

# 10 COMMANDMENTS FOR THE BOSS OF A COMPANY IMPLEMENTING LEAN PHILOSOPHY

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## **ABSTRACT**

For over ten years the authors of this article have had a growing conviction, resulting from their observations, that regardless of the approach adopted, the role of the company's boss always turns out to be of paramount importance during the implementation of both technical and sociological aspects of Lean philosophy. Having analyzed their experience gained from cooperation with different enterprises, conversations with company bosses, the studies of subject matter literature and internet sources, the authors have put together their thoughts on this role in ten points, even daring to call them commandments. The methodology of affinity diagram has been used to aggregate gathered data.

## **KEYWORDS**

lean management, lean manufacturing, lean thinking, lean implementation

## **Introduction**

Over the past ten years a large number of companies attempting to implement in various ways the Lean Management philosophy can be observed. This gave an opportunity to see how the attitude and focus on various aspects of this philosophy have been changing [1]. Initially, the authors of this paper witnessed fascination with specific Lean methods, which were implemented with different degrees of success. Sometimes the results were impressive, significantly improving the company's efficiency, sometimes the outcomes were unnoticeable as the methods were put into practice just for the sake of implementation or because it was becoming fashionable. However, rarely were the solutions implemented sustainable. Some companies tried to go further with their vision of building Lean Business System, being aware that all Lean methods must fit together like a puzzle. Recently, more and more enterprises are noticing that the creation of Lean culture at all levels of organization management is an indispensable

part of development and continuous improvement. It can be often heard from them that technical aspects of Lean are easy in comparison with sociological ones. (However, in his e-letter of December 2010, John Shook sows doubt whether technical aspects are really so easy, writing that it may be a false impression [2].) For over ten years the authors have had a growing conviction, resulting from their observations, that regardless of the approach adopted, the role of the boss always turns out to be of paramount importance during the implementation of both technical and sociological aspects of Lean philosophy.

Having analyzed their experience gained from cooperation with different enterprises, conversations with company bosses, the studies of subject matter literature and Internet sources, the authors have put together their thoughts on this role in ten points, even daring to call them commandments:

1. Have a clear vision and improvement goals for the whole organization.
2. Be an engaged boss initiating changes.

3. Improve processes and the results will come as a consequence.
4. Create Obeya-like management centre.
5. Determine indicators and bonuses which show one direction to the managers.
6. Motivate your people.
7. Delegate the ownership of processes and places to your employees.
8. Engage everyone in problem solving and continuous improvement.
9. Teach your employees to achieve “the impossible”.
10. Practice the routine of Gemba Walks every day.

All these ten commandments are discussed and explained in subsequent parts of this paper. The authors hope that it will provoke the managers reading it to think and in consequence to take action.

### Have a clear vision and improvement goals for the whole organisation

#### Why should this commandment be followed?

If the boss himself is not 100% sure of the necessity of Lean Management transformation or continuous improvement resulting from this philosophy, then any attempts in this journey have little chance of success. The boss needs to have a clear vision why and how he wants to implement a particular program, what the organization will achieve by this, how the success will be measured and what resources need to be engaged. If the boss does not know it, he will not treat the program of changes as an important issue, as a priority. Then, it will be difficult to lead an information campaign correctly and engage people.

Imagine Christopher Columbus, setting off on his voyage around the globe, who tells his sailors: *I don't know exactly why we are going there but we have the necessary means, so let's just sail west and see what will come out of it.* Would such an expedition stand any chance of success?

#### What will happen if the boss does not follow this commandment?

Following situation can be witnessed quite often: the boss of the company learns something about Lean Management, for example from a book, at a conference or he is given an order from headquarters to carry out implementation. Then, he orders the implementation of Lean just for the sake of implementation. It is not known why it is being implemented, what will change in the company after implementation, how the success of the project will be

measured. Such projects are usually chaotic; at first there is much ado, and then, when it turns out that it requires more time and engagement, the project slows down or it is abandoned. In result, employees are likely to see that it is not worth implementing Lean and those who were engaged, get discouraged.

#### Example

The authors once visited a company in which an attempt was being made at implementation of visual control in the form of hourly production schedule boards and team boards. The boards were filled in incorrectly, the indicators were out of date and in fact nothing has improved in the company. The plant director said that they were made to implement this by a corporate consultant, so they write something on the boards but it's just 'paperwork'. Success at Lean implementation cannot be expected in a company whose boss does not understand why it is being implemented.

#### How to follow this commandment in practice?

Defining the future shape and condition of the company as well as the direction of actions leading towards the future state is a key task for the company boss. Development of a vision, strategy and goals as well as action plans based on Lean philosophy shall be the foundation of all changes and a road map for the organization.

There is no point in implementing Lean Management philosophy just for the sake of its implementation, simply because its tools are easy to use or because the company is blindly following competition or other companies sharing their positive experience in Lean Management [3]. The main motive encouraging the boss to adopt Lean approach in the company should always be the willingness to achieve the established goals and to solve specific problems.

The company boss, willing to implement the concept of Lean Management needs to understand how the whole company works; he should treat it as a system. Only then can he develop a Lean vision for the whole organization and a master action plan leading to the achievement of this vision.

Action strategy, according to Toyota, shall be a long-term. Thanks to this, the company development may be concordant with this strategy. Strategic action reviews play an important role in Toyota. It has been organized in the following way: section manager and department manager define a given issue as

their strategic priority and then, every half a year, the supervisor of his supervisor reviews the progress in solving this problem (Fig. 1). Actions related to solving other items from the strategy are reviewed on line by direct supervisors [4].

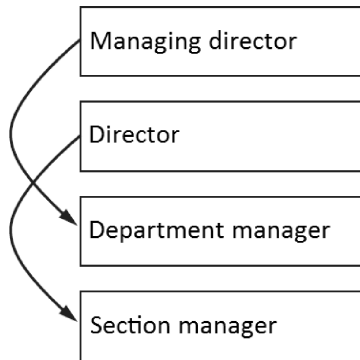


Fig. 1. Structure of strategic action review in Toyota [4].

