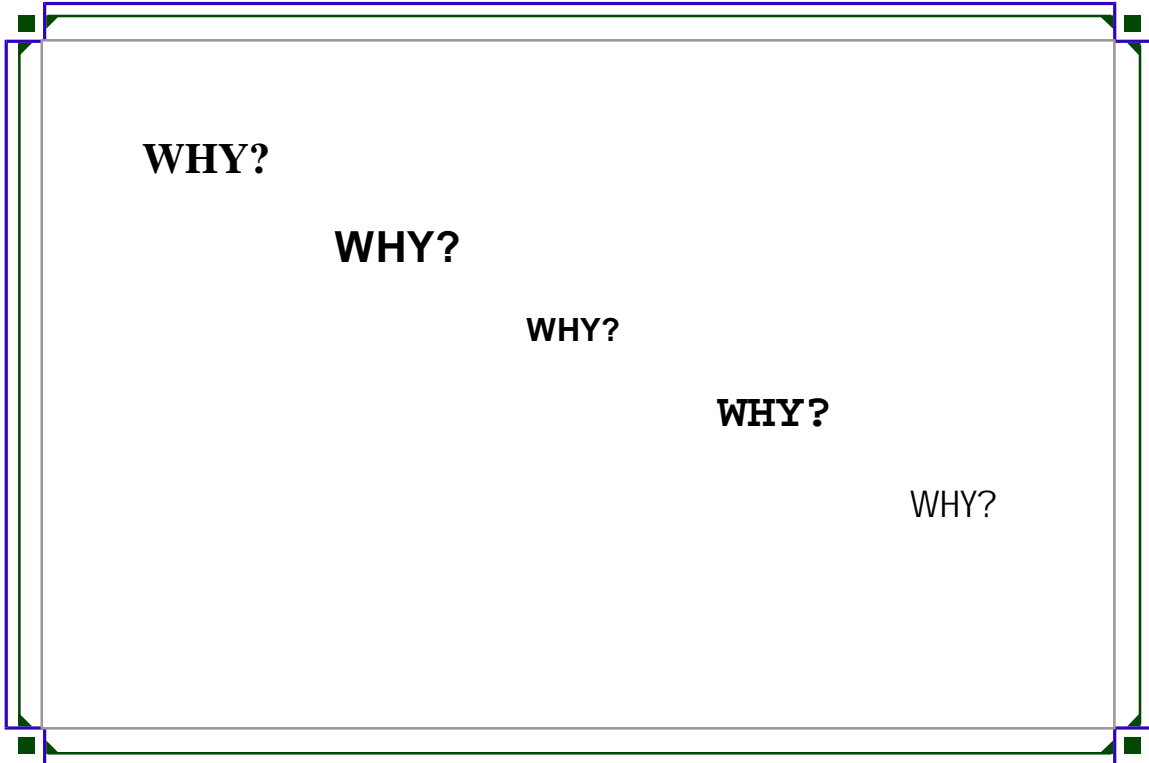


ROOT CAUSE ANALYSIS



Purpose

Root cause analysis is a technique used to help determine the root or basic cause of any activity or problem being reviewed. Many problems in the workplace are “solved” by treatment of the symptoms of the problem, not the “root cause” of the problem. The most effective way to solve a problem is to first determine its root cause.

There are other tools that can be used in **root cause analysis**. Described in another tool is that of cause and effect diagrams. It analyzes all the factors that work together to produce an outcome. The technique described here is the “Why” Technique.

The most simple technique used in solving a problem is to ask “Why?.” This technique is the first one used by children in problem solving.

By asking “why,” you can peel back the layers of an issues to discover the root cause of that problem. This may require that you ask “why” more than once, sometimes as many as five times. By continuing to ask “why” to each previous response, you can eventually reveal the root cause of the problem.

The team should continue to ask “why” until there is no further question to ask, or that the answer lies outside the control of the team or organization. When asking *why a retail organization’s sales are lower than expected*, an answer such as *the public no longer requires the product* in question carries it beyond the retail sales staff’s control, therefore asking “why” stops.



Process

1. Team develops a problem statement.
2. Team asks its first question (this is the first layer) about that problem.
3. If there is more than one answer to the first layer “why,” then multiple tracks must be followed. In the case of multiple answers, use a tree diagram to post the answers.
4. Team continues to ask “why” until no answer is returned or the answer extends beyond the teams control or organization.
5. The final answer when reworded is the root cause of the problem listed in the problem statement.



Examples

EXAMPLE 1

Problem statement: “Construction contracts are not completed on time.”

1st WHY aren’t construction contracts completed on time?

layer Because change order approvals are delayed.

2nd WHY are change order approvals delayed?

layer Because the approval process is too long.

3rd WHY is the approval process too long?

layer Because they must be reviewed by three different people in Raleigh.

