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PRINCIPLES OF THE LEAN COMPANY

PRINCIPY LEAN COMPANY

Abstract

Nowadays companies have to fight not only with the high rate of competition on the global market, but also with problems that relate with the financial crisis. They have to find new ways how they can stay on the global market and it can be talk also about their survival in context of the financial crisis. The way, how they can improve their management, can be the implementation of the Lean Company concept. The basics of this concept were developed in 50th of 20th century in Japan.

The aims of this article are to characterize the main principles of the Lean Company, which come out from effective management methods, advantages and disadvantages of the implementation of this concept into the practice. The important part of this article is created SWOT analysis, which shows strong and weak points, opportunities and threats of this concept.

Abstrakt

V současné době se firmy musí vypořádat nejen s vysokou mírou konkurence na globálním trhu, ale také s problémy, které souvisejí s hospodářskou krizí. Firmy jsou nuceny hledat nové způsoby, které jim zaručí setrvání na globálním trhu, a lze také hovořit o jejich přežití v souvislosti s hospodářskou krizí. Způsob, jak firmy mohou zlepšit jejich management, může být implementace koncepce „štíhlé společnosti“ (z angl. Lean Company). Základy této koncepce byly vyvinuty v 50. – 60. letech 20. století v Japonsku. Za zakladatele je považována firma Toyota.

V tomto článku si autoři kladou za cíl popsat základní principy koncepce „štíhlé společnosti“, které vycházejí z efektivních metod managementu. Dále se zabývají výhodami a nevýhodami implementace této koncepce do praxe. Důležitou částí článku je také vytvořená SWOT analýza, která ukazuje silné, slabé stránky, příležitosti a hrozby této koncepce.

1 INTRODUCTION

Nowadays the global market is dealing with economic crisis, which started with the mortgage crisis in the USA. Developed economics approach solutions that should prevent or suppress the impacts of the crisis. The main means that is used in this fight is considerable financial support to certain economy sectors where there is an assumption of great impact of the crisis and which are considered “crucial” in each economic system. For example we can mention the financial support provided to the automobile industry - Opel asks for German government capital injection 3.3 billion euro, the American concern GM, which attained 13.4 billion dollars from the government in January and now requires another 30 billion [AKRMAN, L. 2009].

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Depending on these sequences we have to think about restructuring industrial sector and also about restructuring the companies. Nowadays a lot of “unhealthy” companies are financed and because of that the capital injections don’t have the required impact. It is already clear that the nearest goal of companies that want to remain on the global market and then run effectively once the crisis subsides should be their meaningful, pointed and systematic “leaning”. The ground of these proceedings in the company is defining processes that realize added value. Nowadays processes represent the main motive power in the company and it is need to think about them as the objects that can be run, control and check. Process can be defined as set of activities that require one or more inputs and make output with the customer’s value [WOLF, P. 2006].

2 LEAN COMPANY

In this article is shown one approach, which can be considered as the effective “leaning” of contemporary companies – the Lean Company concept. The Lean Company concept represents a comprehensive system of effective methods of the process management and TQM gathered into a single philosophy. This philosophy has to be implemented as a whole to reach the required improvement.

The Lean Company concept comes from the effort to reduce inefficiency and waste. This concept uses also other effective management methods, for example TQM or Just in Time. According to [MILDORF, L. 2008] the Lean Company concept may be defined as the following: “a systematic approach to the identification and limitation of waste (limitation of activities without value added) in the form of constant improvement of the production processes.”

It is important to say that problems and waste can be considered as the resources in which company can find new opportunities for their development and growth.

Waste means activities that do not add value during the production process, yet incur costs and that are considered losses for company some way. According to [MACINNES, R. L. 2006, SCHUTTA, J. T. 2006] the following seven sources of waste are identified:

- overproduction,
- waiting,
- transport,
- unnecessary processing,
- stocks,
- unnecessary motion,
- corrections.

Overproduction and corrections are considered as the most dangerous. Overproduction means higher production than customer’s requirement. It can be caused by unsatisfactory planning, bad predictions and so on. The main waste form overproduction is in the time and the financial sector. Corrections mean error compensation which can appear in some manufacturing process. Errors lead to overproduction, reducing earnings and so on. According to [MACINNES, R. L. 2006] among the common resources of the errors we can place, see Fig. 1:

- human factor,
- methods,
- measurement,
- materials,
- machines,
- environment.

