PROCESS IMPROVEMENT: USING PROCESS MAPS FOR ANALYSIS AND DESIGN

PROGRAM OVERVIEW

About the Training Program

Process improvement involves rethinking and redesigning a business system to achieve improvements in the areas of cost, time, quality, and speed. All too often, however, teams set out with noble improvement objectives only to have their design plans dashed against the rocks of corporate resistance. Why?

Three important factors contribute to process improvement failures: (1) the lack of tools, (2) the lack of “buy-in” from affected groups, and (3) the lack of a simple, visual way to present findings and recommendations. This program will address each of these troublesome issues and provide solutions.

This program is ideal for newly formed or ongoing teams charged with the responsibility of designing more effective and efficient business processes. Representatives of those teams could also attend this training program and bring back the skills they learn to their teams.

Training Objectives

Participants will have the following opportunities:

- To learn and practice the techniques of process mapping for current and future processes;
- To gain confidence in the application of process analysis and process-mapping techniques;
- To apply basic principles of process redesign (provided in the program) and to develop their own principles based on their own experiences; and
- To receive feedback via checklists on their application of process redesign principles and tools.

Designed by Tom Devane.
# PROGRAM OUTLINE

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I. Opening Activities

A. Hopes and Concerns (Icebreaker)

1. Welcome the participants and introduce yourself, discussing your experience with process improvement.

2. Organize participants into groups of three to four members each and ask each group member to introduce himself or herself to the rest of the group before starting the activity. Ask each group to prepare two lists: (1) the top three hopes about this workshop and (2) the top three concerns about this workshop. If intact teams are participating in the training program, use them as the small groups in this activity.

3. While the participants are conducting their discussions, prepare two pieces of flip-chart paper, one with the heading “Hopes” and the other with the heading “Concerns.” Post these pages on a wall where they will remain for the rest of the program.

4. Ask a spokesperson from each group to report the results of the group’s discussion.

5. Record the items on the appropriate flip-chart pages. For repeated items merely make a check mark next to the already listed item.

B. Agenda Review (Presentation)

1. Discuss the objectives presented in the Program Overview.

2. Obtain feedback from participants confirming that these objectives and the items listed on the “Hopes” and “Concerns” flip charts are relevant to their learning needs.

3. Ask if there are any other additions to the “Hopes” and “Concerns” flip charts.

C. Process Improvement Briefing (Quiz; Materials: Form A)

1. Explain that you would like to use a quiz as a way to establish a mutual understanding of two of the key concepts in this training program.

2. Distribute copies of Form A. Ask the participants to form pairs and to complete the quiz with their partners.

3. Ask for volunteers to share their answers. The correct answers follow:

   Responses a, b, and d are correct. These sessions require that the same participants attend throughout the analysis and design process. In addition, attendance is typically limited to those involved in the actual execution of the process.
4. Cite relevant examples of process improvement efforts with which you have had either direct experience or that you have read about. Provide the “before” and “after” data, stressing the radical nature of the improvements. Explain that cost reductions of 60 percent and time reductions of 95 percent are not uncommon for successful efforts.

5. Discuss the benefits of good process-mapping practices in each of those efforts. Explain that a process map is simply a visual representation of how work is performed.

■ D. Successes and Failures (Subgroup Discussion)

1. Divide the participants into subgroups of three to four members each. Ask each subgroup to record on newsprint two successful and two unsuccessful business-improvement efforts in its organization. These could be productivity studies, or any other type of project designed to improve organizational performance.

2. Ask if any visual charting methods were used in those projects. Explain that visual charting methods are flowcharts, process maps, electronic computer drawings, or any other pictorial method of showing how work is done. If participants do not have any direct experience with such a project, ask them to comment on any that they have heard or read about.

3. Ask a spokesperson from each subgroup to present the subgroup’s ideas.

4. Inquire if any of the participants detects any “success ingredients” or “barriers to success” in the presentations. If no one can do so, present any insights that you have.

■ II. Organizational Dynamics That Support Process Improvement

■ A. The Functional Perspective (Role Play; Materials: Form B, Any Large Toy of Your Choosing)

1. Tell the participants that you are going to use an imaginary company to illustrate how organizations with a functional hierarchy can make business redesign efforts difficult.

2. Explain that ToyCorp is a company that makes and distributes toys. One of its best sellers this year is [whatever toy you have selected for this activity]. Hold up the toy for the entire group to see.

