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Tablet course

Chapter 3.3. Process mapping in office and knowledge work

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University of Minho

„Innovative Learning Approaches for Implementation of Lean Thinking to Enhance Office and Knowledge Work Productivity"

ILA-LEAN Project No 2016-1-PL01-KA203-026293
2016-2018

2018

Project Title

Innovative Learning Approaches for Implementation of Lean Thinking to Enhance Office and Knowledge Work Productivity

Project Number: 2016-1-PL01-KA203-026293

Objective

The objective of this chapter is to provide the learner with the necessary information to perform process mapping in indirect areas using the proposed tool as well as the framework to align it with the lean philosophy.

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Competences obtained

- ***After reading this chapter the trainees should be able to:***

  - *Describe the challenges of lean implementations*
  - *Describe the importance of process mapping in office and knowledge work.*
  - *Compare the process mapping in production with the process mapping in office and knowledge work.*
  - *Describe the proposed tool and enumerate its characteristics*

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1. Lean fundamentals, principles and concepts

John Krafcik

Triumph of the Lean Production System
1988
America Discovers Lean
Becomes the start of Lean Manufacturing

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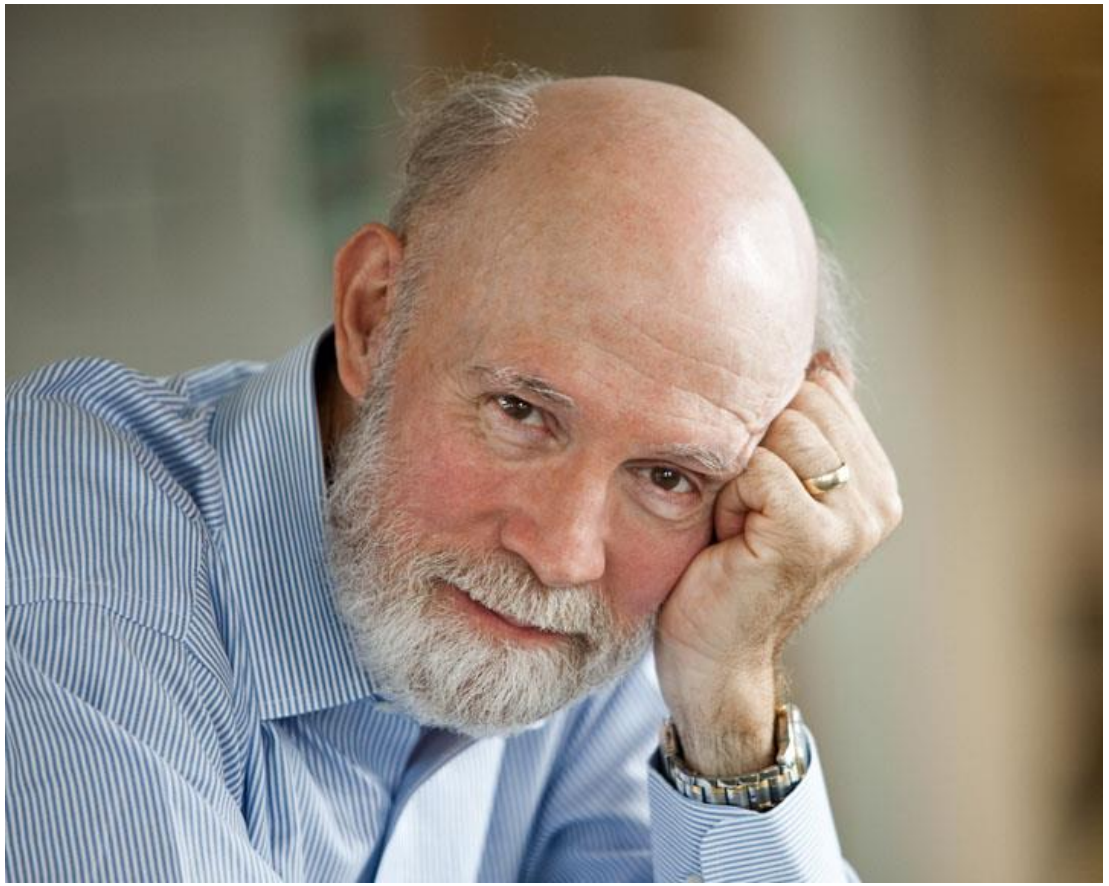
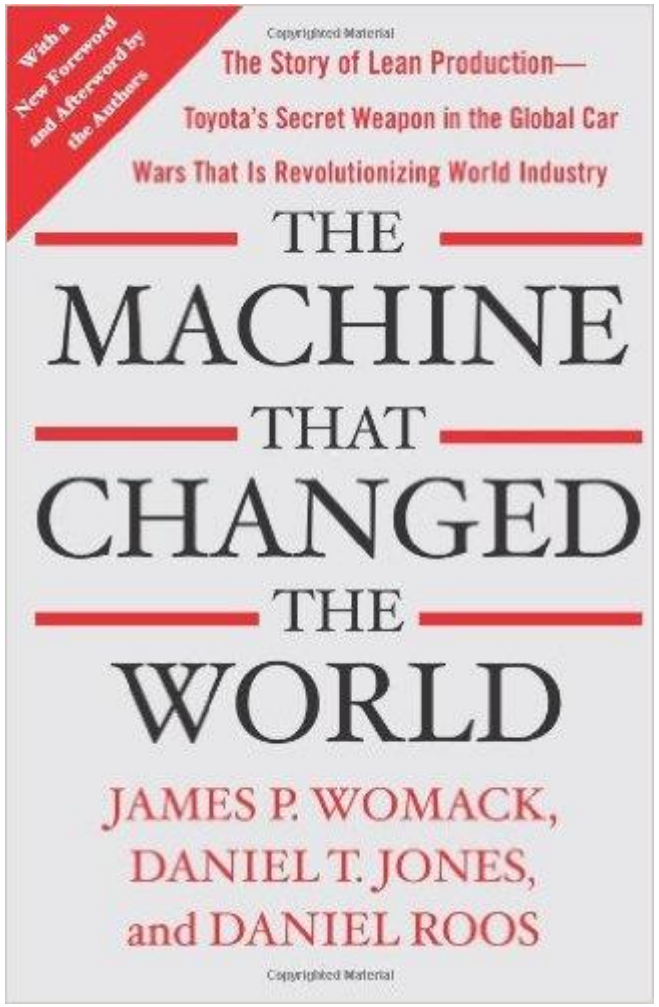
1. Lean fundamentals, principles and concepts





