*Notes on:*

Managing to Learn:

Using the A3 management process to solve problems, gain agreement, mentor, and lead

By John Shook (2010)

# Overview

[TODO]

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# Introduction

The author is introduced as a veteran of the Toyota management system. He worked at Toyota for over 10 years and says that the A3 process is central to how they manage. The A3 is more than just a structured report. It is also a way to manage an organization and to develop problem-solvers within that organization. The A3 allows any individual to identify a problem, take ownership (by putting their initials on the A3), and make the problem visible to others. This shifts the focus of the organization from identifying who is responsible for a problem to focusing on how to address the problem. The result is called “pull-based authority.” Responsibility to solve a problem resides with the person managing the A3, and authority (read: attention) is pulled to this problem as its importance to the organization dictates.

# Chapter 1: What Is An A3?

Technically, an A3 is an international-size piece of paper measuring approximately 11-by-17 inches. In lean companies (like Toyota) it is a lot more. It refers to a specially-structured report that is drawn on this paper and consists of the following sections:

|  |  |
| --- | --- |
| Title | Names the problem, theme, or issue |
| Owner/Date | Identifies who “owns” the problem or issue and the date of the latest revision |
| Background | Establishes the business context and importance of the issue |
| Current Conditions | Describes what is currently known about the problem or issue |
| Goals/Targets | Identifies the desired outcome |
| Analysis | Root cause analysis of the situation to determine what has created the gap between the current situation and the desired outcome. |
| Proposed Countermeasures | A proposed set of corrective actions or counter-measures to address the problem, close the gap, or reach the goal |
| Plan | Prescribes an action plan of who will do what when in order to reach the goal |
| Follow-up | Creates a follow-up review/learning process and anticipates remaining issues. |

# This template is just a guideline, and it can be varied as needed. One common variation is to simply focus on the problem without proposing counter-measures. This type of A3 would not include the last 3 sections, although it might include a final section for “Next Steps.”

This chapter also mentions the format of the book: a parallel story of a mid-level manager (Desi Porter) and his A3 “sensei” (Ken Sanderson) training him in this new technique. Together they are going to try and solve a problem (improving the document translation process for the opening of a new production plant).

# Chapter 2: Grasp the Situation – Go to the Gemba

This chapter addresses the following sections of the A3:

|  |  |
| --- | --- |
| Title | *Names the problem, theme, or issue*  This should clearly identify the problem that is being solved.  Example: “Support Launch Objectives withy Accurate, Timely Document Translations” |
| Owner/Date | *Identifies who “owns” the problem or issue and the date of the latest revision*  It is important to have people put their name on the A3 to drive home the fact that they own this problem. As they develop this A3 and develop a deeper understanding of the problem area, they also become the clear “owner” of this problem and will be given authority by upper management to solve this problem. |
| Background | *Establishes the business context and importance of the issue*  Add some context here. Explain why you are working on this problem and provide any additional background/context necessary to understand this problem in its entirety. |
| Current Conditions | *Describes what is currently known about the problem or issue*  Provide charts and data. Diagram the current process with storm-clouds identifying problems or gaps in the current process. Explain how things work today and where the problems are. |
| Goals / Targets | *Identifies the desired outcome*  Now that the gaps in the current process have been identified, describe what the process looks likes when it’s “fixed.” What improvements would you see if all of the gaps were closed?  NOTE: Some A3 authors have a separate section for “targets” or “target state” that occurs after the analysis section. Shook instead includes the target state in the “countermeasures” section. This section instead just supports the problem statement by identifying opportunities rather than works towards a solution. Keep solutions out of here! |

When Porter is originally told he has to write an A3, he produces one very quickly which documents the perceived problem and proposes a solution. This is one of the biggest dangers when using the A3 process – especially for people used to fire-fighting and looking for quick ways to fix problems. Instead of rushing to a solution, it is important to dig deep into the problem to make sure that you understand it.

It is impossible to write an A3 without going to the “gemba” (the “real place”) where the actual work is done. When you document this problem, you should be thoroughly familiar with every facet of the way in which the work is done and how the problem manifests itself. Eventually, you will become the expert in this subject area, and you will have clear authority (and responsibility) to solve this particular problem. Without doing this, you will completely lose credibility with those who actually do the work, and you will find it hard to gain support for your solutions.

