



A3 THINKING

Introduction

Projects are developed by experts and contributors with various backgrounds and experiences making thousands of decisions. Those experiences inform decisions, whether appropriate or not, and ultimately determine project cost and outcome.

Collaborative projects have learned that waste is often imbedded in those decisions that don't directly apply to the current project Conditions of Satisfaction (CoS). A High-Performing team will create a decision making process and rigorously perform the A3 Thinking decision making process to identify and reduce waste while improving compliance to the CoS.

Done correctly, A3 reporting can provide concise project updates for senior oversight individuals and drive faster input and feedback.

1.0 Why

Teams should use an A3 to improve collaboration, outcomes and the problem solving of specific issues. Due to the size of an A3 (typically displayed on an 11 x 17 sheet of paper), teams are required to focus each A3 on a complicated or broadly compelling decision or a single small to mid-size problem.

Done correctly, A3 reporting can provide concise project updates for senior oversight individuals and drive faster input and feedback. It can also provide a regular snapshot of project health.

Another advantage of an A3 is the historical record of the issue that it provides, along with the rationale behind various decisions or solutions and how the team arrived at them. This can be a useful document to reference later in the project to understand the thinking at various critical points.

A properly executed A3 should reveal the rigor and thought a team used to resolve an issue, thereby increasing confidence with senior leadership. Other benefits include:

- Identifying root causes;
- Creating a dashboard of useful information to reference throughout the project;
- Sharing information and knowledge among team members;
- Reaching consensus among team members; and,
- Promoting deliberative, thoughtful decision making.

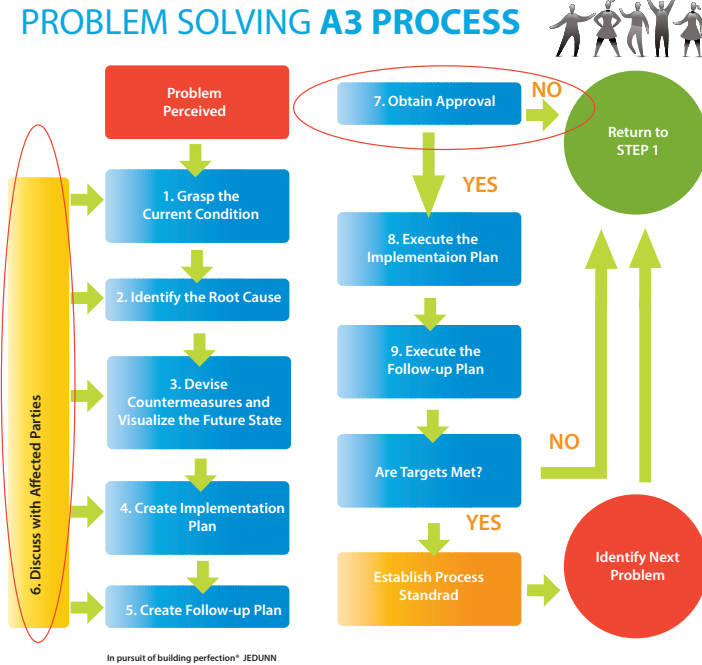
The A3 process is also a good learning tool. Authors are mentored by more experienced reviewers. Everyone involved in an A3 has an opportunity to sharpen their problem solving skills.

A word of caution—producing A3 documents without utilizing the A3 thinking process could still lead to various types of waste.

2.0 How

An A3 is a collaborative document usually managed by a single author or champion who has ownership of the document and oversees its development. The champion drives the process and encourages contributions from team members. A more senior team member or leader serves as a reviewer and mentor, guiding and challenging its assumptions, recommendations, and conclusions. This process is performed with the author in mind so that the information can be consumed in a short time period, thereby yielding sharper thinking.

While there are many ways an A3 process can work, the following image provides a good example of how these steps often look:



Remember that an A3 is a high-level tool that does not prescribe specific steps. Those can be shaped by the champion, reviewer, and team members. With that in mind, below are a few tips for using an A3:

- Prominently define the problem that A3 is addressing.
- Include a list of participants so it is clear who contributed to the process.
- Make sure each A3 has an owner or champion.
- Don't feel compelled to fill up the entire 11 x 17 paper if it's not needed.
- If the problem doesn't fit in the space, break it into a smaller problem that can fit on the paper, or reshape the presentation more precisely.
- Use a platform that provides version control and allows editing by all team members.
- Integrate visuals if they are more effective than text in communicating ideas or illustrating points.
- Update the document as new information becomes available.

3.0 What

A3 thinking is a collaborative process management and improvement tool developed by Toyota. The applications of an A3 are broad. It can be used for problem solving, decision making, planning or reporting of a specific issue from the proposal stage to commissioning. For example, an A3 might be used to decide which system to select, or how to accomplish LEED certification. Often, it is part of a PDCA cycle or DMAIC cycle.

An A3 is an indispensable tool due to the structure, focus, collaboration and consensus it brings to problem solving and decision making. The flexibility of the tool also makes it easy to adapt to a variety of tasks and contexts.

No special software or tools is needed to use an A3. It can be developed using a pencil and paper or commonly-used programs like Excel, Word, and PowerPoint. The only formatting requirement of an A3 is that it be presented on an 11 x 17 sheet of paper.

References

How to Use A3 Reports on Projects, Lean Project Consulting

Project Development for the Lean Enterprise, Michael Kennedy

Understanding A3 Thinking, Durward Sobek and Art Smalley

Managing to Learn: Using the A3 Management Process to Solve Problems, Gain Agreement, Mentor and Lead, John Shook



Quick Reference

Facilitation	57
Continuous Improvement	179
Conditions of Satisfaction	133

For additional readings and information, please see the below information.

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Additional Readings

[5.2 Mechanical Systems](#)

[5.6 VDC for Lean Project Delivery A3s](#)

[9-15-08 Lean Construction Opportunites Ideas Practices](#)

[A3 Decision Analysis Using Virtual First-Run Study of a Viscous Damping Wall System](#)

[A3-Brief Introduction to Lean Construction](#)