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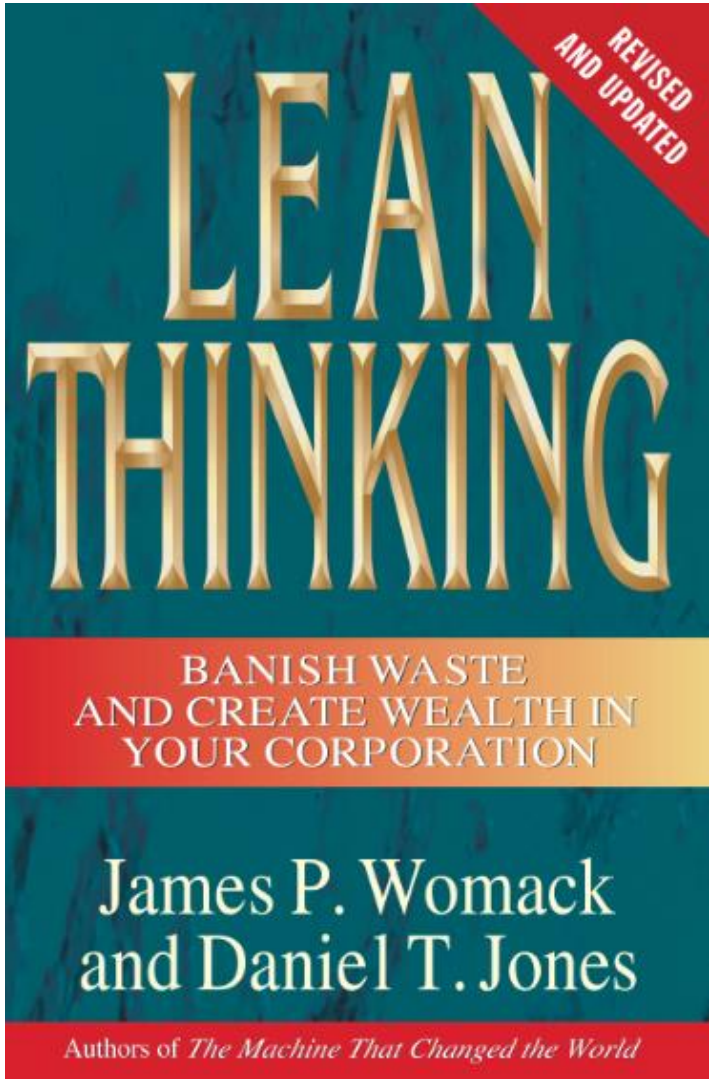
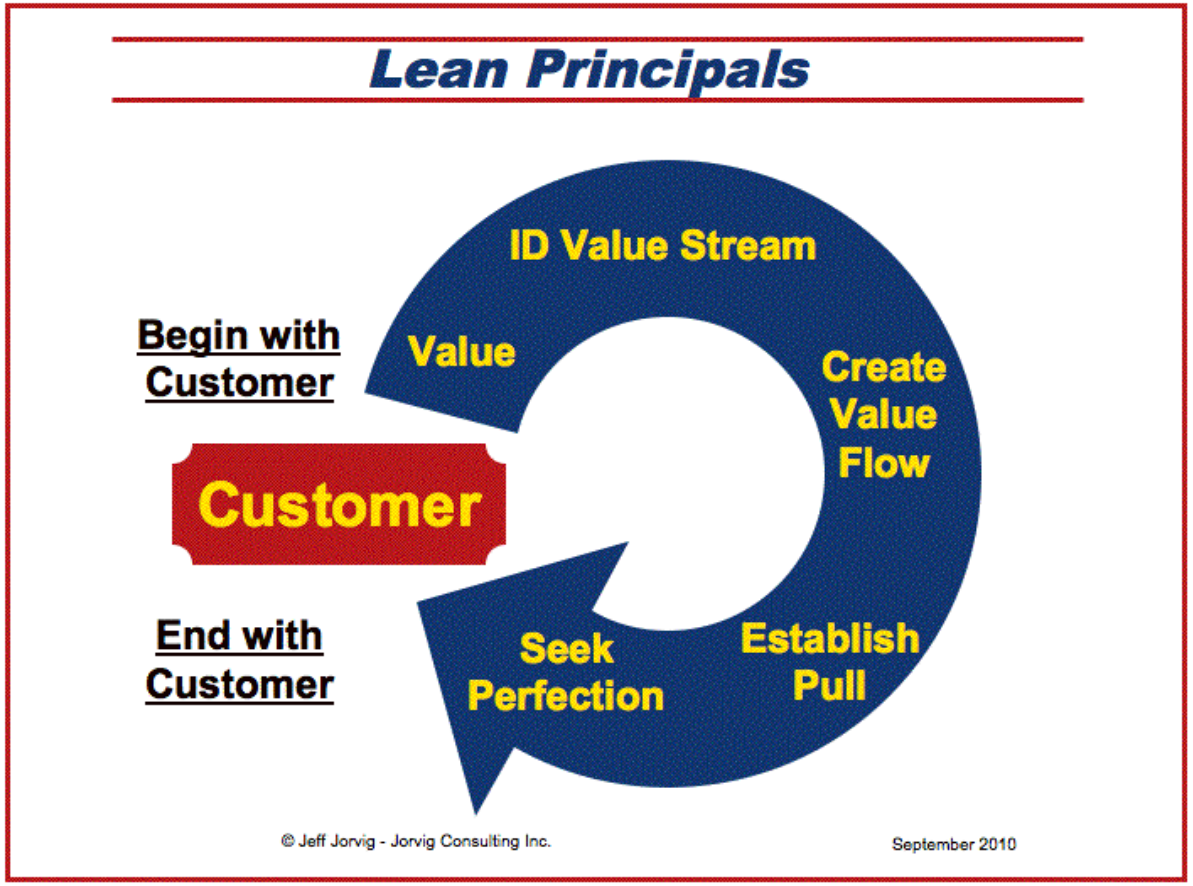
1. Lean fundamentals, principles and concepts





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1. Lean fundamentals, principles and concepts

Are they applicable to both environments?