NOTE: Managers can encourage this by asking as many questions as possible about the problem and how it manifests in the gemba. The A3 owner should be able to answer any question (and will likely have a large amount of supplemental information – not included in the A3) to help do this. If the A3 owner gets stumped, it will be clear that they have to go learn more about the problem before returning. Do not help answer questions for them though. They should be digging into the problem themselves.

The trap of quickly defining a problem and championing only one solution is called “beginner’s mind.” Instead, it is important to develop a “questioning mind.” The A3 owner should always be looking to learn more about the problem at hand and to look for new solutions and new ways of looking at the problem. He should not be an advocate for any one particular solution. It is much more important to understand the problem than to propose a solution. You want to make sure that 1) you are really looking at the right problem, and that 2) any proposed solution will in fact address this problem and its route causes. This is the job of the A3 owner.

*Key Questions*

* Who is responsible for this issue? Who owns the process for addressing the problem (or realizing the opportunity or managing the project)?
* What is the business context? How did you decide to tackle this problem?
* What do you actually know and how do you know it?
* Have you gathered and verified facts – not just data and anecdotes – to clearly understand the current state?
* Have you engaged other people?
* What is the problem? Can you clearly and succinctly define the “presenting problem” – the actual business issue that is being felt?
* Have you gone to the gemba?

*Quotes*

“No problem, is problem.” - Toyota managers are expected to find problems in their processes and opportunities for improvement. Their job is to actively go and look for these and report them. If there do not appear to be any problems in the current process, that is a problem, because it means no one is looking. There are always problems somewhere.

“For Americans and anyone, it can be a shock to the system to be actually expected to make problems visible. Other corporate environments tend to hide problems from bosses.” – Ms. Newton (Toyota associate).

“If the learner hasn’t learned, the teacher hasn’t taught.”

“A problem well-defined is a problem half-solved.” (I can’t find where this quote was in the text, but it was my favorite quote from the entire book).

# Chapter 3: Goals and Analysis – Finding the Root Cause

This chapter addresses the following section of the A3:

|  |  |
| --- | --- |
| Analysis | *Root cause analysis of the situation to determine what has created the gap between the current situation and the desired outcome.*  Divide the problem up into sections, each with the root cause of the problem identified. Can include diagrams, if helpful. |

Once we have identified the problem, we need to figure out why it exists. What is the root cause of this problem? Countermeasures must be targeted at the root cause; otherwise, we will keep seeing new problems appear. There are several lean methods for identifying the root cause of a problem:

* The Five Whys – keep asking “why” (at least 5 times) until the true cause of the problem is discovered.
* Divide the problem up – identify different parts of the problem that might have different underlying causes.
* Diagrams – (all kinds of diagrams, it seems…)

NOTE: The mentor can make sure that a proper analysis has been done by asking the Five Whys. Keep asking “why” to make sure that no potential cause of the problem has been overlooked. If one is found, go back to the gemba to learn more.

*Key Questions*

* Have you identified the real problem?
* Can you show the gap between the target and the current condition?
* Did you go to the gemba, observe, and talk to the people who do the work to fully grasp the current situation?
* Did you clarify the true business objectives?
* Did you uncover the right (i.e., most meaningful) information to support the analysis
* Did you isolate the root cause(s) of the main components of the gap?
* Did you capture this material in the most clear and concise manner, i.e., one that clarifies true problems, invites analytic questions, and suggests direct countermeasures?

*Quotes*

“The scientific mind does not so much provide the right answers as ask the right questions.” – Claude Lévi-Strauss.

“During his time at headquarters operations in Japan, Sanderson had learned that it was taboo for an individual to argue for a solution to a problem they didn’t actually know about (a fact which Five Whys would reveal). Similarly taboo was sloppiness in any form, especially in thinking.” (page 46).

“We want to not only show respect to our people, the same way we want to show respect to everyone we meet in life, we also want to respect their humanity, what it is that makes us human, which is our ability to think and feel – we have to respect that humanity in the way we design the work, so that the work enables their very human characteristics to flourish.” – Fujio Cho

# Chapter 4: Proposed Countermeasures – Set-Based Decision-Making

This chapter addresses the following section of the A3:

|  |  |
| --- | --- |
| Proposed Countermeasures | *A proposed set of corrective actions or counter-measures to address the problem, close the gap, or reach the goal*  A list of proposed countermeasures (don’t exclude any) that can then be evaluated and ranked based upon how well each addresses the identified causes of this problem. The highest ranked countermeasures are good candidates for implementation. |

