Escaping the Quicksand and getting Back on the Trail of Team Projects

Steven K. Brawn
Arizona State University West
4701 W. Thunderbird Road
Phoenix, AZ 85069
(602) 543-8295
sbrawn@asu.edu

Kelly Caye
Arizona State University West
4701 W. Thunderbird Road
Phoenix, AZ 85069
(602) 543-8295
Kelly.caye@asu.edu

R. Mark Koan
Arizona State University West
4701 W. Thunderbird Road
Phoenix, AZ 85069
(602) 543-8295
mkoan@asu.edu

ABSTRACT

Working in a team environment can be either an efficient and productive means of completing projects or a nightmare where the project never seems to end. Most of us have been a part of projects where we felt that "if we were able to do this by ourselves, it would have been finished a long time ago." It feels as if the project continues to go on and on; people are always changing their minds as to what it is the team is supposed to do, or some members of the team never seem to do their share of the workload. Sometimes we appear to be part of a "team", but in actuality, we are just part of an unorganized group of people who have no guidance as to what they are supposed to be accomplishing, or don't know if they are really doing what they were asked to do. Sometimes projects never seem to end - mainly because the team doesn't know how to end it.

At ASU West, our IT department has incorporated what is known as the Seven-Step Continuous Improvement Model to help guide our project teams from start to finish. This process was shared with ASU from Oregon State University, and has become a great stabilizing force in improving our IT department's ability to work effectively in a team environment and finish projects more efficiently than before. We now have clear starting points, milestones along the way, and a clear ending point to each project.

This paper will outline and demonstrate each of the seven steps in our process, share the documentation that we have developed for our internal use, and give examples of how this process is working in our environment. What this paper ***does not*** do is talk about team member dynamics, specific roles of each team member, etc. This presentation will focus specifically on *the process*.

Categories and Subject Descriptors

K.6.1 [**People and Project Management**]: management techniques, staffing, training.

General Terms

Management, Documentation, Performance, Human Factors.

Keywords

Project Management, Teamwork, Project Teams, Seven-Step Process, Milestones

1. Introduction

The Information Technology department at Arizona State University West, like most other universities, never has a shortage of projects needing to be completed. Some projects have a higher priority than others, but regardless of how critical the project is, all projects need to be completed on time.

We have found that by implementing a seven-step process that outlines the steps needed for project completion, we have been much more successful in completing projects within an appropriate time frame. It is important to note that this is a process that can be developed and modified by each university according to its own needs and staff.

2. The Seven-Step Process

The model used by ASUW was incorporated from Total Quality Management and Team Leader Training materials from Oregon State University. It was taught at ASU as part of the Continuous Improvement Training program, but has unfortunately been cut recently due to budget cuts. Information Technology continues to use this model, however, because of its proven success.

Prior to starting this process for a given problem, a team must already be formed, including a team leader and a team sponsor. At ASUW the IT Management team chooses the team members, and the team leader is chosen from this group. One of the members of the Management team acts as the team sponsor – usually the Manager of the team where the problem resides. After the team has been formed, a formal Charge is given to the team members with the stated problem, timeframe to have the project completed by, and a specific reference to follow the seven-step process.

The process consists of the following seven separate steps:

- Define process, identify customers

- Issue statement, performance measure
- Collect/analyze data on causes
- Develop potential solutions
- Select solutions
- Implement solutions
- Evaluate results and monitor

Each step is completed when its accompanying milestone checkpoint is reached. Milestone is defined as the completion of goals set for that particular step in the process.

Following this process helps resolve three key issues that appear in every project: It clearly identifies the problem to be resolved; it maintains a clear understanding of the process used to identify and resolve the problem; and it ensures that the solutions are based on fact, relying on data analysis and measurement.

2.1 Step One: Define Process and Identify Customers

There are four major components of this step:

1. Describe the problem to be studied and resolved by the team
2. Clearly identify where the current process begins, ends, and any major activities
3. Identify the primary customers that are affected, both internal and external
4. Interview a sample of the identified customers to find out what they expect as a final result, and what performance standards could be used to measure the success of the project

This first step is critical to the success of the team. This is where the problem that needs to be resolved is clearly defined. An integral part of this is ensuring that each team member understands the current process that is in place, and where the problems lie. Understanding everyone who is involved, or affected, by the current process is also important. Many times it helps to create a process map or flowchart to help explain the current process. As changes are made to the process, the flowchart should be updated.

