# Need to Document How Work Happens? Map The Process.

Before a process can be improved, both areas that work well and those that fall short must be identified. A properly executed process map provides a visual representation of the process, brings viable solutions to the surface, and allows the launch of a process improvement project that can:

- Increase efficiency
- Eliminate non-value-adding activities
- Reduce cycle time
- Expand service capabilities
- Simplify work flow
- Minimize dependencies
- Gain buy-in and organizational support for change
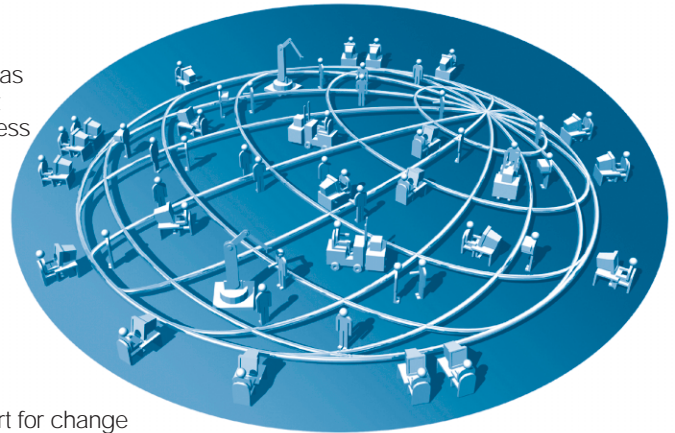
This article defines process mapping and provides an overview of ten different mapping techniques using seven types of visual representations to help analyze how work happens.

The next issue of the Orion Constellation will discuss in more detail the advantages and disadvantages of each mapping tool, and will offer you suggestions as to how to choose the best tool for your organization's situation.

Process Mapping Defined

Mapping a process involves physically drawing out how work is done — creating a visual representation of an organization's activities.

As humans tend to be visual learners, a graphic representation is a familiar way of communicating. Through effective communications, not only are objectives and ideas disseminated throughout an organization, but because people can readily understand the "whys" and "whats" an organization is seeking to accomplish, individuals are more likely to buy-in and cooperate with process improvement.

A wise person once said, "If all you have is a hammer, everything looks like a nail." The process mapping toolkit described below gives you far more than a hammer, offering a variety of choices to illuminate your process and identify opportunities for improvement.

Every tool has strengths and weaknesses. A hammer is great for driving nails, but not ideal for making holes. The following look inside the process mapping toolkit can help you identify the best tools for your needs.

What Is In The Toolkit?

There are a number of ways to illustrate how a process works, and each technique emphasizes certain aspects of a process. The tools addressed in this article include:

1. System Maps
   - Informal
   - Formal
2. Top Down Chart
3. Flow Process Chart
4. Block Diagrams
   - Logic Flow Left to Right
   - Responsibility Matrix
   - Cycle vs. Process
5. Work Flow Diagram
6. Swim Lane (Deployment Chart)
7. State Change Chart

Navigating Your Organization's Future

Map the Process

(continued from front).

System Map

Quite useful when evaluating systemic interplay between processes, there are two types of System Maps: Informal and Formal.

The Informal System Map gives pointers to areas that cause issues and provides useful boundary analysis. Its powerful root-cause analysis and visual links can guide the process improvement effort and facilitate buy-in.

The Formal System Map presents a big picture that identifies the process and the stakeholders' requirements by clarifying which suppliers furnish what inputs while describing the process activities. It provides an early indication of operational gaps, establishes priorities and determines how effectively process outputs satisfy customer needs. When prepared with a formal Gap Analysis, it can make a compelling case for broad change, and demands the consideration of <u>why</u> a process occurs.

Tool	Objective
System Map – Informal	Root cause and boundary analysis
System Map – Formal	Big picture (SIPOC)
Top Down	Macro orientation
Flow Process	Detailed activity analysis
Block Diagram – Logic Flow (Left To Right)	Flow of work (left to right) and key decision points
Block Diagram – Responsibility Matrix	Clarify who is concerned
Block Diagram – Cycle Vs. Process	Compare clock time to transformation time
Work Flow Diagram	Flow of information, people, or data
Swim Lane (Deployment Chart)	Who does what when
State Change Chart	Brainstorming on what needs to happen, not how

Main objectives of each part of the Toolkit.