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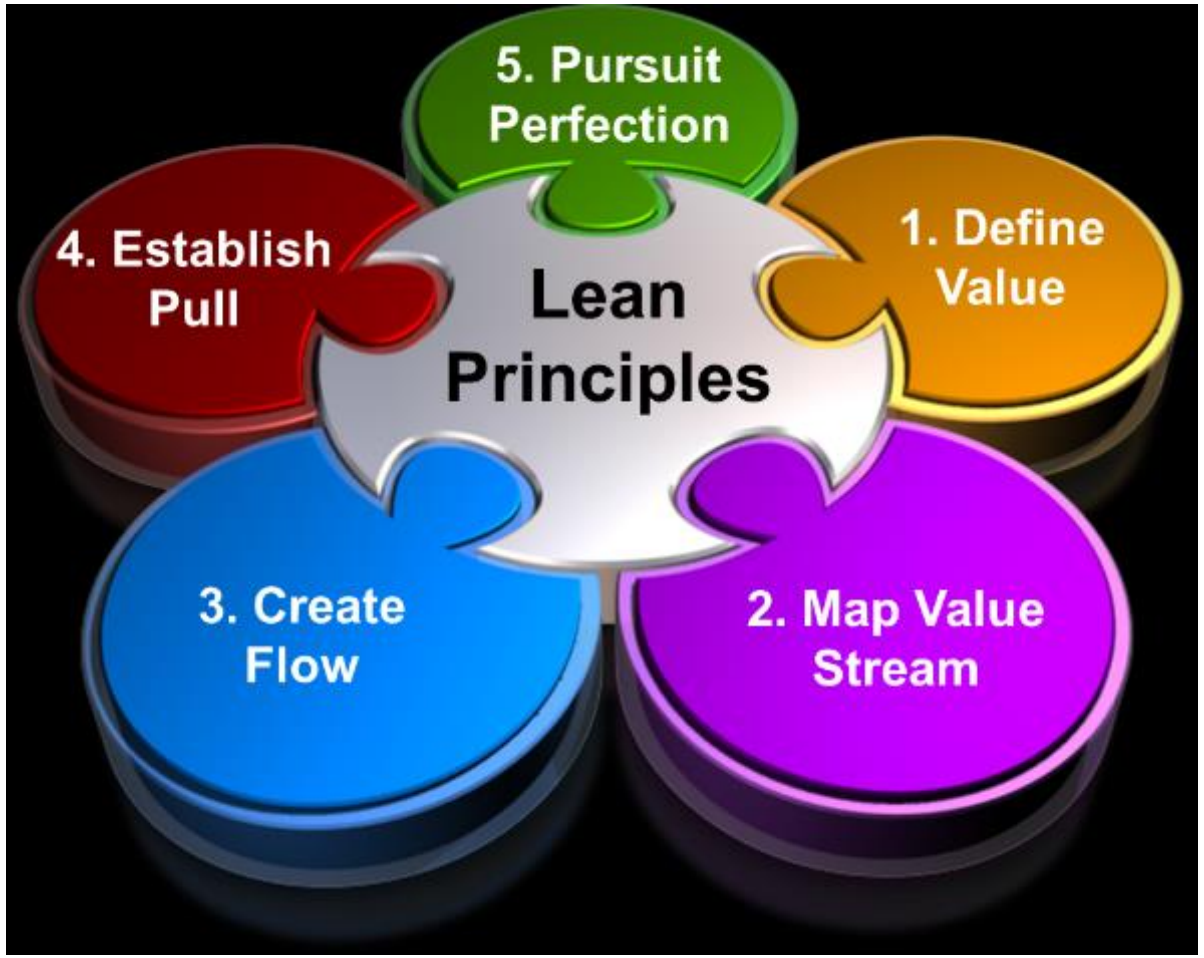
1. Lean fundamentals, principles and concepts



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1. Lean fundamentals, principles and concepts: Basic Concepts of TPS

International Journal of Production Research

Publication details, including instructions for authors and subscription information:
http://www.informaworld.com/smpp/title~content=t713696255

Toyota production system and Kanban system Materialization of just-in-time and respect-for-human system

Y. Sugimori [a]; K. Kusunoki [a]; F. Cho [a]; S. Uchikawa [a]
[a] Production Control Department, Toyota Motor Co., Ltd, Japan.

Online Publication Date: 01 January 1977
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1. Lean fundamentals, principles and concepts: Basic Concepts of TPS

Toyota production system and its basic concept

Upon recognition of the matters related above, Toyota is planning and running its production system on the following two basic concepts.

First of all, the thing that corresponds to the first recognition of putting forth all efforts to attain low cost production is "reduction of cost through elimination of waste". This involves making up a system that will thoroughly eliminate waste by assuming that anything other than the minimum amount of equipment, materials, parts, and workers (working time) which are absolutely essential to production are merely surplus that only raises the cost.

The thing that corresponds to the second recognition of Japanese diligence, high degree of ability, and favoured labour environment is " to make full use of the workers' capabilities ". In short, treat the workers as human beings and with consideration. Build up a system that will allow the workers to display their full capabilities by themselves.

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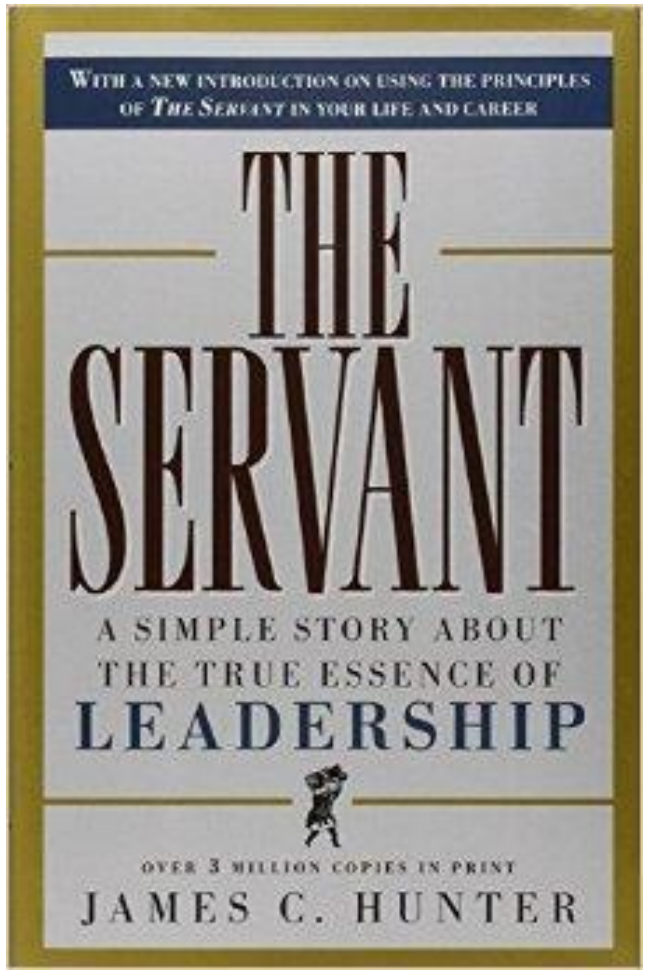
1. Lean fundamentals, principles and concepts: Inverted Pyramid



