

Chapter 11

Lean Transformation in Small and Medium Enterprises: Practices, Enabling Factors, and Constraints

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ABSTRACT

Lean Thinking is known as a systematic approach to identify and eliminate waste through continuous improvement, flowing the product at the pull of customer in pursuit of perfection. Indeed, a Lean Transformation is a complex organizational journey, which must emphasize the supremacy of the principles as they emerge from practical tools application. In general, the stages of a Lean journey may span the whole company, not only the production departments. The aim of this chapter is to present the factors enabling or disfavoring the Lean Transformation of a firm, along with the most relevant tools or practices to be applied. The chapter is targeted on manufacturing Small and Medium Enterprises, which can find there a broad set of indications and prescriptions to keep in mind, before starting any Lean project. The empirical research work has been divided into three parallel sections, Lean Manufacturing, Lean Design, and Lean Office, respectively. In every section, the most important issues about Lean Transformation have been investigated through a Delphi study, which was performed by joining the “Lean Community” research project, sponsored by Confindustria Padova, the Federation of Employers of Padova, Italy. Thereby, the study involved 32 manufacturing SMEs in Northeastern Italy, with a proved and excellent experience on Lean Thinking.

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INTRODUCTION

The organization of industrial production according to the principles of Lean Manufacturing is a very topical issue. Since the cardinal work of the International Motor Vehicle Program at MIT (Womack, Jones, & Roos, 1990), several large companies, mainly in the manufacturing sector but not only, have gained superior performances by adopting the Toyota Production System and its evolving variants initially founded in the Automotive Industry. In the dedicated literature, there is a plethora of cases, in depth-analyses and examples which describe successful implementations of Lean Thinking philosophy within real manufacturing systems (Bozdogan, Milauskas, & Nightingale, 2000; Coook & Graser, 2001; Murman, Allen, Bozdogan, & Cutc, 2002). When managers first come across case studies of Lean adoption, they may be extremely eager to apply the concept to their own business. However, when the same managers start to research into Lean strategies and methodologies, they can be overwhelmed, even discouraged from committing themselves to developing such a strategy, by the great body of knowledge available.

The main objective of this chapter is to provide a consistent set of information and knowledge aimed to support those firms expected to undertake a Lean Transformation in the near future. Sometimes, especially in SMEs, the choice to start focussing on the manufacturing departments and processes (i.e. as already argued from many experiences in literature), is not the unique neither the most appropriate one. It may be the case that significant portions of the production has been outsourced, or has a minority role compared to non-productive areas. In other contexts, the innovation activities may present a strategic meaning, in order to compete successfully.

Therefore, where any constraint limits the real possibility to immediately redesign the manufacturing system, then it can be crucial to begin introducing Lean principles in a more favoured

area, while revising any other organizational issue along the Lean Transformation process (Atkinson, 2004).

Accordingly, the empirical investigation addressed the following questions:

1. What are the most important tools or practices to apply in a Lean Transformation?
2. What are the enabling factors which can facilitate a successful Lean implementation?
3. What are the main constraints that can be encountered in a Lean Transformation?

It is important to highlight that the experiential analysis carried out was framed in three different sections corresponding to the Lean Manufacturing, Lean Design and Lean Office areas respectively.

The goal of this work is to build an organized outline of prescriptive information and instructions, which organizations have to acquire and critically evaluate, before starting any Lean initiative. Indeed, companies can get advantage from this material, by early identifying the most appropriate areas for intervention and addressing resources and efforts more efficiently.

Among the potential recipients of this work, there are:

- Small and Medium Enterprises (SMEs), which traditionally have insufficient financial resources to invest in re-organization and Project Management capability;
- Business organizations which face of the threat of new entrants in their market, due to new technologies or supply globalization;
- Companies which suffer the effects of the financial crisis and need to regain competitiveness through the redesign of their cost structure;
- Practitioners, which support organizations in the journey from Lean theory to practices, and scholars, which formalize practices in advancing theory.

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