Top Down Chart

An excellent place to start, the Top Down chart describes macro steps — the three to five main activities that occur in the process. Then, the micro steps — the details of the macro steps — are described. This is a great orientation tool, as it provides thorough descriptions of <u>what</u> is being done in the process.

Flow Process Chart

Also called an Activity Chart, this tool provides detailed task-level information. Process steps are listed down a page, and the user places a value on each step. Specifically, this chart separates value-adding operational steps from potentially non-value-adding steps, such as transportation, inspection, delay, rework, or storage. This perspective gives depth to the individual steps and questions how each step contributes to the overall process. When used with the Cycle vs. Process Chart, it reveals <u>why</u> elapsed time and transformation time differ, and facilitates activity-based costing.

Block Diagram

This is such a flexible tool that unlimited variations exist. Commonly used block diagram formats include Logic Flow, Responsibility Matrix, and Cycle vs. Process Time charts.

The Logic Flow (left-to-right) presents workflow in the same manner as Westerners read to facilitate understanding. Representation of key decision points with diamonds and arrows guide the reader toward <u>which</u> activities follow a "yes" or "no" decision.

The Responsibility Matrix clarifies <u>who</u> is in charge of each activity. Project Managers often use this tool to communicate roles and responsibilities explicitly. In this matrix, columns represent the activities and rows represent the functions or individuals. In the cell that connects the activity and the function, symbols — such as a solid dot (fully responsible) or a circle (involved) — may be used. Letter may also be used; for example, R, A, C, or I (responsible, accountable, consulted or informed).

The Cycle vs. Process Time chart points out the difference between "clock time" and "touch time" of process activities. This chart combines the flow of activities left-to-right with the <u>timing</u> information of each activity. This enlightening chart directs its users to the areas where delays are severe.

Work Flow Diagram

By illustrating the movement of information, goods and/or people, this tool illustrates spatial relationships and identifies <u>where</u> a bottleneck can occur. This is useful for warehouse layout, data-entry screen design, and even organizational seating arrangements.

Swim Lane Chart

Also called a Deployment Chart, this tool tells the "<u>Who</u> does <u>what</u>, <u>when</u>" story. By listing the functional participants along the left side, it clarifies what each function does and its interactions. This chart shows when hand-offs occur and relative timing, offering the big-picture perspective that cross-functional teams need.

State Change Chart

This blue-sky brainstorming tool captures "what" instead of "how" information, and forces its users to focus on "what" the customer needs. Strategic in nature, it helps determine if activities — (the "how") actually need to happen based on "what" is needed, and disregards the manner in which the work is currently being done.

Turn of the Century

All of us at Orion take great pride in our clients' success. One of our client organizations, Alcoa (Randolph, NY) has achieved such a dramatic turnaround, we thought we might share their story with you.

Alcoa/Randolph produces large industrial bottle-capping machines for bottlers like Pepsi and Coke. While the company had been recognized as the premier brand in its industry for many years, a product-innovation-gone-wrong in the late 1990's damaged the company's reputation and put it in a precarious position. The goodwill built up through the years was in danger of being lost and the company needed to react quickly. Instead of the normally panic-driven "ready-fire-aim" approach so popular in many organizations, Alcoa decided to focus on strategy and the Balanced Scorecard (BSC).

The BSC — for years a staple among Orion's product offerings — measures the effectiveness of an organizational strategy, provides feedback that facilitates improved decision-making, and helps the executive team maintain its focus on strategy instead of day-to-day firefighting. While the Orion success rate in implementing this tool has been phenomenal, Alcoa Randolph's results have set a new standard in a relatively short period.

The process started in September 2000 with a three-day session including CEO Bernard Winters and the senior management team. The first strategy map was developed to help guide the way, and measures were proposed to assess progress. One month and several revisions later, the strategy map and BSC were presented to and approved by the Board. So began the three-year journey that transformed an operational effectiveness-focused organization that was just holding its own into a profitable entity that had reclaimed its place as the industry leader.