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2. Lean Office

(Kaizen Institute, 2014)

https://www.youtube.com/watch?v=K9hKNWG8ppA&t=10s

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2. Lean Office: Types of waste

- Too much information
- Information Transfer
- Information or materials waiting
- People moving
- People waiting
- Complicated processes
- Mistakes

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3. Challenges in lean implementations

Lean Concepts

Tools and Techniques

Scientific Iteration

The process of making it reality

Changing the way people think and act

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3. Challenges in lean implementations:
Applying lean traditionally

Go to Gemba
And identify wastes and improvement opportunities
Implement improvements

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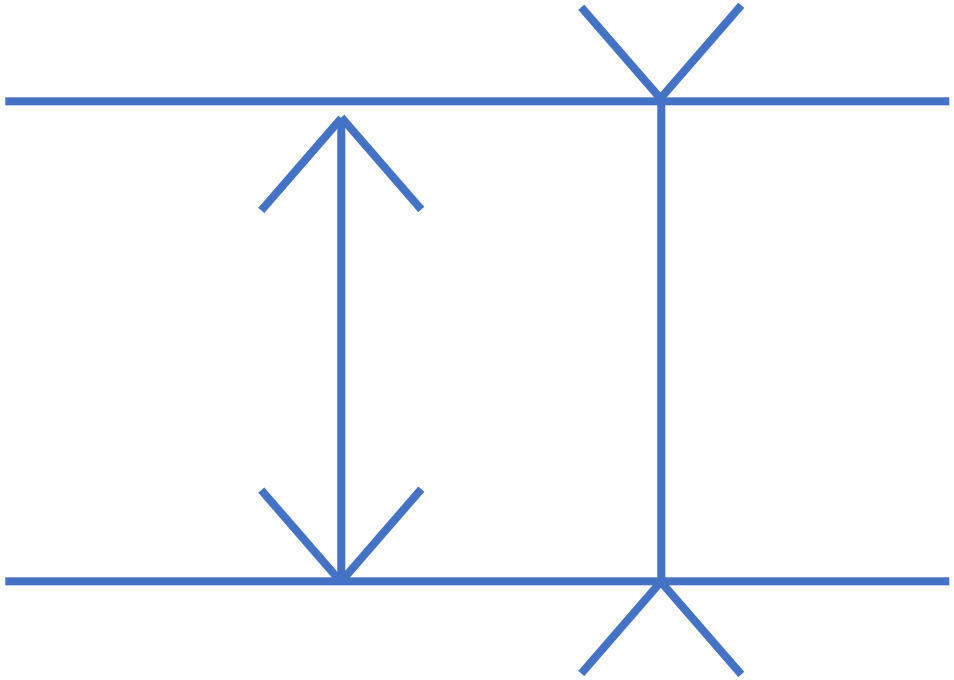
3. Challenges in lean implementations:
possible illusion



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3. Challenges in lean implementations

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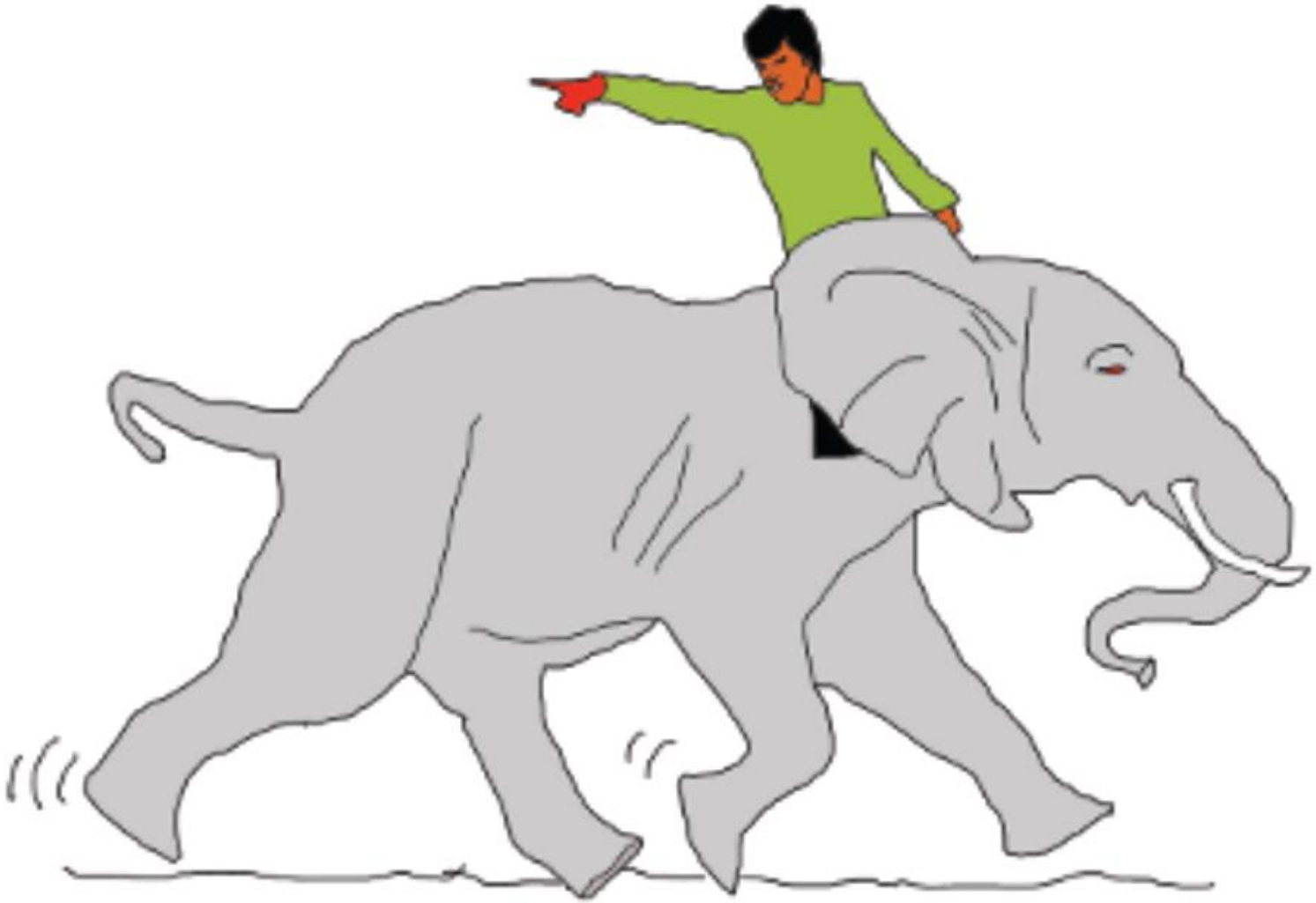
3. Challenges in lean implementations:
Rational and Emotional conflict



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4. Process Mapping: Definition

A consensual / universal definition for “Process Mapping" is not found in the literature, and this designation is often used without defining it (it is assumed to be an implicit knowledge).

