

Lean Implementations in Hungary

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Abstract

Using a survey of 65 respondents and a series of case studies in Hungary, the paper analyzes the motivations leading to lean implementations and the results of these projects. Based on the sampling frame, the results can be generalized to medium-large manufacturing companies worldwide.

Keywords: Continuous improvement, Lean tools, Production systems

Introduction

Globally, more and more companies are implementing lean operating principles as a response to cost pressures and the urgent need to pare inventories. In a survey by RSM McGladrey (Davidson, 2009), sixty-one percent of manufacturers said they have adopted lean practices or plan to do so within a year. The perceived financial benefits, especially in a global recession, make the demand for lean even stronger.

The success of lean principles was predicted many years ago (Dankbaar 1997): “lean production will be the standard manufacturing mode of the 21st century.” Lean solutions were popularized in books (e.g., Liker 2004), thoroughly analyzed in leading academic journals (e.g., Shah and Ward 2007) and literature reviews on this body of knowledge from the concept early days were presented (e.g., Moyano-Fuentes and Sacristán-Díaz 2012). This popularity of lean is based on quantifiable success; Staats and Upton (2007) found that lean projects generally perform better than the non-lean projects. While different consulting organizations market a variety of methodologies on lean projects (Leesye 2007), only few peer reviewed publications are available on the systematic analysis of these projects.

On the business side, the proliferation of lean management principles is particularly strong in Central and Eastern Europe because of two reasons (McDaniel and Vastag, 2010). First, in case of local companies, lean was used as a tool to transform and restructure them from their post Soviet business models to modern, global enterprises. Second, multinationals expanding in Central and Eastern Europe used lean at various green-field and brown-field production sites in this region as part of their global efforts to improve efficiency and to create a culture of continuous improvement. In this context, Hungary serves as an ideal test bed for analyzing the motivations for lean projects and the results of these efforts.

The paper first outlines the survey instrument and describes how data collection was carried out, how the study population was defined and how a representative sample was obtained. The Findings section focuses on three major issues: 1. Typical motivations behind engaging in lean projects, 2. Sources of sustained success, and 3. Resistance to the project. The survey was complemented with a case study at a major automotive company; process of a specific project is described in the next section. The paper ends with Concluding Remarks summarizing its major findings.

Survey Instrument and Data Collection

The 94-question survey instrument was developed in consultation with six practicing managers and academics. The questionnaire was distributed using LimeSurvey, a free and open source online survey application (<http://www.limesurvey.org>). The survey was aimed at identifying the characteristics of lean projects in Hungary. While there are a wide variety of projects with differing degrees of lean (e.g., projects named “kaizen,” “process improvement,” or “5S project”), we restricted our survey to “lean projects.”

The study population was defined in three steps:

1. We obtained the Chamber of Commerce membership lists of three highly industrialized counties in Western Hungary. From these lists we identified those companies that had or potentially could have had lean projects in 2010-2011.
2. From the organizers of lean events and conferences in 2010-2011, the contact lists of participants were obtained.
3. Additionally, the mailing list of a lean consultant was also utilized.

After compiling these lists, we identified organizations with lean projects and the individuals, about 100 people, who ran these projects. We called all of them to inquire about their willingness to participate in the survey. Those who agreed (about 70), we sent an access code for the online survey by LimeSurvey; our sample consists of the 65 respondents who filled out the survey.

Most of the companies (51 out of 65) are from manufacturing and, typically, are larger (more the two thirds of them have sales above USD 5 million and 80% of them have more than 250 employees) and most of them are foreign-owned (83%). Consequently, we believe this sample accurately describes the population of companies implementing

lean projects in Hungary and, by extension, in Central and Eastern Europe.

Findings

Why do companies in our sample use lean projects?

Figure 1. shows the most often mentioned reasons. They are overlapping categories; some of them can be seen as synonyms. The respondents could give more than one answer. Choosing right project objectives helps the acceptance of project initiative by upper management.

