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# Change Management– the Key Role of Managers in the Implementation of Lean in Statistics Norway

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## Abstract

*Statistics Norway (SN) has since 2010 used the Lean methodology to improve efficiency and to ensure continuous improvement. Lean is a methodology focusing on what creates value for the clients or customers, and on how operations can run smoothly. Important aspects are to focus on key processes, identify bottlenecks and remove operations with little or no value. Lean implies a bottom-up approach; it requires empowerment and involvement of all employees; in the end it is about creating a culture for continuous improvement.*

*Measures taken these last years have improved effectiveness in several areas, but – as suspected – it is difficult to introduce changes on the organisational level. How do you create an environment that supports changes and innovation? It became very clear that we needed to focus more on culture in addition to specific processes, and on the important key role of our managers: a new type of leadership is required. The topic of change management was thus emphasized, and managers were given training and arenas for developing new management skills.*

*This paper gives a short introduction to Lean and the implementation of Lean in Statistics Norway, as well as some experiences gained so far. It describes the measures taken on management training, and how we work in order to create and support a culture for continuous improvement.*

## **Introduction**

Authorities as well as other users are constantly placing higher demands on the extent, quality and accessibility of statistics and the statistics must be in line with changes in the users' needs. Statistics Norway wants to ensure that we carry out our responsibilities to society in a satisfactory manner and within the applicable financial framework, hence we need to change how some activities are conducted. The changes entail stricter priorities and a greater focus on core tasks, as well as more cost-effective production and organisation. This requires solution-oriented, motivated and competent employees and managers.

The Lean methodology has been chosen as our philosophy for efficiency and continuous improvement. This methodology has grown in popularity in public sector in Norway the last decade. Standardised work processes shall reduce vulnerability and facilitate efficiency, and a more efficient operation will enable more statistical demands to be met within budget restraints. Statistics Norway has since February 2012 worked on implementing Lean throughout the organisation.

## **What is Lean**

The overall objective of Lean is to create a culture for continuous improvement based on strong empowerment of all employees involved. The core idea of Lean is to maximize customer value while minimizing waste. Thus, Lean means creating more value for customers with fewer resources, and has a strong focus on the working processes as a basis for creating the results and the need to be systematic. It is also important to measure and report on performance in order to learn from experience and base further improvements on facts.

Within a Lean organisation managers should play the role as facilitators in a learning organisation, with clear delegation and open communication. Lean is a bottom-up approach: this means that those doing the practical work have to be involved in the improvement process and that ideas and actions has to be owned by those involved and who will have to implement the actions.

The Lean approach builds on a long history of methods for process control and quality management (Womack et al, 2010) dating back to around 1900 with the Henry Ford and the development of the assembly line. Even if Lean mainly was developed for use in the industrial production sector it has to an increasing degree found its application in the service sector and the public sector, for instance for improving the efficiency of insurance companies and hospitals.

The reason for this is that Lean is based on some rather simple principles and practical methodologies that can be adapted to analysing and solving different tasks.

The five basic principles in Lean are:

- Value: What creates value for your customer?
- Value stream – avoid waste: Identify those activities that create waste
- Flow: Create flows that runs as smoothly as possible – few stops
  - According to needs (pull)
- Customer needs: Actions/flows are created based on the needs of your customers (external and internal)
- Continuous improvement
  - Create a culture where all contributes to continuous improvement
  - Continuous improvement to be systemized

Reduction of waste is essential in Lean. Waste can mean:

- Waiting
- Inefficient movements
- Resources not fully used
- Unused creativity
- Unnecessary transport
- Corrections with low importance and value
- Too large stocks
- Over-production - not meeting demand

A necessary starting point for Lean is therefore having an overview and strong management of resources.

## **Lean in Statistics Norway**

After a slow start-up period, where key persons in the organisation got interested in lean philosophy and involved and informed other colleagues, top management made an official decision to introduce lean in Statistics Norway in February 2012. During the first phase a few larger cross-sectional projects were conducted in line with lean philosophy and by using lean tools. The focus was on working processes, and on creating a few success stories in order to show the benefits of lean, and involve more people in the organisation step by step.

Our second phase of introduction started summer 2013 and involved a heavier investment both economical and in working hours, more use of external consultants (Implement Consulting Group) and a new approach where the whole organisation is required to pass through a lean involvement program in “waves” of 6 months each, involving three departments at the time. Hence all nine departments should be covered by summer 2015. In addition to this, a full time job post as an internal project manager for the Lean process reporting to the General Director was appointed, to coordinate and assure follow-up.