Examples of Process Mapping definitions:

- Process mapping is the act of representing the flow of a process.
- Process mapping is the breakdown of a process to determine how it flows and how effective and efficient it is.

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4. Process Mapping: Definition

Examples of definitions of "Process":

- A process is a sequence or a network of transformation steps.
- The process to be mapped may be a collection of physical transformation (production), information processing or a combination of both.

Some recommendations regarding process mapping:

- Process mapping should be performed by a team that includes the most important players in the process steps.
- The objective is to clarify the process and to identify possible improvements.
- Process mapping should be performed in a wall so that everyone can be easily involved.

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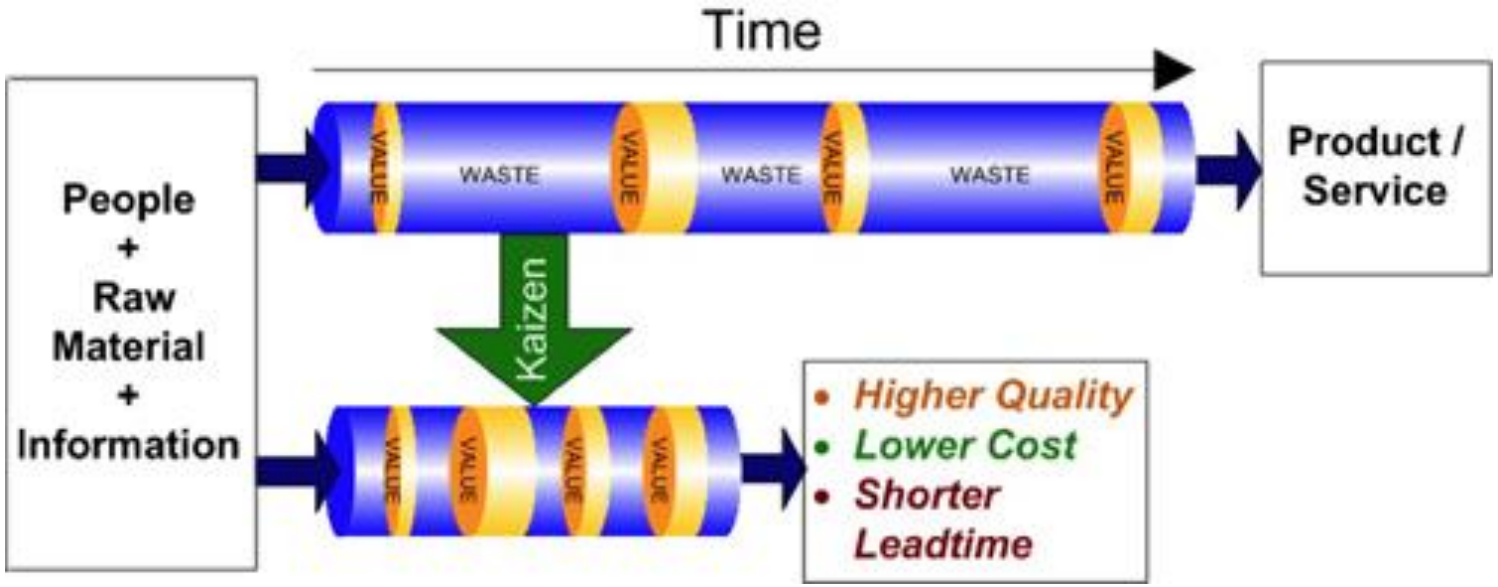
4. Process Mapping in Production: Value Stream



5% of the throughput time is used in adding value in the in world class industry
1% of the throughput time is used in adding value in world class services

Value Stream Mapping is a processing mapping tool mainly focused in flow of materials but also includes flow of information.

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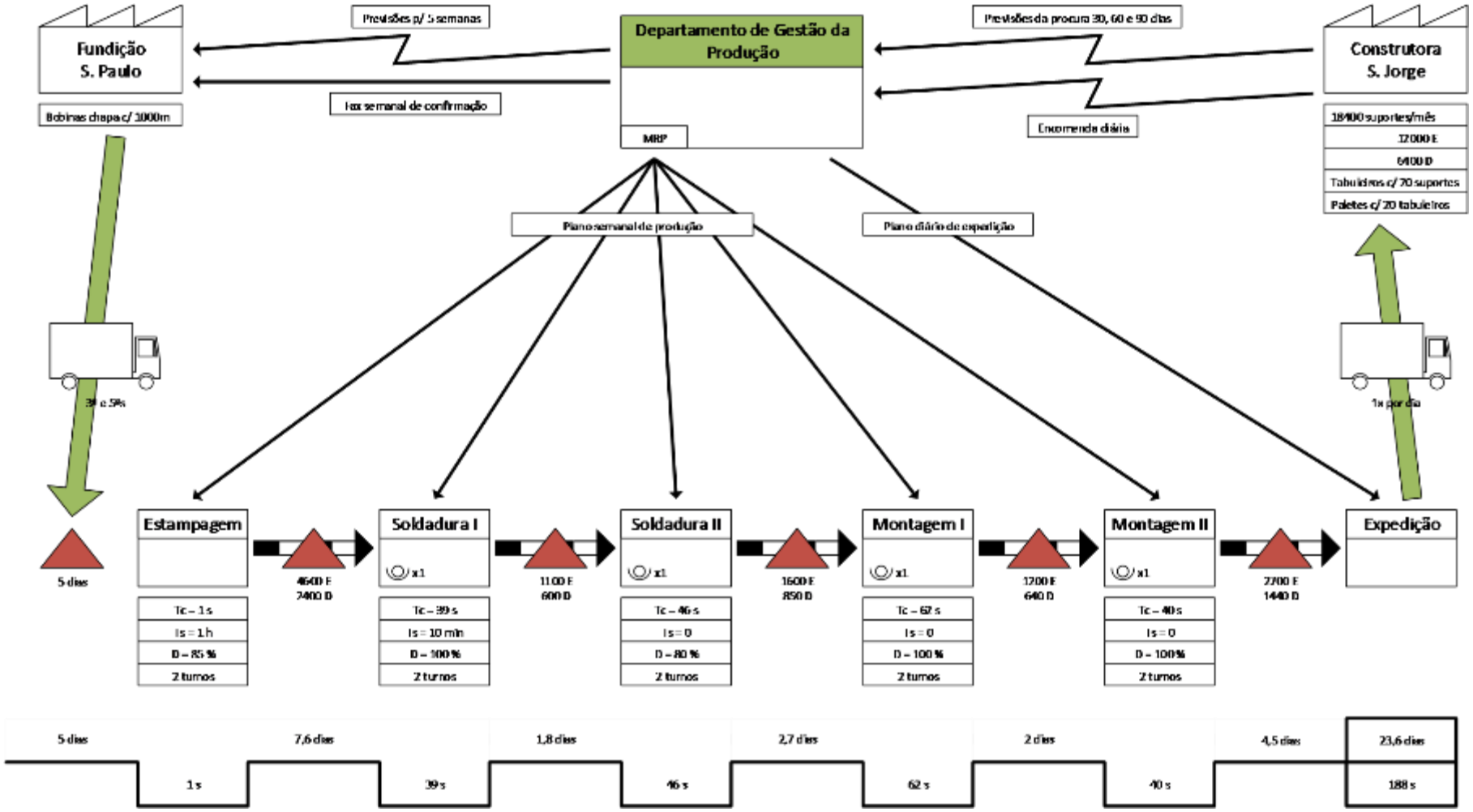
4. Process Mapping in Production: VSM

