Build a Lean organization yourself

THE LEAN PLAYBOOK

ANTONIO MEDINA, DANIEL SANTIAGO, ANTONIO J. RODRÍGUEZ & IVÁN MARTÍN

FOREWORD BY ANTONIO CRESPO
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FOREWORD
Exponential Age

There are many factors that lead us to believe that we live in an era of exponential change. From a business point of view, the pace at which unicorns—term coined by Aileen Lee in 2013 for privately held startups that have a $1 billion valuation—have been built has accelerated over the last years. Today, unicorns like Uber have a similar or even higher valuation than General Motors, Honda or Ford, the companies actually build the cars their drivers use. Surprisingly enough, Uber itself, founded in 2009, does not own cars. It “only” connects consumers looking for transport with drivers who use their own cars. A “simple” business model that several other organizations have copied—in a trend that has come to be referred to as “uberification”—.

While many people consider that most of the startups that succeed are IT companies, the truth is that the competitive advantage mainly comes from understanding the customers’ needs and defining business processes in order to deliver a unique value. In my example, Uber produces far superior benefits when it comes to ease of ordering, certainty of car arrival time, ability to see the route taken, ease of payment and quality control. Yes, technology plays a role, but more as an enabler than as a competitive advantage in itself.

In other words, and looking at this from a different angle, technology is nowadays able to do much more things than what we may imagine. The real issue is to find a business model that supports the usage of this technology by providing value the customer—or anyone else—is willing to pay for.
Back to the Basics

And then is the fact that technology has changed the game rules. The amount of investment needed to have an exponential access to new markets is available to all kinds of companies, of any size. And one of the main results of this technology democratization is the convergence between the tools and management models in every type of organization, may they be unicorns, elephants or SMBs (Small and medium Businesses).

With all of this coming together, the Lean philosophy is gaining more and more followers in every company. One of our main weaknesses, as human beings, is that we do not have historical memory. Lean represents going back to the basics. Basics that are, or should be, applicable to big, medium and small companies. Basics that involve putting the customers first, at the core, and directing the organization’s culture and management to achieve the highest value for its clients. A simple concept, but quite often a difficult one to put into practice, especially in more mature organizations, with big legacy and vertical structures that blur the vision and complicate the mission.

The book you hold in your hands is unique. A lean book about Lean. A real playbook. An easy guide, simple and extraordinarily useful. It shows in a practical way how Lean can be conceived as a simple, sensible concept, and how it can be applied in any context, with practical examples in each case study. A book without muda (waste in Japanese), simple in its concepts, reader-centric, practical in its drafting.
Fast is Easy

We live in a world where fast is a synonym of easy. Lean can be done by anyone willing to do it: the book examples are simple but real, and actually very common cases of recurrent problems in organizations. They show how simple and effective Lean solutions can help overcoming them.

The Lean Playbook is the perfect guide to get yourself started in Lean, considering the key elements you’ll need, from strategy to operations. It also shows how to communicate, convince and sell it to everyone involved. All these are the essential components in the change management process in which established companies are about to embark upon – if they are not already...

And what can I say about the authors... I have had the pleasure to work with all of them. They have inspirational mindsets, teamwork hearts and a lean attitude. The essential components of the 21st century professional, no matter the industry or the company size. And, what is more important for you, dear reader, they are hands-on Lean experts who will help you to start this Lean journey. A journey that you will surely enjoy.

Antonio Crespo,
Chief Digital Officer. Quint Wellington Redwood
HOW TO USE THIS BOOK
# EXPERIENCES INDEX

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Create your own Lean journey

Dear reader, in case you are thinking on reading this book like a novel, you should take the following points into consideration:

✓ It might be disappointing, but there is no love story in this book. In fact, there is no story at all. This book was meant to be a collection of experiences. So you can read the chapters in it in the order you want.

✓ This is a book designed to give you some answers. But first, you will need to discover what your questions are:
  • Have you heard anything about Lean or are you wondering how to introduce it in your organization?
  • Are you wondering how Lean can help you making your organization more efficient?
  • Are you interested in using the tools in this book to give more value for your customers? Or is your concern increasing your team’s motivation towards their work?
  • Is your organization already undertaking a Lean transformation and do you want to avoid losing the momentum?