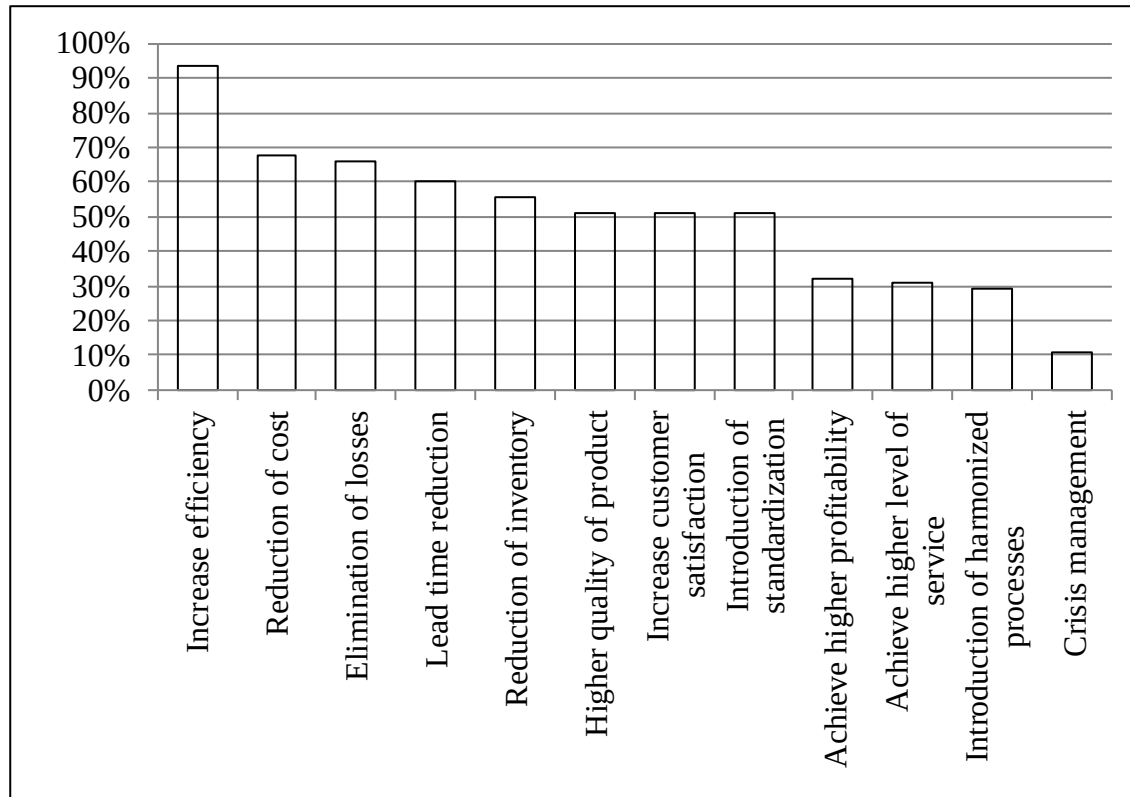


Figure 1. Motivations for lean projects

Defining too many objectives (e.g., more than a dozen) for the project, however, does not lead to better results but setting up lean implementation as a formal project increases the chances that the expected levels of improvement will be reached. In the survey, 19 respondents reported that the expected levels of improvement was achieved either “Fully” or to a “Great extent”; in 18 cases a formal project was defined to introduce lean tools.

Long-term success

A key element of lean projects is the sustainability of success. We looked at this question as a function of achieving current goals (see Table 1). The answers confirmed what we suspected: partial improvements are easier to maintain in the long-run than fully achieving the goals set in the project.

Resistance to change

These projects meant changing the operational procedures of the organization and, as such, generated lots of resistance. However, none of the respondents sensed full opposition to the project and only one in every four reported strong resistance, while half of the respondents did not experience any or just mild opposition.

Results and Satisfaction with the Results

Table 1 summarizes the high level of association between goal achievement and top management's satisfaction with the results.

Table 1. Achievements and Top Management's Satisfaction

	Was the owner or top management satisfied with results?						
To what extent did you achieve the expected level of improvement?	Not at all	Slightly	Partly	Mostly	Greatly	Fully	Total
Not at all	0	0	0	0	0	0	0
Small extent	0	3	1	1	0	0	5
Partially	0	3	9	5	3	0	20
Mostly	0	0	4	9	7	1	21
Great extent	0	0	0	1	12	5	18
Fully	0	0	0	0	0	1	1
Total	0	6	14	16	22	7	

Lean Methods

The most popular method is 5S but there is a wide spectrum here. Companies are either using those methods that provide the shortest path to achieve their goals (49.2%) or those that are used by the parent company (40.0%).

