CROSS-CULTURAL MANAGEMENT JOURNAL

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Article

The diverse lean areas of application in business life

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Citation: Bogdán M., Popovics P. (2023). The diverse lean areas of application in business life. *Cross-Cultural Management Journal, XXV* (1), 41-47.

Received: 14 April 2023
Revised: 28 May 2023
Published: 29 May 2023

Abstract: Today, lean has become an extremely popular field of research. Nothing proves its popularity better than the fact that it is now used not only by production companies, but also by service companies, and its appearance in office environments is even more common. Its domestic and international literature is constantly expanding. Lean is an extremely complex field of science, as it is made up of many fields: innovation, change management, organizational development, process management, quality management, knowledge management. In our publication, we describe the basic concepts of the affected areas and their connection to lean management.

Keywords: lean; continuous improvement; innovation; process management; organizational development; knowledge management; quality management;

JEL Classification: M10

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INTRODUCTION

Today, it can be stated with absolute certainty that change is the only constant thing in life. In the fast-paced world of the 21st century, only businesses that are able to adapt the speed accordingly can remain competitive. The lean philosophy has now become a synonym for increasing corporate competitiveness (Kelemen & Kalló, 2020). Lean is an extremely popular but very complex field of science nowadays, as it is made up of many disciplines: innovation management, change management, process management, quality management, knowledge management, organizational development.

Its popularity is better proven by the fact that today not only manufacturing companies but also service companies apply this philosophy, and its appearance in office environments is becoming more and more common. This form of management is called lean administration or lean office (Gyenge et al., 2015).

The 5 basic steps of lean were formulated by James Womack and Daniel Jones in 1996. The foundations of lean were laid by formulating these 5 steps:

1. Value: first of all, it is necessary to determine the considered value for the buyer, that is, simply the amount he/she is willing to pay.
2. Value process: by this we mean a series of activities that produce the product in accordance with customer needs.
3. Flow: it is important that the product moves between the processes without stopping.
4. Pull principle: This step is also one of the basic principles of Just-in-Time. According to this, only the necessary part of the processes, in the appropriate quantity, are recalled at the time of use.
5. Continuous improvement: which is the key to success, that could be well summed up in one sentence: what was good yesterday is gone today, tomorrow it is not enough (Womack & Jones, 1996; Kosztolányi & Schwahofer, 2016).

Applying lean has advantages primarily in operational side, but more relevant from the point of view of our topic are the expected benefits from the administrative side, which can be the following. Order processing errors are reduced, customer service functions are simplified, and staffing requirements are reduced, while enabling the handling of a larger number of orders. The documentation and rationalization of individual processes makes it possible to outsource non-critical functions (Kilpatrick, 2003).

Even the critics admit that the lean production system will become the standard production method of the 21st century. Several people point out that the adaptation of lean management will continue to be among the significant efforts of the manufacturing sector in the upcoming decades (Losonci & Borsos, 2015).

FIELDS

Process management

The notion of 'process' will be explained. There are a lot of definition about 'process', two of them will be highlighted. According to one, the process is a series of activities that, when placed next to each other, generate value for the customer (Hammer & Champy, 2000). According to ISO 9000 standard definition, the process is series of connected activities which transform the inputs into outputs. We would like to highlight also the notion of the process management what is a comprehensive approach whose purpose is to constantly adapt company processes and the organization to customer needs and changes in the external environment (IFUA Horváth & Partners, 2006).

The process transformation has many success factors.

The first and most important of these are the clearly defined objectives. Planning of the change and the continuous communication to the stakeholders are also significant. It is crucial that the value-creating effect of the measures related to the changes have to be presented to the stakeholders in a measurable way. In addition to a high level of detail, it must be comprehensible for them. For successful implementation, it is essential that all employees receive support, and last but not least, the consistent monitoring after implementation should be performed (Gályász & Darnai, 2021).

By applying modern process management, the operation of companies will be transparent, can be analyzed easily, will be measurable and continuously improvable, and for more, it creates the opportunity to reduce operating costs (Fenyves, 2020).

Change management

The introduction and application of the lean philosophy is also a change.

In practice, there are two lean management "approaches" according to Radnor et al. (2006). One is the philosophy of full implementation, the other is the theory of rapid improvement also called kaizen blitz (Radnor et al., 2006; Losonci, 2014).

Rapid implementation does not affect the entire organization, only focuses on a small part of each process. The focus of these activities are eliminate waste and raise quality to a higher level. It only uses a limited range of tools.