3. Explain that the Christmas season is approaching and that ToyCorp, like most toy manufacturers, makes about 80 percent of its profits during the months of November
and December. This year ToyCorp has a problem. Forty of ToyCorp’s key retailers have informed the company that they have standardized their shelf sizes and that this year’s shelf size is smaller than last year’s. This means that this year the retailers can only stack the product one deep on the shelves instead of two deep like they did last year. If ToyCorp does nothing, this change will cost ToyCorp $5 million in profits. However, with some changes to product design, the company may be able to get the product to a size that retailers can stack two deep.

4. Tell participants that certain conditions exist at ToyCorp that will make it difficult to develop a successful product redesign:

   • Each department is measured on a “logical” function-oriented basis.
   • No one has the entire picture of the process; the company does not have a customer view.
   • Redundant activities exist, but are not apparent when viewed only from the departmental perspective.
   • Firefighting has traditionally been rewarded.
   • Cross-functional groups trying to solve problems have been punished in the past for lack of departmental results.

5. Ask for four volunteers to help demonstrate what happens at ToyCorp as it goes about this product redesign. One person will be from marketing, one from manufacturing, one from engineering, and one from human resources. Explain that the volunteers will form a team to make changes to the product so that retailers can fit more of the product on the shelves. When four people have volunteered, ask the rest of the group to give them a round of applause for helping in the demonstration.

6. Distribute one of the four role-play instructions on Form B to each of the volunteers. Give the role players five minutes to read the instructions before they begin the role play.

7. While the volunteers are reading the instructions, ask the rest of the participants to jot down problems that they anticipate this team will have in trying to redesign this toy.

8. After five minutes start the role play. Provide each of the role players with a name tent that denotes the department each is representing.

9. Use the following questions for debriefing:

   (To role-play participants): How did you feel during and at the end of the role play?
   (To all): What happened here?
   (To all): How is this relevant to what goes on in the workplace?
   (To all): Has anyone ever had something like this happen to him or her?
(To all): What important lessons can we draw from this? (The group should note that so long as a functional hierarchy persists in an organization, change efforts will be difficult.)

**B. The Process Perspective (Panel Discussion)**

1. Ask the subgroups to reconvene and discuss changes needed at ToyCorp so that the cross-functional team just depicted can succeed.

2. Instruct each subgroup to jot down its ideas on one sheet of newsprint and to select a spokesperson who will present a brief overview of the subgroup’s ideas.

3. After ten minutes, reconvene the entire group. Form a panel of the spokespersons and obtain their views.

4. Integrate what panelists say with the following key points:

   - Collaborative efforts across departments need to be rewarded.
   - Functional groups need to be given, and be measured by, a common goal.
   - Everyone needs to talk to the customer (not just those who already have a customer-interface point).
   - The redundancies and duplications in the process need to be studied.
   - Changes cannot be made unilaterally; joint planning is critical.

**III. Mapping the Current Process**

**A. “As Is” Map (Group Inquiry; Materials: Form C)**

1. Ask each participant to find a partner. Invite each pair to review the order-entry process depicted on Form C. Ask each pair to look for the following:

   - Work flowing back and forth between departments rather than one integrated flow
   - Redundant activities
   - Sequential activities rather than parallel activities
   - How the process is designed to react to problems rather than to prevent them

2. Direct the pairs to write down their observations.

3. After ten minutes, reconvene the entire group and ask for observations. Reinforce observations that all participants make and answer any questions about the process map that arise. If any questions arise about the map symbols, explain that those will be covered immediately after this discussion section.
### B. Process Mapping (Lecturette; Materials: Form C)

1. Ask participants to follow on Form C as you review the following four ingredients in a process map:

   - Each *horizontal band* represents a group of people. The top band usually represents the customer, and the bands below usually represent departments involved with executing the process.
   - *Squares* represent activities that are executed by the various departments or by customers in the process.
   - *Diamonds* show choices or decisions in the process. Whenever you see a diamond, think of it as a fork in the road at which a traveler needs to select from a number of choices.
   - *Arrows* depict the order in which the process activities are executed.

2. Explain that to begin building a process map, a facilitator should ask the question, “What happens first in the process?” The facilitator should write down the response and then ask, “And what happens next?” He or she should continue asking that question until the entire process is mapped. When someone in the group replies “That depends,” you’ve probably reached a place in the process map where you need a diamond decision symbol.

3. Ask if there are any questions.

### C. Customer Service Case: “As Is” (Case Study; Materials: Forms D and E, Post-it® Notes, Banner Paper, Scissors, and Markers)

1. Divide the participants into four subgroups. Distribute copies of Form D and ask members of each team to read the case material.

