

# Process mapping gives great direction

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Reengineering efforts have swept the country as companies pursue the promise of dramatically improved quality, service, productivity and profitability. The most significant effect of this reengineering revolution is the awareness of process it generated for managers in all industries.

Despite the many millions of dollars spent on TQM and SPC during the quality revolution of the 1980's, little attention was given to process design and process management.

An organization-any organization-is a collection of processes. These processes are the natural business activities performed that produce value, serve customers, and generate income. Managing these processes is the key to the success of the organization.

Process mapping is the first step of process management. It consists of tools that enable you to document, analyze, improve, streamline, and redesign the way your company performs work. Armed with a thorough understanding of the inputs, outputs and interrelationships of each process, you and your company can:

- Understand how processes interact in your business system
- Locate process flaws that are creating systemic problems
- Evaluate which activities add value for your customers
- Streamline and improve work flows
- Identify processes that need to be reengineered
- Improve efficiency and customer satisfaction

## **Analyzing systems & processes: How deep do you drill?**

Process maps and flowcharts can be used to document broad organizational processes or the most minute details of work. Your organization could literally spend hundreds of man-hours mapping processes. What level of detail is appropriate? It depends on your objective.

In general, there are three levels of mapping possible: system mapping, macro-processing mapping and micro-process mapping.

The system map is the first step to give direction and focus to any quality improvement effort. It builds out from your processes to identify suppliers, inputs, outputs, customers, expectations, performance gaps, and feedback loops. Just as departments are often managed in a vacuum, processes can be designed and managed without emphasis on the customer and the results produced.

The exercise of producing your system map will help clarify objectives and measures for your improvement or reengineering initiative. It will frame your perspective toward process analysis, at either the macro or micro level.

Maps of macro- or core processes are the starting point for most engineering efforts. An example is order fulfillment. This horizontal process crosses the departmental boundaries of sales, order processing, distribution, billing, and perhaps even manufacturing. By optimizing performance across the process, huge gains are possible.

An example of a macro-process mapping is the map of IBM Credit Corporation's traditional approach to providing financing to potential corporate purchasers of IBM equipment (Figure 1). This map traces activity from the point of customer contact across departmental boundaries to the completion of a core process: offering the customer financing. Little detail is given of the activity within each department.

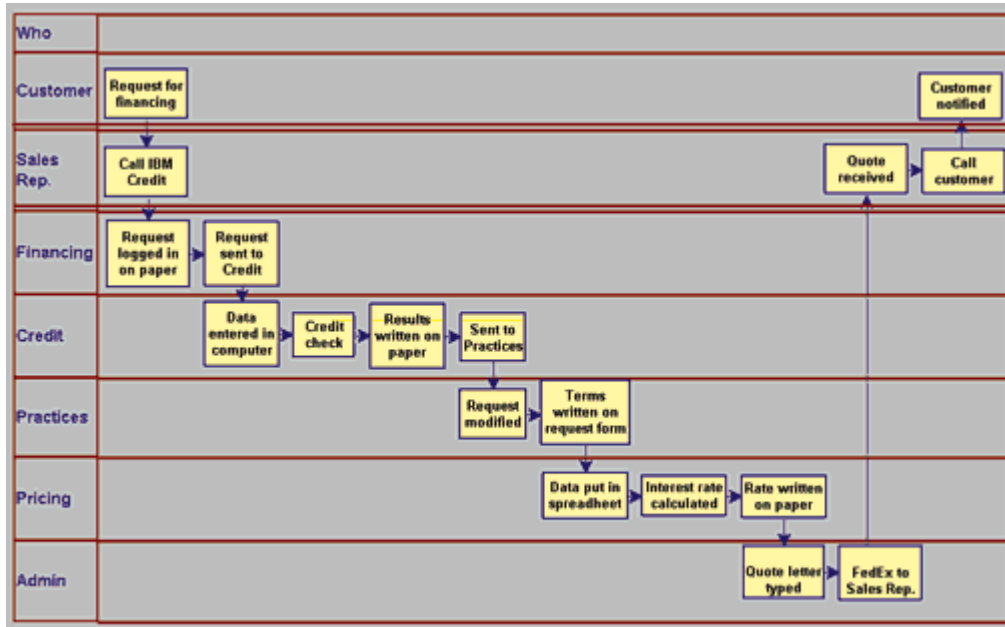


Fig. 1 - IBM Credit Corp. process map

Figure 1.

