

Chapter 9

A Management System for Sustainable Lean Implementation

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ABSTRACT

Lean has become the leading method to pursue productivity improvement in Western companies. However, the rate of success of implementation in industry is overwhelmingly disappointing and not in line with the level of available documentation and support. This chapter describes a back to basics approach to Lean implementation, developed specifically for small- and medium-sized businesses (SMEs). This approach was developed out of many years of research, which is described succinctly. The chapter then delineates the framework of a management system, which uses standard Lean tools embedded in an IT data gathering system. This framework consists of 3 loops that provide the kind of information needed for a sustainable Lean implementation trajectory. Finally, the authors show how the system provides an answer to current gaps in Lean Management.

INTRODUCTION

Lean has without any doubt become the leading method to pursue productivity improvement in Western companies. It suffices to do a keyword lookup on “Lean” to return overwhelming numbers: 212 million hits on Google, 31 million on popular sites such as Bing, 1.8 million on scientific sites such as Scirus, Increasingly, Lean also is being recognized publicly as a valid and

effective method for productivity improvements within organizations. The “Factory of the Future” document (Bueno, 2010) from the European Commission states literally: “In the present scenario of global market competition, the R&D challenges to achieve a higher competitiveness of the manufacturing systems should be considered in terms of general evolution drivers, such as: ... a) cost efficiency, with extensive adoption of standards in production machinery, equipment and controls and massive use of the lean approach;...”.

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This popularity has led to a wealth of useful information about Lean implementation methods and success stories on public available sources. On Amazon alone there are more than 4500 books on the subject. At the same time almost each Western country has one or more agencies devoted to supporting companies in their quest towards Lean Knowledge and adoption. Finally, uncountable numbers of commercial advisors and consultants, both in large corporations themselves or as self-employed persons, offer their knowledge and expertise to the companies that start on the Lean Journey.

It then remains almost a mystery why so few companies succeed: in a recent IIE Webinar Peter Hines (Hines, 2012) stated that up to 70% of companies fail to make Lean a sustainable source of productivity improvements for themselves.

This chapter first describes (possible) root causes for this apparent lack of sustainability in Lean, gathered both from literature and own research. It will then elaborate on the management aspect, and describe the requirements for a system that could support organizations in their Lean journey. A possible architecture for this system, as well as some key technological features, are included. Finally, some ideas about future research to prove the validity of the framework are presented.

BACKGROUND

Since its inception in 1990 through the work of Womack and Jones (Womack et al., 1995), Lean has come to age. The concepts of Lean, fighting waste to reduce process lead time towards creating value for the customer (Womack & Jones, 1995) and the vast toolbox that exists (Bicheno & Holweg, 2004) have been broadly disseminated and massively adopted (Marchwinski, 2008).

Yet the success rate of Lean implementation remains dismal. A census by Industry Week (Pay, 2008) found that 75% of companies do not reach

any improvements, and less than 2% achieve the full amount of anticipated results. More recently, only 30 out of 100 executives stated that there companies achieved the intended 5% productivity improvement, and 60% of them did not expect these savings to be sustainable (Stoll, 2011).

In order to try to verify these results, we set out ourselves to monitor 23 industrial companies (SMEs) in Belgium that all started on a Lean journey. These companies all followed a carefully laid out implementation sequence, which will be explained further on. Over a time period of 2 years (Dec. 2009 – Nov. 2011) some 1000 improvement actions that were defined as part of the Lean implementation were registered and their status according to the Plan-Do-Check-Act cycle (PDCA) monitored. From the detailed results, reported in (Van Landeghem et al., 2013), we cite the main elements.

First we noticed (Figure 1) that only 61% of the actions were ever completed, and only 38% verified as to their effectiveness (checked). This already suggest a decay in the effort devoted by these companies.

When we look how the number of actions evolves from the start of the project at each company (Figure 2), we see that the first wave mostly peters out after 5 months. Some companies continue - albeit in bursts of activity- but almost no one makes it beyond 12 months. So there seems to be a clear problem of sustaining Lean projects.

When we turn to literature to find causes for this general lack of success, some themes surface time and again. From a survey done by the Lean Enterprise Institute (Marchwinski, 2008) the top 3 reasons for failure were found to be: Resistance by Middle Management (36%), Lack of implementation know-how (27%) and Resistance by employees (21%). Hines (Hines, 2012) states that “the reasons why so many companies fail to achieve the full Lean potential is due to management issues, such as lack of Strategy alignment, Leadership and Engagement”.

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