Some of the basic concepts related to this model include:

Effectiveness and efficiency

Efficiency
- –*Internal* performance measure of process operations
- –Improvement may benefit process owners as well as customers
- –Can be measured using cost or time data
- –Doing *THINGS RIGHT!*

Effectiveness
- –*External* performance measure of process output or quality
- –Should be measured the way that customers measure it
- –Can be measured using attribute or variable data
- –Doing the *RIGHT THINGS!!*

Outputs and outcomes

Outputs = what you do
Outcomes = the impact your outputs have

RELATIONAL ISSUES

Characteristics of teams using the IMPROVE model: Like other problem solving and decision making groups, a team using the IMPROVE model goes through an evolutionary process where the decisions emerge over time. Use of the model is circular, rather than linear. This means that a team will go back and forth between the seven stages as appropriate. Part of the facilitator's job is to help the team recognize when it's time to move between the seven stages. Just like others, a team using the IMPROVE model is influenced by individual-level variables such as communication styles and personal values. The team is also influenced by group climate. The facilitator plays an important role in establishing a group climate of respect and open, balanced communication. The facilitator also models effective task and relational communication roles. The stages of the IMPROVE model lay the groundwork for taking advantage of a group's strengths through the use of tools that encourage a greater diversity of perspectives. Finally, teams are influenced by external forces including organizational goals and values, deadlines, and budget.

Starting in 1991, a number of teams at Penn State have used the IMPROVE model to help them solve problems and make decisions that enhance organizational effectiveness. Paradoxically, the use of a structured communication process has freed teams to work more creatively to solve problems in a wide variety of areas.

IDENTIFY AND SELECT PROCESS FOR IMPROVEMENT

GOAL OF THE "I" STAGE:

- To establish a clear scope and purpose for the project.

TOOLS:

- Affinity Diagram
- Brainstorming
- Check sheet
- Is/is not
- Pareto Chart
- Stakeholder Communication: Surveys, Interviews, and Focus Groups

RELATIONAL ISSUES:

- Establish a constructive group climate
- Clarify roles, attendance expectations
- Manage meetings effectively
- Establish a shared understanding of the team's purpose

APPROACH

A process improvement project starts by identifying which processes need to be improved. This is often done by researching the expectations of your customers and determining where their needs are not being met.

A process is defined as a series of steps taken to get the job done. In your work there are many processes that you perform each day. For example, there is a process for handling correspondence, scheduling meetings, making travel arrangements, teaching class, conducting meetings and doing research.

To start:

- Determine primary stakeholders/constituents
- Identify their needs and expectations
- List processes that fulfill these expectations
- Determine how you can measure the success of these processes

Processes that do not meet the expectations of your customers should be considered for improvement.

The outcome of this analysis should be an **issue statement** that indicates the specific issue the team intends to address in its improvement efforts. This does not mean that a team should have pre-conceived solutions, but rather, that they have identified processes and measures of performance.

There are three parts to an issue statement:

Part	Example
Process	Billing, travel reimbursement, course registration
Measure	Turnaround time, number of occurrences
Direction	Increase, decrease, eliminate

Some sample issue statements:
- Decrease account closing time
- Increase number of students completing student aid application

A team may start with a more general charge, and may not be able to develop a specific issue statement until they have baseline information on the current processes and performance data.

Early in their work the team should develop their charter – a contract between the team and the individual with authority to implement change. The charter includes what the team is working on (their charge or issue statement), boundaries and resources, and completion date. Typical boundaries or constraints may include:

- No new positions
- No significant amount of money
- No change to the union agreement
- Fit all changes into the new product schedule

MAP THE PROCESS

GOAL OF THE "M" STAGE:
- To establish a shared understanding of the current situation

TOOLS:
- Flowchart (traditional and top down)

RELATIONAL ISSUES:
- Establish norms for the constructive use of conflict communication and sensitivity to diversity issues
- Create Stakeholder Communication Plan

APPROACH

Establishing a baseline, a **shared understanding** of the current situation or process being improved, can be done in words. More often, since a picture can be worth a thousand words, it is done through a flowchart, also known as a process map. Flowcharts can also be used for training and reference material on the job. You may not know all the steps in the process and may need input from others to determine the steps. Talk to others who may be able to help you.

PREPARE ANALYSIS OF PROCESS PERFORMANCE

GOAL OF THE "P" STAGE:
- To assess process performance and analyze the cause of problems that are identified

TOOLS:
- Histograms
- Run Charts
- Control Charts
- Fishbone Diagram

RELATIONAL ISSUES:
- Reinforce buy-in for the use of structured communication tools to encourage critical thinking and avoid premature conclusions

APPROACH

It is important to measure the **current performance** of the process that your team is working to improve. In this step you first prepare an analysis of the process to determine how well the process you selected is currently performing. Then you analyze the process to determine the potential causes of performance problems.