Process mapping using VSM *(Value Stream Mapping)*



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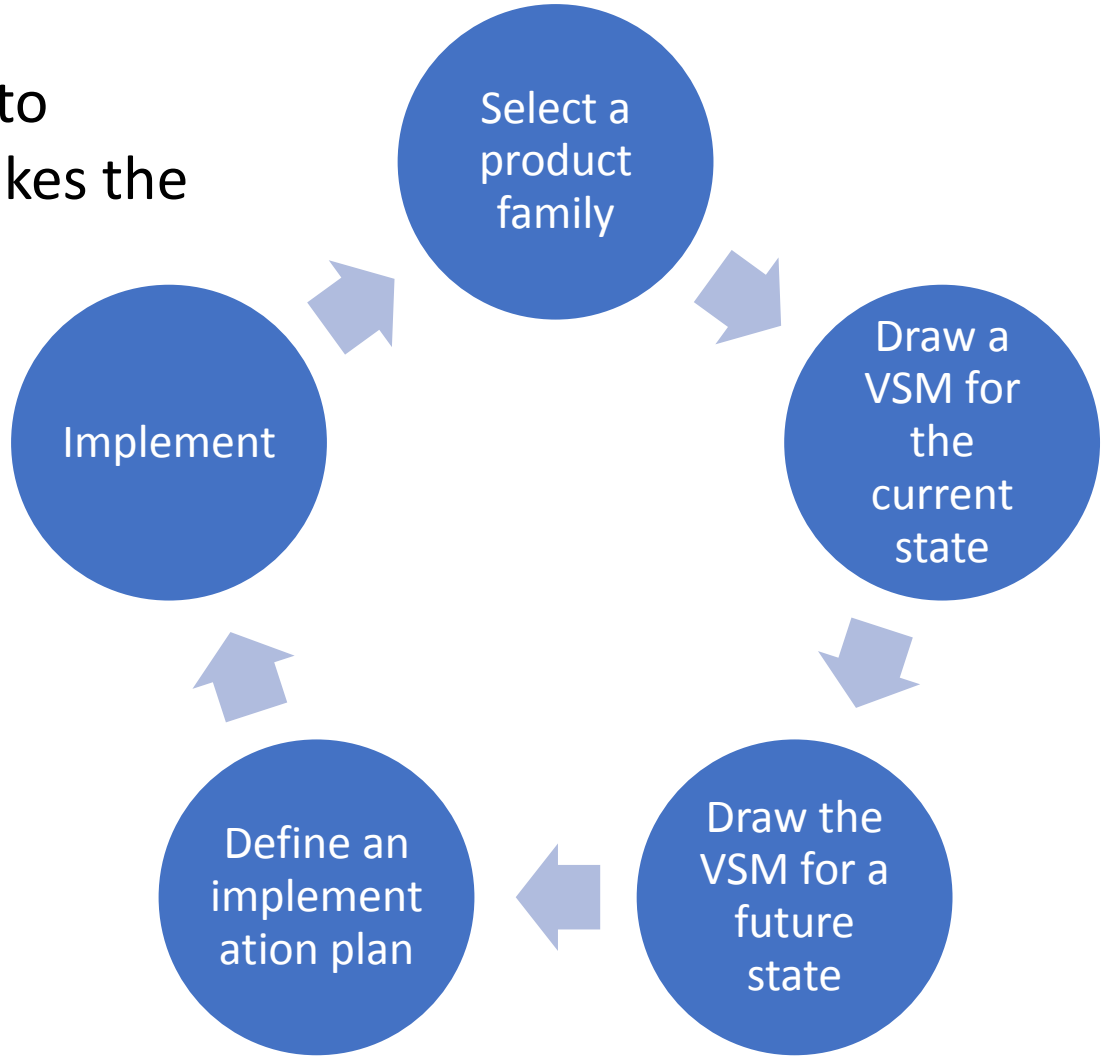
4. Process Mapping in Production: Methodology

The Value Stream Mapping applied to improve production performance takes the following steps:

The most common tool used in production areas for process mapping is the “Value Stream Mapping” inspired in the Toyota Production System practices and proposed by Rother and Shook (1999).



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5. Process Mapping in Office:
Characteristics

Knowledge and office work processes are very often complex, flowing through many different departments and no one knows exactly how they are performed in reality. As in a production shop floor the process mapping is necessary to represent the whole process visually in a way that becomes easy to understand, allowing the identification of problems and improvement opportunities.

Due to the complex nature of the processes in knowledge and office work, the traditional Value Stream Mapping is not adequate.

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5. Process Mapping in Office: Introduction

A set of operations necessary to achieve a given goal

Making a representation

Process Mapping in Office and Knowledge Work

Office work: routine work (process) that does not require much effort in terms of reasoning (e.g. registration of students classifications).