IBM Credit Corp. process map

Maps of micro-processes are useful for any quality improvement or ISO 9000 effort. Indeed, according to Jan Leschly, CEO of SmithKline Beecham, "Real power comes from working with small processes-that's where the inefficiencies are." If IBM Credit wanted to use total quality management to optimize departmental performance, it would start by mapping micro- or sub-processes.

### Your process: as is, should be, could be

Process mapping provides a critical assessment of what really happens at your company. Your goal is to define three process states: as is, should be, and could be.

The as is state defines how you work is currently being performed. In any journey, it's important to know where you are before you head off in a new direction. Some reengineering efforts fail because managers and consultants reach for dramatic breakthroughs without understanding how (or why) current processes operate. Existing wisdom is an important foundation to build on.

In addition, the most difficult part of transforming a process is getting the existing staff to recognize its latent inefficiencies and embrace the need for change. If the users of a process

make this discovery while defining "as is," change will be driven from the front line. The prospects for a successful implementation improve dramatically.

The should be state defines the optimal performance level of "as is." In other words, if you streamline the existing process and remove all rework, delays, bottlenecks and assignable causes of variation, you will achieve "should be." This state can be achieved over time with an effective TQM or continuous improvement program. To surpass this level of performance, a new process is required.

The could be state defines a new level of performance that can be achieved via process redesign. An enabler-such as new information technology, cellular manufacturing, or design teams-is generally needed to make the new process possible. For this reason, defining "could be" requires out-of-the-box thinking. Achieving "could be" is what true reengineering is all about.

### **Process mapping: the tools**

Most people associate process mapping with basic flowcharting. However, we actually use six different process mapping tools to help companies improve processes:

- Top-down flowchart
- Block diagram (decision tree or logic diagram)
- Flow process chart
- Work flow diagram
- Process map
- State change chart

Each has its own strength and weakness. The flow process chart, for example, helps you identify waste and capture processing time but does not clearly display cross-functional activity. For brevity's sake, we will focus on the process map.

The process map-otherwise known as a cross-functional flowchart or deployment chart-is an excellent tool for clearly displaying process flows across organizational boundaries and identifying delays, repetitive steps, excessive control points, specialized tasks, and potential points of process failure.

Building a process map is easy but the results may appear complex if many steps and players are involved. Begin by listing all process players (people or departments) down the left side of a sheet of paper. Separate each player with a horizontal line. Use a double line if the player is from outside your organization. The bottom access is time, moving left to right.

Write the first process step next to the name of the player who performs that task. If you'd like, you may draw a box around this description. Move from left to right as time elapses. Write and box the second process step on the appropriate row. Connect the two steps with a line. Continue to the right documenting each activity on the appropriate row. Any concurrent activities should be aligned vertically.

When you are done, the "as is" process will be clearly documented. It can then be analyzed and improved.

### **Analyzing process maps**

Mapping a process can be an enlightening yet shocking experience. Processes typically evolve over time as people and business conditions change. The result is unneeded layers of complexity and inspection. Your first reaction may be, "Is that really what we do?"

Your second reaction will be to fix the process. Here's a list of what you should look for:

*Non-value added steps.* Challenge each process step. Ask yourself, "What value does this activity add? Does our customer care?" Combine, simplify or eliminate activities that do not contribute value.

*Excessive control points.* Inspections and supervisor approvals do not always add value. They evolve primarily due to a lack of confidence in the process. Eliminate control steps that are not critical for quality outcomes.

*Excessive handoffs.* Every time process activities move from one player to the next, there is potential for delay or miscommunication. Try to organize work so that each player becomes more of a generalist and less of a specialist. This will reduce the complexity of multiple handoffs.

*Task specialization.* Assembly line processing is giving way to cellular models for organizing work groups or teams, both on the plant floor and administrative offices. Information flows faster, with less distortion, improving both the quality and speed of work. Consolidate tasks where possible.

### **A word about change management**

Change is always easy on paper. Creating a "should be" or "could be" process should have a significantly positive impact on your company's bottom line, but your processes are just one of five critical strategic elements that define how your organization functions. The others are structure, leadership, people, and performance management. All are interdependent.

If you try to improve a process but do not consider people issues like training and culture, or performance management issues like compensation, chances are your efforts will eventually backfire.

Remember that there are no easy solutions. However, mapping and analyzing processes are your company's first step in the right direction.

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