Using Potential Problem Analysis

Introduction

We live in a world of change. Either we create changes ourselves by probing for ways to improve, or change is forced upon us from the outside. No matter the reason, the focus of change is always the same: results.

The changes you instigate, as well as those thrust upon you, will impact objectives; for better and for worse. The challenge, then, is to act so that the positive effects of any change outweigh the negative ones. Potential Problem Analysis can give you that edge.

Various Uses for Potential Problem Analysis

Potential Problem Analysis can be used to:

- Review and upgrade an implementation plan

- Review and revise action that is already under way

- Uncover potential disturbances to existing routines

- Guard against troublesome changes in production rates and product quality

- Predict and minimize an impact upon the operation caused by changes in circumstances beyond your direct control, such as those that take place in departments up or downstream from your department

- Increase the odds that the future will not hold too many unpleasant surprises

- Mitigate the impact of an alternative to make its risk more reasonable

This topic will describe some of the more subtle aspects of applying Potential Problem Analysis and provide suggestions to capitalize on these subtleties. Many of these suggestions also apply to using Potential Opportunity Analysis.

Potential Problems as Likely Causes

When applying Potential Problem Analysis, you may notice that in many cases, potential problems can be considered likely causes, and likely causes can be handled as potential problems. Look at the example below, and notice how each likely cause is moved to a potential problem.

Application A

Potential problem: John drops the computer.
Likely cause: Trips on the carpet where it's raised.
Preventive action: Nail down the carpet.
Contingent action: Have a backup computer ready.

Application B

Potential problem: John trips on the raised carpet.
Likely cause: He doesn't see it.
Preventive action: Cover it with orange tape.
Contingent action: Move objects out of the way that John could bump his head on if he falls.

Application C

Potential problem: John doesn't see the raised carpet.
Likely cause: Raised carpet is not noticeable.
Preventive action: Warn John ahead of time about it.
Contingent action: Have someone stand by the raised carpet area to catch John if he falls.

All of the applications are "correct," in that they identify a potential problem, its likely cause, and preventive and contingent actions. However, Potential Problem Analysis will be most useful when you focus your analysis on potential problems that:

- Represent what you're actually concerned about or afraid of (in the example, you're really concerned about John dropping the computer, as it's recorded in Application A)

- Represent areas that you can do something about

If you struggle to find likely causes, and preventive actions for those likely causes, it may be because your potential problem is not written specifically enough. But it also might be because you're analyzing a likely cause rather than the true potential problem. In the example, Application A represents the best approach because it starts with a specific potential problem; a potential problem that represents the true scenario that the user wants to avoid.

Root (Likely) Causes

Another key method for preventing potential problems concerns root cause. In Problem Analysis, root cause is considered the final cause of the problem. It's revealed when you get to the end of a string of connected causes by asking, "What caused the cause?" Finding and correcting the root cause is the only way to be certain that you've eliminated the problem.

Similarly in Potential Problem Analysis, you'll get the best results for preventing problems by getting to the root likely cause. Do this by asking, "What do I think may cause the cause?" Here's an example:

- Potential Problem: Operator slips on the floor

- Likely Cause: Oil is on the floor

In this case, it'll be valuable to ask, "What do I think might cause oil to be on the floor?" The answer then becomes the likely cause:

- Likely cause: Worn filters break away (causing oil to be on the floor)

Taking action to replace the worn filters will be more effective and efficient than taking action to continually clean up the oil on the floor.

Handling Difficulties When Applying Potential Problem Analysis

Three scenarios may arise that will lead to difficulties in implementing Potential Problem Analysis. People may consider you too "pessimistic" for focusing on problems in the future. You may be plagued by inefficient time management. Or, you may suffer from a lack of good information. Here's a closer look at keys to handling these scenarios.

Overcoming pessimism

People may accuse you of pessimism if you overemphasize the beginning of the Potential Problem Analysis process— the anticipation of potential problems—rather than the preventive actions and contingent actions that are the end result of the process. People typically complain that the process itself is too negative. They've missed the point. The twin focus of PPA is first, a realistic assessment of the future, and second, a systematic pre-planning of actions to make sure a plan works. Try these tactics to overcome the attitude that you're being too pessimistic:

- Assess the threat of potential problems and focus your application on the major threats.

- Use a disciplined, systematic process to move out of anticipating potential problems to the preventive and contingent actions.

- Emphasize the objectives met by an action as well as the potential problems of implementing the action.

Using time effectively

Potential Problem Analysis need not take much time, but speculating about the future can lead to rambling, fruitless discussions. Try to plan your time by:

- Focusing attention and thinking by following the process.

- Setting time limits on the initial stages of a Potential Problem Analysis. Although you risk missing an important point, you'll usually find the higher priority potential problems early in the analysis.

Upgrading information

You may feel that there's not enough good information to do a Potential Problem Analysis. Why? Because you're dealing with the unknown. No one knows for sure who is going to win the Super Bowl next year. But lots of people still bet on it. In a sense, you're also betting on the future. To do that, you need to upgrade your information by using what you've learned in the past to try to predict the future. You can do that by:

- Asking specific questions. Too often the issues you're trying to predict are too large to handle. By separating issues and asking specific questions, the issues not only become more easily handled, but may also suggest available information that will help. For example, in predicting who will win the World Cup, it makes sense to first predict who will win the games building up to it.

- Looking at basic cause-effect relationships that influence the outcome you're trying to predict, and gathering available information about these factors. Past records and projected changes can then be assessed to make more accurate judgments.

- Recognizing that firm and final judgments need not always be made right away. Often, systems can be set up to track information as events happen; later, you can implement the preventive action or contingent action. For example, predictions on the outcome of the Super Bowl will be easier late in the season than at the beginning. Likewise, a specific situation may only require that you be alert to changes that may develop, so that timely preventive action or contingent action may be taken later if necessary.

Summary

Potential Problem Analysis has many uses, and also some typical hurdles. This topic shows some of the more subtle uses of the process, and ways to get over the typical hurdles as well.