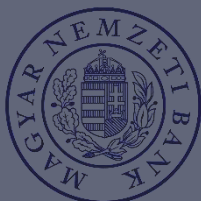




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International Scientific Conference  
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Sopron, 2021. november 4.  
4 November 2021, Sopron



**PANDÉMIA – FENNTARTHATÓ GAZDÁLKODÁS  
– KÖRNYEZETTUDATOSSÁG / PANDEMIC  
– SUSTAINABLE MANAGEMENT – ENVIRONMENTAL AWARENESS  
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## Lean Thinking Strategy

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### Abstract

As the basis of my study, I provide a comprehensive picture of the development history and principles of lean. In my research, I examine the lean thinking strategy used by a multinational company during a pandemic period. I place great emphasis on examining the effects of the lean thinking strategy applied to them from the perspective of office employees and their leaders as well. I use qualitative and quantitative methods in my research for 4 department with different functionalities, which means a total of 8 groups. In the form of a questionnaire, I examine the impacts, resource requirements, and effectiveness of a lean thinking strategy by comparing the responses of approximately 100 office employees, broken down into different stages. In the case of classes with different functionalities, I preferred more specific research, where I interviewed 4 department heads and 8 group leaders about the challenges and reactions experienced during the lean thinking strategy. The study aims to contribute to the understanding of the application of lean thinking in the strategic management of a multinational company during a pandemic period.

*Keywords:* lean, pandemic, multinational, strategic management

*JEL Codes:* F23, L1

### Absztrakt

A tanulmányom alapjaként egy átfogó képet adok a lean fejlődéstörténetéről és az alapelvekről. A kutatásomban egy multinacionális cégnél alkalmazott lean gondolkodási stratégiát vizsgálom a pandémia időszakában. Nagy hangsúlyt fektetek arra, hogy a szellemi munkavállalók és vezetőik aspektusából is megvizsgáljam a rájuk gyakorolt lean gondolkodási stratégia hatásait. Kvalitatív és kvantitatív módszereket alkalmazok a kutatásomban, 4 különböző funkcionalitással rendelkező osztályra, amely összesen 8 csoportot jelent. Kérdőív formájában megközelítőleg 100 szellemi munkavállaló válaszainak az összevetésével vizsgálom a lean gondolkodási stratégia hatásait, erőforrás igényét és eredményességét, különböző szakaszokra lebontva. Az eltérő funkcionalitással rendelkező osztályok esetében a specifikusabb kutatást részesítettem előnyben, ahol 4 osztályvezetővel és 8 csoportvezetővel készítettem interjút a lean gondolkodási stratégia során tapasztalt kihívásokról és reakciókról. A tanulmány a lean gondolkodás, egy multinacionális vállalat stratégiai menedzsmentjében való alkalmazásának a megértéséhez kíván hozzájárulni a pandémia időszakában.

*Kulcsszavak:* lean, pandémia, multinacionális, stratégiai menedzsmentjében

*JEL-kódok:* F23, L1

## 1. Introduction

My study is based on the history and principles of lean development. I examine the lean thinking strategy used in a multinational company during a pandemic period. I examine the effects of a lean strategy on managers and intellectual workers using qualitative and quantitative research methods. Breaking down into key areas, I compare resource needs and effectiveness, and evaluate the challenges and extra capacity requirements of the phases of lean strategic projects. The

aim of this study is to demonstrate lean thinking in its application to the strategic management of a multinational company and to contribute to its understanding during a pandemic.

## **2. Theoretical Background**

### ***2.1. Lean theoretical background and development***

The lean philosophy is based on Toyota Motor Corporation's Toyota Production System. Toyota's Production System was born in the 1950s, following the work of Taylor, Gilbreth, Smiles, Miles and Gantt and the achievements of Ford so far. (Jones–Womack–Roos, 1990) Lean is a method of company organization and corporate leadership. The goal of lean is to be economical, which plays a key role in the production of a product or the services of a company. In lean thinking, the company shapes their processes primarily based on what is the value for the customer. What does not create value for the customer, so what the customer does not pay for, the lean is considering those as a loss or waste. Lean method is trying to increase the efficiency of own workflows by optimizing these losses. In the case of customers, we need to think not only about the end customer, but also about the customer relationships in the internal processes. (Ohno 1988) Lean is also used in lean management or lean philosophy word combinations. Lean as a method has spread mainly in the industry, especially in the automotive industry. But it can be used in any industry and for services as well as any office work in general. (Kovács 2017) As it is mainly used by industry, the literature description of its methods and tools is also prepared for use primarily in an industrial environment. (Nyárádi–Kocsi–Budai, 2016) Nowadays, the application and description of lean methods especially for services is developing and spreading. (Oláh–Popp, 2016)

