A3 Problem Solving:
Introductory Reference Pack

Markovitz Consulting

Six Key Points | When Writing An A3

1. An A3 is a structured conversation that promotes deep understanding. The magic is in the process, not the paper size.

2. Goals of the A3 process:
   - Teach people how to think by making the problem solving process visible
   - Eliminate the waste of half-baked "solutions"

3. When you're gathering information for the *background, current state,* and *analysis*, approach people with a true spirit of open inquiry. Don't use these conversations as an opportunity to justify your preconceived, pre-determined, and preferred solution.

4. Beware of solutions masquerading as problem statements (A good rule of thumb: phrase a problem in such a way that it leads to more questions):

   - Bad: "The problem is that we don't have enough clerical support."
   - Good: "Our sales team spends nearly an hour each day filing their paperwork."

   - Bad: "We could process credit memos more quickly if we had electronic instead of paper forms.
   - Good: "It takes us from 4-8 days to process a credit memo."

   - Bad: "We need a better ad campaign to raise awareness."
   - Good: "Market awareness of our new product line is low."

5. Things to consider when assessing an A3:
   - Does the A3 tell a clear story?
   - Do the countermeasures address the problem statement?
   - What implementation problems do you anticipate?
   - How will you check/assess the effectiveness of the countermeasures?

6. Things to be careful of when making an A3:
   - Jumping to conclusions
   - Doing it yourself (it takes two to A3)
   - Skipping the "check" phase ➔ what went wrong? Why?

Problem Statement | What are you talking about?

The purpose of the *Problem Statement* is to clarify what we're talking about and what issue we're trying to solve.

The problem statement can be difficult, but it's the most important part. If you get this wrong, you'll end up (at best) solving the wrong problem, and (at worst) completely wasting your time. Even a small difference in the framing of the problem statement makes a huge difference in the trajectory of your project.

Don't worry about getting the problem statement "right" the first time. Most of the time, you'll end up writing and re-writing the problem statement at least 3-4 times. That's a good thing, because it reflects your increasing understanding of the problem you're trying to solve.

If your statement is some variation of "We don't have enough time/money/people," you're on the wrong track, because the only way to solve this problem is to add more time, money, or people.

Key Points

A good problem statement:

- Is a statement of fact, not a judgment ("Finance doesn't care about our needs") or an assumption ("Product Development doesn't know what we really do").
- Is specific, not vague ("Customer Service makes a lot of errors in order entry").
- Is related to the company's mission, vision, or something important to your customers.
- Doesn't jump to solutions ("The problem is that we don't have electronic forms for this process").
- Phrases the problem in such a way that it leads to more questions.
- Is concise.

Background | Why do I care?

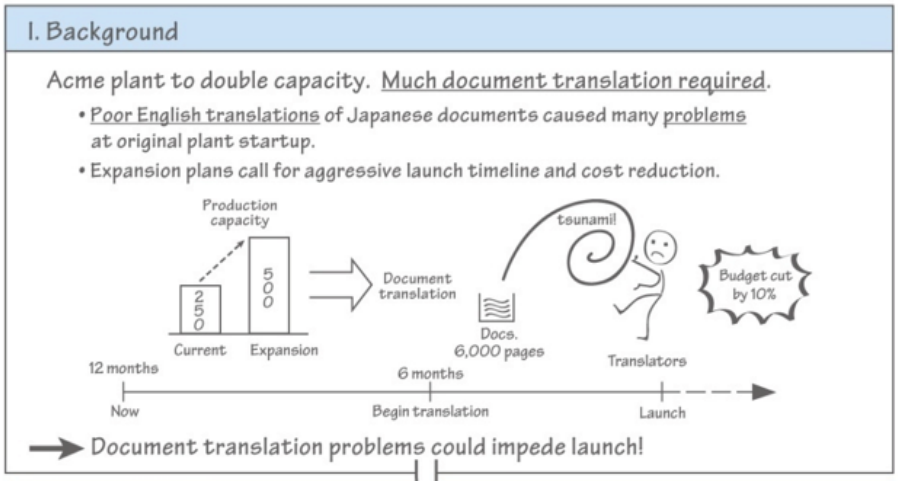
The purpose of the *Background* section is to answer the question, "Why do I care?"

In a world of limited resources, the company can only focus on solving a few problems at a time. Why is this problem important? Why should the company invest time and money on this issue?

Key Points

A well-written *Background* section:

- Explains why this problem is important.
- Shows how this problem affects the company's mission or its customers.
- Uses pictures and data/graphs/charts to tell the story.



Current State | What's going on now?

The *Current State* section of the A3 is where you show the reader what's actually happening.