2. Ask each subgroup to develop an “as is” process map on the banner paper that illustrates the current work flow described in the case study material. Tell the subgroups to record each activity on a separate Post-it® Note. Instruct them to cut Post-it® Notes into diamond shapes for the decision-making points in the map and to use the markers to draw arrows.

3. Visit each team and respond to any questions that the members have.

4. After thirty minutes, ask for each subgroup to report out. Explain that there is no one “right answer” and that often participants can learn the most from comparing their team’s solution to those of others and consolidating all the good points for future use.

5. After each subgroup has presented its map, distribute Form E, which contains a sample solution “as is” process map. Stress again that there is no one correct solution; this
form will simply provide participants with a reference example of a process map for the future.

**D. Process Analysis (Guided Teaching)**

1. Explain that an “as is” process map by itself may not provide all the insights needed to understand the current process. Often it is helpful to discuss certain key questions about the process:

   - What are the objectives of this process?
   - Who are the primary customers and suppliers?
   - What are we currently doing that we shouldn’t be doing?
   - What are we currently not doing that we should be doing?
   - What causes the elapsed time for this process to increase?
   - What causes costs for this process to rise?
   - What assumptions helped form the current process, and are they still valid?

2. Ask participants to respond to each question with an example from either the case study or from a real-life work situation.

**E. Some Cautions About Process Mapping (Group Discussion)**

1. Present the following common problems that occur in process-mapping efforts:

   - The right areas within the organization are not involved.
   - Only managers are involved.
   - The facilitator is biased.
   - The level of detail is too low for systemic improvements.
   - The group is mapping trivial processes.
   - The company reorganized before conducting any process mapping analyses.
   - The mapping group did not consider staffing impacts.
   - The team-building aspect of the “as is” mapping process is not taken seriously enough.

2. Ask participants for their thoughts on how these mistakes can be prevented.
IV. Setting Goals

A. Examples of Goal-Setting Methods (Quiz)

1. Explain to participants that before a team attempts to map a better process, it must first set out some process-improvement goals.

2. Pose the following multiple-choice question to the entire group and obtain opinions:

   The following practical methods are often used to set improvement targets:

   a. Reduce the current elapsed time for the process by 30 to 90 percent.

   b. Determine the number of days until the next vernal equinox. Divide that number by seven.

   c. Determine the amount of time that is value-added for a customer in the process. Multiply that time by a factor ranging from two to ten to obtain the target elapsed time for the new process.

   d. Compare your organization’s existing process to another similar process, either within your industry or outside your industry. Set your target to be 10 percent better than that number in terms of time, cost, or quality.

   Which of these are acceptable methods of goal setting?

3. Indicate that a, c, and d are acceptable methods for goal setting. Ask participants to suggest other possible methods.

B. Who Sets the Goals? (Dyadic Discussion)

1. Next, divide the room into two halves. Ask the participants on your left to form pairs and to give examples of improvement goals that senior management in their organizations should and should not set. Ask the participants on your right to form pairs and to give examples of goals that teams should and should not set.

   Some examples of appropriate senior-management goals might be the following:

   • Increase our penetration of the government sector by 10 percent next year.

   • Donate 15 percent of our gross profit to charity next year.

   Some examples of appropriate team goals might be the following:

   • Process an order within two days.
• Maintain a 98 percent or better level of accuracy in invoicing.

2. After the pairs have given their examples, ask the entire group to summarize some rules for who should set which goals, such as the following:

• Senior management sets goals that affect the entire organization.
• Teams set goals in areas of local influence within the organization.

3. Clarify that it is important to be aggressive in establishing improvement targets, but that the reengineering team must be involved in the goal setting. Goals cannot simply be passed down by directive from senior management.

■ V. Designing the New Process

■ A. Principles of Process Redesign (Study Group; Materials: Form F)

1. Create study groups and distribute copies of Form F.

2. Ask group members to take fifteen minutes to do the following:

• Clarify each principle.
• Discuss examples of each principle.
• Identify points that are confusing or unclear.
• Assess how well they understand the material.

If desired, the groups may appoint members to act as discussion facilitators, timekeepers, and recorders/presenters.

