



Lean Business Principles

“The job of a manager is to create an environment in which the people can take pride in their work”

Dr. E. Deming



Lean Business System (LBS)

LBS is an integrated set of systems, tools and language organized to encourage the **unencumbered transfer of knowledge** across business borders. It focuses on providing what the customer wants, when they want it, through the absolute elimination of waste.



Key Principles

- Make To Use (JIT)
- Eliminate Waste
- People Linchpin The System
- *It strives to create a "community of scientists"*



Make To Use

- Pull versus Push workflow
- Batch size of 1
- Make to match customer use (takt time)
- Little or no inventory (specified) in process
 - Easier to see trouble, inventory hides flaws



Waste – Any Unnecessary Element

- Overproduction
- Waiting
- Conveyance
- Processing
- Inventory
- Motion
- Correction



Rules-In-Use

Three Rules of Stability
One Rule of Improvement

“Decoding the DNA of the Toyota Production System”

Steven Spear



Rules-In-Use Summary

- The work of each person/process should be highly specified
- Connection between customer and supplier is direct, simple, clear and binary
- Each product or service uses a simple, fixed flowpath
- **Scientific method is used for rapid problem solving, under the guidance of a teacher at the level closest to the problem**

Establishes
Stability

Facilitates
Improvements



Types Of Work

- Cycle Work – Any activity, whether physical or mental that is required, expected/executed on each unit of production
- Periodic Work – Any activity required and performed at some interval or number of units of production
- Fluctuation Work – Any activity that is unexpected, unwanted and requires reaction



“Constraint Theory”

- The “activity” that has the longest cycle time determines the **Throughput** of the team and is the “Constraint”
- A “Constraint” is not bad but is the controller of the Throughput
- **The only activity to which optimization matters is the “Constraint”**

“The Goal”, Eliyahu Goldratt



Visual Factory

The “plant” should talk to you and tell you its health



Visual Factory

- Do you know by what you see whether you are ahead or behind?
- Are any jobs at risk of not shipping? Who knows it and when?
- Does the level of Work In Process (WIP) tell you anything and if so what do you do about it?
- What jobs are on hold, who owns it and where are they?
- Are there any visual “triggers” that inform operators what to do based on the status of their **customers**?



Visual Factory

- Is work “pushed” or “pulled” through the system?
- At what pace does the work move?
- Is being ahead a problem or an opportunity?

All that we need to know about the status of our plant is on the floor!

Visual Factory



Visual Factory



Visual Factory



Visual Factory

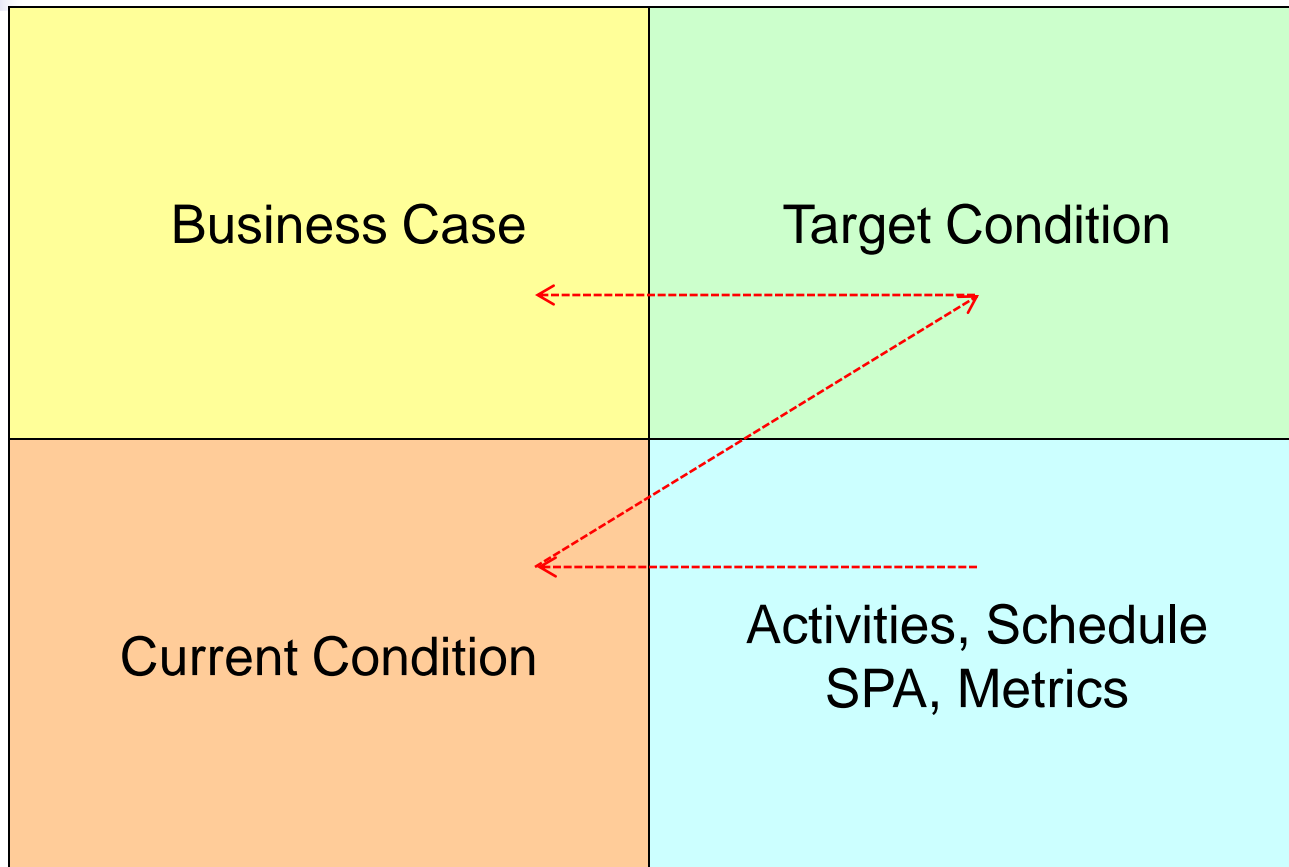




The A-3

- Communication & Organization Tool
- Created by YOMO (Toyota)
- Iterative Process
- Consistent with “Plan, Do, Check, Act”

A-3 Layout





Good Reading

- Decoding the DNA of the Toyota Production System, Steven Spear
- The Goal, Eliyahu Goldratt
- The Deming Route to Quality and Productivity, Bill Scherkenbach
- The Toyota Production System, Taichi Ohno



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