Countermeasures are the proposed actions that can be taken to close the gaps and improve the process. It is important to note that this should be a “set of countermeasures.” Any idea that is proposed should be included in this list, and nothing should be rejected out-of-hand. This is important to help build consensus. Everyone will be given the ability to voice their opinion, and no opinions will be rejected. In the end, all of the proposed countermeasures will be graded and ranked. A table such as the following may be useful:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cause | Counter-measure | Description | Eval. | Benefit |
| A | Central document-flow tracking process | Overall process ownership established  Document flow and timing management  …. | Excellent | Delivery,  Quality,  Cost |
| B | Standard vocabulary database | …. | Good | Quality |
| ? | Automation | …. | Questionable | Cost (?) |
| A,B | Insource | …. | No good | Quality,  Delivery |

* Cause – reference to one of the root causes in the “analysis” section of the A3. Here, each cause was identified by a letter (A, B, C, …)
* Counter-measure – short description of counter-measures
* Description – long description with supporting details
* Evaluation – The groups evaluation of this proposal.
  + Excellent (or a circle with a dot in it)
  + Good (or an empty circle)
  + Questionable, but possibly adequate (an empty triangle)
  + No good (an X)
* Benefit – reference to one of the benefits in the “goals/targets” section of the A3. Here, each benefit had a simple, one-word descriptor.

The goal of this step is to get everyone looking at the proposed set of countermeasures and to have them objectively evaluate them. By debating each of the countermeasures based upon how well it addresses the defined problems, focus should be kept on finding the right solution rather than turf-wars or fights or psychological attachments to each solutions. When this step is completed, the highest-ranked countermeasures will be good candidates for implementation.

*Key Questions*

* Have you explored every reasonable alternative countermeasures?
* Have you produced viable alternatives based on productive conversations with everyone doing the work? With customers of the process? With stakeholders?
* Can you show how your proposed actions will address the root causes of the performance problems?
* Can you justify why your proposed actions are necessary?
* Have you continued to go to the gemba in gathering new information and countermeasures?

*Supplemental: Building Consensus*

The A3 is a powerful tool for gaining consensus around a problem and a proposed set of countermeasures. Consensus is built during the two main phases of the A3 process:

1. Understanding the Problem – gathering input from everyone involved and going to the gemba are important ways to let everyone who will be involved in implementing the solution be involved in the process. Seeing that the problem is being responsibly handled and well-understood help the A3 owner gather a lot of credibility and respect that is essential when a countermeasure is proposed.
2. Proposing countermeasures – again it is important to gather input from everyone and to make sure that everyone feels as though their voice has been heard. Even if a countermeasure doesn’t seem to make sense, it can be included in the A3 and evaluated by the group. If it is rejected, the proposer will at least understand why and will know that his opinion was heard and debated based on its merits.

NOTE: In Japanese, this process is called “nemawashi” (literally “root twist”, or twisting the roots of a plant when it is pulled from the ground so that the roots are taken intact and can be planted successfully in new soil). A better translation in this context is “preparing the ground for planting.” Japanese managers also use the term “hoshin kanri”, translated as “strategy/policy deployment” or “strategy alignment/management.” This “refers to the process which creates alignment around objectives and actions from the top of the company down to the work-group level, while at the same time bubbling ideas and initiatves from the bottom up or middle out.” (page 69).

# Chapter 5: Plan and Followup – Pull-based Authority

This chapter addresses the following sections of the A3:

|  |  |
| --- | --- |
| Plan | *Prescribes an action plan of who will do what when in order to*  *reach the goal*  Include deliverables, timelines, and responsible parties. |
| Follow-up | *Creates a follow-up review/learning process and anticipates remaining issues.*  Schedule follow-up meetings to make sure that the countermeasures being implemented are actually working and to review the A3 process as it was applied to this project. |

Once the countermeasures that are going to be implemented have been identified, the role of the A3 owner changes entirely. While they still should continue to work to understand the problem, they are no longer expected to be impartial or all-inclusive of new countermeasures. Instead, they should become an advocate for the countermeasures that were selected and work full-tilt to implement these countermeasures.

At this point, the A3 owner should begin to construct timelines and action plans. They should include who will do what and when. A table such as the following may be helpful:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Deliverable | Timeline | Responsible | Support | Review |
| Planning | [insert gantt chart with timelines for each deliverable] | Porter | Each department | Plant management committee (HQ) |
| Vendor Selection | Fances | Administration |
| Document creation | Each department | Ana | Each department |

List what will be delivered, when, and by who. The above table also lists people available to support each process and who will be responsible for reviewing the process.