3. Obtain questions, comments, and assessments from the study groups.

■ B. Customer Service Case: “To Be” (Case Study; Materials: Post-it® Notes, Banner Paper, Scissors, Markers)

1. Challenge the participants to use the principles just studied in an attempt to improve the process they previously mapped for the case study. Divide the participants into four subgroups. Explain that each subgroup will design an improved “to be” map for the process that they constructed an “as is” map for earlier. Review each of the symbols used in a process map. Explain that the same symbols are used for an “as is” process map (which depicts the flow of work as it is currently performed) as for a “to be” process map (which depicts the proposed flow of work in the future).
2. Tell the subgroups that they will have forty-five minutes to document the “to be” map using the materials supplied. Ask if there are any questions.

3. After forty-five minutes, ask each team to report out. Explain that there is no one “right answer” and that often participants can learn the most from comparing their solution to those of others and consolidating all the good points for future use.

**C. Developing Metrics for a New Process (Jigsaw; Materials: Form G)**

1. Point out that any new process must be assessed carefully to see if it is an improvement over the old one. Developing “metrics,” or outcome measures (e.g., the time it takes to process an invoice), is critical to the success of any process improvement effort.

2. Distribute copies of Form G. Instruct the participants to form trios. Ask one member of each trio to become an expert on rules 1 through 3, another to become an expert on rules 4 through 6, and the third member to become an expert on rules 7 through 9. Allow the participants ten minutes to study Form G.

3. Ask that each member of the trio teach his or her assigned principles to the other trio members.

**D. The Steps of Process Analysis and Redesign (Lecturette)**

1. Explain to participants that the sequencing of process analysis and redesign can be summarized in nine steps:
   1. Select a process to improve.
   2. Form a team and review the resources dedicated to the project.
   3. Conduct team training in process mapping and analysis.
   4. Develop the “as is” map.
   5. Verify the process with interested parties.
   6. Develop the “to be” map.
   7. Verify the process with interested parties.
   8. Develop a conversion plan.
   9. Implement the new process.

2. Obtain questions and reactions from the participants.
VI. Closing Activities

A. Process Improvement Summary (Dyads)

1. Ask the participants to form pairs.
2. Ask each pair to summarize the key learning points of the workshop.
3. If time permits, instruct the pairs to create pictures that summarize their key learnings. Stress that no words are permitted in the pictures.

B. One More Process Map (Problem-solving Activity; Materials: Blank Transparencies and a Marker for Each Participant or Post-it® Notes, Banner Paper, Scissors, and Markers)

1. Explain to the participants that it is now time to put their new mapping skills to use in a personally relevant situation. Ask each participant to recall a process that seemed particularly cumbersome or ridiculous to him or her. Areas of opportunity include dealings with government agencies, banks, or other traditional, hierarchical, department-focused organizations; a personal process that needs improving, such as planning a vacation or helping a family member select a college; or a real-life work example from his or her own organization.
2. Ask each participant to create either an “as is” or a “to be” process map.
3. After twenty minutes, ask for volunteers to share their process maps with the group. (As the workshop leader, you may wish to have an example of your own to “get the ball rolling” if participants are reluctant to volunteer.)

C. Hopes and Concerns Check (Group Discussion)

1. Refer back to the lists of hopes and concerns created at the start of the session. Review each item and verify with the participants that the training program has adequately addressed it.
2. If an issue has not been addressed, try to address it now or explain why it is not possible to address it in this forum. In some instances, you may get some good responses if you pose an unaddressed item to the group members for their input based on what they have learned in the training program.
**PROCESS IMPROVEMENT**

**FORM A**

*What Is Process Mapping?*

Process-mapping sessions are:
(Circle all that are true.)

a. Gatherings of people who are charged with analyzing the way that a process is currently being done and are responsible for designing a better way.

b. An excellent way to quickly build a high-performing team from a group of individuals who may not have worked together before but who share a common business goal.

c. Meetings held at a standard time and place that anyone in the organization may attend with the opportunity to voice his or her opinions and concerns about the existing business process.

d. Working meeting where a group of people develop a visual representation of the current process and the redesigned process.
The ToyCorp Role Play

Role-Play Instructions
Marketing

Your Thoughts:
You can’t understand why Manufacturing can’t make a few simple changes to the toy so that it can get additional shelf space in retail outlets.
Human Resources has traditionally been a bottleneck when you try to get the workforce to work overtime during crunch times in the holiday season.
Engineering people take forever to make little changes to a toy. They spend way too much time on these product-modification projects because they have nothing else to do with their time. You hope that you can persuade them to make these changes quickly and not to worry about job security because they perform this project more quickly than they have performed similar projects in the past.

Your Attitude:
You are right because you are closer to the customer than any other of the group representatives (Manufacturing, Human Resources, Engineering). They’re not idiots, but they just don’t understand what it takes to have market presence and how important that presence is to stay competitive!