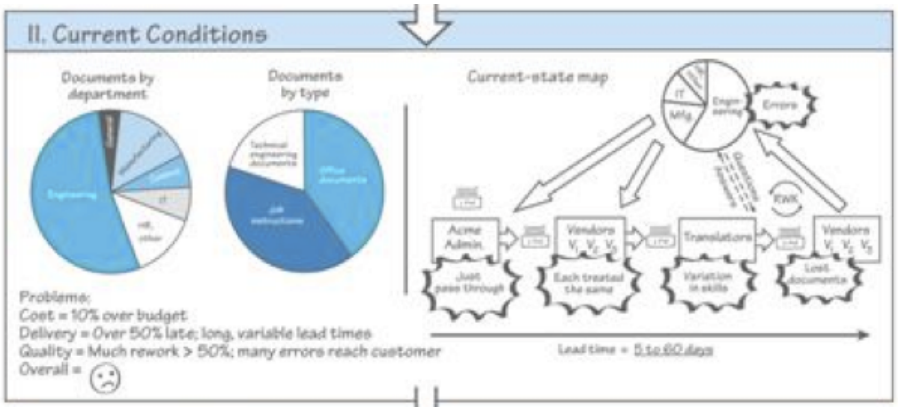
People often have problems differentiating between the *Background* and the *Current State* sections. The *Background* is where you explain the impact on the company or your customers, and make the case for improving the situation. The *Current State* is where you use data, facts, and pictures to provide details about what the current conditions are. This section paints a clear picture of the gap in performance.

It's often helpful to break the problem down into smaller pieces in this section. Pareto charts, histograms, pie charts, and value stream maps are useful in this section.

Key Points

A solid *Current State* section:

- Uses pictures and data/graphs/charts/pictures to tell the story.
- Has specific, factual information and data, not hearsay, generalities, or judgments.



Analysis | What are the root causes?

The *Analysis* section of the A3 is where you identify the root cause (or causes) of the problem. This is where you explain *why* the problem is occurring. Note that there are usually several root causes for any given problem.

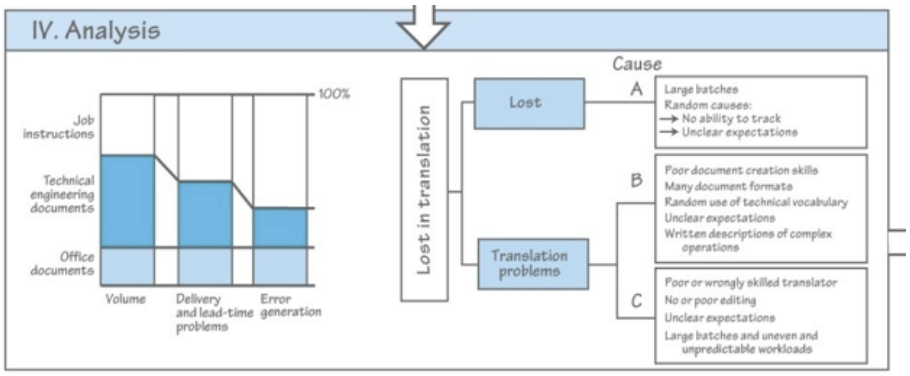
The nature of the problem will determine what kind of analytical tools you'll want to use. Some of the most common are:

- Five whys
- Pareto
- Fishbone and Cause Mapping
- Value stream mapping (high level view of the stages of the whole process)
- Process mapping (detailed view of what each person does in the process)
- "Check sheets" (identifying when the problem occurs and any consistent patterns)

Key Points

A solid *Analysis* section:

- Uses pictures and data/graphs/charts to tell the story.
- Focuses on identifying the problems, not the symptoms arising from those problems.



Recommendations | What do you propose to do — and why?

The *Recommendations* section of the A3 is where you propose your countermeasures to improve the situation.

It's important to present at least 2-3 countermeasures, and preferably more. Identifying multiple countermeasures gives you the ability to judge the quality of the thinking behind the A3.

Evaluate the relative cost, feasibility, and likely effectiveness of each countermeasure. Not all options are created equal, and these three factors will help you choose which option to pursue. Make sure that the proposed countermeasures actually address the root cause(s) of the problem, and work within any constraints you identified in the *Current Situation*.

Key Points

A solid *Recommendations* section:

- Provides multiple options, not just one solution.
- Clearly addresses the root causes of the problem.
- Shows your preferred option.