The full introduction is about the customized implementation of lean management. The goal of the change is always the creation of customer value, and the framework of the change is the organization itself.
The full implementation includes rapid implementation. Based on the experience so far, it is statable, that the 'rapid' is much more "limited", and in most cases, this kind of application aims to transform a problematic area (Losonci, 2014).
Change is often confused with altering, even though the two are by no means the same.
The alteration takes place at a given moment and as a result a new condition is created.
Change is a process which creates new alternatives in the structure of the organization, in its behavior, culture and outlook as a result (Gál, 2020). Lean primarily causes cultural, behavioral and attitudinal changes, but it can also involve structural changes at the same time.
According to the degree of change, we can separate two large groups. Based on this, we can talk about incremental and radical change. During incremental change, one or a few essential organizational characteristics change. In terms of size, the organizational characteristics vary slightly and are perceptible at some levels of the organization. It is important to emphasize that this is a step-by-step change, so we are talking about a less spectacular and, as a result, relatively slow change process. Radical change is the complete opposite of incremental change (Farkas, 2014). Kaizen improvements belongs to the category of incremental change.
Organizations are constantly affected by internal and external environmental factors. Internal elements are, for example, human resources and processes, while external factors include market demand or national culture, which forms the basis of organizational culture (Berde & Pierog, 2018).
In relation to change management, Lewin's classic model is inevitable (figure 1).
Lewin divided the change into three stages. The first is letting go, where there is a break with the previous practice.
The second is alteration, the necessary transformations take place here, which is an unstable temporary state. And finally, consolidation, where you have to strive to deepen the new practices (Kiss, 2021).
Based on the experience of everyday life and psychological and sociological research, we can make the statement that people avoid changes by human nature.
The type of resistance can be of two types, personal or organizational. The personal reasons can basically be traced back to behavioral, cultural and psychological factors.
The most important of the psychological factors is uncertainty avoidance, that is, fear of the unknown. Transitioning to a new process requires more mental effort than they already known, practiced operations.
Among the behavioral factors, the so-called "outsider" effect is the primary one. In this case if the employee thinks that "you invented this, do it yourself", would make the work of external specialists completely impossible (Bakacsi, 2015; Bogdán & Popovics, 2022).
Based on Hofstede's national culture model, Hungarians have a significantly higher uncertainty avoidance index than the Anglo-Saxon countries. In the research carried out in 2005, Hungary scored 82 points in this dimension, which is considered an extremely high value. Such countries maintain a rigid code of belief and behavior, are less liberal-minded, so more strict rules are needed there. 74 countries were examined in the research (Falkné Bánó, 2014).
The GLOBE research shows that the uncertainty avoidance index for us Hungarians is lower than the countries examined in the study. According to the results of the survey, the value of our uncertainty avoidance index is 3.12, but it should be 4.66. The survey examined 61 countries (Bakacsi, 2014; Falkné Bánó, 2014). It can be declared that the GLOBE research also confirms Hofstede's typology concerning Hungary.

Organizational development

Why do we need organizational development? Primarily because global competition and the economic downturn have highlighted the weaknesses of organizations: overworked employees, difficult response in crisis situations, slow processes, and extremely poor company efficiency. Current market conditions have to be adapted. In the future those companies that are able to do a quick adaption, will be successful.
Organizational development is a planned activity, that it is building on the analysis and determination of the current situation of a given organization. Its particularity includes the fact that it covers the entire organization (or unit) and aims at a complete transformation of the current operation, such as a culture change. Furthermore, another important feature is that it is planned from the top (top-down), so the success of the development is determined entirely by the commitment of the top managers, i.e. how much they actively participate in the process. In addition, the aim of the organizational development to increasing efficiency and adaptability, to strengthen the ability to change and being ready for

the change. Organizational development, as an action, is the planned modification of the processes taking place within the company using the knowledge of behavioral science (Berde & Pierog, 2018). Increasing and measuring efficiency has its own methodology, which can be measured using different levels of efficiency indicators (partial, complex, social, corporate, regional, and macroeconomic) (Nábrádi et al., 2008).
We would like to summarize these three fields with the *Figure 2* which shows the Organizational Change General Process Model. The model was created by Daft (2003).

Knowledge management

The lean business philosophy helps to create a learning organizational culture, in which the employees are dedicated to continuous learning and development in all areas of the company (Mátrai, 2020).

There are many definitions of the learning organization. I would like to highlight two. According to Pedler and his coauthors, a learning organization is a company in which every member have the opportunity for continuous learning and is constantly shaping their knowledge. According to Senge, an organization that, in order to establish its future, continuously increases and strengthens the creative desire and talent of their employees (Gergely, 2011).
There are several definitions of knowledge management, but according to the most concise interpretation, it is the management approach that manages different forms of knowledge in order to provide a competitive advantage and business value for the organization (Bencsik, 2015).
By 'manage' we mean the creation, appropriate use, retention and sharing of knowledge.

Innovation
First of all, as we did in previous subsections, I would like to clarify the concept of innovation. There are many definitions of innovation, but the most widely accepted one is in the fourth edition of the Oslo Manual, according to innovation is a new or improved product or process (or a combination of them) that differs significantly from the previous products or processes and has been made available for potential users and the business process was introduced (Oslo Manual, 2018). Basically there are four types of innovation: product, business process, marketing and organizational (business model) innovation (Kahn, 2018)
We believe that lean is related to all four types of innovation, but mostly to process and organizational (business model) innovation, because in case of the former one, a new or innovative process will be implemented, and in case of the latter, new methods can be introduced into the company's practice.
There is still no widely accepted unified definition of lean innovation (Solaimani et al., 2019). Lean innovation is about how we can work efficiently with our existing knowledge. "Lean" innovation is simply about quickly acquirement of the knowledge. This helps companies do three basic things. First, doing the good thing, then doing that activity well, and then doing it better (Sehested & Sonnenberg, 2011).
Experts warn us against drawing a sharp line between kaizen, innovation and sustainability, because there is a lot of overlap between them, as the lean approach is also innovation.
It uses special tools, for example A3-analysis. The most important is that everybody should be involved, in the innovation their own job, their own tasks (Shook, 2016).

