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The importance of Lean office

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ABSTRACT
Within organizations it is commonplace for managers to be encouraged to make decisions, which must contribute to the profitability of the organization, guaranteeing its survival. In this scenario, the search for the elimination of losses in processes is continuous. Losses are activities that generate costs and do not add value to the product (ANTUNES, 2008).

Keywords: Lean office, Organizations, Processes.

INTRODUCTION

Within organizations, it is common for managers to be encouraged to make decisions, which must contribute to the organization's profitability, ensuring its survival. In this scenario, the search for eliminating losses in processes is ongoing. Losses are activities that generate costs and do not add value to the product (ANTUNES, 2008).

Lean *Manufacturing* is a business philosophy and strategy for increasing customer satisfaction by reducing waste and optimizing resources.

With the spread of this concept and the growing need for companies to become increasingly lean, eliminating elements that do not add value to their processes, the *Lean office was born* (EVANGELISTA, GROSS and BAGNO, 2013). According to authors Taping and Shucker (2003), around 80% of the costs of fulfilling a customer's order refer to administrative functions.

GOAL

In this context, the objective of this article is to highlight the importance and advancement of *Lean Office*, which is transforming and updating, to provide clearer and more accurate information when making decisions.

METHODOLOGY

The procedures of registering, relating, referencing, reading, archiving, summarizing related subjects in a research theme characterize bibliographic research (OLIVEIRA, 1997).

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According to Cervo and Bervian (1976), any type of research in any area of knowledge presupposes and requires prior bibliographical research, either to survey the situation in question, or for the theoretical foundation or even to justify the limits and contributions of the study itself. search. This way, this article was based on bibliographical research, monographs, articles, dissertations, online bulletins; with the aim of describing and clarifying the importance of the topic addressed.

DEVELOPMENT

This section presents a review of the literature on *Lean Manufacturing* and *Lean Office*, to later carry out the analyzes aimed at in this article.

LEAN MANUFACTURING

The Toyota Production System was developed by Toyota Vice President Taiichi Ohno, and its origins occurred in Japan in the 1950s after the Second World War. TPS aims to minimize variation in production processes, providing the best quality, the lowest cost, through the elimination of waste.

This system, according to Ghinato (2000), became recognized worldwide after the oil shock of 1973, when the world economy was affected by the excessive increase in the price of a barrel of oil, causing the bankruptcy of thousands of companies, and in In this scenario, Toyota was one of the few companies to escape this crisis.

The recognition of TPS as a model production system quickly became popular with the book "The Machine that Changed the World", published in the USA in 1990, the result of five years of research led by the Massachusetts Institute of Technology (MIT). MIT researchers discovered that TPS was much more effective and efficient than the traditional mass production system, so much so that it represented a completely new paradigm and the term lean production was coined, indicating this approach. radically different from production (LEAN INSTITUTE BRASIL, 2019).

Lean Manufacturing or lean production is a philosophy and business strategy to increase customer satisfaction through better use of resources in less time. With this, it involves and integrates not only manufacturing, but the rest of the parts of an organization in order to add value to the processes. In this way, the company can meet the needs of its customers in less time, with high quality and low cost, in addition to ensuring the safety and motivation of its employees (GHINATO, 2000).

Lean mentality is the search for waste that can occur daily in an organization. The concept boils down to: waste is anything that consumes resources, but does not add value to the customer. Ohno (1997) identified seven types of waste that impact the production system:

- Overproduction: producing more than necessary; produce faster than necessary;
- Waiting: idle labor or waiting time; equipment idleness or waiting time;

- Transport: unnecessary movement of material; unnecessary movement of tools or equipment;
- Inadequate processes: process that does not add value carried out by man; process that does not add value carried out by the machine;
- Unnecessary inventory: excessive stock of final product; excessive stock of raw materials and inputs;
- Unnecessary Movement: unnecessary movement of workers;
- Defective products: processing in the production of defective products; processing due to rework of defective products; materials used in the occurrence of defective products and rework.

As already mentioned, Lean Manufacturing has developed techniques that seek to minimize internal losses, and consequently internal costs, allowing companies to offer products at more competitive prices and without loss of quality. These tools are reconciled in five principles that aim to eliminate waste, without forgetting customer expectations (LAGO; CARVALHO; RIBEIRO, 2008). They are (LEANTI, 2019):

- Value: identifying what generates and does not generate value from the customer's perspective. Contrary to what most organizations do, this analysis should not be prepared from the organization's perspective but from the customer's perspective;
- Value Stream: identify which steps add value to the product, defining the steps necessary for manufacturing;
- Continuous Flow: act to ensure continuous value flow, produce without interruptions;
- Pull Production: producing only what was requested by the customer;
- Perfection: search for continuous improvement in processes, with the aim of adding value to the customer by reducing waste.

LEAN OFFICE

Lean thinking is supported by the Toyota Production System, which consists of reducing or eliminating waste that does not add value to the customer. Based on this, organizations began to check the possibility of making administrative processes also lean. (LOPES, 2011).

