

SIMULATION OF CONTINUOUS IMPROVEMENT PROCESSES.

The simulation helps us to interpret the processes of a company and at the same time allows us to make changes aimed at continuous improvement, this type of methodology is based on the construction of models that integrate specific processes. Companies currently want to optimize their processes by using software that makes it easier to incorporate improvements and simulate data.

The objective of the simulation is to carry out an evaluation of the different alternatives available at the time of making strategic decisions that require a large investment, and also aims to seek continuous improvement in the company to achieve efficiency at the tactical and operational levels.

To simulate improvement processes, the first thing to do is process modeling, which is an essential tool in process reengineering, It is also known as mapping, and it consists of understanding the processes of existing and possible future businesses, with the intention of creating customer satisfaction and improved business performance. The modeling details the processes of the different areas of the company and specifies the inputs (customer orders), outputs (products, services), mechanisms (labor, raw material, necessary machinery) and controls (quality control, customer requirements) which are represented through diagrams.

Methodology for simulating continuous improvement.

1. Business analysis.

The first thing to do is a business analysis, this serves to identify the current situation of the company and the possible causes from internal and external aspects to achieve the interpretation of the company's resources, strengths, opportunities, weaknesses and threats.

SIMULATION OF CONTINUOUS IMPROVEMENT PROCESSES.

The external analysis helps us to identify the opportunities and threats of the company, and through this it is possible to make decisions of the situations that are necessary, reducing their consequences. To carry out an external analysis, we must prepare a list that includes opportunities and threats from which it is possible to take advantage and avoid.

On the other hand, an internal analysis is useful to identify strengths and weaknesses from the perspective of the company's own experience.

2. Identification of improvement indicators.

The next step is to identify the different indicators of improvement of the company, which provide the ability to develop an environment that can be competitive and that allows to react to different market changes.

The steps to establish indicators are as follows:

1. For each critical element of success, the best way to measure its performance or compliance must be determined.
2. Each identified element must have a name, a way to measure it and the unit of measurement to be used
3. Establish a continuous improvement process to refine the definition of the indicators established through experience.
4. The indicators must have a well-defined goal and objective to ensure the proper fulfillment of their function.

SIMULATION OF CONTINUOUS IMPROVEMENT PROCESSES.

One of the most important indicators of any improvement process is to identify the different types of waste in companies, with the aim of applying a tool that allows them to be reduced or eliminated. Waste is presented at different stages of the production process and includes to all areas of the company.

It is necessary to eliminate waste in order to increase the competitive level of the company, increase the capacity of the members, and improve jobs.

There are seven types of waste within companies:

1. Overproduction
2. Wait
3. Transportation
4. Unnecessary production
5. Work in process inventories
6. Movements and efforts
7. Defective products

These types of waste are the most common and can be found in the different stages of the processes, sometimes they are very visible, however they can be difficult to identify.

SIMULATION OF CONTINUOUS IMPROVEMENT PROCESSES.

3. Identification of the current processes of the company.

In order to identify the current processes of the company, we proceed to collect the information from primary and secondary sources, for which interviews or surveys will be carried out with the managers of the company, and from each of the departments, this information will serve guide the processes under his charge to obtain a clear vision of the company.

4. Application of the simulation.

After clearly identifying the current processes, the future processes are designed with supporting documentation and the simulation of the changes made is carried out. To perform the simulation, the bottlenecks that occur at each stage of the process are defined, using as a reference the average times it takes for the departments to carry out the process from placing an order to delivering the finished product. After carrying out the simulation and the analysis of the waste found, an improvement proposal analysis is carried out in order to eliminate bottlenecks.

5. Prepare implementation plan

After completing all the previous steps, the implementation plan is carried out, detailing the steps to eliminate waste and improve the performance and productivity of the overall business processes.

SIMULATION OF CONTINUOUS IMPROVEMENT PROCESSES.

The steps for implementation are as follows:

- Elaborate the mission, vision and objectives of the company
- Carry out organizational restructuring
- Determine strategies and objectives focused on organizational improvement
- Prepare indicators and control documents
- Prepare process sheet
- Carry out the process manual.

Referencias

Gonzalez, V., Barcia, K., Yuquilema, J.(2016) *Aplicación de Técnicas de Simulación y mejora de procesos para una Empresa Exportadora de Camarón en el Área de Oficina y Producción. [Application of Simulation Techniques and process improvement for a Shrimp Exporting Company in the Office and Production Area].*

Recuperado de

https://www.researchgate.net/publication/307090862_Aplicacion_de_Tecnicas_de_Simulacion_y_mejora_de_procesos_para_una_Empresa_Exportadora_de_Camaron_en_el_Area_de_Oficina_y_Produccion