Role-Play Openers:
(Note: Feel free to paraphrase these openers or to ad lib questions that are in keeping with the thoughts and attitude of your character. Also, if you wish, you may disclose your thoughts and attitude in your own words during the role play.)

To Engineering:
• What will it take to get these changes made in a reasonable amount of time? (You may expect that the representative will mention something about government safety regulations and the overall quality of the product. Try to get him or her past this in the discussion and focused on the important business issue here—time.)

To Manufacturing:
• Why will it take so long to make a few simple changes to the assembly line?
• What do you mean it will cost $500,000?!
• Why were we out of the product three times last Christmas season? We gave you the marketing forecast, and you basically ignored it! (You can get a little emotional here because you have three people working full-time for four weeks on the forecast each year.)
• What are you going to do to make sure we don’t run out of product this year?

To Human Resources:
• You people have got to realize that this is a cyclical business. People need to work overtime to increase revenue during the holiday season as much as possible.
The ToyCorp Role Play

Role-Play Instructions
Manufacturing

Your Thoughts:
You can’t understand why Marketing members always want to change a product design that they agreed to earlier in the year and why they always want things changed immediately.
Human Resources has traditionally been a bottleneck when you try to get the workforce to work overtime during crunch times in the holiday season.
Engineering people take forever to make little changes to a toy. They spend way too much time on product-modification projects because they have nothing else to do with their time. You did try to partner with them once in a cross-functional design team effort, but company politics got in the way and the teams effort was a complete disaster. You just wish this meeting would end soon so that you can get back to the business of making toys.

Your Attitude:
Marketing people and Human Resources people in the organization are idiots. At least the engineers have some intelligence, but they squander it discussing philosophical design principles. None of the three groups gets the basic supply principle in business: if the Manufacturing department doesn’t make the toys, the Marketing people can’t sell any toys, and Human Resources and Engineering people would all be unemployed!

Role-Play Openers:
(Note: Feel free to paraphrase these openers or to ad lib questions that are in keeping with the thoughts and attitude of your character. Also, if you wish, you may disclose your thoughts and attitude in your own words during the role play.)

To Engineering:
• How soon can we have the designs to make the new product?
• Why does it take so long?
• Last year Engineering designed a product that was almost impossible to manufacture at a competitive market price. What are you doing to ensure that it won’t happen this year? (Expect Engineering to tell you not to worry about the fact that the new designs will add costs to your manufacturing process. Push back and tell those pocket protector pinheads that you do care because that’s how you’re measured and evaluated every year for a bonus!)

To Marketing:
• When the Marketing representative asks you how much it will cost to change the assembly line to accommodate Marketing’s changes, tell him or her (quite authoritatively) that it will cost $500,000. (Expect the representative to complain that you do not use the Marketing forecast. Explain to him or her that last year was the first time in fifteen years that the Marketing forecast was close to being accurate, and that you do your own forecasts in Manufacturing based on previous years’ sales, the rate of inflation, and the government projections for disposable income in the fourth quarter. Explain to Marketing that your forecasts have been within 3 percent of the actual demand in thirteen of the past fifteen years. It appears that Marketing just got lucky last year.)

To Human Resources:
• You people have got to realize that this is a cyclical business. People need to work overtime or the manufacturing department won’t make the numbers it committed to manufacture this year.
The ToyCorp Role Play

Role-Play Instructions
Engineering

Your Thoughts:
You can’t understand why Manufacturing can’t follow your directions to make a high-quality toy. People outside of Engineering don’t understand that there are governmental safety regulations that you must adhere to and that you must have the plans approved before the engineering design can be considered “done.”

Your job is to design a quality crafted product. Your professionalism as an engineer will not permit you to sacrifice quality for the sale of a few more toys in a particular season. Whenever Human Resources people have attended meetings with Engineering people in the past, the meetings have tended to drag on because of the often irrelevant observations and comments made by the Human Resources people.

Your Attitude:
You are right because you truly understand that child safety and high quality are the real selling features that parents are concerned about and that these two criteria are the primary reasons for Toy-Corp’s dramatic success over the past several years.

Role-Play Openers:
(Note: Feel free to paraphrase these openers or to ad lib questions that are in keeping with the thoughts and attitude of your character. Also, if you wish, you may disclose your thoughts and attitude in your own words during the role play.)

To Marketing:
• Why didn’t you think about this shelf size issue earlier? Are shelves a new thing in stores this Christmas season?