In the administrative area, most activities are related to the generation of information, activities of an intangible nature, which makes identifying waste more complex (OLIVEIRA, 2010).

According to Tapping and Shuker (2003), the main focus of *Lean Office is the adaptation of Lean* tools to eliminate variations and waste in administrative processes, achieving competitive advantages by allowing the office to serve its customers with low cost, quality, efficiency and speed.

To talk about lean offices, it is necessary to understand the relationship of those principles from an intangible perspective, that is, the flow of information and knowledge instead of the flow of items and materials (WOMACK and JONES, 2004).

Turati (2007), created a comparison between the 5 principles of Lean, which is presented in table 1.

Table 1: Interpretation of lean principles for manufacturing and office

Lean principle	Manufacturing	Desk
VALUE	Visible at every step; defined goal	Difficult to see; changing goals
VALUE STREAM	Items, materials, components	Information, knowledge
CONTINUOUS FLOW	Interactions are waste	Planned interactions must be efficient
PULL PRODUCTION	Guided by Takt Time	Guided by the company's needs
PERFECTION	Enables error-free process repetition	The process enables organizational improvement

Source: Turati (2007)

LEAN OFFICE WASTE

According to Lareau (2002) apud Oliveira (2010), numerous categories are classified as waste in administrative processes, such as:

- Goal alignments: is the energy spent by people working on misunderstood goals and the effort required to correct the problem and produce the expected result;
- Attribution: is the effort used to complete an inappropriate and not necessary task;
- Waiting: is the resource lost while people wait for information, meetings, subscriptions, a return call and so on;
- Movement: is the effort lost in unnecessary movements;
- Processing: work not carried out in the best way;
- Control: is the energy used to control and monitor and that does not produce improvements in performance;
- Variability: resources used to compensate or correct results that vary from expectations;
- Change: is the effort used to arbitrarily change a process without knowing all the consequences and the following efforts to compensate for the unexpected consequences;
- Strategy: is the value lost when implementing processes that satisfy short-term objectives, but do not add value to customers and investors;
- Reliability: is the effort required to correct unpredictable results due to unknown causes;
- Irrelevance: efforts used to deal with unnecessary information or efforts to fix problems it causes;
- Standardization: effort of energy wasted due to a job not being done in the best way possible by everyone involved;

- Unnecessary checks: effort used for inspections and reworks;
- Lost information: occurs when resources are required to repair or compensate for the consequences of the lack of key information;
- Lost information: occurs when resources are required to repair or compensate for the consequences of the lack of key information;
- Lack of focus: occurs when an employee's energy and attention is spent on a demand and it is not focused on the organization's critical objectives;
- Discipline: occurs when there is a lack of responsibility and problems related to the discipline expected of employees.

Lareau (2002), created a comparison between the 7 wastes in manufacturing and administrative environments, which is presented in table 2.

Table 2: The 7 wastes in Manufacturing and the Office

Item	Manufacturing	Desk
Worthless process	Incorrect use of tools, procedures or systems.	Incorrect use of inadequate procedures or systems, instead of simple and effective approaches.
Overproduction	Producing too much or too soon, resulting in excess inventory.	Generate more information, electronically or on paper, beyond what is necessary or before the right time.
Inventory	Excess raw materials, parts in processing and final stock.	High volume of information stored (overloaded buffer).
Defect	Product or service quality problem.	Frequent documentation errors, service quality problems or poor delivery performance.
Transport	Excessive transportation, resulting in unnecessary expenditure of capital, time and energy.	Excessive use of computer systems in communications.
Movement	Disorganization of the work environment, resulting in low performance of ergonomic aspects and frequent loss of items.	Excessive movement of people and information.
Wait	Long periods of idleness and people and parts resulting in long lead times.	Period of inactivity for people and information (signature approval, waiting for photocopies, waiting on the phone).

Source: Lareau (2002)

LEAN OFFICE DRIVERS

According to Tapping and Shuker (2003), in order to make improvements in administrative environments possible, the authors propose eight guiding steps, namely:

- Commitment to Lean: alignment between employees, administration and management regarding their ongoing efforts with Lean initiatives, as well as the definition of the implementation team;

- Choice of value stream: definition of activities, including those that do not add value, that transform information and raw materials into a final product that the customer is willing to pay for;
- Learning about Lean: review of Lean concepts and tools that must be transmitted to those involved during training;
- Current state mapping: expression of the flow of work object and information through a visual representation;
- Lean performance measures: definition of metrics that will help achieve the organization's Lean goals;
- Future state mapping: understanding customer requests, establishing a continuous flow of work;
- Kaizen plans: creation of kaizen plans to change and modify the processes studied;
- Kaizen plans: execute the Lean transformation, implementing previously planned kaizen activities.

