Managers Basic Assumptions When Applying Lean

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Abstract

Purpose: The purpose of this paper is to present the result from a case study where managers who interviewed in order to find out their basic assumptions (i.e. purpose and underlying values) for applying Lean. The purpose is also to investigate if these basic assumptions are in line with what the literature describes as important for succeeding when applying Lean.

Methodology/Approach: Interviews based on an interview guide with open questions were carried out with managers in an organization.

Findings: The study showed that the reason given for applying Lean are different between a manager that has started to apply Lean and a manager that has not yet started to apply Lean in their organization and that it is a difference between their basic assumptions.

Originality/Value: The paper indicates the importance of knowing the managers’ values when applying Lean and the importance to educate managers’ to get a deeper understanding of Lean.

Keywords: Lean, Quality Management, leadership, value, implementation,

Paper type: Case study
Introduction

It appears that organizations apply a Quality Management (QM) initiative, e.g. Lean or Total Quality Management (TQM) to arrive at a structured and supporting system for quality development. Some call these initiatives; a philosophy to relate to (Bhasin & Burcher, 2006), a system (Ballé, 2005) or a corporate culture (Dahlgaard et al., 2002). According to Emiliani (2010) the reason why organizations apply Lean has a profound effect on what will be focused on within an organization. The reason for applying Lean has to be for the benefit of the customer, not for internal company reasons (ibid). Despite this Peter & Lanza (2011) show that the main reasons for applying Lean are cost reduction, fewer defective parts and improvement of delivery reliability.

It is people who make quality and it is the managers within organizations who can create conditions that allow people to do this (Kanji et al., 1995). In organizations that choose to work with a QM initiative as a strategy for development the leaders need to participate in the work of educating the co-workers and to be role models. In order to do that they need to be skilful in the values and principles which are represented and have the ability to adopt a system view (Liker, 2004 and Liker & Hoseus, 2008).

The QM initiatives TQM and Lean can enhance an organization’s ability to meet and exceed the expectations of the customers as well as co-workers and other stakeholders when applied successfully (see, for instance Burström et al., 2012, Hansson & Eriksson, 2002, and Hendricks & Singhal, 1999). This is also confirmed by Douglas & Judge Jr (2001) who found a connection between organizational performance and the degree of implementation of a TQM initiative. To succeed when applying a QM initiative is not easy: organizations sometimes fail and one reason can be that the old structures and systems remain and continue to support the same behavior as before (Hackman & Wageman, 1995). To counteract such a failure, a deep understanding of the initiative is necessary, according to Ballé (2005) who refers to this as attitude. According to Douglas & Judge Jr (2001) it is most important to focus on the depth of the implementation of a TQM program, not only on the presence of the program.

Many QM initiatives are said to be built on values and many companies that have succeeded in applying QM values have received quality awards, e.g. the American Malcolm Baldrige National Quality Award and the European EFQM Excellence Model award. These quality awards are based on values that are widely considered to be the building blocks of effectively applying QM (Hendricks & Singhal, 1999). TQM for instance is seen to rest on a number of values and applying TQM effectively means that these values are well accepted, practiced and deployed within an organization (Dayton, 2001, Hendricks & Singhal, 1999, and Shin et al., 1998). The definition and labeling of these values vary slightly from author to author and a summary can be found in Lagrosen (2006). However the similarities between the values are striking. The values ‘customer focus’, ‘leadership commitment’, ‘the participation of everybody’, ‘continuous improvement’, ‘process focus’ and ‘base decisions on facts’ seems to be agreed upon by researchers. Since the values in Lean, in much the same way as TQM, rest on a number of principles (which in this paper are seen as synonyms to values) these values are said to be needed in the organization for the successful application of Lean (Achanga et al., 2006, Bhasin & Burcher, 2006, and Henderson & Larco, 1999).

Based on the leaders’ importance to the application of a QM initiative the aim of this paper is to present the result from a case study where managers have described their basic assumptions for applying Lean. The aim is also to find out if their basic assumptions are in line with what the literature describes as important for succeeding when applying Lean.
The context of this study is an organization within the public sector that has decided to choose Lean as their way to develop the organization, specifically to work with their strategies. The opportunities they saw were that they would get a structured way of working with continuous improvement along with increased commitment and participation from the co-workers. It is the authors’ belief that the various QM initiatives need similar conditions within the organization and may encounter similar obstacles along the way.