✓ We would like you to think of this book as a reference on your desktop and to use it whenever you are struck by any trouble related to the Lean philosophy or you have doubts on Lean can help you overcome some organizational issues.
# HOW TO USE THIS BOOK

**Paths you might to consider, according to results you would like to achieve**

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Chapter 10

VALUE STREAM MAPPING
QUICK CARD

What is it

Value Stream Mapping (VSM) analyzes all the current steps in a process, identifies potential inefficiencies and designs future activities to better provide products or services to customers, focusing on what the customer defines as value. It is a tool to identify and quantify timings and waste (inefficiencies) and also to setup a common and shared understanding of the activities among all stakeholders involved in an end-to-end (E2E) process.

When to use it

Whenever one or more of these are met:
• Lack of efficiency in the activities performed.
• Products or services delivered require higher efforts or longer time-to-market than expected.
• Teams are working in silo mode in the same process/stream.

WHAT TO DO

✓ Before the workshop: define a high level process and a scope with key roles.
✓ During the session: have just one conversation at a time, encourage everyone to speak up, achieve commitment to get actions done.
✓ After the session: follow up on the actions and provide coaching if needed.

WHAT NOT TO DO

✓ Invite the whole team: it can become too complicated to manage.
✓ Try to analyze a huge process or not having defined the scope beforehand.
✓ Have unclear scope or ownership for the quick-wins or improvement actions.

CHECKLIST

✓ Book a spacious room with empty walls.
✓ Get tons of 13×8 cm color post-it notes and few markers.
✓ Time allocation: 2-4 sessions of 4 hours.
✓ Invite different roles to obtain the full picture of the process, recommended 8-12 people.
✓ Get one pile of small color stickers, 3×3 cm would be fine.
The Lean Playbook

The Lean Playbook

From detection to invoice as fast as Superman

An internal trading department had been acquiring more relevance within the company due to the profitability of their activities. At the same time, competitors were challenging their trades because of this growing profitability, urging the department to become faster at their operations, but knowing that increasing the team was not an option.

Timing is key for most organizations to achieve customer expectations, but for trading companies or departments it is absolutely crucial. Additionally, team members were constantly facing long workdays, much more than their trading counterparts in other countries. These long workdays tended to fatigue them while decreasing their motivation and leaving them with no time to find a solution to this problem.

THE CASE

HOW A TRADING DEPARTMENT PROVIDED THE CUSTOMER NEEDS IN A MINIMUM TIME
CHAPTER 10 VALUE STREAM MAPPING

THE CASE

HOW A TRADING DEPARTMENT PROVIDED THE CUSTOMER NEEDS IN A MINIMUM TIME

Integrate all silos to remove waste

At this point, there was a clear intention to reduce the time from trade detection to treasury, as well as to increase the team engagement by reducing working hours and establish cooperation within the team members.

One main objective was pursued, to reduce the Time to Market (TTM) as well as two secondary objectives: a) reduce the team members’ workload and b) break down silos and involve all teams into one process.

We decided to run a VSM workshop aiming at:

✔ Identifying waiting times, reworks, overproduction and defects.

✔ Setting up a common understanding to increase efficiency, as some roles were performing tasks without being aware of their purpose, while others received too much information or documentation.

✔ Highlighting those activities with no value to achieve the expected outcomes.

✔ Improving the current tools and flow of information they were using: forms, applications, Excel files, meetings, etc.
Team involvement

The starting point was to contact with one or two key stakeholders who were the most knowledgeable of the process so as to quickly establish the process scope and what roles had to be involved. During the previous days, they provided the Voice of the Customer results, main concerns, improvement areas, customer or team member complaints and so on. Once we had outlined a high level process and agreed with the list of roles involved, we identified who had to participate in the workshop to ensure every role involved had the full picture of the process at the same granularity level.

At this point, and in order to ensure more involvement from the team, we sent out a formal communication including the workshop agenda, objectives and the desired collaborative attitude and behaviour. At the same time, we spent a little time meeting some of them to gather main pain points, perceptions, double work, etc. By doing so, we ensured all of the main topics would be addressed during the workshop.