The way in which strategy of the whole company is implemented by its particular parts and individual employees decides about the success of such strategy. The boss of the company who is willing to implement Lean philosophy in his organization needs to be able to deploy this strategy and decompose general goals

it comprises. Particular targets shall be cascaded to lower levels of the company and at the same time adjusted to the tasks of company units at these levels. This process is defined as Strategy Deployment (from Japanese Hoshin Kanri) [5, 6]. Thus, the success of a company vision and its underlying strategy of implementing the system based on Lean culture is largely dependent on the boss's abilities. The key role plays the skill to define such goals for lower-level units so that the actions of these units contribute to the execution of the whole company strategy. The ability to communicate a general and detailed strategy to other employees at all levels is also important.

A perfect example of Strategy Deployment process can be seen in GMMP, Gliwice [7], where the practice of goal cascading (known in GM as Business Plan Deployment) has been applied for several years (Fig. 2).

Actions and decisions made by the boss as regards the implementation of Lean philosophy almost always encounter some resistance on the part of employees. However, in the company vision there is no room for individuals opposing its implementation. A good boss shall be able to fight off the so called concrete heads.

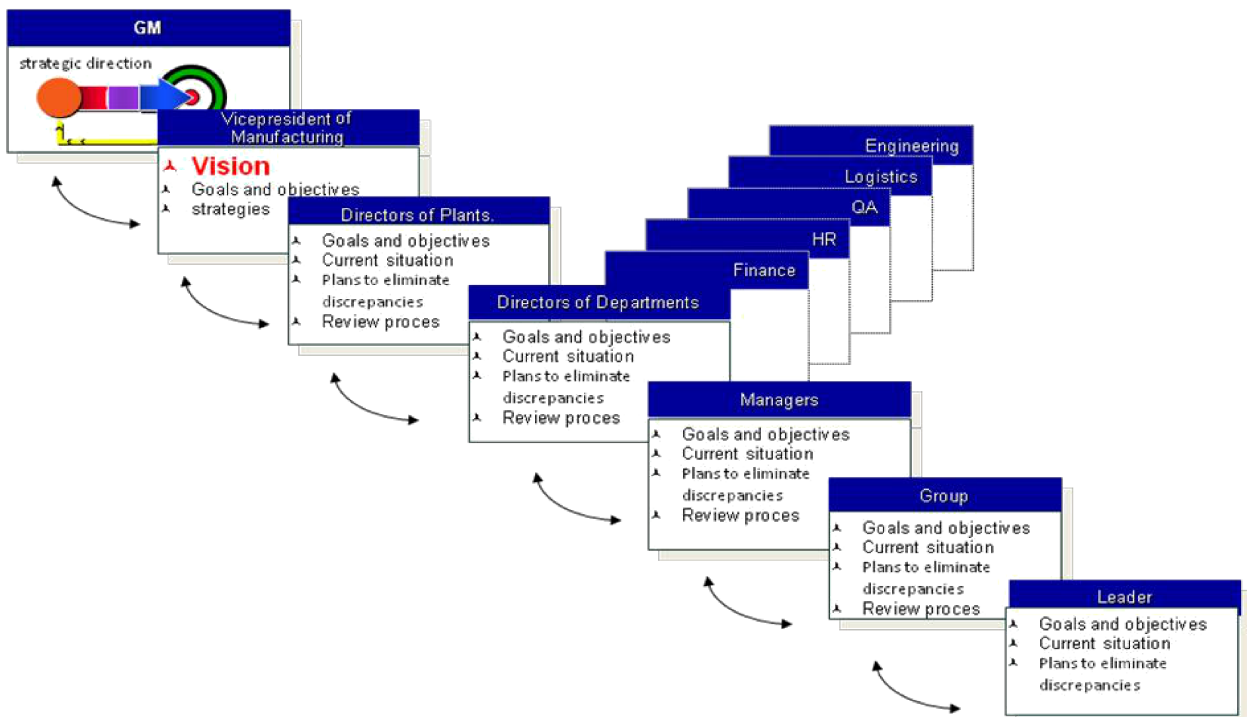


Fig. 2. Goal cascading in GM corporation [7].

*Example [8]*

Production manager taking part in Lean Manufacturing program was extremely sceptical about the changes suggested. Hardly had he presented his doubts concerning the validity of the path chosen when he met with a sharp reply from his boss. The boss emphasized that it was him who made the decisions what was going to happen in the factory and if the production manager did not like it, the company would have to find someone to replace him. The story did not end in his dismissal; soon the production manager became the greatest enthusiast of Lean in the whole plant.

To sum up, the boss of a company implementing Lean shall have a vision of a new system and an action strategy along with general goals, developed into smaller targets for all levels of company hierarchy. Before making a decision of implementing Lean ideas, he should have a clearly defined goal of implementation action and know what problems he wants to solve.

**Lean methods applied  
with this commandment**

Strategy/Policy Deployment (Hoshin Kanri)	Management process that binds, vertically and horizontally, the company's functions and activities with its strategic objectives [5, 6].
Nemawashi	The process of gaining acceptance and preapproval for a proposal by evaluating first the idea and then the plan with management and stakeholders to get input, anticipate resistance, and align the proposed change with other perspectives and priorities in the organization [5].
Dashboard	Measurement tool (in the form of a single sheet) containing a set of critical indicators describing the manufacturing system performance and efficiency of particular processes connected with the strategy or action plan [5].

## Be an engaged boss initiating changes

### Why should this commandment be followed?

Management engagement is an obvious factor determining the success in any actions of strategic nature. In the case of implementation of the system based on Lean philosophy, management engagement is both very important and very difficult, especially at the beginning of the way towards lean enterprise. The boss engaged in action is an example for his subordinates. Showing his belief in lean by his attitude, he makes it easier for his employees to believe in the validity of the changes being introduced and motivates them to action. What is important, the boss engaged in implementing changes has the moral right to demand similar engagement from his employees.

### What will happen if the boss does not follow this commandment?

The most common problem in implementing Lean Management that the authors have learned about from Lean coordinators is lack of engagement of top management. If the plant manager is not engaged in the project, he gives a clear sign that a project is not important enough.