The importance of leadership

According to Liker (2004), managers are crucial to the outcome when applying Lean. The manager’s role is to change the culture and this is done by being involved in the actual work of identifying waste and values stream mapping where they occur (ibid). The managers have great influence on which culture will be predominant in the organization and how the manager acts and behaves influences the attitudes and behaviors of the rest of the employees (Schein, 2006). According to Achanga et al., (2006), who studied the influence of leadership in SMEs, leadership includes factors such as having a clear vision, good levels of education and the willingness to support the Lean initiative.

The term leadership is frequently discussed by researchers and authors. Yukl (2006) lists a number of definitions of leadership and states that ‘most definitions of leadership reflect the assumption that it involves a process whereby intentional influence is exerted by one person over other persons to guide, structure, and facilitate activities and relationships in a group or organizations’. He further points out that, other than this there seems to be little in common between the definitions. However, there seems to be a consensus that leadership is a real phenomenon that is important for the effectiveness of organizations (ibid). Yukl (2006) defines leadership as ‘the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives’. A similar definition to Yukl’s is formulated by Kotter (1988): ‘the process of moving a group (or groups) of people in some direction through (mostly) non-coercive means’.

Values within Lean

Lean values do not differ much from the values within TQM. Within Lean customer focus is very apparent alongside the values focus on people and continuous improvement, as well as present leadership, system view, long term thinking and eliminate waste (see, for instance, Liker, 2004 and Emilian, 2007). These values are further explored below.

Managers within Lean are both passionate about involving people as well as having an in-depth understanding of the work in addition to general managerial knowledge (Liker, 2004). (Seddon, 2005), looking mainly at service organizations, argues that leadership is being able to talk about how the work functions with the people who do it. Henderson & Larco (1999) advocate five key factors for a Lean success; one of these is that management must have a strategic vision of what the organization is moving toward and will become and that there must be strong line management leadership committed to change.

The value of customer focus and creating value for the customer is central in both TQM and Lean. Understanding what the customer really needs and what builds customer value in an organization is essential for business success. Customer value is even considered by some as the source of all other values in an organization (Hammer, 1996, and Heskett et al., 1994). Emilian (2010) states that the reason for applying Lean has to be for the benefit of the customer,
not for internal company reasons. In a literature review on Lean, Bicheno & Holweg (2009) extract 25 common themes where the most important is the external customer. According to Womack & Jones (2003), the critical starting point for Lean is value and value can only be defined by the ultimate customer as the whole offer to the customer, not as simply optimizing part of the delivery. In this paper, the concept of customer includes both external and internal customers. Internal customers are, for instance, co-workers at different departments within the organization, the co-workers as a group, or the co-workers as individuals (Bergman & Klefsjö, 2010).

Deming (1994) defines the system as a network of independent components that work together to try to accomplish the aim of the system. There has to be an awareness and understanding that functions and activities are held together in processes (ibid). Bergman & Klefsjö (2003) state that system thinking on a long-term basis is necessary to achieve success and see it as the ability to view things holistically and see how different components affect each other. According to Bicheno & Holweg (2009), a system approach is the very essence of Lean. They define a system approach as focusing on the organization as a whole before paying attention to the parts (ibid). Lean emphasizes the supply chain, where the production within the organization is a part of a value stream from the sub-suppliers to the ultimate customer (Womack & Jones, 2003). Seddon (2005) claims that managing the organization as a system is among other things to have an outside-in perspective and to have a design based on customer demand, value and flow.

According to Bergman & Klefsjö (2003), requirements on products constantly change. This leads to a need for continuous improvements to fulfill customer needs and expectations. Deming (1986) states that one should “improve constantly and forever the system of production and service” and advocates the use of “the improvement cycle” (also called “the Shewhart cycle” and “the Deming cycle”) with the four stages: Plan, Do, Study and Act. Liker & Franz (2011) states that continuous improvement within Lean is more than problem solving, it is a way to think and how the organization learns.