## **Lessons learned so far**

Although the Lean work has been a success in many ways, we have experienced some challenges, especially in the first phase; i.e. lack of involvement, slow pace of establishing the necessary frame of systematic implementation of continuous improvement, and uncertainty about new demands to middle management positions. The middle management also found it difficult to take responsibility for the implementation of Lean in general and for the improvement in particular, mainly because the follow-up of the results and new routines concerned different units. Even though it was clear which middle manager was responsible for which project, there was no clear responsibility for the whole. Thus, although many of the findings in Lean analyses of processes resulted in plans for implementation of changes, a large number of the recommended changes were never implemented or postponed due to unclear ownership.

Another challenge we experienced was related to the culture in the organisation. Continuous improvement is about streamlining processes and working methods, but it is also about implementing a new culture, and realizing the potential for commitment, creativity and continuous improvement the employees have. Employees involved in the Lean projects learned a lot about their own products and production processes from cooperating across the units, and they learned about Lean thinking. They also developed better processes in different areas, and became more efficient. However, we did not see transformation towards a Lean culture with systematic continuous improvement. A strong organisational culture controls organisational behavior and can block an organisation from making necessary changes for adapting to a changing environment. (*Schein, E. (2004) Organisational Culture and Leadership, Third Edition*). Culture is an abstraction, yet the forces that are created in social and organisational situations that derive from culture are powerful. If we don't understand the operation of these forces we become victim of them. Thus the question needed to be asked: Does our culture reinforce Lean thinking? Or perhaps, if we truly are to become a Lean organisation, maybe our culture also needs to change.

## **From process to culture change!**

In addition to working with processes and removing waste, attention was given to the key role of management and development of a Lean culture. The current program has increased emphasis on culture and is involving, preparing and training management and middle management in order to build a culture for continuous improvement. The following describes how.

## What is a Lean manager?

Traditionally leadership in SN consists of what we call strategic management, personnel management and academic management. We wanted to introduce a fourth dimension of Lean management. Our approach is based on introducing lean management respecting the other three dimensions (Figure 1).

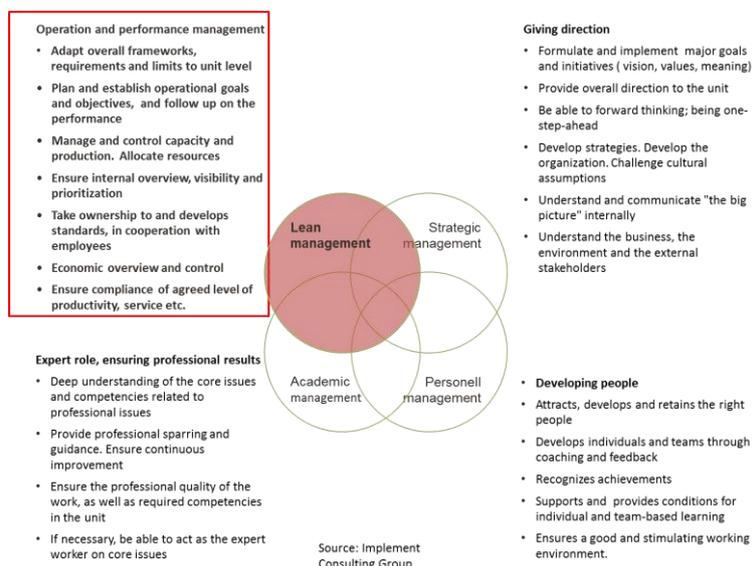


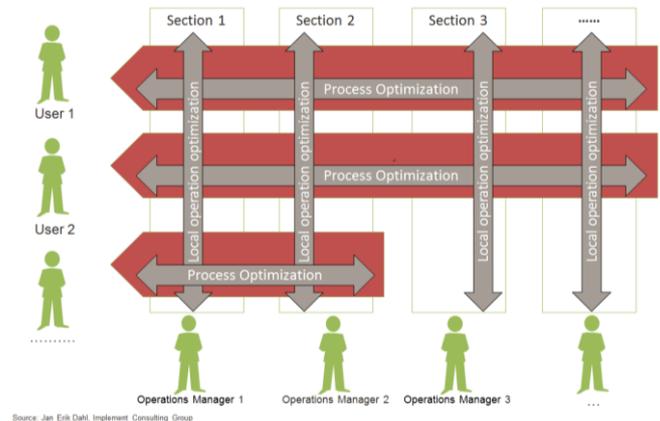
Figure 1 Four dimensions of leadership

An important part of Lean is to measure, prioritize and follow up. This requires transparency and a well-documented knowledge of everything that goes on, in the case of SN more than the organisation has been used to. Introducing Lean thus places additional demands on leaders; perhaps especially in knowledge based organisations like SN, where traditionally management has been chosen for their excellent academic skills in their area, more than general management skills.