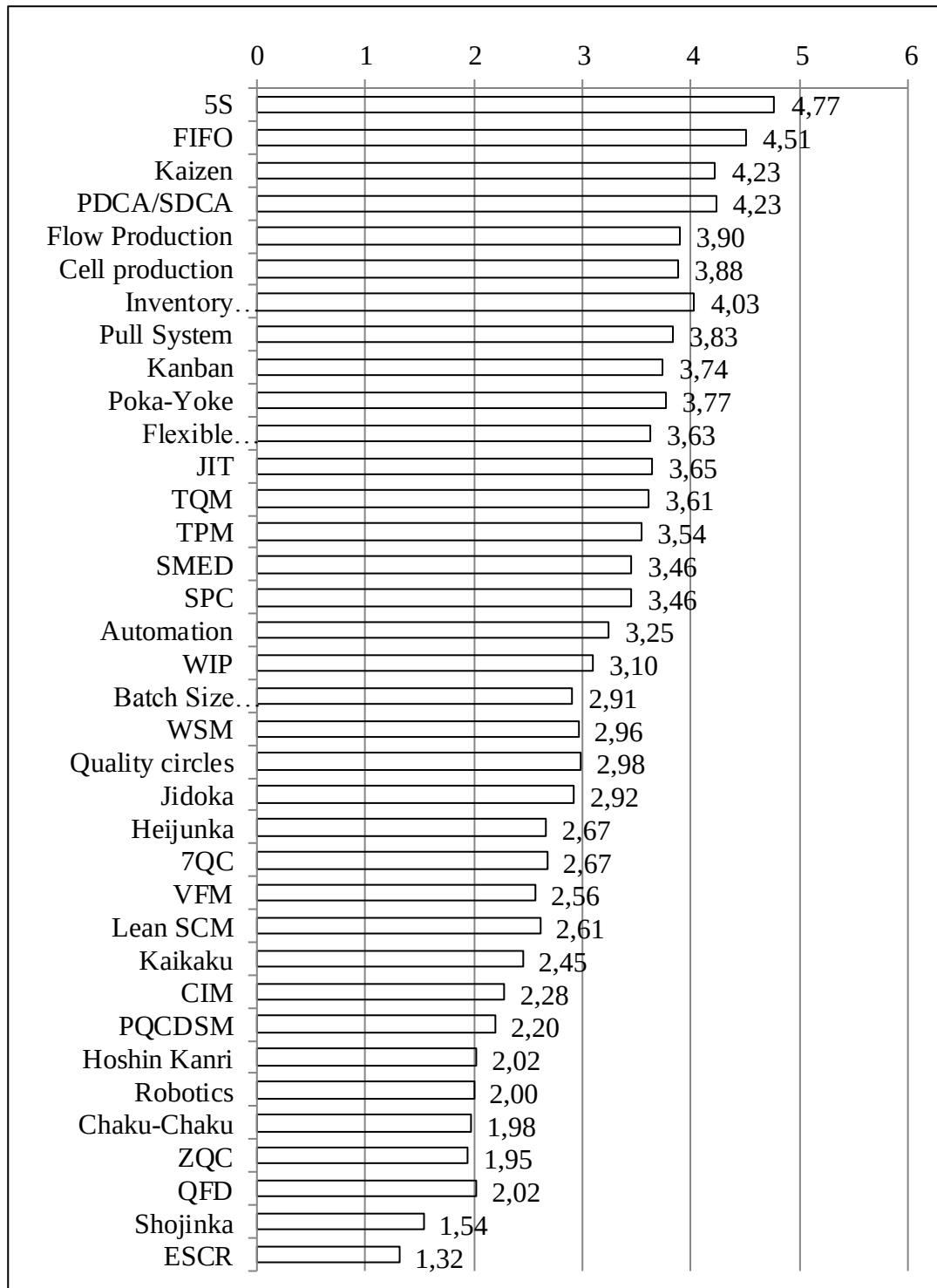


Figure 2. 5S is the most often used process improvement tool

The process of a-lean project at a major car manufacturer

The top management is convinced that lean methods will be successful not only in the company's home country but in Hungary as well. The concept is typically put together by process engineers. At this stage, decision about using external consultants is also reached. Generally, the objectives of the project are: improving efficiency, reduction of losses, optimizing flow times, introduction of synchronized processes or standardization. Project concept also includes determining development priorities and all essential elements of process improvement workshops (e.g., their frequencies, methods to be used, timeline for the project and the available resources). Most of the time, instructional materials are prepared for the use of lean methods.

The concept is presented to and debated before top management. Upon acceptance, the concept becomes obligatory for the organizations involved. This is the point where the expected and numerical objectives of the project are determined by the top management.

In the next step, through workshops and trainings the participants familiarize themselves with the significance of process improvements, theoretical backgrounds of the methods to be used and objectives of the project. At the start, the project leader coordinates with all organizational units involved about participation and the updated time frame of the project. Participants are from the managers and experts of the units involved and representatives of top management who can participate in the process improvement workshops as guests.

Workshops, typically, last a week but it is also a function of the size of the problem tackled. With the help of the moderator, the participants use lean methods to achieve the project objectives. The results of this work are summarized in several documents. The most important of these is the Action Sheet with the problems to be solved and the specific steps to solve the problems with names and deadlines. The best scenario is when the solution can be implemented during workshop. If it is not possible, a later date is determined.

The other important piece of documentation is the presentation materials to the top management summarizing the work the team had done. In order to improve transparency and knowledge transfer, the project leader may prepare many other pieces of documentation, like establishing a new process description or changing an existing one.

In implementing changes, interests of individuals and groups may be hurt. From their points of view, it is difficult to accept changes; elimination of certain processes, transferring employees from one unit to another. It is natural that people insist on what they got used to and frequently point out why the new solution would not (could not) work.

In successful projects, both employees and managers feel the positive impacts of the project that helps in developing and maintaining corporate culture.

Concluding remarks

The paper discussed the basics of lean projects in Hungary. The most popular reasons for and the most often used techniques in these projects were identified. Efficiency improvement, cost reduction, and eliminating losses are the most frequent objectives of lean projects. The typically held view of lean literature is that lean is not about “cost cutting.” Consultants often empathize that “lean is not a cost reduction tool.” This survey does not prove this. Cost cutting is still attractive enough for the management and, as such, it is a good target to give the green light to the proposed lean projects with this promise.

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