Waste reduction is something many people associate with Lean. According to Bicheno & Holweg (2009), value is the converse of waste and waste elimination is seen as a means to achieve Lean – not an end in itself. The elimination of waste is closely linked to creating flow in an organization’s processes (Liker, 2004 and Womack & Jones, 2003). Bicheno & Holweg (2009) list the traditional seven types of waste defined by Taiichi Ohno as: overproduction, waiting, unnecessary motions, transporting, over-processing, unnecessary inventory and defects. Very often an eighth type of waste is added, that of untapped human potential.

There is a great need for long-term thinking in an organization because changes often take longer than anticipated (Berglund, 2010). Liker (2004) describes Lean through 14 principles divided into four parts of a pyramid, the ‘4 P’ model, influenced by Toyota’s internal training document, The Toyota Way. The bottom of this pyramid and the most important factor for success is the value ‘Long term thinking’(ibid). As Karlsson & Åhlström (1996) state ‘Lean should be seen as a direction, rather than as a state to be reached after a certain time’. It is a long-term commitment and organizations expecting short-term effects may focus on tools and not on changing the culture since that often takes a long time. A medium-sized company will need a minimum of three to five years to start practicing a Lean philosophy (Bhasin & Burcher, 2006). According to Emiliani (1998), it will take five to ten year for an organization to practice sustained Lean behaviors.

Organizations need dedicated co-workers to develop the business (Berglund, 2010) and motivated people to cope with challenges within problem solving (Kanji et al., 1995). It is generally agreed
that when people are engaged in something they can accomplish great things. They are then justified, that is, they have motives for the actions that lead to the goal, because commitment means that they want to reach the target (Berglund, 2010). For a quality strategy to be successful it is essential for everyone in the organization to participate. To create these conditions the keywords are: communication, delegation and training (Bergman & Klefsjö, 2010). All of these elements aim to give the co-workers knowledge about their place in the organization, where the organization is going and how capable it is of carrying out the necessary improvements. Rother (2010) also reflects this view as he claims that one of the basic assumptions within Toyota is that people are doing their best and the focus needs to be on the process instead of apportioning blame in order to make people want to participate and be committed. If the organization has success stories and displays their results, this is inspiring. There must be room for maneuver to facilitate efforts to find strategies for engagement (Berglund, 2010). Emiliani (2010) points out that if the focus is solely on continuous improvement the organization will never be truly Lean and to reach real Lean management the value Respect for people needs to be present as well.

Case: a Swedish dental care provider

The dental care provider has been, since 2008, a corporation within a county council and has approximately 445 employees in 19 clinics spread out over 15 cities. In 2009 the organization worked with their strategies and decided to apply Lean as their strategic aim is to have the ‘smartest working dental care’. The opportunities they saw were that they would get a structured way of working with continuous improvement along with increased commitment and participation from the co-workers.

The work was divided into three phases where the first was focused on understanding. The outcome was their own interpretation of Lean. Two pilot clinics were selected and a long term plan was developed for all clinics. Clinics could apply to become a pilot and two of the applying clinics were then chosen for this first phase. Another outcome from the first phase was the creation of their own Lean house to visualize what Lean is for them. The foundation is made up by the values ‘Enabling leadership’ and ‘Active co-workers’ and on top of that Common ways of working. Phase Two focused on creating their own methodology for applying Lean along with working on the internal structure, e.g. roles and responsibilities. During this phase the ways of working in the pilot clinics were continuously evaluated. Phase Three is focusing on rolling out Lean in all of the clinics with a common methodology and infrastructure.

Method

Values within Lean and TQM, with more focus on Lean, were studied. An organization was chosen on the basis of being in the beginning of their ‘Lean journey’ and their having used the strategy to roll out the change process through the start of pilot groups. The assumption being that there is a similar culture within the organization to begin with, so the starting points are reasonably similar.

Interviews with two managers, a manager from one pilot clinic and a manager from one clinic which had not started to work with Lean, were carried out during the fall of 2011. The pilot clinic had worked with Lean for over one and a half years and the clinic that had not started was set up to start according to the organizations rolling out plan. The aim of the interviews was to identify what the managers perceived as the purpose for applying Lean, what they hoped to achieve when using Lean and their view on the basic elements in Lean.