V. Countermeasures

Cause	Counter-measure	Description	Eval.	Benefit
A	Central document-flow tracking process	Overall process ownership established Document flow and timing management - Timing control chart; weekly check - Flow segmentation by document type: "A, B, C sort" - Level and steady flow of documents (no peak)	◉	Delivery, quality, cost
B	Standard vocabulary database	Standard terms for processes, equipment, tools, and work used across job sites Gathered from each department and input into database for use by internal document creators and translators	◉	Quality
B	Standard template with digital visuals	Create standard templates; include photos or videos to illustrate difficult-to-describe work	◉	Quality
C	Standard vendor three-step process	Step 1: Translation by topic specialist Step 2: Rewrite by native English speaker Step 3: Check by highly skilled bilingual	○	Quality, delivery
C	Competitive bid process	Develop, distribute bid package, select best bid(s). Concerns: Bid will show only lowest piece price (Led by Procurement)	△	Cost
?	Automation	Utilize translator software for some document types Concerns: Quality, rework (Led by IT department)	△	Cost (?)
A, B, C	Insource	Hire full-time, in-house translator for troublesome job-instruction documents Concerns: Cost, long-term HR obligations	X	Quality, delivery

◉ Outstanding ○ Good △ Questionable but possibly adequate X No good

Plan | What, who, when, and how will you implement?

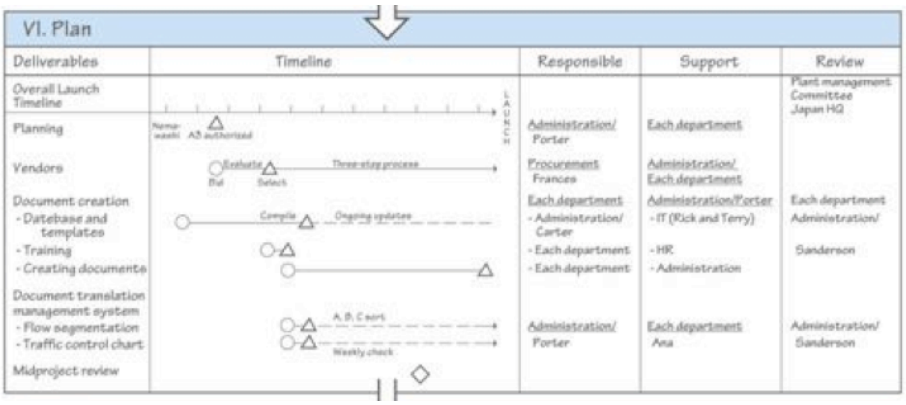
The *Plan* section of the A3 is where you show how you're going to implement your recommended countermeasures.

Most companies are familiar with this step. A Gantt chart showing who will do what, and by when, works well. However, it's a good idea for the plan to include regular review dates so that you can ensure the implementation/execution is proceeding as planned—and if not, enable you to take corrective action.

Key Points

A solid *Plan* section:

- Uses a Gantt chart or some other timeline to show clearly what the main actions and deadlines are for the implementation.



Follow-up | How will check that you succeeded?

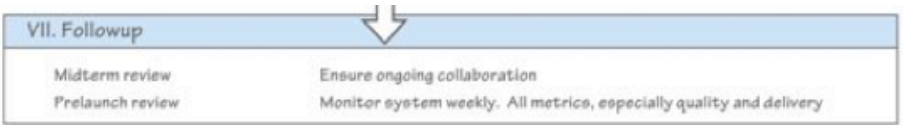
The *Follow-up* section of the A3 is where you show how you will ensure that your countermeasures are working, and if necessary, how you're going to roll it out across the company.

This section will have clear metrics for success so that you can evaluate the effectiveness of your countermeasures. It will tell you when and how often you'll need to check on the ongoing conditions.

Key Points

A solid *Follow-up* section:

- Ensures that you conduct a post-mortem assessment.
- Provides clear evidence that your countermeasures were (or were not) successful.
- Enables you to capture any important learning.



Info | Markovitz Consulting

About Markovitz Consulting

Markovitz Consulting helps organizations improve their operational efficiency. Clients come to us when they need to:

- Improve business execution.
- Elevate service levels.
- Adjust to a new organization with fewer staff.
- Increase the amount of time people have for critical, value-added work.

About the Author

Dan Markovitz is founder of Markovitz Consulting. He is a faculty member at the Lean Enterprise Institute, and regularly teaches at the Stanford University Continuing Studies Program. He also runs a problem-solving workshop at the Ohio State University's Fisher School of Business.

Dan is a board member of the Association for Manufacturing Excellence, and speaks at national and regional conferences, including Outdoor Retailer and OIA Rendezvous.

He is a frequent contributor to the Harvard Business Review blog. His book, *A Factory of One: Applying Lean Principles to Banish Waste and Improve Personal Performance*, was published by Productivity Press received the Shingo Research Award in 2013. His new book presents the six key principles that will enable you to bring your organization to peak fitness and performance.

Dan's previous work life included nine years in the athletic footwear and outdoor industries, including three years running his own shoe company.

Dan holds an MBA from the Stanford University Graduate School of Business.

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