### How to follow this commandment in practice?

*Example [8]*

In one of the companies in logistics industry in which Lean philosophy had been implemented for several months it was noticed that implementation efforts stopped bringing results. The management acted according to instructions given by Womack and Jones [9] and nevertheless no beneficial changes were observed. The blame was put on the complexity of the enterprise, lack of support from engineers, poor suppliers, low level of maintenance, etc. When the boss heard about the problems, he took immediate action. At the management meeting he turned to the plant manager telling him: "The success or failure of this project is your responsibility – if the project fails, you will lose your job". And pointing out to the employees supporting the project, he told the plant manager: "If any of these people do not support you, let me know and he will lose his job". He did not have to repeat twice – everybody clearly understood how important the implementation of Lean was for the boss.

However, it is not enough to demand engagement. The boss shall set an example to his subordinates and, if necessary, also teach them. The management shall be prepared for holistic changes and support them. Management members need to be aware that visible, organizational changes that are easier to introduce will come first, but the changes that will create the greatest challenge and will be of utmost importance in implementing and sustaining Lean philosophy are cultural changes, changes in the way of thinking. The engaged boss needs to give his people time for these most significant changes to take place [10].

The boss's involvement in training his immediate subordinates is also helpful in implementing Lean philosophy. Firstly, it gives an opportunity to get feedback on how the subordinates understand the subject matter and what their attitude to the announced changes is. Secondly, it facilitates the deployment of an overall strategy into the strategy for lower levels of an organization [11].

Peter Knorst describes the conclusions from an important lesson he learnt in one of Ford's plants, where he was a higher-level manager. The lesson he learnt from his sensei from Toyota made him create his epiphany: *"the key to Lean success is the daily use of the tools, and how I daily manage the business together with my team"* [12].

In order to initiate changes the company boss shall inspire his subordinates by asking them proper questions, for example during Gemba Walks, by delegating to them responsibility for processes or their parts, by setting them clear yet demanding challenges and by appreciating their efforts and success in pursuing the goals of the whole company. The boss shall also be involved in eliminating waste in the company. By setting an example, he will initiate changes in his employees' behaviours. Being a role model, he will encourage them to look for and eliminate waste in the processes.

Even with the management's full engagement in actions leading to significant changes, getting stuck in a rut often becomes a problem. For the boss, the initially interesting path of Lean implementation, motivation of his employees and their supervision with time becomes a set of schematic actions, thus losing its attractiveness. So when the time of review comes, bosses have more important things to do and delegate this duty to their deputies. And such behaviour has an extremely negative impact on the employees' attitude to the programs they are participating in. *If the boss himself is no longer interested in them, why should we be?* The role of a good boss is

to set such tasks for himself that will keep motivating him to get more and more involved in changes connected with continuous development of the company, especially as regards supervisory activities. If the boss ceases to be involved, after some time his employees will do the same. However, if he keeps being engaged, there should be no obstacles for the process to be continued among all employees [4, 11].

### Lean methods applied with this commandment

System Kaizen / Flow Kaizen	Kaizen focusing on the overall value stream. This is kaizen for management [5].
Sensei	The Japanese term for "teacher". Used by Lean Thinkers to denote a master of lean knowledge as a result of years of experience in transforming the gemba. The sensei must also be an easily understood and inspiring teacher [5].
Hansei	The practice of continuous improvement consisting in looking back and thinking over how the process or lack of certain abilities might be improved or streamlined. In Japanese this term means "self-reflection" [5].

### Improve processes and the results will come as a consequence

#### Why should this commandment be followed?

The boss of a company implementing Lean needs to be aware that the results are a consequence of processes. Many poor managers concentrate only on setting goals and checking to what extent the employees have achieved them. This causes that each time employees find their own ways of meeting the objective, most often quite inefficient ones, consisting in "working around the system" or moving the problem to a different place. The key to success is motivating employees to standardize and improve processes for many operations in the company. In this way, the results will be a predictable consequence of efficient systems rather than human creativity. Process improvement facilitates production planning, eliminates problems and contributes to better performance of the company.



### What will happen if the boss does not follow this commandment?

#### Example

The authors once visited a company where great pressure was put on finished goods stock reduction as they constituted the biggest part of cash frozen in stock. The plant manager said: "The finished goods stock shall not exceed 5 days; I'm not interested in how you're going to do it, it's important that the target is met". The planning department workers, who knew that target achievement was always checked at the end of the month, entered to the system finished goods produced close to the end of the month as work being still in progress. Other finished goods that were in the warehouse have been registered by the planners as already loaded onto the trucks (which were to arrive in a few days). The boss was satisfied but in reality nothing improved in the company.

These kind of examples call for using following best practice rule: manage processes not indicators.

### How to follow this commandment in practice?

#### Example [13]

In their book "Lean Manager", Michael and Freddy Ballé illustrate the relationship between processes and performance by an example from a paint plant. After a batch of car components had been painted, a problem was noticed with surface contamination so experts in paint production were consulted. However, they were unable to help as their responsibility was limited only to part of the process of paint preparation. Operators responsible for the delivery of paint from the warehouse and its placement in containers also participated in the problem solving process. Having analyzed this part of the process during Gemba, the group managed to solve the problem, which turned out to be quite simple. Paint pots were kept in a warehouse, were they got covered with a thick layer of dust. When the operator opened the pot delivered to the machine, he removed the lid and particles of dust fell into the paint. These particles caused visible contamination on the surface painted. The conclusion was obvious: the quality of painted surfaces does not depend only on the people involved in paint production but also on others who are involved in the process of painting preparation.

Process improvement is not a one-day activity but it means continuous improvement. It is also important that the boss makes it clear to his employees

that it is natural for them to encounter problems and make mistakes but it is of great importance that they attempt to eliminate the root causes of problems and to improve processes [10].

The boss needs to remember that the results are the consequence of actions undertaken and may come after some time. The management cannot expect quick results and evaluate employees on the basis of short-term effects. Lean philosophy comprises different components, some of which enable achieving local positive results in the short term while others bring local results only in the long run. However, improvement in the whole company is possible only after many of these components have been implemented and sustained for a longer time; when they become part of organization culture [14].