Before ending this preparation phase, we had a good understanding of the process and checked if the room for following sessions was big enough.

TIP
✔ Keep the number of participants around 8 to 12 with different roles.
Design the agenda

We decided to do 3 sessions of 4 hours each, divided as follows:

1st day
SIPOC (Suppliers > Inputs > Process > Outputs > Customers)
diagram generation and current state VSM.

2nd day
Waste identification over the current state VSM.

3rd day
Draw the desired future VSM and the list of actions to get there.
Room preparation to boost participation

Then it was time to set the room and materials up. To enable collaboration and discussion we put all the tables and chairs on one side of the room and hung a big poster with the capital letters “S-I-P-O-C” up. We prepared another, even bigger poster as well. This poster had the high level process steps written on A4 sheets at the top.
Delimit a common vision of the stream

SIPOC is an easy and enjoyable tool to clearly establish the process boundaries (scope) because:

✔ We asked the participants to add customers below the C with the Post-it notes of the trading process and the process outputs they received.

✔ Then we quickly agreed on the high level process outline (as we worked on it in the preparing sessions).

✔ Afterwards, everyone had to define what inputs they needed to perform their tasks were and who were the suppliers of those inputs, considering both the internal and external suppliers.

✔ Finally, we talked a little about customers and suppliers as well as the inputs and outputs, to ensure they were all matching and aligned.

After 90 minutes, we had all agreed on the SIPOC and had a shared vision of the process’ context.

TIP

✔ Sessions should be led by a facilitator as some people tend to speak for too long and with too much detail. So remember to address this risk and focus on assessing the usual work, discarding exceptions whenever they appear.
HOW WE ENGAGED THEM

1ST DAY: SIPOC DIAGRAM GENERATION AND CURRENT VSM

SIPOC board

The result of the SIPOC session was the following*:

- **S**: PMI, BANKING, REP
- **I**: PRICING, RAW LIST
- **P**: TRADES, REPORT, REP, API
- **O**: TRADER, ORDERING, VETTING, OPS
- **C**: PETRO, MOTOR, TREASURY

* Examples in this chapter are a modified version of the reality to facilitate the understanding.
Add all activities to the process

After finishing the SIPOC, we swapped to the poster with the high level steps of the current state VSM process, but keeping the SIPOC in sight at the same time.

At this point, and with the enthusiasm of having reached consensus with the SIPOC, participants were asked to write down their activities below the main steps of the current process. We had to remind them to add the following estimates:

- The actual time dedicated to execute the task. This is called **VALUE ADDED TIME (VAT)** and it should be the minimum viable time to do the activity in ideal conditions.

- The **WAITING TIME (WT)**, including the time while the task is waiting in the queue to be executed plus intermediate waiting periods during the execution.

- **ANY REWORK (RW)** to show how much delay and effort defects can generate (we usually we ask the team for the percentage of occurrence or the number of iterations)

Total time for the activity = Value Added Time + Waiting Time (if any) + Rework (if any)

You can see the Post-it note template we used, on the left.

* Rework is doing things more than once, because the first results were faulty.
Define the activities order

Once everyone had placed their activities on the wall, the team agreed on the correct order. This is usually a bit messy at the beginning, but in the end all teams reached an agreement. Below you can see a simplified version of the real VSM defined by the team:
Add time to every activity and sum up

The second session took place one week later, so we used the time to validate the data (times and activities) from the previous session. These findings helped the team in (1) knowing the estimate for each main step by adding up the activity times in each step, and in (2) identifying aspects that did not work properly (pain points): rework, waiting times, bottlenecks, overprocessing, unnecessary meetings, and so on. Lean categorizes these pain points as waste (“Muda” in Japanese).

\[ (1) \quad 2.75h = (1h+1h) \times 0.25 + (1.5h+3h) \times 0.50 \]

(2) 2h Waiting time because 2h > 1h and the activities run in parallel
Help for a better visualization