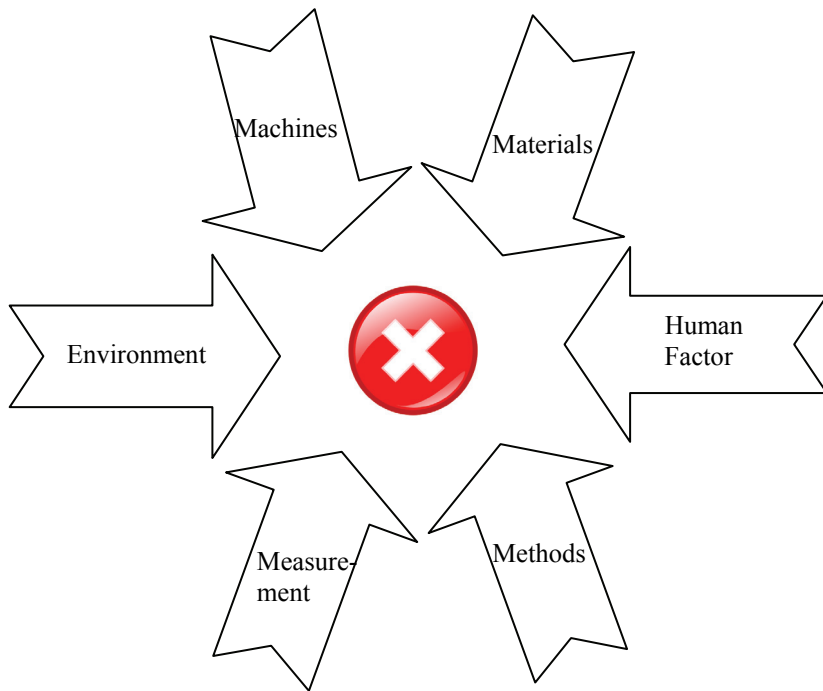


Fig 1 The most common resources of the errors

2.1 Principles of the Lean Company

The Lean Company concept principle is made on two pillars:

- Just in Time – production in the right time.
- JIDOKA – automation with the human intelligent.

Other usage methods are [MACINNES, R. L. 2006, SCHUTTA, J. T. 2006]:

- value stream mapping,
- optimizing material and information flows,
- standardization manufacturing operations,
- Single Minute Exchange of Dies (SMED)
- methods for raising of the quality of sale,
- measurement the main efficient parameters,
- Kaizen
- Kanban
- “5S“ method
- Poka-yoke
- Total Productive Maintenance.

The main aims of the implementation the Lean Company concept are improvement in quality, reduce waste and costs, improvement in efficiency and flexibility of production.

3 ADVANTAGES AND DISADVANTAGES OF LEAN COMPANYY

The Lean Company concept represents complete and comprehensive philosophy, which comes from efficient management methods and connects their advantages. The main advantages are reducing waste and costs, well-balanced and flexible production in the best quality, standardization processes. This approach is a foundation for a learning organization, the possibility to use new and novel methods and heuristics. Thanks to limited costs the “saved” investment may be used for the further development of the firm.

The main disadvantage of this concept is implementation as a whole to reach required improvement.

Tab. 1 SWOT Analysis

Strong points	Weak points
<ul style="list-style-type: none"> • Standardization of processes • Constant improvements in repeated processes • Limiting waste • Lowering costs • Increase in quality • High level of flexibility • Balanced production • Lower risk of unsold products • Balanced use of labour and machines, demands on suppliers • Increased competitiveness • Orientation on customer needs • Growth in performance • Shortening the period necessary for the realization of production 	<ul style="list-style-type: none"> • Necessity to integrate all employees • Necessity for sufficient and constant motivation • For the proper functioning, all employees must identify with the given philosophy • Necessity to begin from the highest levels of management
Opportunities	Threats
<ul style="list-style-type: none"> • The proper approach to problem solving presents a resource for the further development and growth of the firm. • Increased production • Expansion of the firm • Creating a learning organization • The use of money saved as investment (e.g. in innovation) • Teamwork as an opportunity to make use of professionals 	<ul style="list-style-type: none"> • Demanding and long implementation which can incur a loss of interest in implementing this concept • Not introducing the entire philosophy, but only parts thereof • Necessity to overcome rooted positions and worn in processes • Employees who do not fully identify with the philosophy and fail to deliver sufficient performance

In Tab. 1 we can see SWOT Lean Company analysis, which shows the main strong and weak points, opportunities and threats of this concept.

As can be seen, this represents the Lean Company concept approach to company management, which influences its quality, flexibility, bottom line and production. This is also demonstrated by the table below.

Tab. 2 Lean Company advantages

LIMITATIONS	
Period necessary for the realization of production	50% - 90%
Demands on the floor space	5% - 30%
Work-in-process	60% - 80%
GROWTH	
First-pass yield	50% - 100%
Performance	40% - 80%
Productivity	75% - 125%

4 CONCLUSIONS

Nowadays usage efficient management methods are the basic requirement for standing and operating the company on the global market. The Lean Company concept represents a complete philosophy with the following main benefits: flexible production in the best quality, reducing waste and costs and creation learning organization. This philosophy may be viewed as real and effective in duration and above all, damping of the economic crisis. Lean Companies have a far greater chance at "surviving" the economic crisis and most importantly effectively working to damp it.

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