### Lean methods applied with this commandment

Standardized work	Method used to determine precise procedures of performing work by employees according to the best currently known methods [5].
Kaizen	Continuous improvement of an entire value stream or a individual process to create more value with less waste [5].
Value Stream Mapping	A simple diagram of every step involved in the material and information flows needed to bring a product from order to delivery [5].

### Create obeya-like management centre

#### Why should this commandment be followed?

If the boss is to concentrate on process improvement, not on indicators alone, he needs to have easily accessible information on what is happening to the processes and how it affects indicators. In addition, he needs to have a quick, holistic insight into what is going on in the company. And not only the boss because the same information should be accessible to managers of different departments which obviously affect one another. Unfortunately, typical weekly or monthly reports do not provide such information. For example, what can be learned from the information that efficiency of a given process is lower than expected? Not much because additional information is needed, for example:

- Why is this efficiency lower? What are the main reasons for this?

- What actions have been planned to eliminate these reasons in order to improve the process?
- How these actions being implemented and what are the effects?
- How does it affect other processes and results?

The boss and managers of particular departments need to meet regularly and have easy access to all the information on what is going on in the plant, what the current state of processes is, what results have been achieved and what improvement activities are being conducted. Therefore, it is vital to create a room where all this information will be accessible to the management team and presented visually. Then, managers can see how their departments affect one another and the boss can have a look at what is happening to particular processes. Such a meeting must also have its standard agenda. Then it can be efficient and fast, based on facts and end in conclusions.

#### What will happen if the boss does not follow this commandment?

If the boss and managers of individual departments do not meet often, both the flow of information between them and teamwork will be poor and the problems occurring in the area of overlap between departments will not be solved. If during such meetings only performance reports are accessible, it will not be known what affects performance and the discussion will not be fact-based or time will be wasted on fact-finding. The meetings will be long and inefficient, never ending in constructive conclusions.

#### How should this commandment be followed in practice?

Having a management centre which aids standardized work of the organization top management is one of the practices really worth imitating. The management centre can be a large room in which all key indicators of business operations are visualized and arranged for example by categories or process owners and in which the boss has regular, even daily, meetings with key managers from top management. Having such a centre the boss can monitor current situation in the whole company on line using the reports and together with the whole management plan future actions.

The practice of creating management centers, called Obeya in Japanese, has become the main tool in the process of project management in Toyota, and in particular projects concerned with product development. This tool is aimed to reinforce effective communication and eliminate delays. Japanese word Obeya means just a big room [5, 15]. The con-

cept is in fact similar to traditional “war rooms”. In Obeya there are boards and diagrams illustrating the program progress, milestones and deadlines of subsequent tasks as well as descriptions of countermeasures undertaken because of delays in meeting the deadlines or because of technical problems. The aim is to ensure the success of the project and to shorten the PDCA cycle.

A new standard needs to be worked out for such meetings in the management centre. As this standard is being implemented, old bad habits from traditional briefings are being replaced by new rules and the meetings become shorter, more regular, more significant and more efficient, leading to clear decisions and agreements. Elimination of waste from such meetings is a great relief for everyone. Inefficient meetings are frustrating for many managers and generally they express the following opinions [15]:

- *I hate our meetings! Too much time, too few results!*
- *Our indicators are ambiguous, sometimes contradictory, and there are too many of them (sometimes a hundred or more).*
- *We fight fires; I wish we could solve the problems proactively and faster.*

GKN Driveline plant in Oleśnica is a very good example of how this commandment can be followed in real life [11].

The Management Centre in this plant is a large room with an area of approximately 30 square meters (Fig. 3). What distinguishes it is that there are no chairs. Every day, at the same time, meetings are held there and the managing director with his managers discusses the topics determined in advance. Each topic is allocated to a particular day of the week. Extra topics are added to the list on the board beforehand. The speaker has all the information put together in advance in order to facilitate its fast and efficient presentation. All key indicators are visually presented there. They are divided by process owners, kept up-to-date and reviewed once a month.



Fig. 3. Management Centre in GKN Driveline in Oleśnica [11].



Fig. 4. Picture of the boards in the management centre in GKN Driveline, Oleřnica [11].

### Lean methods applied with this commandment

Obeya	In Japanese it simply means “a big room”. In Toyota it has become the main “tool” in the process of project management, in particular projects concerned with product development. It is aimed to improve communication and eliminate delays. This concept is in fact similar to traditional “war rooms” [5].
Kamishibai board	The board with the schedule of audits conducted at random in some places along with documents for an auditor.
Visual management	The placement in plain view of all tools, parts, production activities and indicators of production system performance, so the status of the system can be understood at a glance by everyone involved [5].
A3 (PDCA)	A Toyota-pioneered practice of getting the problem, the analysis, the corrective actions, and the action plan down to a single sheet of large (A3) paper, often with the use of graphics [5, 23, 24]. A3 report generally reflects Deming’s PDCA cycle.

The board dedicated to variance control (Fig. 4) enables easy tracking of the status of all variances in quality, safety, environment protection and potentially hazardous incidents [11].

### Determine indicators and bonuses which show one direction to the managers

#### Why should this commandment be followed?

The boss needs to be a coordinator of any actions undertaken in the company. He should efficiently lead his subordinates towards one common goal, since only in this way will he be able to ensure optimization of the company operations. Bosses, who evaluate their subordinates on the basis of various, often conflicting departmental objectives, make individual departments oriented on partial optimizations, which are seldom translated into optimization of the whole company operations.

#### What will happen if the boss does not follow this commandment?

Collaboration between managers will not be successful if their individual objectives are incompatible; for example the purchasing manager has a task of reducing the costs of purchasing the parts while the production manager has to ensure good quality and on-time deliveries, which requires competent and stable suppliers.



**Example**

Authors once visited a home appliances manufacturing plant in which the manager of the purchasing department was rewarded for his suggestion to use thinner sheet metal for the products, which led to lower costs of raw materials. However, thinner sheet metal caused significant increase in rejects in production process as thinner sheet metal was more vulnerable to indentation. In consequence, the implementation of this suggestion resulted in losses for the company and soon they decided to use sheet metal according to original thickness specification.