The “followup” section of the A3 will set dates and responsible parties for conducting follow-ups to check on the progress of work and to ensure that the A3 is working correctly. It’s important to make sure that that root causes are in fact being addresses and that the target goals are still attainable. It is often sufficient to schedule two reviews: “a mid-term review” and a “final review.”

Once then plan is in place: Go!

*Key Questions*

* Has problem-solving shifted from quick fixes to root-cause counter-measures?
* Does the current A3 reflect the input of the key people involved with the work? Do counter-measures have support?
* Do you see where your A3 (and the work it encompasses) fits into the A3s of colleagues below and above you (and their work)?
* Has the A3 continued to evolve through constant iteration as a result of experimenting with the initially proposed countermeasures?
* Are you using the PDCA cycle to implement the plan – and to gather knowledge from experiments?

*Quotes*

“Plans are worthless. Planning is everything.” – Dwight D. Eisenhower

“I’ll be back in two weeks.” (Always follow up and make sure that there is a deadline – even an artificial one like this – to make sure that progress continues).

*Supplemental: PDCA Process*

You should understand that the A3 process is iterative. You will never solve all of the problems. New processes will also introduce new problems. Throughout the entire process – as you work to understand the problem at hand, and as you work to implement a set of countermeasures – you will continue to find new problems and likely will be developing new A3’s to respond to them.

At this point, we are really implementing the PDCA (Plan Do Check Act) process. There are several similar processes and many books written about this, but here is one way to think about it:

|  |  |
| --- | --- |
| Plan (hypothesis) | Determine the problems with the current conditions, goals for a process, and neede changes to achive them with actions and subgoals. |
| Do (experiment, trial) | Give the changes or the new process a try. |
| Check (study and reflect) | Evaluate the results. Ask what was learned. |
| Act (adjust and standardize) | Incorporate the learning into the new process. Standardize and stabilize the change and begin again. |

*Supplemental: Just-in-Time Decision Making*

NOTE: This section is taken verbatim from the book (page 92)

In companies whose thinking is informed by the A3 process, managers at every level make the right decisions only *when it is exactly the right time to do so*. Choosing a solution too early can easily lock in the wrong choice. That’s because premature solutions often reflect political agendas, impulsive analysis, or poor judgment. They rarely reflect the shared understanding or agreement necessary for successful execution. Nor do they have sufficient facts or engaged consensus to succeed.

A3 thinking triggers decision-making at the right time by focusing the debate on the facts at hand, involving the right participation through dialogue, and enabling the choice to be made only when all the options have been assessed by the key players. This process grants the authority to make the decision to the person who has the responsibility to do so: the owner of the report.

The A3 helps the manager prevent people from making decisions too quickly.

# Chapter 6: Perpetual PDCA – Developing A3 Thinkers

When the process is done, make sure you don’t simply report the success and close the books on this project. Improvements should be iterative. There is always more to improve, and the process may be ripe for another cycle of PDCA. Make sure that you encourage your associates to continue to look for problems. Make sure that they are constantly developing their A3 thinking and problem solving skills. Building people is one of the most important responsibilities of a manager, and it is important to make sure everyone is constantly challenged and that nothing (and no one) is simply running on auto-pilot.

Help people to find the next new challenge. In an A3 organization, roles are constantly changing. Everyone’s goal should be to automate their job out of existence. Once the problems are fixed, the people who are working as stop-gaps for that problem can be freed up and put to use in other areas to help the company grow. A competent A3 problem solver is a valuable asset to the company and should be directed to problems that are worthy of his skills. An A3 owner operates as a “mini-shusha” (a “shusha” is an individual in a Japanese company that has abroad responsibility for setting the vision and assuring successcful delivery of a product or project.) They become experts in their field and should be held responsible for improving their area and given increasing responsibilities as they succeed.

Also, the narrative story ends with the manager deciding he is going to do an A3 to look for gaps in the A3 process. Nothing should be immune from process improvement: not even the process and tools of process improvement itself.