First, determine which data to collect. This can be done by identifying what aspects of the process are most important to your stakeholders. Is the quality of the process most important? Affordability? Timeliness? Courtesy of your staff?

Second, gather data on the performance of the aspects that are most important to your stakeholders. For example, if timeliness is important you should measure the time your process currently takes for completion.

Third, after gathering process performance data, analyze the data to determine **potential causes** and effects of the performance problems.

RESEARCH & DEVELOP POSSIBLE SOLUTIONS

GOAL OF THE "R" STAGE:
- To propose, assess and prioritize potential solutions.

TOOLS:
- Benchmarking
- Criteria matrix
- Multivoting
- Ranking

RELATIONAL ISSUES:
- Reinforce equal participation and focused communication by assessing both the positive and negative aspects of potential solutions

APPROACH

In this step you **research** and develop a list of possible solutions or specific changes that will improve the process.

You then select the best combination of solutions, in terms of costs and benefits, to achieve your purpose.

ORGANIZE & IMPLEMENT IMPROVEMENTS

GOAL OF THE "O" STAGE:
- To plan and conduct the implementation of priority solutions.

TOOLS:
- Gantt chart
- PERT chart
- Responsibility Matrix

RELATIONAL ISSUES:
- Address organizational change issues by planning for stakeholder communication and the involvement of stakeholders in the implementation of solutions.
- Clarify responsibility for implementation.

APPROACH

In this step you **organize** and develop a plan to implement your solution. You may want to think of this as project management.

VERIFY & DOCUMENT RESULTS

GOAL OF THE "V" STAGE:

- To assess the effectiveness of solutions

TOOLS:

- Histograms
- Run charts/Control charts
- Stakeholder communication: surveys, focus groups, and interviews

RELATIONAL ISSUES:

- Maintain team momentum through the elapsed time needed for implementation.

APPROACH

In this step you **verify** and document results. Essentially you decide if improvement has in fact occurred. Once that has been established, you need to have a plan for monitoring your success.

EVALUATE AND PLAN FOR CONTINUOUS IMPROVEMENT

GOAL OF THE "E" STAGE:

- To share lessons learned and anticipate future improvements.

TOOLS:

- Many of the previously listed tools

RELATIONAL ISSUES:

- Stakeholder communication
- Encourage closure by celebrating team success.

APPROACH

Sometimes when you improve a process, you discover other opportunities for improvement. In this step, you determine what those opportunities might be and what steps to take. It is critical to continue to analyze and **evaluate** the performance of the process.

The opportunities for improvement don't end once your process has been improved. Change is continuous and improvement needs to be continuous as well.

SCHEDULING CONTINUUM

We talk to clients about two scheduling alternatives for organizational improvement with teams: traditional scheduling, and fast track scheduling. The typical characteristics of each model are:

Traditional Scheduling
- Meet weekly or every two weeks
- Meet for 1 ½ to 2 hours
- Meet for 3 to 4 months
- Work through the whole process as a team

Fast Track Scheduling
- Prework: Complete issue clarification, process mapping, and data collection in advance
- Two extended (5 to 6 hour) meetings
- First meeting: confirm prework, identify alternatives
- Plan one to two weeks between meetings to evaluate alternatives
- Second meeting: review and select alternative(s), present for sponsor approval, develop implementation plan

However, these two models are in reality the end points of a continuum of scheduling alternatives. It is up to the team, team leader, and team facilitator to customize their schedule for the best fit with their charge or task, resources, constraints, and concurrent time commitments.

GLOSSARY

Cause - Reason for ineffectiveness or inefficiency of a process. When the cause is addressed, the process is improved.

Continuous Quality Improvement (CQI) - A people-based management system that applies to all levels of an organization. Designed to continually improve the performance of that organization, its focus is on exceeding customer expectations by using data to incrementally improve key processes.

Customer - Anyone who receives a product or service; can be internal or external. Among Penn State's customers are students, parents, alumni, and employees.

Effectiveness - The extent to which a process meets the needs of its stakeholders.

Efficiency - The extent to which a process makes good use of resources.

IMPROVE Model - A model used at Penn State for improvement; an application of the scientific method based on the Plan-Do-Study-Act (PDSA) cycle developed by Walter Shewhart in the 1930s.

Process - A series of steps you need to take to accomplish a task.

Process map - A diagram of the steps or activities in a process; also known as a flowchart.

Stakeholder - Anyone who has an interest in a product or service or is otherwise impacted by the service. Penn State's stakeholders include all customers as well as others who are impacted, e.g., government agencies, businesses, and taxpayers of Pennsylvania.

Supplier - Source of the material and/or information input to a process, which may be internal or external to the organization.

Systems - In a system, all functions, activities and processes are interdependent. Focusing on the interactions between parts, rather than focusing on improving the parts alone improves the system.

Team - A group of people committed to a common purpose and approach, for which they hold themselves mutually accountable.

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