**How should this commandment be followed in practice?**

In a situation like the one from the example given above it is a good practice if the boss makes the bonuses for top management members dependent on one set of common objectives based on key indicators. In this way the management members will work together, going in the same direction and not, as often happens, acting against one another. As a result, the performance of the whole plant will improve, not just the performance of some departments (at the utmost) [16].

The same applies to work alignment at lower levels of the company. The plant manager should organize it in such a way that everyone, as has already been mentioned, pursuing their individual targets simultaneously contributes to the achievement of a general goal of the company, acting in accordance with the strategy adopted.

In the process of Toyota's development attempts were made to solve the problem of motivation and evaluation of employees. It was decided that the most beneficial is the evaluation from the point of view of the whole plant rather than separate departments. In the organization structure of the Japanese company there were department managers but also managers in charge of cross-department functions. Lower-level employees worked in particular departments but it was not possible for their work to be evaluated by particular department managers as it created the risk of evaluation done from one's own point of view, from the perspective of the interests of a given department. This would increase a tendency to partial optimization, not a holistic one. Seeing the risk of incompatibility between the objectives of lower-level employees and general goals of the whole company, Toyota's top management suggested a different solution. Managers of cross-department functions were

put in charge of employee evaluation. In the case of employees whose work covered a number of inter-department functions, evaluation was done by a team composed of top management members [4].

In order to efficiently organize company operations it is often necessary to divide it into departments. As concerns the deployment of company goals to lower levels and evaluation of employees, such division into departments no longer works as it leads to optimization of individual departments, not the company as a whole. To develop the company as a whole its employees need to be evaluated from a perspective broader than one or two departments. They need to be evaluated on the basis of how their work contributes to the improvement of the whole company, not just its parts.

**Lean methods applied with this commandment**

Policy/Strategy Deployment (Hoshin Kan-ri)	Management process that binds, vertically and horizontally, the company's functions and activities with its strategic objectives [5, 6].
Lean Accounting	Accounting in accordance with Lean principles.
System Kaizen / Flow Kaizen	Kaizen focusing on the overall value stream. This is kaizen for management [5].

**Motivate your people****Why should this commandment be followed?**

Motivating is one of the five classical functions of management. It is impossible to exaggerate the boss's role in motivating his subordinates as it is him who shall motivate and involve all employees in common work towards the established goal. The boss's task is to show this goal, indicate the path towards its achievement, and motivate people to follow this path with him and to support them by removing obstacles standing in the way [17].

**What will happen if the boss does not follow this commandment?**

If the boss does not motivate employees, no one else will do it for him. And if the employees will not have a clearly defined goal and the path leading to it and will not be motivated, the company will not stand any chance of improvement as it will not be able to implement and sustain the system based on Lean concept.

**How should this commandment be followed in practice?**

People can be motivated in many different ways. Firstly, by setting an example. If the boss is involved in implementation activities, applies Lean techniques in his everyday work, then employees get motivated enough to become involved as well. Secondly, people can be motivated by setting clear rules. For example, if there are rejects the problem is always analyzed with the use of A3 report with a view to finding a root cause because *“that’s the way we do it and we can’t imagine not doing it”*. Thirdly, people can be motivated by trust and transfer of accountability. The employee who is accountable for his workplace may be motivated to improve it.

Michael and Freddy Ballé write that, like for every part (Plan for Every Part), there must be also a Plan for Every Person in the company (Fig. 5). Such a plan should describe the role of people in the company at present and in the future and the way of achieving this better, future position. Thanks to this people feel needed in the organization, they feel bonds with it and automatically get involved in company operations and continuous improvement processes [13].

The human factor in an enterprise is the most important component determining its success. At the same time, it is also the greatest problem of each company [14]. Thus, the greatest challenge for the boss is to run a company, to lead its employees without resorting to using force. Managing does not mean the desire to rule and using a firm hand but motivating people and setting an example, coaching and understanding others as well as helping them in achieving common goals [17].

**Lean methods applied with this commandment**

Plan For Every Person	A training and development schedule for employees, showing the skills needed and the skills attained [5].
TWI Job Relation	TWI Job Relation method enables lower-level supervisors to build such work atmosphere which facilitates noticing people’s problems earlier and solving them successfully in the future [26].
Gemba Walk	Going to production floor in order to directly watch the process, talk to employees, confirm data and understand the situation (instead of relying exclusively on computerized data and information from other people). This practice shall be applied by both top management and lower-level management.
A3	A Toyota-pioneered practice of getting the problem, the analysis, the corrective actions, and the action plan down to a single sheet of large (A3) paper, often with the use of graphics [5, 23, 24]. A3 is an important coaching method.

Skills Training Matrix		<input type="checkbox"/> Unable to do operation (LOSS) <input type="checkbox"/> Can generally do operation (TIE) <input type="checkbox"/> Can do operation well (WIN)			Factory name:		Foreman:											
		By:		Date:														
No.	Operator Name	PROCESS												Current Date	Target Date			
		Priming	Mounting	Reflow	Cleaning	Visual inspect.	Corrections	Soldering	Powder Coating	Curing	Sealing	External view inspection.	Tie bar card			Electrical char.	Packaging	
1	Worker A																	
2	Worker B																	
3	Worker C																	
4	Worker D																	

Fig. 5. Plan for every person [5].

## Delegate the ownership of processes and places to your employees

### Why to follow this commandment?

Employees performing work, dealing with part of the process have a considerable knowledge of what is going on in this process in reality. Many of them are experienced workers, involved in the process for many years. It must be noticed that job rotation among management members is much higher than among lower level employees. Greater frequency of management members' replacement accounts for the fact that lower-level employees, not managers, possess significant part of internal knowledge in the company. Thus, keeping production workers away from the decision making process is a serious mistake. A boss who is willing to implement lean in his company needs to move decision making to production floor because the management is not able to make all decisions [8].

Delegating ownership of processes and places to employees triggers in them a sense of responsibility for their own "backyard" and improvements made on their own account make them proud. This way of employee authorization largely increases their internal motivation.