Knowledge work: work (process) that demands higher levels of intellectual effort (e.g. design of a course unit)

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5. Process Mapping in Office: Motivation

- ***Why do we need a tool to represent processes of office and knowledge work?***

To have the processes properly documented

To allow all the intervenient to see the "whole picture"

To be able to identify wastes and consequently propose improvement solutions

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6. Proposed tool for Process Mapping in Offices: Tool Characteristics

- ***What kind of representation have we decided to use?***

Graphical representation

Reduced set of symbols

Some features borrowed from other tools

- ***The tool is intended to be:***

Easy to learn

Easy to use

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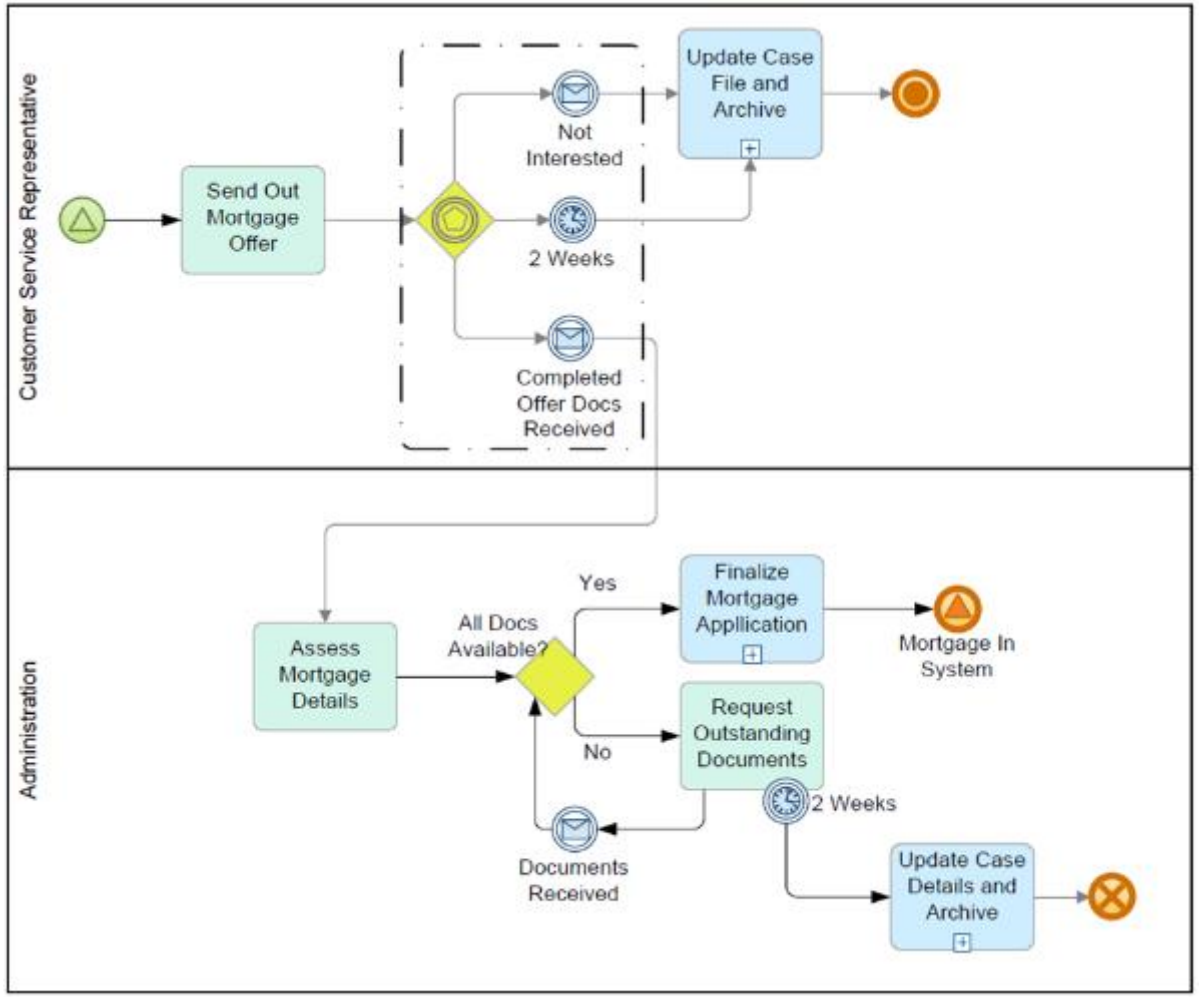
6. Process Mapping in Office: BPMN

Process mapping using BPMN (Business Process Modelling Notation)



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6. A tool proposed for Process Mapping in Offices: Methodology

The steps:

- Select a process to be improved
- Select people from all departments involved in the selected process
- Draw the process map current state
- Draw the process map future state
- Define the implementation plan
- Implement the actions defined in the plan

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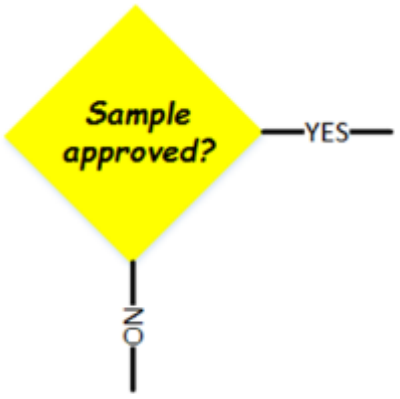
6. A tool proposed for Process Mapping in Offices: Symbology

1

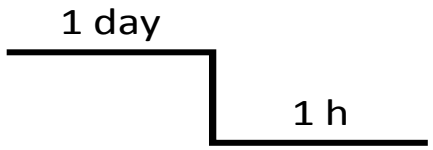
Operation symbol

2



Decision symbol

3



Lead time/ad-value time symbol

4

Flow symbol

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6. A tool proposed for Process Mapping in Offices: Symbology