Below are some typical icons used when doing a VSM and identifying waste.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Truck]</td>
<td>TRANSPORT</td>
<td>Transportation</td>
</tr>
<tr>
<td>![Explosion]</td>
<td>DEFECTS</td>
<td>Defects</td>
</tr>
<tr>
<td>![Clock]</td>
<td>INFORMATION FLOW</td>
<td>Information Flow</td>
</tr>
<tr>
<td>![Triangle]</td>
<td>PHYSICAL FLOW</td>
<td>Physical Flow</td>
</tr>
<tr>
<td>![Inventory]</td>
<td>OVER PRODUCTION</td>
<td>Overproduction</td>
</tr>
<tr>
<td>![Waiting Time]</td>
<td>EXCESSIVE (OVER) PROCESSING</td>
<td>Excessive (over) Processing</td>
</tr>
<tr>
<td>![Movement]</td>
<td>EXTERNAL PROVIDER</td>
<td>External Provider</td>
</tr>
<tr>
<td>![Rework]</td>
<td>ACTIVITY CARD</td>
<td>Activity Card</td>
</tr>
</tbody>
</table>

Waste is anything, mainly activities, which do not provide value for the customer: Defects, Over-Production, Waiting, Non-utilized resources, Transportation, Inventory, Movement, Excessive (over)-Processing.

TIP
✔️ Use the Mnemonic: DOWNTIME
Visualize the waste (Muda)

By enabling a conversation, the team will be able to discuss and identify by themselves the pain points, waste, improvements and other inefficiencies in the process.

During this open conversation, anyone detecting an improvement can place a small sticker (3×3 cm) at the associated activity or the SIPOC element.

At the end of this second day, improvements found can be categorized by the type of waste they will help reduce or solve, as seen below:
HOW WE ENGAGED THEM
2ND DAY: CURRENT STATE VSM COMPLETION AND WASTE IDENTIFICATION

Back-office calculations and analysis

However, our role as facilitators was to stimulate the team in detecting other dimensions, such as variability (Mura) and complexity (Muri), in order to create a pull system that facilitated the flow of their activities, see chapter 6. The aim of this analysis was to try to achieve excellence and also to make their work easier.

After the second session, we worked out the following calculations. Keep in mind that you should focus on analyzing what is most important for your goal in the workshop, and that might not be exactly like these calculations:

**EFFICIENCY**

\[ \text{EFFICIENCY} = \frac{\text{vat}}{\text{TOTAL TIME}} \]

**CYCLE TIME**

\[ \text{CYCLE TIME} = \sum \text{TOTAL TIME} \]

WHERE TOTAL TIME IS THE TOTAL TIME OF THE ACTIVITY, PHASE OR PROCESS BEING ANALYZED.

**CYCLE TIME**

* IS THE SUM OF THE TOTAL TIME OF ALL ACTIVITIES IN A VALUE STREAM.

* SOME SCHOLARS ALSO CALL THIS LEAD TIME.

Waste is anything, mainly activities, which do not provide value for the customer: Defects, Over-Production, Waiting, Non-utilized resources, Transportation, Inventory, Movement, Excessive (over)-Processing.

**TIP**

✔️ Use the Mnemonic: DOWNTIME
Qualify the pain

Finally, again one week later, we approached the team for the third time. They were motivated to define their future way of working in order to translate the trade opportunities into cash as fast as a Superman.

This future state definition was triggered by discussing about the waste and other pain points. We started off by listing all the waste, improvements, and so on. And then, we qualified them according to the impact (time and effort), and the feasibility to remove the waste.

This way, we defined a list like the one on the left.
### Co-create the action plan

With the list in front of everyone, we defined the appropriate actions to solve them and the team decided who should be the improvement owner. Finally, the owner decided on a realistic due date.

By doing so, the future VSM was defined by removing all the identified waste.