Streamlining and restructuring requires managers with capacity to implement ideas and plans, who are able to formulate and communicate in a clear and efficient way, and who are able to make decisions. A Lean leader needs to have an overview of his resources and make appropriate priorities, and have knowledge of the employees' current as well as needed future skills and tasks in the context of SN's overall objective. They also need to ensure that all employees know the goals and know what is expected of them in order to do a good job. At the same time, they have an important role as facilitators and motivators. Lean is a bottom-up philosophy, and leaders need to be open for suggestions and improvements from the employees, without losing direction. They should be good role models who actively implement and comply with SN's overall strategy. In other words – no easy task.

Understanding processes is important in Lean thinking, but it is also necessary to optimize the local operations (as shown in figure 2). Although the end goal is to improve processes throughout, leaders

need to “break it down” and work with what’s controllable in the everyday work production and within their scope. The management needed tools to handle this aspect as well.



**Figure 2 Process optimisation vs local operation optimisation.**  
Source: Implement Consulting Group

In parallel with improvement of processes and removing waste throughout the organisation, leaders were therefore given extra training and support, through 4 days of training on «Lean-leadership». Three main areas were identified:

**1. What is needed to manage daily operations in an effective and efficient way?**

This topic focused on giving the managers the tools needed to prioritize tasks and resources in an effective way based on Lean thinking. They were taught about capacity management, the importance of good planning and given tools to ensure an overview of their resources. Other issues focused on, was definition of objectives, specification of measurement methods, and how to design performance management boards and carry out “blackboard meetings”.

**2. The second major topic was optimisation of processes**

This topic focused on process improvement, Lean theory, Kaizen (“good change”) mindset and how and where to find the potential for improvement. The leaders were given a solid base for Lean thinking as well as training in practical skills for optimizing the processes in their sections.

**3. What is required of a leader who works with Lean principles**

This topic included theoretical and practical knowledge of change management. Participants were encouraged to reflect on their strengths and weaknesses as Lean managers. “Does this require something new from me, and am I prepared for this?” “How do I support and encourage involvement and improvement?” The leaders were also asked to clarify expectations and roles with their own leader, and were given appropriate exercises to work on between the training gatherings.

The feedback from the participants has been quite good. The managers report back that this change management program offers useful tools, support and needed structure to help implement Lean into their sections. They do experience a change, and feel more comfortable in their roles as Lean leaders.

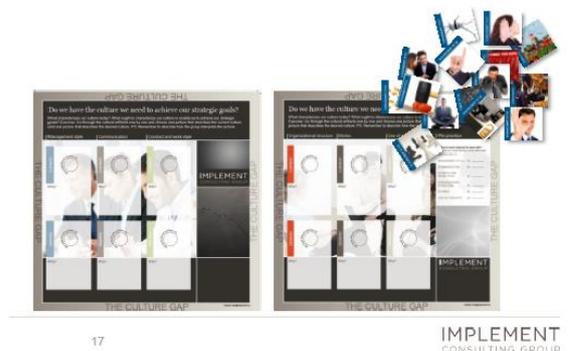
## A Lean culture

Changing a culture is very difficult, and is a major investment of time and resources. There are several reasons for this. Firstly, it can be a challenge for those embedded in the culture to see their reality as something they constructed and can affect. Also, culture is often taken for granted; it is not discussed and therefore seemingly unconscious. Therefore the first step in changing the culture was to find a way to describe our current culture, and then describe how we want it to be. With help from external consultants (Implement Consulting Group) we identified focus areas for cultural change by conducting a *culture gap analysis*.

For many employees this was the starting point of Lean. All employees in departments involved in each “wave” were invited to an open meeting, where they were given a short introduction of Lean in SN by the Director General as well as an introduction to Lean in general. Participants were then divided into smaller groups and given instructions for a “culture-game”. This is a practical tool, (based on theories of E.Schein), where the goal is to – by use of pictures – describe the culture as it is today, and the culture as we want it to be. The results were summed up (Table 1), and presented back to the organisation for follow up.