The interview guide was created by one of the researchers and it contained open-ended questions.
Follow-up questions were then asked to capture as much as possible of the leaders’ personal attitudes about the basic assumptions of Lean. The interviews were recorded and transcribed verbatim. The transcribed interviews were read through by the members of the research group, and then each member picked out phrases from the text that they thought represented a pertinent answer. The members compared their results with each other and discussed the answers and came to conclusions. During this process the members returned back to the original texts several times to ensure that the cut out phrases were not detached from their context.

Results

Manager from pilot clinic

To involve co-workers as much as possible in the control of the organization and in decision-making, and put focus on the costumers is the purpose of Lean. The goal for this organization with applying Lean is to have a well working structure for continuous improvement, driven by the co-workers. Since Lean has been applied the co-workers have become more involved in establishing goals and to finding solutions to reach them. It has been clearer for each of them what is expected in the work with continuous improvement, that it is a part in the daily work. The manager commented that Lean “is seen as a method to do the work” that was “a better way to do it in then before” Furthermore it was mentioned that co-workers have evolved more and some have grown into their role as a result of the support received in the form of the tools available in Lean. At the same time the expectations on the co-workers have increased from a management perspective.

It is a management’s task to put focus on the customers. This part has tended to be neglected for a while, but now focus has increased again, “that is why we are here for the patient and for the population”. Co-workers must be motivated and it is the manager’s task to maintain motivation. This is necessary so that the individual can feel that it is important to be good at their job and doing it well. The manager needs to be a coach and visit the co-workers every day and work hard together with them. This is how the manager sees the manager’s role.

The clinic is not getting more resources in terms of money, so more has to be done with the existing resources. An example of this: “I am more satisfied with the business now”, this quote comes from the manager when speaking about prevention work. Before Lean, the clinic had also been charged by the county council to work prevention and health promotion, but the resources were not there. Now it is central to the business, and that is according to the manager, an investment in the future.

Manager from the clinic that has not yet started to apply Lean

The purpose with Lean is to get the co-workers to be more committed and take more responsibility for profitability and their own actions. The manager hopes it will be possible to develop a better structure for solving problems that will speed the process up. Today they identify problems, but are not solving them. So Lean will help the co-workers to identify their problems and force them to find solutions. The managers’ role will be to be present as an observer, and monitor if the co-workers are performing well and exercise control when necessary. The manager believes that once Lean is introduced, the manager will no longer need to take tough decisions, but will instead be able to work with the customers and do some administrative follow-up. When explaining this a bit further, the manager comments that this will mean that the manager will ask, discuss and listen, to get a picture of how it is going. The manager will have an open dialogue and try to get everyone moving in the right direction. It might not be the fastest way,
but the manager must try to be patient.

With Lean all employees will be more involved in developing and problem solving, not only a few as it is the case today: “I think we can actually activate more”. The manager must show the goals but the driving force to reach them must come from the individuals. In addition to working with the goals, the employees also need to find driving forces to work for the organization (business), themselves and for the customer. “Unfortunately, I might not be that leader that might use them in that way, trying to get them involved” says the manager when speaking about driving forces in terms of continuous improvement. The manager believes that the organization can make a large profit if they let the co-workers be committed. Today the clinics’ profitability depends on the manager; “it puts a lot of weight on my shoulders, the financial situation we have”. With Lean, individuals will need to step forward and increase profitability themselves, according to the manager.

When the manager speaks about the reorganization that also is ongoing in the organization, there is a belief that there will be a possibility to be more operational on the floor and hand over “the Lean process” to a support function.

Waste can be found in the production plan according to the manager. Some work has already started to improve the system, but it is not possible to continue because the manager cannot deal with this. For the manager, waste is when something takes a long time however it is not necessary to throw things away. One example is the purchase of new equipment instead of spending time in cleaning up the used things. Furthermore says the manager, it is possible to have an environmental approach, but this is very time consuming.

**Analysis and discussion**

The result indicates that the managers had different purposes for applying Lean. The manager in the pilot clinic says that customer focus and co-worker involvement are the purpose for applying Lean, while the manager for the clinic that had not started to apply Lean says that structure for problem solving and committed co-workers is the purpose. Both managers have purposes that can be identified in the literature as values or parts of values within Lean initiative, (see e.g. Berglund, 2010 and Emiliani, 2010). The manager’s purpose may also be identified in the areas that the organization sees as opportunities with Lean; structure for continuous improvement and committed and participating co-workers.