In 2000, the organization's strategic goals (e.g. *reduce warranty claims* and *restore customer confidence*) clearly illustrated the need for process improvement. By 2003, the strategic objectives had changed to *protect intellectual property* and *establish product leadership*, goals that reflect Alcoa Randolph's return to the top of its industry.

The phenomenal results accomplished since that first three-day session include:

- 40% increase in return on capital
- 20% reduction of cost of goods sold
- 70% drop in warranty costs
- 50% slash in inventory
- 90% fewer customer complaints
- 65% less scrap
- 50% improvement of on-time delivery
- Zero environmental violations
- Zero safety problems (serious injuries or lost time)

Truly mind-boggling numbers…but how did they do it and how are they continuing the process? It has been a combination of communication, cooperation, and method of execution.

Communication

Every October, Alcoa conducts an initial deployment presentation offsite for the entire organization so that everyone knows what the strategy is and how it will roll out. The strategy map and scorecard graphics are conspicuously posted to serve as a constant reminder of the objectives and how well the organization is meeting them. Quarterly plant meetings are conducted to provide updated information to the entire workforce. The BSC has become the focusing tool for the organization.

Cooperation

Alcoa recognized that one of the most attractive features of the BSC is its cross-functional nature that forces the team to think about how the different areas must work together and support each other instead of acting independently. The approach has worked so well that plant manager Steve LaFuria commented, "I feel that 2002 was the best year in which sales, operations, and field service were able to meet the needs of the customer, while at the same time striking a balance in achieving individual department goals."

Method of Execution

The October meetings are merely kickoffs for the strategic process from which a system of approving and executing strategic initiatives (known internally as A-3's) are developed. As overall objectives are set, each manager develops specific activities that will support the objectives. These objectives each have associated scorecard measures and targets, and are also included in the personnel evaluation/compensation system.

Putting It All Together

Here is an example of how the process works. The 2002 strategy session looked at the goal of re-establishing product leadership and determined that the Kano Model of customer satisfaction would be used to identify necessary product modifications to meet the leadership goal. The Kano model is segmented into three categories of satisfaction: Must Be; More Is Better; and Delighter.

Turn of the Century *(continued from page 3).*

A "Must Be" is an item that absolutely has to be there, else the customer will be immediately upset and demand justice. When staying in a hotel, for example, hot water, a television and a clean room fall into the "Must Be" category.

A "More Is Better" is an item that the customer expects, and the more of it, the more affinity the customer develops towards the provider. Hotel patrons expect there to be beds in their rooms. Finding them to be king-sized is more than expected, thus better.

A "Delighter" is an item that the customer does not expect. Our hotel providing customers with umbrellas on a rainy day is an unexpected item that could make the customer happy and be remembered.

Alcoa defined "Delighter" as something the company can do to solve a customer's problems. "Delighting" the customer became a major focus for Alcoa. To do so, specific action items were identified as potential "Delighters." The leadership team discussed their feasibility, established priorities and assigned the best "Delighter-candidates" to the relevant managers. The managers drew up A-3s detailing how each idea could be implemented, and, upon leadership team-approval, a "Delighter-Owner" was assigned the responsibility of getting it done.

Alcoa then added metrics to the balanced scorecard for "Delighters implemented each month" and "number of new product innovations" to assess progress in rolling out the new ideas. Each month the management team reviews the measures to see if targets have been hit, discusses the progress of the relevant A-3 initiatives, and determines what (if any) modifications to their approach are necessary. This focus on strategic direction has put the company back on top.

In conclusion, the Orion team wishes to extend hearty congratulations to our friends in Randolph. While the strategic framework of the strategy map and balanced scorecard is typically quite effective when applied properly, the accomplishments gained by Alcoa/Randolph in such a short period are quite remarkable. We can't wait to see what the next few years will bring. Great job!

In the next issue of the *Orion Constellation...*

- Process Mapping Approach – Choosing the Right Map(s)

- Linking Process and Strategy – The Strategic Planning Process