LEAN OFFICE TOOLS

Lean transformation in offices recommends certain planning and action tools. The most widely used tools will be presented below (TAPPING and SHUKER, 2003) and (OLIVEIRA, 2010):

- The practice of 5S: 5S has Japanese origins and its principles are organization (Seiri); housekeeping (Seiton); cleaning (Seiso); normalization (Seiketsu) and self-discipline (Shitsuke). With its application, the work environment will become standardized, waste will be reduced and employees will have more control over the space and activities to be carried out;
- Value Stream Mapping Stream Mapping (VSM): is a fundamental tool aimed at visualizing processes, checking all flows of materials and information. The big difference in administrative environments is the almost impossibility of distinguishing the flow of materials from the flow of information. Value stream mapping adapted to the administrative environment focuses onflow of information, in order to map the current state and the future state, resulting in cost reduction through the elimination of waste;
- Continuous flow: organizing work so that information flows through process steps without passages and, therefore, without creating “stocks”. Work cells consist of arranging the people needed for a service, placing them close to each other. The advantage lies in reducing time, space and resources spent on transport between activities, speeding up the process, and thus increasing productivity;
- Takt Time: Refers to the time determined by customer demand, that is, the rhythm imposed on the workflow by this demand. Unlike manufacturing processes, in the administrative environment there is no exact formula for determining customer demand, and the work unit is not always

measurable, making it necessary to resort to histories, develop techniques for data collection, and define a unit of work, which may be associated with processing time;

- Standardized work: establish precise and specific procedures for the operations/tasks to be performed by each person. Task standardization is an important tool in identifying problems in administrative environments, creating an efficient sequence for the flow of activities, minimizing variations in procedures, establishing best practices to maintain service quality, and allowing simple staff training, so that a person is able to perform more than one service, giving greater flexibility to the flow;
- Pull systems: In order for the change to pull production to occur in the administrative environment, it is necessary to know the processes well, so that the service is executed and its results are available at the correct time, neither before nor after. The advantages of the pull system are: reduced processing time, reduced work in process (piles of paper on tables), reduced stocks and queues, reduced transportation of work units, greater flexibility to respond to changes on demand;
- Heijunka (Leveling): It is a physical device used to control the volume of service and its variety within a certain period. The objective is to level the workload so that people and resources are used in the best way possible, also serving as an information center for what is happening in the flow.

POSITIONS ON THE IMPLEMENTATION OF LEAN OFFICE

The implementation of Lean Office is not an easy or quick process, as it requires changes and persistence to achieve continuous improvements and the improvement of actions and knowledge.

This requires full dedication and without imposition, training of people, everyone involved has to understand the need for changes, commit fully, from the factory floor to senior management, because in the lean philosophy all sectors are integrated, and can suggest ideas for process improvements.

Lean Office concepts into its culture begins to observe several positive changes in its daily life and results. Below are some summarized advantages of the importance of Lean Office (GRADUS, 2019):

- Improved efficiency: Carrying out lean processes in administrative routines significantly improves office efficiency. This is one of the main reasons for implementing Lean, in addition to contributing to reducing expenses;
- Increased Morale: When working in an organized and planned environment, with efficient processes, the result is that people feel satisfied and motivated to be part of something like this provided by Lean Office;

- Standardization: The importance and benefits of standardizing administrative routines are undoubtedly undeniable. It is worth remembering that standardization is only implemented after the processes have been revisited and waste has been eliminated;
- Quality: Quality is numerous factors that contribute to the use of this method, such as appearance of the work environment, efficiency in customer service processes, productivity, improvement of the organizational climate.
- Valuing people: Effective participation of people in the analysis, redesign of processes and definition of new flows and procedures. By acting in this way, they will feel part of the solution and will be willing to commit to whatever is implemented.

Based on the objective of identifying the competitive advantages resulting from the application of Lean Office, it is possible to observe that its applicability in administrative environments brings significant advantages to organizations.

A reduction in costs can be seen, since a large part of the costs involved in fulfilling a customer's order are linked to the administrative function, another advantage can be measured by the time taken to meet the demand, quality, or the perception that the customer have a specific product or service.

The organization of the work environment is correlated to the efficiency in executing processes in the administrative environment, an organized and standardized environment results in added value, as it makes the execution of activities more agile, and errors can be immediately identified, optimizing the quality of information.

Another aspect of gain with the implementation of Lean, apart from those mentioned above, comes from the fact that administrative processes do not undergo the same investment in continuous improvement as productive areas, the forms and tools for improvement in most cases do not require high financial investments.

FINAL CONSIDERATIONS

Lean is a philosophy that seeks to eliminate waste both in manufacturing (Lean Manufacturing) and in administrative functions (Lean Office).

The birthplace of Lean Office is essentially industrial. In this area, its impacts are quite clear: faster assembly lines, less wasted raw material and working time made the most of it. In administrative environments, on the other hand, although these changes are less visible and more complex, they present equally satisfactory results.

In view of the above, it is concluded that with the implementation of Lean Office significant competitive advantages are achieved for organizations, ranging from a more agile flow of information to budget reductions, in addition to being potentially extendable to different sectors and companies.

Finally, Lean is more than a set of tools, it is a way of thinking and doing, being a long and complex implementation process, which requires time for the tools and new working methods to consolidate within the organization.

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