*Key Questions*

* Are you making a conscious effort to use the review process as a way or sharing your A3 learning with your team members and with other individuals?
* Have you captured and communicated the key details of what your team has learned?
* Have you considered a wide set of potential scenarios and consequences of the changes – and developed followup activities to address them?
* Is your A3 theme ripe for another full round of PDCA? Should you turn your staff’s attention elsewhere?
* Is your team gaining capability of A3 thinking? Are they bringing problems and ideas forward, or waiting for assigments?
* Are issues and problems being revisited repeatedly? This indicates matters are not being dealt with at the root cause.
* Are staff still jumping to solutions?

*Quotes*

“Authority is pulled to where it is needed when it is needed: on demand, just-in-time, pull-based authority.” (page 107) (This is also called “Kanban democracy”, a term coined by Taiichi Ohno)

“Plans are things that change.” (page 110).

“No matter how successful a company has been, it needs to develop an organizational culture of “preparedness.” It must convert both the intended and the unintended consequences of its actions, the lucky breaks and the well-laid plans, the temporary successes and the failures, into long-term competitive routines. … After all, fortune favors the prepared organizational mind.” – Takihiro Fujimoto.

# Conclusion – Learning to Learn

“Now that you’ve learned the A3 format and gone through a template, you can forget them. Rather than a rigid template, think of the A3 as a blank sheet of paper or even a blank whiteboard. Think of the blank A3 as the beginning of a conversation, of the embarking on a new project, a journey. The point of an A3 isn’t the paper or the format; it’s the process in its entirety.” (page 117).

Watch out for some of the common pitfalls of the A3 process that were illustrated in the book, and take following advice in particular will be helpful:

1. Avoid jumping to a conclusion and becoming emotionally attached to it. This happens all the time and is the norm for many organizations that rush to offer solutions without actually understanding a problem. Focus on understanding a problem, being in a learning state of mind, and work towards finding the right solution – not just the first solution or the most creative solution.
2. Develop the mentality of an investigator. This is easier said than done, and it may take years of learning to really understand this, but “this epiphany is core to the A3 process.” Once grasped, this is also very liberating since you don’t have to defend a solution or prove that you are right all the time.
3. Once you have decided on a plan of action you must shed the investigative, “laissez-faire attitude” and act as the champion for the proposed countermeasures (until and unless facts emerge that indicate another course is better). The A3 owner must embody two characteristics sequentially and simultaneously: objectively, dispassionately, take your own ego out of the equation while also being a champion, an entrepreneurial owner of your proposal.

The A3 can be a powerful tool to help understand a problem, encourage lively debate, and gain consensus on a proposed course of action. The author describes how many meetings were conducted with an A3 at the center of the table, and how often this was used to encourage dialogue and debate. This was central to much of the work he did at Toyota and encouraged a culture of problem solvers who were constantly looking for ways to improve the company in both its organization and its processes (the organization should be built around its processes and the A3 is primarily a process improvement technique with the power to reshape an organization).

The author also describes a powerful scene of mentoring at Toyota (page 119):

Mr. Ono was a true A3 guru. Late almost every evening, after most employees had left for home, a line of mostly younger employees, all working on various company initiatives, would steadily form in front of and around Ono-san’s desk. They were lining up to seek advice on their A3s. Ono was a heavy smoker. His evening desk, in the middle of a huge open office, was obscured by a cloud of smoke. Upon finishing with one person, Ono would look up, and motion the next in line to step up and hand over his A3. Ono would take it in hand; look it over quickly; invariably grimace; and, deepening the already deep furrow of his brow, take a long, deep draw on his cigarette and blow it out one corner of his mouth, the smoke now engulfing Ono, desk, and the young A3 author. At this point Ono would offer his first real reaction, which would range from disdainful scoff to derisive guffaw to merciless scorn. He would read the A3 aloud, ignoring the author, just taking in every nuance of what was on the paper, discussing implications, pronouncing simple errors along the way. As he went along and began to understand the business issue in the A3, he would often begin to smile, throwing out observations, asking questions. After about 10 minutes of reading and thinking out loud, he would espouse about 10 minutes worth of comments, by now smiling and having a jovial time, until the end when he would offer a few grave words of advice. Then, next in line. Every night.

This is the kind of mentorship that develops true problem solvers, exposes junior managers to high-level executives, and also makes sure that proper attention can be brought to serious issues that might need to be escalated in the company.