<table>
<thead>
<tr>
<th>ID</th>
<th>WASTE (ACTIVITY)</th>
<th>IMPACT</th>
<th>FEASIBILITY</th>
<th>OWNER</th>
<th>DUE DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>INVENTORY (ASSESS OPORTUNITY)</td>
<td>H</td>
<td>H</td>
<td>AM</td>
<td>15/3</td>
</tr>
<tr>
<td>3</td>
<td>OVERPRODUCING (RISK ASSESSMENT)</td>
<td>H</td>
<td>L</td>
<td>AM</td>
<td>12/4</td>
</tr>
<tr>
<td>5</td>
<td>INVENTORY (PRICE NEGOTIATION)</td>
<td>H</td>
<td>H</td>
<td>SM</td>
<td>29/3</td>
</tr>
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<td>7</td>
<td>REWORK (FINAL VALIDATION)</td>
<td>H</td>
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<td>L</td>
<td>BRM</td>
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<tr>
<td>12</td>
<td>WAITING TIME (FUND REQUEST)</td>
<td>H</td>
<td>H</td>
<td>PM</td>
<td>15/3</td>
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Define the To-Be VSM state

Keep in mind that the facilitator’s purpose is not only to lead the sessions, but also to challenge the team to take improvement actions and define the best future VSM by keeping some recommendations in mind:

- Maintain alignment with VoC.
- Establish a flow system by standardizing, reducing peaks and valleys, reducing variability (stabilizing the process), removing inventory, etc.
- Improve communication between departments, avoid silos.
- Do just the necessary to get the job done.

The future VSM is below, with the expected times and rework, after estimating the impact of the actions to be taken by the team:
Deliver results to the team and other stakeholders

Use an Excel sheet with:

✓ Current state VSM with cycle time and efficiency calculations.
✓ Future VSM with cycle time and efficiency calculations.
✓ An improvement action list with clear ownership and due dates.
✓ Estimated efficiency or capacity gains by achieving the To-Be state.

Actions with Low feasibility but High Impact are candidates to become Kaizen opportunities, explained in Chapter 13.

**CURRENT VSM**

- EFFICIENCY = 38%
- CYCLE TIME = 28.2H

**FUTURE VSM**

- EFFICIENCY = 48%
- CYCLE TIME = 15.7H

**BENEFITS OF AN IMPROVEMENT ACTION LIST**

- CYCLE TIME REDUCTION = 12.5H
- EFFORT SAVED PER TRADE = 6.75H

Freed up capacity is calculated with the effort reduced in all activities (captured in Value Added Time) and the rework removed by implementing the improvement actions.

**TIP**

✓ In order to stimulate commitment and depict the workshop results, it is highly recommended to take some pictures of the team with the results of these sessions, especially with the action list.
WHAT IS A QUICK-WIN

A QUICK-WIN IS A CHANGE THAT CAN BE DONE WITHOUT TOO MUCH EFFORT, WITH VERY LITTLE OR NO INVESTMENT AT ALL AND MAY BE IMPLEMENTED INTERNALLY, USUALLY HAVING A MEDIUM-HIGH IMPACT ON THE PROCESS.

WHAT TO DO NEXT

KAIZEN, DMAIC, PROBLEM-SOLVING, DESIGN THINKING, ETC. TO START TRIGGERING INNOVATIVE SOLUTIONS TO PROBLEMS.

Benefits achieved by the team and other stakeholders based on DATA

This workshop reduced the cycle time by ~45% from the trade opportunity detection to the treasury process. But what was even more important for the team is that it helped reduce their workload around 35%, which allowed them to dedicate more time to the improvement list generated at the end of the workshop. They also established regular improvement follow-up meetings, organizing themselves in Kaizen teams (see chapter 13), to continuously challenge themselves to improve their daily tasks.
Finally exposed: the Lean philosophy and how to implement Lean tools in your organization. But be warned! This book contains explicit improvement results in organizations just like yours.

The Lean Playbook will show you the way to delight your clients with a more efficient organization. Do more with less. Even if you are not in the management of your company, or if you are a freelancer, you will be able to use the lessons in this book on your daily activities.

We’ve made it the key point of this book to explain every concept with a real world case of Lean implementations and/or Lean tools usage. It is the best way to get to the point and empowers you to repeat the activity in your organization. All the situations included here are based on our real experiences in more than 60 Lean implementation projects in large and multinational corporations.

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Lean is anchored in practice and this book is the ‘Check’ in the ‘PDCA’ of the author’s practices: it visualizes them, enables others to apply them and enables a next ‘Act’ to contribute to the further evolution of Lean practices. Read it, feed back and bring Lean to the next level!

Pierre Masai, CIO of Toyota Motor Europe