It seems as if the manager from the pilot clinic has enlarged the organizations opportunity areas and is also incorporating other Lean values; see a summary in Table 1. The manager has e.g. integrated the value customer focus which is seen as the starting point within Lean according to both Emiliani (2010) and Womack & Jones (2003).

It is our opinion that the manager for the clinic that has not started to apply Lean has put more focus on problem solving than on being a learning organization and adopting a way to think which Liker & Franz (2011) state are major parts in continuous improvement. This is based on what the manager says about forcing the co-workers to solve problems.

It seems as if the manager from the clinic that has not started with Lean has a fragmented approach to leadership. It can be assumed that this affects the exercise of leadership. The manager believes that eliminating waste can help the organization to achieve better profitability and that the co-workers need to be more committed and motivated, however does not find it possible to support this. Such lack of support for co-workers is not in line with Lean values. How the manager describes leadership is not in line with Likers’ (2004) description of supportive leadership as
‘passionate about involving people’ or as Henderson & Larcos’ (1999) description ‘strong line management leadership committed to change’. The lack of the value supportive leadership is also shown by the manager when stepping aside to let the co-workers take responsibility for individual economy and how they act. It seems like the manager has focus on the outcome. On the other hand the manager from the pilot clinic exhibit sides that suggest a supportive leadership. The manager involves co-workers to set up goals for the clinic and works closely with them, which also is supported by Liker (2004) description of Lean leadership as being involved with the actual work.

Since Lean has been applied the co-workers have become more involved in establishing goals and in finding solutions to reach them. It has been clearer for each of them what is expected in the work with continuous improvement and that it is a part in their daily work. The manager commented that Lean “is seen as a method to do the work” that was “a better way to do it in then before”. It is difficult to find a clear line between the basic assumptions in Lean and effects that have occurred. The expression about goals for the organization can be an effect of a more purposeful organization.

Continuous improvement is also a value commented on by the manager for the pilot clinic: has become a part of the daily work and everyone is aware of this. The manager from the clinic not started thinks focus on problem solving is important, but it seems like the manager self is neither has the competence to nor interest in work with it.

The focus on committed co-workers by the manager for the pilot clinic has lead to the possibility for relocating resources within the clinic. The manager has chosen to use this opportunity for purposeful organization.

The expression about goals for the organization can be an effect of a more purposeful organization.

Table 1. Summary of detected Lean values. A black dot indicates a clear detected value and an unfilled dot indicates a partial detected value.

<table>
<thead>
<tr>
<th>Value</th>
<th>Manager from pilot clinic</th>
<th>Manager from clinic not started</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supportive leadership</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Customer focus</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>System view</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Continuous improvement</td>
<td>●</td>
<td></td>
</tr>
<tr>
<td>Long term-thinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respect for people</td>
<td>●</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Summary of detected Lean values. A black dot indicates a clear detected value and an unfilled dot indicates a partial detected value.

Conclusion

It is our belief that the differences between the managers’ purposes when applying Lean and how they commented on the values depends on their knowledge about and ability to practice Lean, and also on their individual leadership. Clearly it is important to educate managers and perhaps also to evaluate the manager’s ability when starting to apply Lean. The manager who has started to apply Lean mentions more values supported in the literature than the manager who has not started applying yet. The reason for this can be that the managers from the pilot clinic had the value base from the beginning or that time and practice of Lean has lead to the development of said value base. From these result it is difficult to say if the managers has the behaviors and attitudes that are needed to succeed. We do know that how the managers’ behaves influences the attitudes and behaviors of the co-workers (see e.g. Liker, 2004).
How the application of Lean will go for this organization only time can tell. One and a half years is no time at all in the opinion of Emiliani (2010) who claims it takes several years to change behaviors within an organization. The organization could consider evaluating the managers as it is they who will create the culture and success is depending on culture.

It can also be mentioned that in this case several values were not detected. If the managers had been studied for a longer time or if the co-workers had been interviewed, this could have given a more complete result.

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