### ***2.2. Lean principles***

The two main principles of lean philosophy are respect for the person and the removal of losses from all processes and activities that have no value for the customer. Respect for a lean company means that your employees are important to the company, they respect their ideas, opinions and thoughts. Lean organizations work by continually improving the people who work in them. To avoid losses, they look for opportunities with the help of casein, they operate the processes efficiently, developing customer-oriented metrics and measurement methods. The lean leader is not primarily a leader who gives instructions, but also knows the work of the employees well, recognizes and understands the connections, supports the subordinate in achieving their goals, and develops their skills. In such an organization, everyone is responsible for the developed system, follows its regulations and continuously develops them, adapting them to the environment and its expectations. The introduction and application of lean never causes redundancies, layoffs, the capacities freed up during continuous development, the development of new products, the search for new markets or the continuous development of the company. (Jones–Womack 2009)

### ***2.3. Lean wastes***

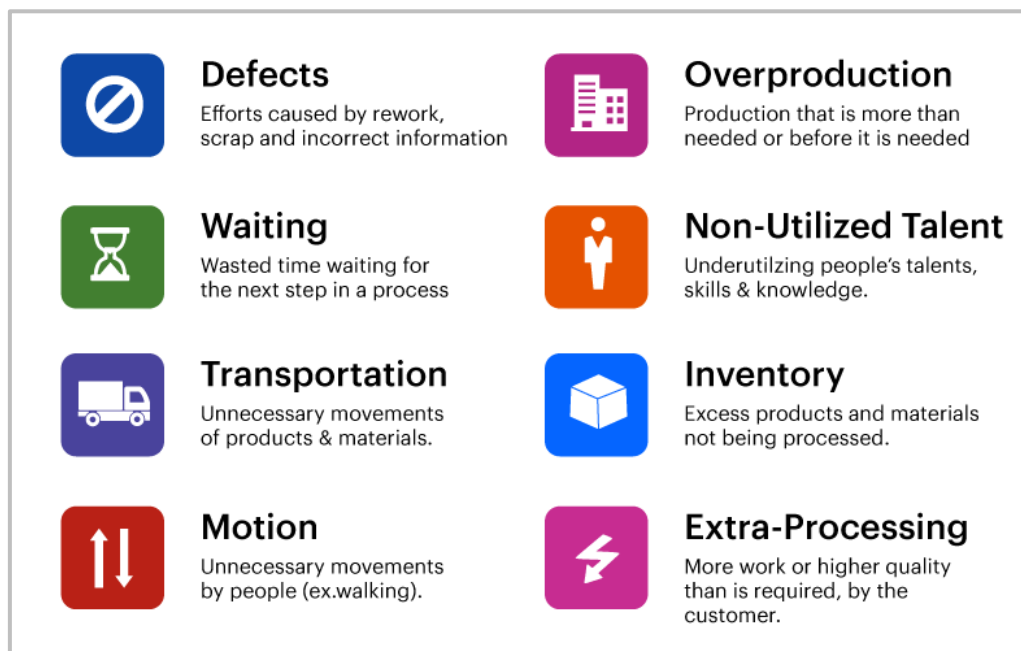
Constantly searching for, analyzing, and removing losses is one of the most important activities of a lean company. Any activity that does not directly generate value for the customer is considered a loss. These activities should be further classified as unnecessary, discontinuable and non-discontinuable in support of value creation. The first group includes muda, mura and muri, the second group includes processes for the control and supervision of processes. (Jones–Womack, 2015)

8 wastes type of lean:

- Transport,
- Inventory,
- Motion,
- Waiting,
- Overproduction,

- Over-processing,
- Defects,
- Non-Utilized Talent (*Figure 1*).

Once the causes of these wastes are understood clearly, the company can focus on optimizing their processes by eliminating wastes from these processes. (Kissflow, 2021)



**Figure 1: 8 wastes type of lean**

Source: How to Identify and Eliminate the 8 Wastes of Lean (2021)  
<https://kissflow.com/wp-content/uploads/2019/10/wastes-of-lean.png>

#### 2.4. Lean management tools

In this section, I provide a comprehensive overview of lean routines from the lean management toolbar based on my own experience at a multinational company. It is important to know these lean management tools which are used in lean strategy projects, because the evaluation of the results is will be more understandable in section 4.

*Sit-ins* is shadowing an employee to:

- Value his/her activities.
- Identify deviations and Best Practices.
- Train and build skills.