4th WHY must they be reviewed by three people?

layer Because it has always been done this way.

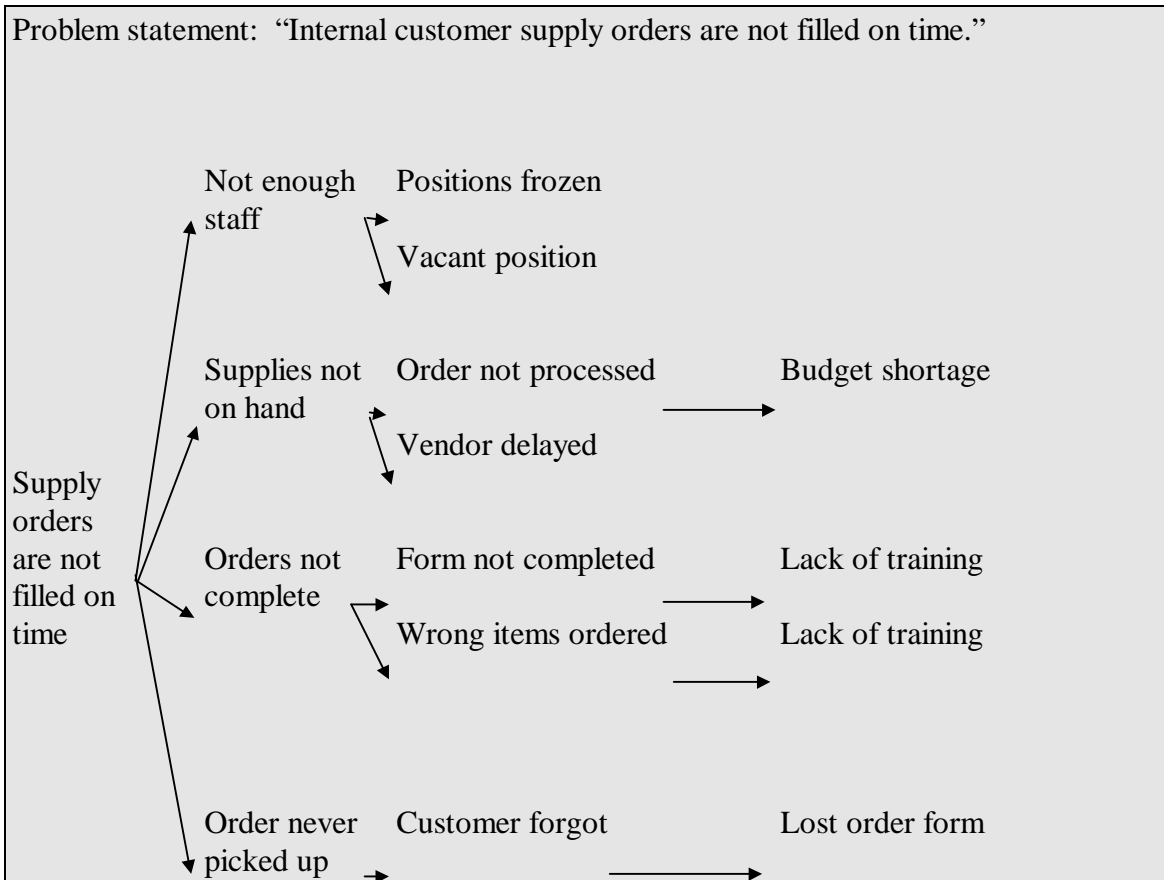
5th WHY has it always been done this way?

layer Because a three person review has been directed by State contract law.

In this example the team has taken the “why” technique as far as possible for their authority. The solution of the root cause might be to review contract law and recommend changes if appropriate. The conditions that existed when the law was written may have changed, or other effective control measures may be available elsewhere and already in place.

Note that the response “Because it has always been done this way” was easily bypassed to continue the **root cause analysis**.

EXAMPLE 2



In this example, there are multiple answers to the “why” questions. Use of a tree diagram clearly outlined the root causes to the problem statement. In the case of lack of training, that issue was outside the control of the team trying to improve this process. At this point, the team could recommend training for the internal customers that this applied to. For the answer of “positions frozen,” that issue is outside the control of the team and they must look elsewhere to solve the problem. In the case of “vacant position,” the team could analyze why the position was vacant. In the case of the “lost order form,” the team could recommend a follow-up procedure for the supply room.



Key Points

- The use of the “why” technique is only a tool for the team. Their own application of the technique can be customized to fit their own team skills and team dynamics.
- There are other tools that could help solve this problem. A Check Sheet could be used to collect data on the first level of causes. Then, a pareto chart could help point to the most significant “primary” causes. This helps to focus the solution on the causes which have the greatest probability of resolving the issue. Thus, while doing root cause helps to identify “possible” causes, it is often necessary collect factual data to get to the best solutions.

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