Also noteworthy is this paragraph:

One final word on a3 thinking: The underlying way of thinking reframes all activities as learning activities at every level of the organization, whether it’s standardized work and kaizen at the micro/individual level, system kaizen at the managerial level, or major strategic/tactical decisions at the corporate level. All of these processes work in essentially the same way, named and structured differently for different levels of the organization. Problem-solving, continuous improvement, kaizen: Whether inductive or deductive, they are still based on 1) understanding causality, 2) seeking predictability, and 3) ensuring ongoing, unending learning.

*Quotes*

“John, you must use the organization. It is there for you. Use the organization as if it were a tool to wield, an instrument to play.” – advice given to the author by his boss.

# Getting Started - It Takes Two to A3

It is impossible to use an A3 by yourself. You can write one, but an A3 is not really an A3 until it is discussed, debated, and used as a tool to gather input and start building consensus and momentum to implement process change. Also, it is important to have A3 coaches and mentors available to keep A3 authors on track and help them to grow in their understanding and use of the A3 process. The mentor should be able to read the A3 and make sure that:

1. It is readable/understandable. It tells a story and clearly illustrates the problem
2. The problem has been completely researched and understood by the A3 author
3. The root cause of the problem has been identified
4. The best set of countermeasures has been proposed and evaluated
5. Focus on sharing lessons learned and continual learning

The author then offers these final dos and don’ts:

* Don’t worry about whether to use pen, pencil, or even a computer program
* Don’t get hung up on formal elements
* Do get your message across
* Do get messy
* Do use the A3 to control meetings
* Do store learning for later reference and sharing

**A3 Reference Sheet**

|  |  |
| --- | --- |
| Title | Names the problem, theme, or issue |
| Owner/Date | Identifies who “owns” the problem or issue and the date of the latest revision |
| Background | Establishes the business context and importance of the issue  Explain why you are working on this problem and provide any additional background/context necessary to understand this problem in its entirety. |
| Current Conditions | Describes what is currently known about the problem or issue  Provide charts and data. Diagram the current process with storm-clouds identifying problems or gaps in the current process. Explain how things work today and where the problems are. |
| Goals / Targets | Identifies the desired outcome  Now that the gaps in the current process have been identified, describe what the process looks likes when it’s “fixed.” What improvements would you see if all of the gaps were closed? (Do not put target state here. That goes in “countermeasures.” In this section we are still focusing on the problem and understanding the cost of the gaps.) |
| Analysis | Root cause analysis of the situation to determine what has created the gap between the current situation and the desired outcome.  Divide the problem up into sections, each with the root cause of the problem identified. Can include diagrams, if helpful. Five Whys. |
| Proposed Countermeasures | A proposed set of corrective actions or counter-measures to address the problem, close the gap, or reach the goal  A list of proposed countermeasures (don’t exclude any) that can then be evaluated and ranked based upon how well each addresses the identified causes of this problem. The highest ranked countermeasures are good candidates for implementation. |
| Plan | Prescribes an action plan of who will do what when in order to  reach the goal  Include deliverables, timelines, and responsible parties. |
| Follow-up | Creates a follow-up review/learning process and anticipates remaining issues.  Schedule follow-up meetings to make sure that the countermeasures being implemented are actually working and to review the A3 process as it was applied to this project. |

*Sample: Title*

“Support Launch Objectives withy Accurate, Timely Document Translations”

*Sample: Countermeasures*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Cause | Counter-measure | Description | Eval. | Benefit |
| A | Central document-flow tracking process | Overall process ownership established  Document flow and timing management  …. | Excellent | Delivery,  Quality,  Cost |
| B | Standard vocabulary database | …. | Good | Quality |
| ? | Automation | …. | Questionable | Cost (?) |
| A,B | Insource | …. | No good | Quality,  Delivery |

*Sample: Plan*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Deliverable | Timeline | Responsible | Support | Review |
| Planning | [insert gantt chart with timelines for each deliverable] | Porter | Each department | Plant management committee (HQ) |
| Vendor Selection | Fances | Administration |
| Document creation | Each department | Ana | Each department |

*Quotes*

“No problem, is problem.”

“A problem well-defined is a problem half-solved.”

“… it was taboo for an individual to argue for a solution to a problem they didn’t actually know about (a fact which Five Whys would reveal). Similarly taboo was sloppiness in any form, especially in thinking.”

“Plans are worthless. Planning is everything.”

“Plans are things that change.”

“I’ll be back in two weeks.”

“You must use the organization. It is there for you. Use the organization as if it were a tool to wield, an instrument to play.”