*Best practices* are striving for operational excellence by describing, implementing and sharing of excellent ideas and procedures.

*Feedback and coaching* are raise awareness for personal improvements and accompanied development of personality.

*TIP (Tactical Implementation Plan) management* is planning of middle & long-term actions to enable consistent tracking of progress and its impact.

*Problem solving* is removing barriers for continuous flow by regular systematic problem solving.

*Skills management* is actively working on the skills matrix to develop capabilities of team members.

*Capacity management* is anticipation and balancing of workload within and across teams.

*Daily meeting* is dedicated to:

- Overview of upcoming task.
- Identify issues and problems.
- Allocate workload.
- Review KPIs.

*Weekly meeting* is dedicated to discussion of complex long term problems to make decisions (e.g. planning, prioritizing, escalation.)

Daily and weekly meeting is connecting to “Performance management – teamboard meeting”.

### **2.5. Strategic management**

Strategic planning is of paramount importance to the operation of a company. Strategic planning is one of the most popular management tools. Thus, it can also be used effectively in planning the introduction of lean thinking. Planning can increase the effective implementation of a lean strategy and make it easier to achieve defined goals. Strategic planning is a planning process that helps you define different tasks to fit your company’s vision. It will work effectively if the company is managed according to the tasks defined by the planning process. It is important that the design process begins with a comprehensive analysis. The conditions imposed by the external environment and the internal capabilities of the company must be examined. These factors will limit the scope of corporate operations. Once the criteria have been identified, expectations for the future state and the means and methods to meet them can be identified. (Balaton–Tari, 2007)

### **2.6. Lean thinking strategy**

Extending lean thinking to different departments will help a company to operate effectively overall. A lean thinking strategy must be part of a complex corporate strategy, so it must be in line with the defined expectations and needs for both the present and the future. Thanks to the development of lean, the lean strategy was developed, which adapted the lean principles and along the way developed a long-term strategy for the company. (Collis, 2016)

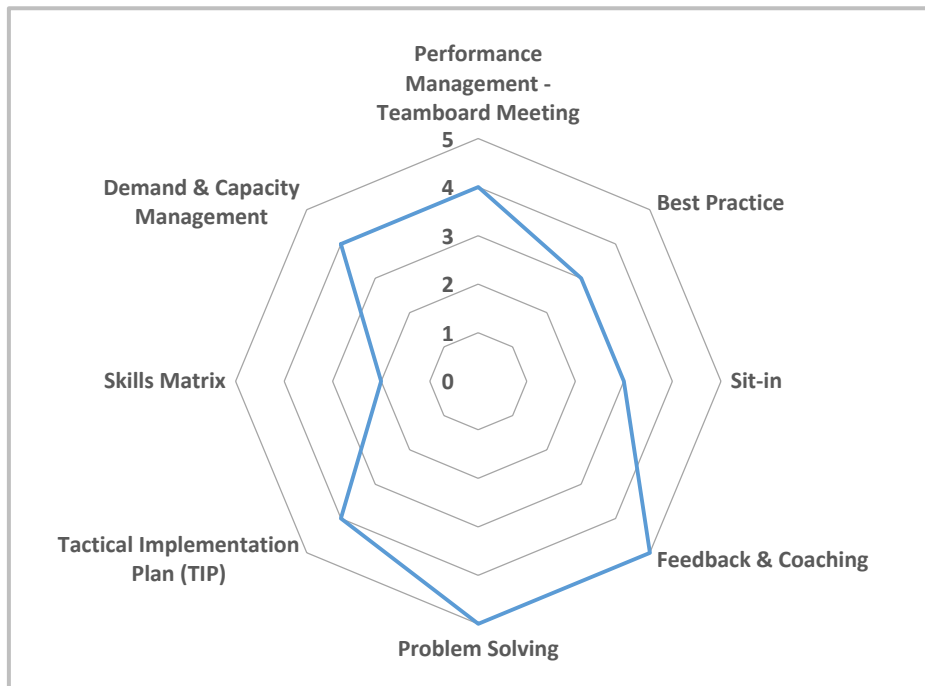
## **3. Materials and Methods**

In my research, I examine the lean thinking strategy used by a multinational company during a pandemic. As a first step of research, international and local literature was processed closely related and reviewed to the lean and strategic management topics.