To Manufacturing:
• Don’t worry about the additional costs to manufacture our newly designed products. In the long run, we’ll have higher-quality products that are safer for children if you make these changes.

To Human Resources:
• Pretend that the Human Resources representative is not even in the room. Past experience has shown that if you ask an HR representative even a short, simple, focused question, he or she will launch into a twenty-minute diatribe about work systems, the rights of employees, and the power of the people. It would be wise, in terms of the length of the meeting, to not even acknowledge the representative’s presence in the room.
The ToyCorp Role Play

Role-Play Instructions
Human Resources

Your Thoughts:
No one ever listens to you in meetings. If only you could get more air time for your improvement ideas in these meetings, the workplace would be a happier, more productive, and even more profitable place to work.
All Marketing cares about is making money.
Engineering works its people too hard and tends to burn them out quickly.
Cro-Magnon man had a better understanding of motivation principles than the people in ToyCorp’s Manufacturing Department.

Your Attitude:
Your position about intrinsically motivating employees is indisputably correct. Years of research and your own personal observations over the past ten years have validated this theory. In every meeting that you’re in, you try to tell members of management that they can’t just tell people what to do; they need to give the people a voice in deciding their own future. You believe that the more they hear this theory, the better the chance of it sinking in. You are relentless in your presentation of this principle and look for every opportunity to bring it up during meetings. Today may be the day that this principle sinks in for one member of the group and that would result in an organizational breakthrough.

Role-Play Openers:
(Note: Feel free to paraphrase these openers or to ad lib questions that are in keeping with the thoughts and attitude of your character. Also, if you wish, you may disclose your thoughts and attitude in your own words during the role play.)

To Engineering:
• What voice do the engineering designers have in deciding their own work hours for this upcoming effort? Point out that if Engineering has more input, the quality of the product will be higher. (You may find that the Engineering representative sometimes appears distracted when you are speaking. Ask why this is the case and what you can do to get his or her attention in the future.)

To Manufacturing:
• How can the targeted production volumes be met without any overtime?
• Are the people on the shop floor going to be involved in setting production levels and in determining how those levels will be reached?
• Have you given any thought to a party to celebrate the good work that people have done during this “crunch” holiday time?

To Marketing:
• Based on the disruption to people’s lives in Engineering and Manufacturing, has Marketing considered whether or not it’s even worth making these proposed changes to the toy size?
Sample “As Is” Process Map
**PROCESS IMPROVEMENT**

**FORM D**

**Customer-Service Case Study**

*Directions:* Robert Smith, president of Electronic Components, Inc., has assembled an investigative team, of which you are a member, in response to some recent customer correspondence. Please follow the instructions set forth in Mr. Smith’s memo.

*Hint:* Consider how you would respond to the project charter without drafting a rough sketch of an “as is” process map. Where might you start? Consider the benefits you might get from drafting a process map as a first step.

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**INTEROFFICE MEMORANDUM**

From: Robert Smith, President  
To: Investigative Team  
Date: January 29th  
Subject: Potential Customer-Service Problem

Recently I have received a number of letters related to the quality of our customer service. Since we have declared ourselves to be a Total Quality Management company, I don’t believe there is a serious problem, but it is probably worth taking a brief look into. Since I began counting last month, I have received about sixty letters regarding customer service. I have enclosed the one that I believe most succinctly summarizes the possible problems. It also happens to be one of the more polite letters we’ve received. I’ve also included some internal memoranda that seem to be related to this issue.

I do not want you to spend a lot of time on this issue. I especially do not want you to convene a cross-functional process-improvement team that will take up excessive amounts of time to document what we’re currently doing and then develop a different way of doing the same thing. If your preliminary study indicates that such an effort is absolutely required, then we’ll consider that course of action.

Your charter for this investigative study is to do the following:

- Determine if customer service is really a problem, and
- If so, recommend what you think we ought to do about it.

Let me emphasize again that I do not want you to spend a lot of the company’s time on this effort. I’ve provided you with all of the data you need to conduct your investigative study in this packet.

Good luck and have fun.
January 16th

Mr. Robert Smith
President
Electronic Components, Inc.
1 Main Street
Sunnyvale, CA 90612

Dear Mr. Smith:

I am writing to complain about the worst customer service I have experienced in the forty-eight years I have lived on this planet. It is possible, of course, that there could be worse customer service somewhere else in the universe if there is life on other planets; but if it is intelligent life, I sincerely doubt that it could provide worse service than I have been experiencing. I’m referring, of course, to your Service Department.