We have found that interviewing a sample of the people involved provides vital information on how *they* perceive the current process and problem, as well as giving them the sense of being involved with the process. Surveys normally work well, although they should be kept short and concise – you should not use a long, detailed, complicated set of questions.

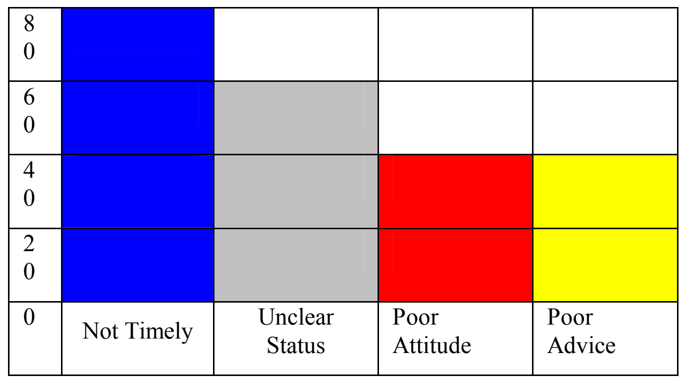
The milestone for this step is reached when a clear process description is created, a list of customers has been identified, and sufficient interviews have been recorded providing adequate information.

2.2 Step Two: Develop an Issue/Problem Statement and the Performance Measures

The main purpose of this step is to take the information that was obtained in step one and identify the most important customer concerns. Not all concerns may be addressed, but by putting them in a priority list you can ensure that the most important concerns get resolved.

Many times a Pareto Chart is used to help organize and display the problems. A Pareto Chart is a simple bar graph listing the problems stated and the number of times the problems were mentioned in the interviews and surveys, listed in order of the most number of complaints to the fewest. The Pareto Principle is based on research done by an Italian economist, Vilfredo Pareto. It is also known as the 80/20 rule: *80% of the problems are due to 20% of the causes*. The theory is that if you concentrate on the few vital sources of the problems and not get distracted by those items of lesser importance, the greatest results will be achieved.

Sample Pareto Chart



The decision must now be made as to how the results will be measured – how will you know if you were successful? Correct performance measures must be based on fact and data. This information can be collected through interviews, surveys, data captured in a database, etc. Samples of types of performance measurements are:

- Quantity
  - Rate
  - Timeliness
  - Volume
- Quality
  - Accuracy
  - Service
- Cost
  - Value
  - Fixed costs

Once a clear definition has been given for both the problem and the performance measurements, a one or two sentence statement will need to be written with these definitions. These statements will be used later as the results are reviewed. The statement should have three parts: Direction, Measure, and Process. A sample statement would be: “Reduce the number of hours required to complete a trouble ticket.”

2.3 Step Three: Analyze Causes of the Problems

The main purpose of this step is to fully understand the current process and develop ideas as to where the problems are. Brainstorming is an essential part of this process, with each team member participating in one or more brainstorming sessions.

One process that is used at ASUW is referred to as an Affinity Diagram. The process is quite simple: give each person in the group a package of post-it notes. On separate notes, each person writes what he or she thinks are some of the problems. As they write the problems, they stick the notes on a bulletin board. When all members have finished, the group works together to make sure everyone understands what each note says, and the notes are then grouped in like, or similar, groupings. Once this is completed to the group's satisfaction, silent voting is done to establish the most critical problems that the group will work on. Each person votes by choosing three problems that are listed, and writing them down on a piece of paper. When the papers are collected, a mark is given on each problem note for each vote it received. The problems with the most votes are the ones selected. It is important to note that the team is only looking for problems – not solutions. That will come in the next step.

Once the problems the group will focus on have been selected, more data must be collected concerning these problems. Use the Issue Statement to help determine what kind of data to collect – make sure that it is relevant to the problem.

When the team feels that they have identified the main problems and have collected sufficient data relating to these problems, the team should meet with its sponsor to review the findings. Using the Process Flow Diagram and any other charts that the team has created will help the sponsor understand this step in the process.