Quality management
Why quality management is necessary?
In production and service 'quality' is now a minimum expectation.
First, will explain what quality is. According to the standard wording, quality is the measure of the quality of given thing (product, service, process, person) fulfills the requirements imposed on it. Quality management is a set of activities related to the management and supervision of a coordinated organization, which central issue is quality (Gutassy & Gutassy, 2018).
Here I would like to mention the total quality management (TQM), the basic principles of which were formulated in the United States and were based on Japanese methods. TQM is a management that aims to improve all the activities of the organization with the full commitment of the employees and to satisfy the customer's needs as much as possible. The concept includes the principles of TQM, which is customer focus, continuous improvement of processes, and total commitment (Nika, 2021).
As we mentioned earlier the aim of the rapid implementation is to raise the quality of the product or the work process.

CONCLUSIONS

Our goal with this publication was to introduce the main fields related to the lean.
The benefits of implementing lean can be divided into two broad categories: operational and administrative.
Most of the technical literature highlights the advantages of applying lean primarily on the

operational side, but the benefits on the administrative side are also significant. The benefits are the following:

Operational side
• Lead Time (Cycle Time) reduced by 90%
• Productivity increased by 50%
• Work-In-Process Inventory reduced by 80%
• Quality improved by 80%
• Space Utilization reduced by 75%

Administrative side
• Reduction in order processing errors
• Reduction of paperwork in office areas
• Reduced staffing demands, allowing the same number of office staff to handle larger numbers of orders
• Reduction of turnover and the resulting attrition costs
• Documentation and streamlining of processing steps enables the out-sourcing of non-critical functions, allowing the company to focus their efforts on customers' needs (Kilpatrick, 2003).

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LIST OF FIGURES

Figure no. 1
Lewin's classic model
Source: Own editing based on Lewin (1975)

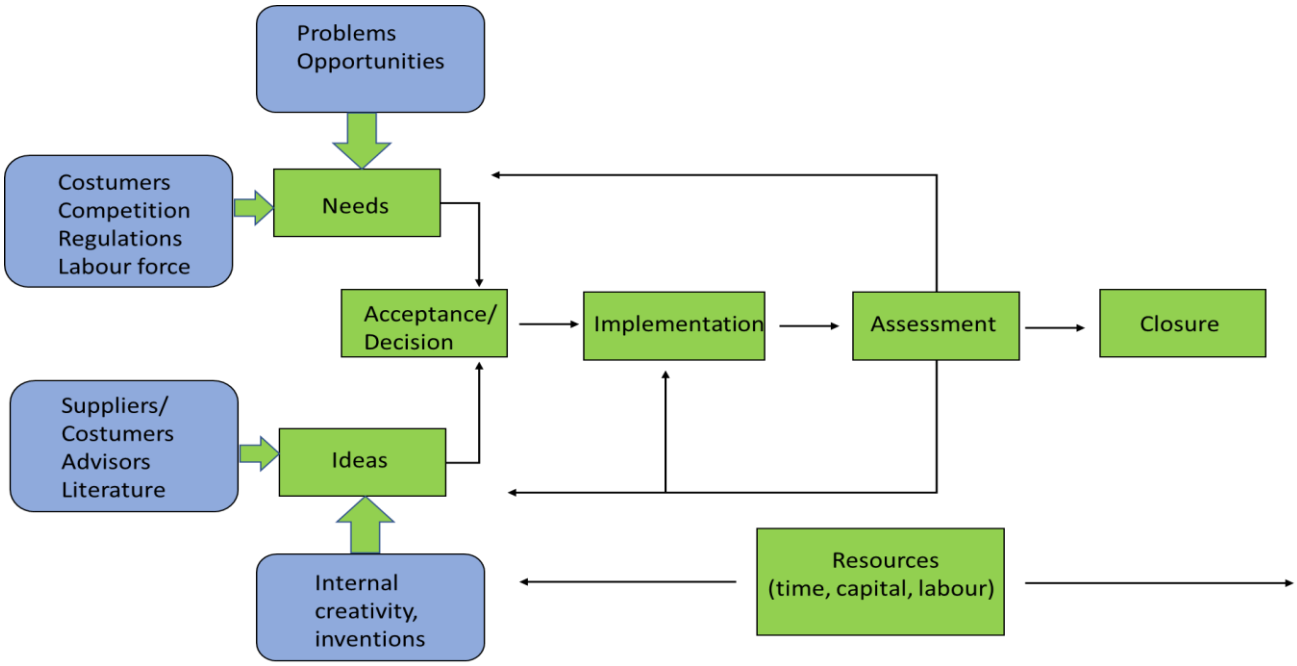

Figure no. 2
Organizational Change General Process Model
Source: Own editing based on Daft (2003)