

Session 6

Improve & Control:

Before we move on to the final phases of the *DMAIC* model, *Improve* and *Control*, a few words regarding *Analysis* are in order. In our previous session, we had identified the few vital P's and the data had been collected. In the *Analysis* phase, we now need to determine why the problem is occurring so we can identify potential process changes to solve it. This is a three-part process:

- The first step of *Analysis* involves exploring and generating hypotheses, using logical and data tools to identify the potential root causes of the problem. In our example of the XYZ Company, perhaps there is a defective door contact switch on a door that is triggering an alarm.
- The second step will be to further analyze the process and data to confirm that the proposed root causes are valid. In our example of the XYZ Company, a review of our data confirmed that one door alarm device was producing a clear majority of the false alarms.
- The third step of *Analysis* is to quantify the opportunity. This means to determine how much the company is going to gain from a successful elimination of process variation resulting from these root causes. In our example of the XYZ Company, we determine that false alarms can be reduced by 50%.

At this point in the *DMAIC* process, the root causes have been validated and the opportunity has been quantified. It is time to determine the actual production changes necessary to implement the process improvements.

In the *Improve* phase, we must develop a process improvement strategy to fix those root causes and eliminate the errors. We develop this strategy by evaluating possible solutions and defining practical methods for implementing each. Once the solutions and practical methods are defined, we can then pilot the solution and plan the full-scale implementation of the improved process.

In our example of the XYZ Company, several strategies for correcting the faulty door contact signal generating the repeated alarms: replace the door contact switch, replace the wiring from the door contact to the alarm panel, or change the door alarm programming with a new alarm schedule. The Security Professional, working with their alarm service provider, can determine the best solution.

In the final phase of the *DMAIC* process, *Control*, we prepare the improved process for institutionalization. A major component of this preparation involves monitoring the process performance with control charts and capability measures to assure stability. Process documentation, such as training materials, policy and procedures, etc., must be updated. Once completed, the improved process is institutionalized.

In our example of the XYZ Company, the alarm system was repaired and additional employee training on the proper use of the electronic access control system was performed. In addition, a monthly alarm audit policy was developed to identify early alarm system defects. Audit findings were supplied to the local alarm service provider for technical support and maintenance.