2.4 Step Four: Identify and Select Solutions

This is the step that most commonly gets used out-of-place. This is where the team now brainstorms to identify all possible solutions to the problem. While brainstorming, discuss all ideas; do not dismiss any idea even if people think that it is stupid or trivial. Creativity is a must in this step; new ways to handle old problems are the basis of continuous improvement.

Once ideas for solutions have been brainstormed (much in the same way as in step three), each possible solution needs to be analyzed to verify if it will help resolve the problem, and if so, how much of the problem it will help resolve. It usually helps to use the Process Flow Diagram to see where the solutions fit into the flow. This is also a good time to see if the current process has any unnecessary steps that could be eliminated.

Once solutions are agreed upon, the team must now perform a more critical analysis of each possible solution to determine if whether the solution is viable or not. Again, creativity is a must; do not throw out any idea until it is fully discussed. The team must ensure that the possible solutions cannot only be implemented, but will improve the process as well.

When discussing the possible solutions, avoid phrases like, "They'll never buy it" or "We tried that before and it didn't work".

Once a list of possible solutions has been developed, the team needs to meet with its sponsor to review the list and make sure that it is staying on track. Sometimes the team will need to meet with its sponsor to obtain clarification or further information about possible solutions. At the end of this meeting, one or more solutions should be agreed upon for implementation.

2.5 Step Five: Develop an Implementation Plan

The two main objectives of this step are to prepare a simple implementation plan and to develop a process to monitor performance measurements during the implementation.

The implementation plan should be less than five pages long, and should include information such as:

- Who is responsible for which item
- Specific completion dates and times for each item
- Established checkpoints for team review
- People or departments that need to be notified of the changes, or need to be involved in the implementation process

A thorough checklist should be created to help the team follow the correct steps of the implementation. Each action item should be listed in the order in which it needs to be accomplished, with the person responsible listed with it. When creating the checklist, it is important to remember these items:

- Divide the implementation into sequential, easily manageable steps
- Ensure that each person knows what he or she must do
- Obtain buy-in from all affected departments and people
- Make sure that there is a plan built in to collect data to ensure the changes are effective
- Create a contingency plan in case of problems

After the implementation plan has been created, it needs to be shared with the team sponsor. It is highly recommended that the team make a formal presentation to management at this stage that summarizes the teams efforts and presents the proposed solutions with the implementation plan. Once management buys in to the plan, obtaining buy-in from all others involved should be easier.

2.6 Step Six: Implement the Solutions

Although this step seems to be fairly simple and straightforward, it is in this step where many problems arise. When implementing your plan, remember to prepare for the unexpected. Not every implementation goes smoothly – problems will arise. Where most of the problems occur is in the transition between the planning and the implementation. To help with this transition, here is a list of the most common problem points:

- Assumptions are weak – especially those concerning the timeframe and the commitment from others
- No contingency plan is made in case of problems

- The implementation plan is not updated as changes are made
- The changes are not communicated to the right people
- The necessary commitment is not obtained from those affected

With proper planning, the implementation should go fairly smooth. There should also be ongoing communication between the team and its sponsor during this step.

One critical part of this step is to create documentation about the changes, through revising policies and procedures, where needed.

2.7 Step Seven: Evaluate the Results and Monitor

One of the biggest problems that teams make is that they believe they are finished after step six. This is far from the case, however. The final step is also one of the most important: evaluate the results from the changes that were made to see if the *obtained* results match with the *expected* results. If the results are satisfactory, the team did a great job; if the results are not satisfactory, the project is not complete and the team may need to return to previous steps to try obtaining other solutions. The

project cannot be considered complete until the desired results are obtained.

Although the team may be officially dissolved after the project is completed, it may be necessary to continue to monitor the results for a period of time to ensure that the solutions remain viable. At times, other minor changes may need to be made along the way.

3. Conclusion

Many of the projects that we face on a daily basis seem to either be small and insignificant or too large and complex for us to tackle. Whether the project is large or small, using a consistent, easy-to-follow guide helps make the task of completing the project to everyone's satisfaction more possible.

Remember, these steps are to be used as a guideline, and can be modified to meet your departments or university's needs.

4. ACKNOWLEDGMENTS

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5. REFERENCES

University Continuous Improvement, Arizona State University Continuous Improvement Team Training, Revision 3.1 (April 1998), 4.1-4.34.