### What will happen if the boss does not follow this commandment?

It will be difficult to arouse a sense of responsibility for work places and equipment in workers who have not been made accountable for their workstations. The implementation of 5S or Autonomous Maintenance will progress with difficulties and it will be hard to get many suggestions of improvements during Process Kaizen. In addition, employees' identification with the company will be low.

### How should this commandment be followed in practice?

According to Freddy and Michael Ballé, a good organization always has clearly defined areas of responsibility for the functioning of given processes. Employees are focused on process improvement and feel responsible for processes if they are given full ownership of them in line with requirements regarding performance and operation efficiency [13].

A very good example of how this commandment is followed can be observed in GKN Driveline Polska Sp. z o.o., Oleśnica. In 2008, individual accountability was introduced in this plant. Each of the processes has an allocated director who is accountable for the process, achieved performance, the place and the employees involved in the process. In this way, each of the directors became "a process owner". After approximately six months since the implementation of these changes, all places in the plant had their owners and the directors passed these principles on to their subordinates, dividing their zones into sub-zones and allocating them to leaders. In production areas the division went even further; sub-zones were divided among line leaders. A similar division took place in warehouses and other departments supporting production (Fig. 6) [11].

Delegating ownership and accountability is aimed to show the employees that they are trusted so that they are eager to undertake improvement activities. However, for this accountability transfer to be successful, the boss and other supervisors should set an example of showing responsibility for the processes and places they have been allocated. They should regularly make reviews of particular zones and sub-zones, clearly define who is responsible for what and how to offer advice or assistance if need be.

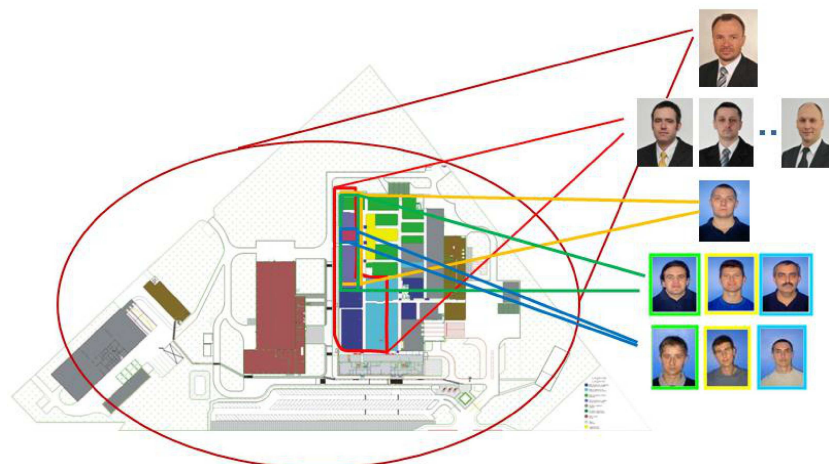


Fig. 6. Diagram depicting the principle of individual accountability for processes in GKN Driveline Polska Sp. z o.o. [11].

### Lean methods applied with this commandment

Policy/Strategy Deployment (Hoshin Kanri)	Management process that binds, vertically and horizontally, the company's functions and activities with its strategic objectives [5, 6].
5S	Five related terms, beginning with an <i>S</i> sound, describing workplace practices conducive to visual control and lean production.
Autonomous Maintenance	Routine machine maintenance activities, improvement projects and simple repairs performed by operators.

### Engage everyone in problem solving and continuous improvement

#### Why should this commandment be followed?

Employees' engagement in problem solving and continuous improvement results in many refinements which, at company level, bring about a speed of changes greater than that achieved by investment in new machines alone. In Toyota's plants each employee makes on average from a dozen to several dozen improvement suggestions a year and in some plants over 90% of such suggestions are implemented. This results in productivity increment, fewer mistakes and greater safety at work stations.

#### What will happen if the boss does not follow this commandment?

Now, it can be taken for granted that competitors are constantly improving so the company lacking in common engagement in problem-solving risks losing its market share.

#### How should this commandment be followed in practice?

Freddy and Michael Ballé encourage bosses to manage by problem-solving, following the seven steps [13]:

1. Go and see.
2. Visualize problems.
3. Measure local performance.

4. Standardize current practice and compare to best practice.
5. Teach basic analysis methods.
6. Experiment and reflect.
7. Draw the right conclusions for the entire system of operations.

Recently, the job of Lean coordinator is becoming more and more popular. It is usually a person who possesses knowledge and experience in implementing Lean philosophy in businesses and who is employed by companies in order to lead them through a difficult process of changes. Many companies have neither knowledge nor experience in Lean implementation, so turning to external help often proves to be the only solution. The boss shall remember, however, that nobody from outside is able to introduce changes in the company and sustain them for a longer time on his own. Only the employees working for the company can ensure effective and long-lasting application of Lean in their organization. Thus, it is the boss's role to make sure that employees are involved in problem-solving and continuous improvement, that they take over responsibility for the changes introduced rather than wait for orders from an external consultant [18].

If the commandment concerning entrusting employees with ownership of processes and places is followed by the boss, employees' involvement in problem-solving and continuous improvement is much greater. Having a clearly defined area of responsibility and knowing the management's expectations as regards performance in their area, employees get engaged in improvement processes and problem-solving, knowing that this is the basis of their evaluation [13].

It is the boss's task to ensure easily understood problem-solving process and to define standard work conditions. Only in such a situation will employees know immediately when the process is interrupted [13].

Continuous improvement is fundamental to efficient and sustainable implementation of Lean philosophy in every company. Without this basic process any implementation effort will lose momentum and the company will return to its status quo ante. Moreover, problem-solving is only the beginning of value-adding. That is why it is so important that in addition to their basic duties all employees participate in problem-solving and process improvement on a daily basis.