Don’t tell me that no one else has problems with your Service Department—I just don’t buy it. I have been doing business with your company for the past five years, and each of the thirty-six “experiences” I’ve had with your Service Department has been a mess. But perhaps it’s unfair to single out your Service Department. Sometimes I deal with a marketing technician, sometimes a repair technician. Sometimes it appears that my problem goes off into some mysterious black hole to be researched, only to be heard about one month later (if I’m lucky).

One thing I find particularly annoying is that you never seem to handle the same problem in the same manner. As you directed us in our service contract, we always initiate our requests for assistance by contacting one of your marketing technicians. Sometimes we walk through the solution with that marketing technician on the phone. Sometimes that marketing technician tells us another technician will call us back within the next two days. Sometimes, for the exact same problem with the same component, we must wait for an RMA number and mail the component in. And other times (again, for the same problem with the same component) you dispatch a repair representative to our site. So how do you decide how to fix field problems—is it a dart board or colored Lotto balls?

In our experience, your average repair time is fifty-five days. While that’s not great, for some of the failed components that’s perfectly all right. But we use many of your components and assembled units to perform mission-critical tasks. These receive the same treatment as non-critical items, no matter how loudly we scream into the phone at your marketing technician.

We are currently evaluating other supplier options. If you don’t clean up your act within the next two months, we’ll be taking our $12 million of annual purchases from your company elsewhere.

Very truly yours,

J. J. Barclay
President
JJB Recording, Inc.
Something has got to be done about Marketing’s involvement in the customer-service area. I am spending 40 percent of my time answering customer questions, even though I’m supposed to be helping to acquire new business. I would much rather be serving the company in that capacity, particularly since there is a commission associated with new sales.

What is even more frustrating is that so many of these customer “problems” are incredibly simple to answer. It shouldn’t take someone of my technical expertise, making $75,000 per year, to respond to those silly, basic questions.

I’d like to provide you with an overview of what happens. First, the switchboard always directs all customer problems to a marketing technician. Some days we even get accounts payable questions! Next, I have to decide if I can walk the customer through the fix on the phone or if I need to get other people involved. If I do need someone else, I call either Design Engineering or Test Engineering. One of the engineers will usually either give me a solution or tell me what I need to do next.

If I’ve been given a solution that I can explain over the phone and I have time, I try to call the customer back and walk him or her through the solution on the phone. If I’m too busy or the problem is not one that can be solved over the phone, I’ll request an RMA (Returned Material Authorization) from Accounting so the customer can send the component back to us with a valid RMA number. For very serious problems, I’ll request that a repair technician make a visit to the customer site.

Another frustrating part of being involved with this whole customer-service area is that many times customers call me to complain that repaired units that are returned to them often still do not work. I can’t help it that the Repair Department only tests about 30 percent of the components that go out, but I’m getting blamed for it!

In this new era of corporate glasnost, I just wanted you to know where the other marketing techs and I are coming from.
INTEROFFICE MEMORANDUM

From: Chris Garvey, Controller
To: Robert Smith, President
Date: January 14th
Subject: RMAs and Customer Service

In light of the recent decline in profits and the proposed downsizing, I would like to bring to your attention an area of utmost importance: RMAs. I believe we can increase profitability and simultaneously save some key individuals’ jobs through better handling of RMAs.

Members of the Accounting Department work hard to issue RMAs as rapidly as possible, but often Marketing drops a load of forty RMA requests at a time on our desks even though the Marketing Department may have received them up to two weeks before they are turned over to us. This uneven batching and subsequent dumping, especially during accounting close periods, causes our people extreme stress. This is because Accounting Department members (unlike those who work in the circus-like atmosphere that exists in Marketing) are dedicated to serving our internal and external customers and we take great pride in our work.

I hereby recommend that Accounting take over the responsibility for responding to customer requests for technical assistance. Accounting would assign RMAs and then take the responsibility for routing the technical requests for information throughout the organization.

In addition, Accounting Department members would “police” the activities of the other departments to make sure they were doing their jobs. I understand that there have been one or two complaints about slow customer service lately, and our efforts could directly address this area.

To accomplish this, Accounting would require only one additional individual. This change would also save the jobs of “key talent” accounting people who have been here for many years. The net savings would come from the release of three expensive people from the Marketing Department. They would no longer be needed once Accounting assumes the additional duties described above.
From: Rob Zalen, Marketing Technician  
To: Pat Marsten, Marketing Director  
Date: January 21st  
Subject: RMAs

I wanted to document in writing that last month the average waiting time for Accounting to issue an RMA was twelve working days. It’s very frustrating for everyone in Marketing to do a great job but then to look like clowns to our customers because another department has dropped the ball.