In the second step, I examined the effects of a lean thinking strategy on them from the perspective of intellectual workers and their leaders. In my research method I used qualitative and quantitative tools. As research material, I focused on 4 departments with different functionalities. This means a total of 8 groups. In the form of a questionnaire, I examine the effects of a lean thinking strategy by comparing the responses of approximately 100 intellectual workers. Resource demand and efficiency, broken down into different lean segments. In the case of departments with different functionalities, I preferred the more specific research, where I interviewed 4 leaders of departments and 8 group leaders about the challenges and reactions experienced and the need extra capacity during the lean thinking strategy projects.

## **4. Results**

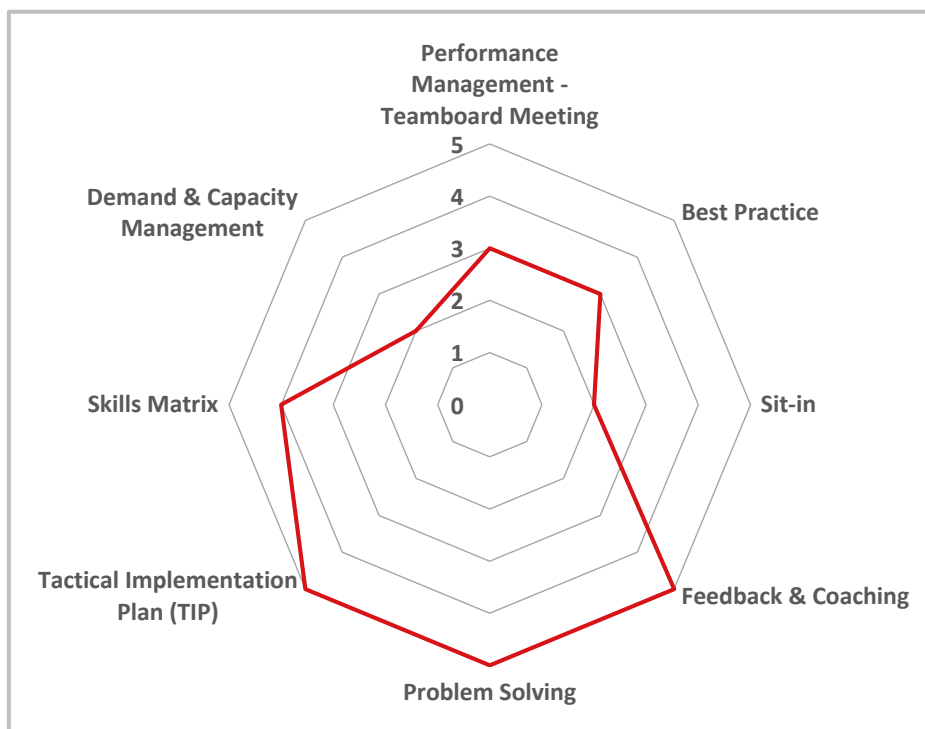
In my research, I examined the effectiveness of lean management tools used in lean strategy projects. In the questionnaire, lean tools can be evaluated from 1 to 5. 1 was the least effective, 5 the most effective. I averaged the 100 employee responses for each lean tool and then rounded the value for better visualization (*Figure 2*).



**Figure 2: Effectiveness of lean tools**

Source: Own figure

I also looked at it in terms of resource needs, in this case too, I averaged the 100 employee responses for each lean tool and then rounded the value for better visualization (*Figure 3*).



**Figure 3: Resource needs of lean tools**

Source: Own figure

In *Figure 4* I compared the results obtained previously. Based on *Figure 4*, I made the following evaluation:

*Good results:*

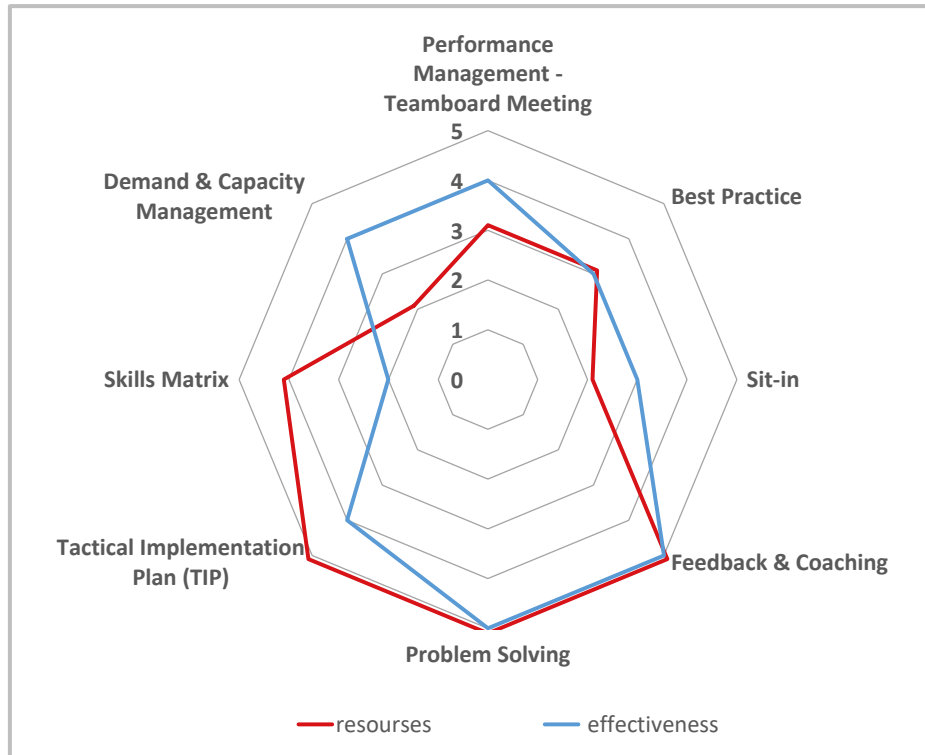
- Feedback & Coaching.
- Problem Solving.

Low result:

- Skill Matrix.

Potential improvement area:

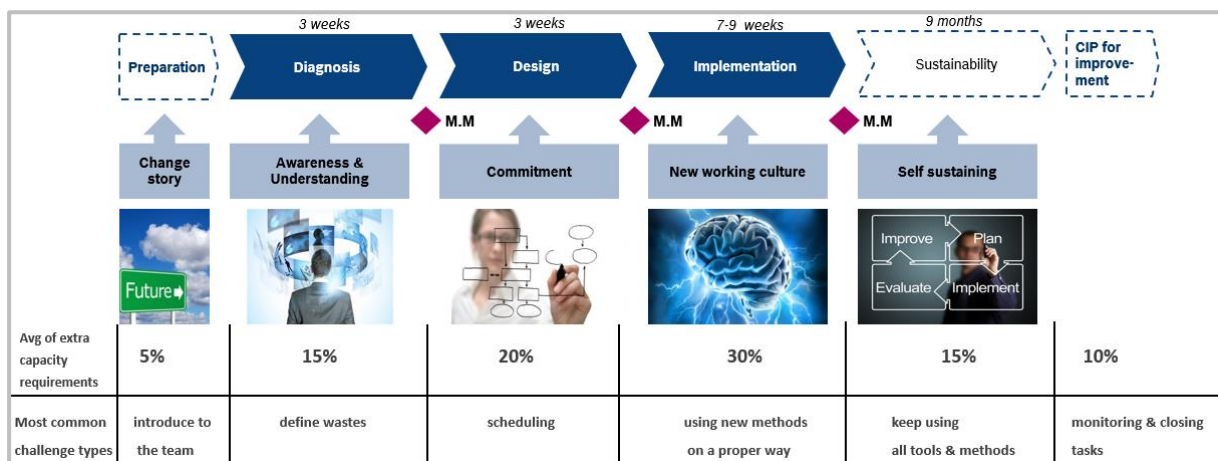
- Sit-in.
- TIP.
- Best Practice.



**Figure 4: Effectiveness vs. resource needs of lean tools**

Source: Own figure

As a second step in my research, I interviewed 4 leaders of departments and 8 group leaders about the challenges and reactions experienced and the need extra capacity during the lean thinking strategy projects. The most common challenge types and the average of extra capacity requirements are broken down into project phases in the *Figure 5*.



**Figure 5: The most common challenge types and the average of extra capacity requirements of lean thinking strategy project phases**

Source: Own figure

Based on interviews, I made the following evaluation for extra capacity:

- No. 1. with 30 % is the implementation phase.
- No. 2. with 20 % is the design phase.
- No. 3. with 15 % are the diagnoses and sustainability phases.

## 5. Summary

A review of the international and local literatures has shown that the lean has been addressed by many for a long time and have played a significant role mainly in manufactory industries for many decades. Base on my experience, multinational companies started to implement lean thinking strategies to office areas too. It can be seen from the results that a multinational company face a wide range of lean tools in lean thinking projects. Based on the questionnaire and interviews with leaders, lean thinking strategy has a positive effect on productivity and leadership management too, which can give a long-term positive effectiveness for the groups. In my opinion, synergies can be developed between different departments and groups through lean thinking, which would form a standard system at the corporate level and provide additional efficiencies for the multinational company in the long run. Of course, defining such synergies requires further research.

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