### Lean methods applied with this commandment

Kaizen	Continuous improvement of an entire value stream or a individual process to create more value with less waste [5].
A3 (PDCA)	A Toyota-pioneered practice of getting the problem, the analysis, the corrective actions, and the action plan down to a single sheet of large (A3) paper, often with the use of graphics [5, 23, 24]. A3 report generally reflects Deming's PDCA cycle.
Gemba Walk	Going to production floor in order to directly watch the process, talk to employees, confirm data and understand the situation (instead of relying exclusively on computerized data and information from other people). This practice shall be applied by both top management and lower-level management.
Suggestion system	The system of managing suggestions of improvements proposed by employees. Improvement implementation results in productivity increment, fewer mistakes and greater safety at work stations.
Kaizen Workshop	A group kaizen activity, commonly lasting five days, in which a team identifies and implements a significant improvement in a process [5].
Quality circle	A small group of employees with a leader, which jointly identifies problems at their workstation, analyzes them and finds solutions.
Production Analysis Board	A display – often a large whiteboard – located beside a process to show actual performance compared with planned performance. It is important to understand that the appropriate use for the production analysis board is as a problem identification and problem solving tool and not, as is often misunderstood, as a tool for scheduling production [5].
TQC	Methodology based on process management according to PDCA cycle and statistical tools in order to solve the problems encountered. These methods and tools, used by employees in Kaizen activities, con-

	stitute an important component (subsystem) of Lean Management system.
Six Sigma	Methodology that puts great emphasis on the use of mathematical tools to improve quality of relatively stable processes (i.e. those under control). Practitioners of lean manufacturing use Six Sigma technique to solve difficult quality problems in relatively stable processes and all those areas in which, thanks to the whole value stream analysis, non-value added activities and processes have been eliminated.
Problem-solving board	A board presenting identified problems, usually from a given area, and information on subsequent phases of solving them. It is a visual management tool used by supervisors to review progress in problem-solving.

### Teach employees to achieve “the impossible”

#### Why should this commandment be followed?

One type of waste is lost creativity of employees. It is a task of a good boss to manage the company in such a way that both employees and the boss himself are creative and have their heads full of ideas. Then, they will achieve what initially seemed impossible. By overcoming barriers, the company finds it easier to gain competitive advantage or to meet customer demand.

#### What will happen if the boss does not follow this commandment?

Lack of creativity results in a lack of involvement in improvement activities on the part of employees. If the boss provides a ready-made solution, he will teach his subordinates nothing. If the boss has come up with a solution and used all his energy on delegating the accountability for its implementation, he kills his employees' creativity and sense of responsibility at the same time developing in them the attitude of inactivity. It is worth mentioning here that people find it much more difficult to get involved in implementation of changes, especially difficult ones, if they have been imposed and planned by their supervisors not themselves.

The boss, in order to get his employees to achieve “the impossible” needs to listen. He cannot give

ready-made solutions, he needs to motivate, activate and set challenges.

### How to follow this commandment in practice?

The thing is to set a goal for people in the organization and make them move towards its achievement by showing proper behaviour patterns. It will be a great success if the whole organization starts to think this way, not just a small group of enthusiasts who constantly want to change something (unfortunately, they are scarce in numbers). It can be reached by building good relations with employees. Feeling good in their work environment and having a sense of responsibility for their workstations, they are much eager and willing to use their creativity.

Moreover, the boss needs to “open” his employees’ minds. He himself should develop a habit of being open-minded to new solutions presented by employees, listening to their suggestions, setting them challenges that seem impossible at a first glance and assisting them in meeting these challenges. In this way the boss makes it clear that he supports the development of his employees’ creativity and gives them a rich tapestry to work with.

#### Example [17]

*“I’ll never forget the wise advice given me by a man I grew to respect and admire very deeply, Mr. Kan Higashi, who was our second president at NUMMI. When he promoted me to vice president, he said my greatest challenge would be “to lead the organization as if I had no power”. In other words, shape the organization not through the power of will or dictate, but rather through example, through coaching and through understanding and helping others to achieve their goals. This, I truly believe, is the role of management in a healthy, thriving, work environment.”*

Gary Convis, President of Toyota Motor Manufacturing, Kentucky

If, just once or twice, employees succeed in completing a task that was considered impossible, then everyone will benefit. Employees will believe in their problem-solving abilities and mark their usefulness for the company and the boss will be able to spend more time planning the future as he will have at his disposal a group of people who can cope with difficult problems on their own. The company, in turn, will have a team (or many teams) composed of people which can achieve what others (and until recently also they themselves) consider impossible.

### Lean methods applied with this commandment

Kaizen	Continuous improvement of an entire value stream or a individual process to create more value with less waste [5].
A3	A Toyota-pioneered practice of getting the problem, the analysis, the corrective actions, and the action plan down to a single sheet of large (A3) paper, often with the use of graphics [5, 23, 24]. A3 is an important coaching method.
Improvement Toyota Kata	Everyday routine pattern of managing people in Toyota, showing how to define and meet properly set target conditions (the state we want to achieve) [19].
Coaching Toyota Kata	Everyday routine pattern of managing people in Toyota showing the way in which the supervisor should properly develop his subordinates’ way of thinking and acting indispensable in the improvement process [19].

### Everyday practice the routine of Gemba Walks

#### Why should this commandment be followed?

A good boss, who is also a host of the plant, shall aim at full use of his company’s potential in creating value for customers. However, does this attempt stand any chance of success if in fact the boss does not know his plant? And that is the situation of many businesses whose bosses spent most of their time in their offices. In result, they make all their decisions on the basis of data collected and provided by their subordinates and it must be remembered that often these are strategic decisions! It happens so because bosses at their desks are incapable of collecting a significant portion of key data and they have a very busy meeting schedule. These are usually meetings with employees, during which current problem are discussed and solved, for example low quality of manufactured parts or delays in order execution. However, it is worth for boss to change his work style since potential benefits are enormous. The boss who collects data directly from the place where value is added, which in the case of manufacturing companies means while watching the production floor, is able to recognize problems that arise and understand them. He can confirm the data received and directly watch the process. Owing

to this, the decisions he makes will address reality, not the data on paper or in computer. And what seems to be the greatest benefit that the boss may get from being present in a place of adding value, is showing respect to his employees. Especially, if they are in the process of introducing changes and the boss visiting their workstations checks if they are working according to standardized work sheets. By so doing, the boss makes it clear that standardized work is important to him, that he appreciates his employees' engagement in changes and at the same time acknowledges that Lean implementation is the direction followed by the company. In this way, he fights the employees' reluctance to changes, often resulting from frequent changes of presidents, and consequently business strategies. Bosses, who hold the positions where job rotation is high, seldom behave in a way that is compatible with the strategy adopted and required. Lower-level employees become resistant to such management, do not respond and do not get involved in suggested changes. They simply wait for the management to be replaced. Therefore, the involvement of top management exhibited during Gemba Walks is of vital importance.