I am writing this memo for the corporate good, since I believe it is in our best interest to look as good as we can to our customers at all times.
ACCOUNTING REPAIR

TEST

ENGINEERING

DESIGN

ENGINEERING

MARKETING

CUSTOMER

TECHNICIAN

- Obtain Background Info. from Mktg. Tech.
- Repair Unit/Component
- Send Back
- Collect Relevant Data and Send to Service/Repair
- Receive Unit/Component
- Fixed?
  - Y
    - Mktg. Tech. and Return Unit/Component
    - Begin Use
  - N
    - Notify Mktg. Tech. and Return Unit/Component
## PROCESS IMPROVEMENT
### FORM F

### Principles of Process Redesign

<table>
<thead>
<tr>
<th>Principle</th>
<th>Brief Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relocate Work</td>
<td>Move work from one department to another or from one individual to another to streamline the process and minimize hand-offs.</td>
</tr>
<tr>
<td>Routing Options Design</td>
<td>All events, cases, and situations within a process are not created equal. Difficult cases should follow different sequences of activities than should simple ones.</td>
</tr>
<tr>
<td>Relocate Decisions for Maximum Impact</td>
<td>Make some decisions early in the process instead of waiting until the last minute. Often a delay causes people to guess incorrectly and to thus perform a lot of work based on erroneous assumptions (which may then require rework).</td>
</tr>
<tr>
<td>Address Customer Needs Throughout the Process</td>
<td>Quite often no one in the process thinks about the customer until the end of the process, immediately before the product is shipped. Consider instilling the question, “Would the customer like us to do this?” throughout the process.</td>
</tr>
<tr>
<td>Seek Parallel Execution Opportunities</td>
<td>Instead of waiting to start Task B until Task A is completed, consider starting them both at the same time so that both can be finished earlier.</td>
</tr>
<tr>
<td>Use Information Technology</td>
<td>Consider implementing a computer system to reduce cycle time, minimize hand-offs, and improve the quality of shared information.</td>
</tr>
<tr>
<td>Utilize Prevention Rather than Detection Activities</td>
<td>Don’t wait until you are about to ship a product to discover that its quality is poor. Instead, design your process to minimize mistakes from the start of the process.</td>
</tr>
<tr>
<td>Expand Beyond a “Cost Only” Measurement Mentality</td>
<td>Don’t focus solely on financial aspects of the process. Consider also focusing on non-financial measurements such as time and quality.</td>
</tr>
<tr>
<td>Minimize Variability</td>
<td>When business prudence dictates, strive for as little variation as possible in results generated by repeated activities.</td>
</tr>
</tbody>
</table>
**PROCESS IMPROVEMENT**

**FORM G**

*Metric Development Principles*

1. A metric must be measurable. Although this sounds blatantly obvious, it is often ignored when teams establish metrics for a new process. You can’t simply ask questions like, “Does the process appear to be flexible and cost-effective?” A better way to get at this issue would be to ask, “What is the cost of meeting a 20 percent increase in order volume within our quoted delivery time of two weeks? How about from meeting a 20 percent increase in order volume within three weeks?” The issue of measurability also requires careful attention when dealing with organization development elements such as employee satisfaction and attitude surveys.

2. Metrics must be accurate with respect to design objectives. They must give a true indication of performance as envisioned by the process designers.

3. Metrics must be cost-effective. The benefit of collecting and analyzing the data must be greater than the cost of collecting and analyzing the data.

4. Metrics should be aligned. Individual process metrics should be aligned with business strategies, other process metrics, and departmental metrics.

5. Metrics should be simple.

6. Metrics must be consistent. The same data should mean the same thing from one time period to another.

7. Metrics should be visible. Don’t keep them locked in the third desk drawer of the process owner. Post them so that the immediate customers of the process can see them. Post all metrics that impact the overall organization in a place that all employees can see them.

8. Tie metrics to consequence management. People will behave in accordance with the rewards and punishments associated with a particular behavior. Establish reward mechanisms that reinforce the behavior you desire within the process.

9. Adjust metrics periodically. It is a big mistake to assume that the metrics and the performance targets you have put in place today will be valid into the Twenty-First Century. Markets may change. Expansionary and contractionary forces may come into play. The process team may exceed the metric targets that they once thought were incredibly aggressive. The process owner and process team should examine the metrics at least every six months to determine if they are still appropriate.