The exercise identifies six cultural drivers

1. Leadership style
2. Communication
3. Behavior and work style
4. Organisational Structure
5. “Stories” told
6. The words and terms we use



In four of the six culture drivers, the gap between the current situation and the desired situation was particularly evident. There is much to be gained in:

- Establishing a more inclusive and coaching leadership style
- Creating a clear, shared direction and communicating it throughout the organisation
- Enhancing interaction and collaboration across divisions and departments, and creating better exchanges and joint responsibility for results
- More customer orientation, and increased focus on the users of our statistics or services; taking the "outside-in" perspective

Table 1 Culture gap analysis summed up

<b>Cultural driver</b>	<b>From today's ...</b>	<b>To the desired situation ...</b>
<b>Leadership style</b>	A strong hierarchy and distance between management and employees - also between sections. Partly invisible leadership - too little present and unifying leadership. Unclear direction and too little involvement. Academic oriented management - for better or worse.	Teamwork and inclusive leadership style. Managers who are involving and clearly pulling in the same direction. Coaching and creating trust in teams and organisation. Focuses on teamwork and create results together - and gets each individual to do his best.
<b>Communication</b>	Unclear and informal communication - fertile ground for rumors. Much communication based on digital channels (primarily e-mail). One way - and sometimes lack of communication downwards. Good communication within sections and between employees, little communication across.	Good communication flow – using the right channels and the right time. Efficient and transversal communication, providing clear direction and allowing for cross-sectional collaboration. Open, two-way communication, in an environment where it is easy to give feedback. Good dialogue that ensures the involvement, commitment and joint ownership.
<b>Behaviour and work style</b>	Time pressure and deadlines - more tasks with fewer resources. Fighting for resources. Lacking common goals and common direction. “Silo” mentality allows the organisation pulling in different directions, instead of collaborating across tasks and sections.	Team spirit - make each other better across the organisation - "one SN". Good teamwork, going in the same direction. Solution-oriented, with room for creativity. Good flow in processes.
<b>Organisational Structure</b>	Hierarchical and line oriented. Neat - can provide suboptimal solutions. Little communication and collaboration across sections gives sometimes vague direction and a breeding ground for misunderstandings.	Clear leaders. Extensive interaction and collaboration across the organisation. Everybody should be involved - focus on collaboration that gives the best results and less tug-of-war for resources. Increased focus on the customer / user - and utility value for the customer.
<b>Stories</b>	Restructuring and rationalisation requirement creates uncertainty and sometimes negative focus. Good relations between people - topics are varied and neutral (nature, family, community, etc). Unpretentious.	Light and positive communication and dialogue - not unlike the way it is today. More sharing of positive cases - often in combination with the professional. Even greater degree of openness and interest across the organisation. Even small victories should be shared and celebrated.
<b>Use of terms</b>	Much "us and them" - where responsibility for mistakes or misunderstandings added to others (disclaimer). Solution-oriented. Based on knowledge and professionalism. Conservative attitudes, professional pride - at the risk of being smug. To some extent little flexibility.	Clearly coordination across the organisation and work towards common goals. Supporting each other, good teamwork –in football terms: “ make each other better”. Allow room for new ideas and innovative solutions - encourages knowledge sharing. Involvement and joint ownership of processes and results.

Based on the results from the culture gap analysis, we discussed in the daily working units how each and one of us can take responsibility; as individuals, as a group, or as managers. We agreed on the steps needed to change into the culture we want in our organisation. The exercise both brought light on some underlying improvement areas, as well as made a measurement on the lean maturity of our organisation; i.e. what questions and concerns were raised, which information is needed, which tools are most appropriate, and what are our expectations on the speed and level of introduction of lean thinking. Although some say this exercise focuses too much on the negative, the culture gap analysis is considered a useful first step towards changing SN culture in the right direction.

### **What now – ways forward?**

The experiences so far have been good, and the managers report back to us that they have experienced movement and change, especially when it comes to measuring and managing daily operations. Several waste-reducing measures have been identified and implemented.

As the competence level in the organisation grows, we must take ownership of our cultural change ourselves and decrease the use of external consultants; so their mission is to make themselves redundant and enable the organisation to continue on their own. So far, they have had quite an active role in driving this process forward. On our side, we educate internal facilitators, and we will establish specific job posts as “Lean facilitators” in order to support the lean transformation of the organisation. The goal is for us to be self-sufficient in this matter by the end of 2015.

### **Conclusion**

We are still in the middle of our lean transformation process, and although it is early to make a conclusion on what the effect will be, we do see a change in the leadership in SN, and thus on the implementation of Lean in SN. By giving increased support and training to the leaders and accentuating their key role in this second phase, we have achieved good results. Another important aspect within Lean thinking is that the organisational culture must support lean thinking. A starting point in changing our culture is to describe where you are and where you want to be, in order to know what you want to keep as a quality and what you want to change. The culture gap analysis helped with that, and we believe that with time and patience, our culture will truly become Lean. This is perhaps the most difficult part of implementing Lean in Statistics Norway, but also the most important for sustainable long-term effect.