#### **What will happen if the boss does not follow this commandment?**

The boss who does not practice Gemba Walk routine takes on the risk of not knowing his company and in result making decisions that are not based in reality.

##### *Example*

A driver needs to get to point A. For him value added is getting closer to his destination. Will the driver rely on the data provided by his co-workers or computer systems? Nowadays, GPS is present in almost every car and racing drivers are assisted by co-drivers. This does not exempt drivers from the duty to watch the road and react to changing circumstances. What is more, they are not exempted from the necessity to watch the route since GPS equipment is not perfect and it happens that they lead you to a dead-end, which according to the system is the best way to your destination. Thus, we can see that the driver must participate in Gemba because the environment in which he is moving is so dynamic and has so many variables that he cannot control it without being present in a place where value is being added, just by using a computer system.

Not practicing Gemba Walk, the boss loses a very important chance, namely, to show respect to his employees and their work as well as the changes that

are being implemented and which, in many cases, were ordered by himself. Failure of not visiting the production floor or any other value added place emphasizes the gap between higher-level staff who give orders and lower-level employees who are supposed to follow these orders or even take control of them. This is a combination that inevitably leads to fiasco. Control and recognition of the work done shall be cascaded from top management throughout the organization.

#### **How should this commandment be followed in practice?**

In Japanese Gemba means "a real place". This term is used to emphasize the principle according to which real improvements require direct observation of real work conditions. For example, according to this principle, standardized work cannot be defined at an engineer's desk. It needs to be defined and verified at gemba. Gemba Walk in a manufacturing plant is nothing else but a visit of top managers in production hall. It shall take place regularly and it shall become the boss's habit [13]. In addition to the boss, other participants of Gemba Walk shall be managers of all departments in which the process takes place or is linked with. What makes it important is the fact that value flow is always horizontal whereas business organizational structure is usually vertical. It is also important to let the employees know that Gemba Walk is not manifestation of lack of trust in them but it takes place in order to empirically verify current state of processes [20]. During such visits participants, and above all the boss, shall be interested and inquisitive. They shall get involved in conversations with employees all the time showing respect to what the employees think and what they do [21]. In this respect the boss shall be particularly active. It is him who shall initiate conversations with employees. It is not enough to be ready to talk with an employee if he expresses such a wish. The boss himself should create opportunities to have conversations with employees on different subjects. These can include current implementation projects, organizational changes in the department or possibly fears and doubts that the workers have as regards Lean implementation. In this way the boss establishes positive relations enabling him to get important information. All this constitutes the foundations for the development the culture of continuous improvement [22].

The boss must also remember about the proportions of time he devotes to various aspects of business operations. Gemba Walk consists in watching current, real state. The boss, however, shall be more

interested in the future, in further business development.

*Example [20, time 24:50 – 29:05]*

Jim Lancaster, CEO of Lantech, performs the Gemba Walk routine every day and it usually takes him about three hours. In result he is able to spend the rest of the day concentrating on future business development!

Gemba Walk facilitates proper allocation of time to current affairs and future planning. The boss may decide, as was the case in the example given above, that employees can talk to him about current issues while he is in the production hall and after his return to his office, he is occupied only with planning.

Summing up, the more time the boss devotes to Gemba Walk, the more money he will make and the sooner he will go home from work. The mechanism is simple: the boss teaches his subordinates how to solve problems directly in places where value is created and they notice and solve problems immediately, as soon as they appear, before they grow into disasters or fires that require a lot of effort to fight. Moreover, by doing Gemba Walk, the boss watches and gains control over his employees decision-making process. In result, he himself has fewer decisions to make [16].

#### Lean methods applied with this commandment

Gemba Walk	Going to production floor in order to directly watch the process, talk to employees, confirm data and understand the situation (instead of relying exclusively on computerized data and information from other people). This practice shall be applied by both top management and lower-level management.
Strategy/Policy Deployment (Hoshin Kanri)	Management process that binds, vertically and horizontally, the company's functions and activities with its strategic objectives [5, 6].
A3	A Toyota-pioneered practice of getting the problem, the analysis, the corrective actions, and the action plan down to a single sheet of large (A3) paper, often with the use of graphics [5, 23, 24]. A3 is an important coaching method.

## Conclusions

The commandments presented in this paper are a set of best practices which have been presented to the authors by business leaders in interviews, by Lean experts in their books and articles and which the authors observed themselves in their consulting and training work. These practices have been grouped in such a way that each of them addresses specific problems encountered in implementation of changes in companies. Each commandment is complemented by a set of Lean methods, the knowledge and usage of which aids the boss in successful leadership during adaptation of Lean in his company.

It clearly results from these commandments that in order to successfully implement Lean the boss himself needs to act in accordance with this concept. He shall meet this requirement at the very beginning, when making strategic decisions, for example, defining the company's vision or establishing the direction of its development. But he cannot stop at that. Also in his everyday work he needs to be imbued with the idea of Lean. It means, among others, practicing Gemba Walks as a tool to control current situation in the company, to determine proper indicators and bonuses for employees at different level and from different departments or to work on improving processes that he has contact with.

Each of these commandments constitutes a separate set of recommendations and following each of them may bring about measurable benefits. It is important, however, to adapt them to particular plant and to absolutely follow each one. The boss who selectively follows just a few may succeed in implementing Lean in the company, but he is likely to have problems with sustaining proper level of motivation for himself and his employees. In all probability he will also find it difficult to continue Lean efforts in the long run.

Following the commandments described here establishes for the boss and the whole company a solid foundation for successful implementation of Lean idea. The boss needs to remember that the example must be set at the top level and go from top management downwards. Consequently, if the boss follows these commandments all the time, he becomes a role model for his employees. Then, implementation of Lean and continuous development of the company become much easier to achieve.

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