Academic Services	
Teacher	
Rectory	
School Secretary	

Lanes

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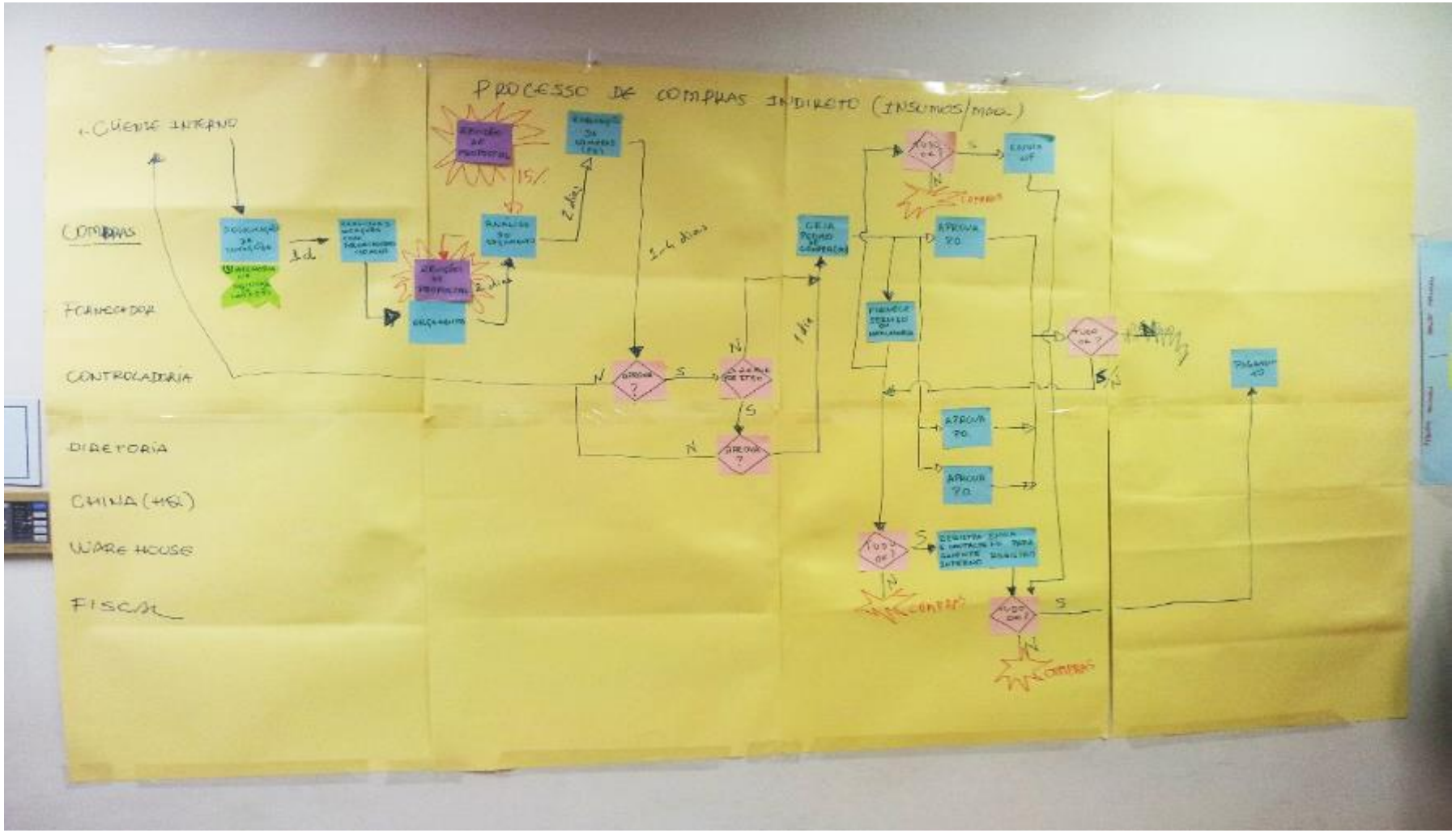
6. A tool proposed for Process Mapping in Offices: Examples at companies



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6. A tool proposed for Process Mapping in Offices: Examples at companies

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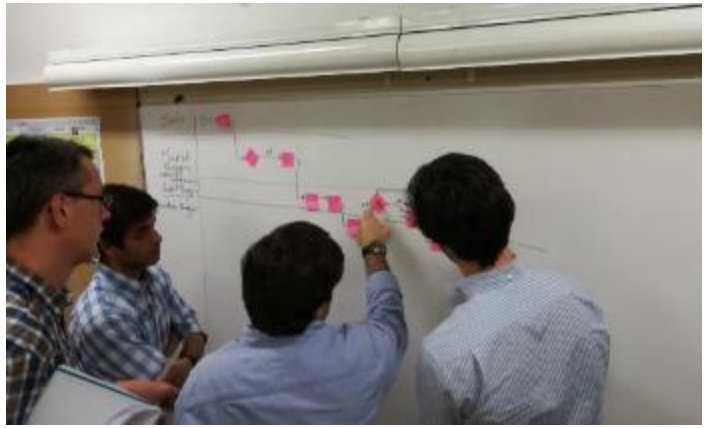
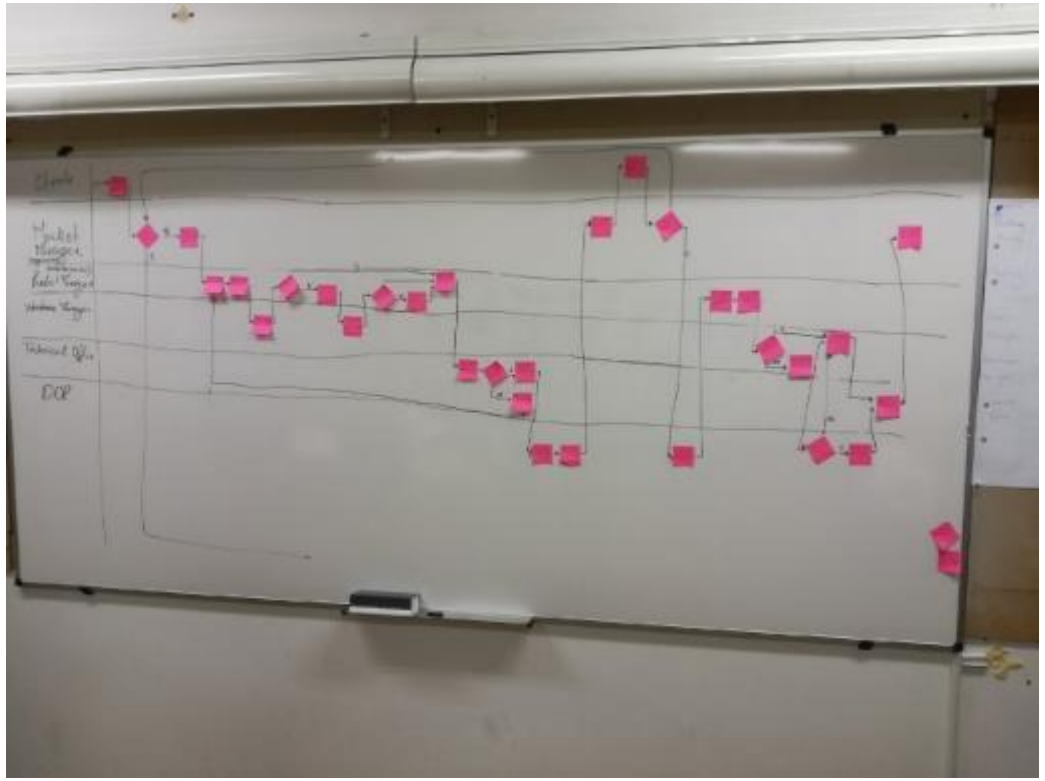
6. A tool proposed for Process Mapping in Offices: Examples in classroom





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6. A tool proposed for Process Mapping in Offices: Final remark

Process mapping is an important tool to improve office and knowledge work processes.

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