

THE IMPACT OF CONSTRAINED THEORY ON ENTREPRISE PERFORMANCE

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Abstract: *The theory of constraints dates back over 30 years, and its applicability within companies has the role of improving their level of production and efficiency. This article discusses how managers use constrain theory to continuously manage and improve company development goals. The theory of constraints is based on the level of trust provided by high-quality services as a key element used to create the competitive edge for the entity's evolution. According to the theory of constraints, the entity's leadership has the role of improving the performance of production so that the role of production management is to maintain flow and continually improve it.*

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1. Introduction

Constraint Theory (TOC) is a general philosophy of management introduced by Eliyahu M. Goldratt in his 1984 book "The Goals," designed to help organizations achieve their goals (Cox et al., 1986). In the late 80's, many studies were struck that aimed at differentiating total quality management (TQM) from TOC. Over the course of 10 years, the issue of TOC vs Six Sigma and / or TOC vs Lean has been debated. According to the TOC, the management of an entity has the role of improving its performance, so production management has the role of continuously maintaining and continuously improving production flow. The theory of constraint is based on the idea that each system has at least one a us, which can be defined as any kind of situation which prevents the system from achieving a high level of performance in its goals (Goldratt, 1990). According to TOC's writings, Dr. Eli Goldratt presents in his article "Sitting on the Shoulders of the Ignitants" four concepts related to flow management:

The main objective of the operations is to improve the flow.

This primary objective should be transposed into a practical mechanism that guides the operation when it does not produce (hinder production).

Local efficiency must be eliminated.

There must be a focusing process to balance the flow.

According to the Theory of Constraints, localized management is the main cause of many of the problems that we encounter today in companies, such as' lower overall performance results than those expected, the difficulties to ensure and maintain an advantage strategic market, financial difficulties, fires to extinguish constantly, consumer service expectations rarely satisfied and conflicts between employees of different departments, between other (Houle, 2001).

2. Literature review

The theory of constraints has a wide range of implementation scales. The theory can be applied in production, logistics, distribution, distribution, project management, accounting, research and development, sales and marketing and so on. The main idea is that each system has at least one point of interest; there are a lot of studies in the literature that have different concentration zones and reveal different aspects of TOC. Therefore,

there are several definitions for OCD. On the other hand, there is a common point that is defined in almost every study, constraint (Lakshmi et al., 2012).

The main purpose of each company is in increasing profit. Conformable this view, constraints are the main obstacles to achieving the goals of companies (Lakshmi et al., 2012). In other words, everything that exists to get more profit is considered a constraint. So, if companies can face constraints in their system and manage these constraints, they would do so have a continuous improvement management system so they can get higher profits. This simple logic leads to many questions and, for this reason, just push researchers investigate every aspect of TOC.

3. Flow Improvement - the main goal of operations

The main objective of production management is to improve the flow of work. With the help of raw material production and the components are transformed into finished products that are intended to be marketed. In order to contribute to the company's high performance, the manufacturing process must be made in tims according to the agreed rules and costs.

The critical factor of profit generation is production time, as the company will only earn profits when the finished products are delivered to the customer and paid for by the customer.

TOC recognizes the critical role of production time in flow management (planning, execution control and continuous improvement), however, is suggested a shorter path for improving the entity's performance. This can be done with the Production Buffer (PB). PB is the total time allocated to production to complete the order. The term "buffer" is used by TOC to denote time that includes more than average machine processing time (touch time). It also includes assignment for installing machines for certain parts or products, waiting times in front of busy machines, waiting times for missing parts as a whole, and unexpected problems known as "Murphy". In most production environments, touch-time represents a small part of the production time (1% or less).

SDBR (Simplified Buffer Tube) is the OTC solution for MTO - Make to Order. OTM is a production environment that produces customer orders. SDBR uses the Production Buffer (PB) for flow management. When the actual touch time is very small compared to the elapsed time, there is no need for a detailed flow mapping.

By using TOC, the implementation of solutions becomes easy and fast because it can be integrated into computerized systems.

4. Eliminating local efficiency

The early 1980s capture the concern of TOCs to suppress local efficiency. Although the purpose of TOC was to stop using local performance to measure departments, machines, or workforce "how to change?", it nevertheless offered concepts and methods clear and practical to replace them "crossing?" (Verma, 2010). Among them we mention:

Provision of timely delivery of the first measurement for production performance:

- DDP - Performance Date Due - to denote the level of reliability of shipping as promised to customers. This is the percentage of orders delivered on time.
- TDD (Dollar Entry Days) or TVD (Days Value Value in local currency) indicates the financial impact of delayed orders and the number of days late and has a financial impact on the company because it affects the cash flow (represents the amount of money what could have been in the company's bank account multiplied by the number of days).

- TOC (Throughput) Accounting - Provides management with a set of operational measurements to make decisions about the entity's performance. The three operational measurements are:
 - Capacity - money generated by the system;
 - Investments - money invested in the system, including facilities, machines and materials.

Production costs - all the money spent by the company's management generates profit. According to TOC, production management has the role of concentrating on the flow. If the flow is the number one priority, then the rest, the quality and the cost, will be ranked in the following places and will be subject to control. Under the SDBR concept, "D" means Road and customer orders are a priority for the production system. The production system is driven by the company's commitment to the customer and by planning, the company is developing awareness of market and accepting it as a trusted provider.

5. The existence of a focusing process has the purpose of balancing the flow

The TOC approach is a managerial and flow management approach, helping to highlight problematic areas in the stream that require improvement. Since TOC focuses on stream improvement, the top priority will be CRCs, resources that do not have the ability to maintain flow. The second priority is for resources that have no restrictions to disrupt constraints or to cause major delays in the flow.

TOC has a powerful focusing mechanism for POOGI called Management Buffer and is part of the SDBR solution. During processing of work orders, their status is constantly monitored, taking into account the production time. At certain time intervals, the system asks for sampling, so during sampling, the system checks the reasons for the delay.

Using TOC tools and thinking processes, causes are deeply analyzed to develop and develop a solution to solve problems strategically.

It says that TOC has a powerful focusing mechanism for all initiatives to improve the production area. Issues solved and eliminated interruptions improve the flow and make the production area more reliable, providing a potential competitive advantage for the company.

The five-step continuous improvement process is based on finding constraints in the system. These are Goldratt points out that the completion of all five steps will lead to a continuous improvement process and, as we know, the nature of change will change. In a production environment, for example, constraint may change from a physical constraint within the plant to an insufficient market demand or a company policy that needs to be changed.

6. Five points of focus

Goldratt introduced a method called five concentrating steps to solving system problems on a continuous improvement basis (Goldratt, 1992).

Step 1: Identify constraints within the system (Marton et al., 2010). At this stage, the entity's management identifies that part of the weaker system and determines whether it is a matter related to the entity's policy or physical constraint.

Step 2: Methods of exploiting the constraint (Marton et al., 2010). Constraints are exploited by using component elements, organizations not engaging in shifts that can generate a potential cost.

Step 3: In the third stage, the organization's management adjusts the entire system to allow constraint to operate under the most efficient conditions (Marton et al., 2010).

Step 4: Raise constraint (Marton et al., 2010).

If the organization reaches this stage, it means that the other steps have not been enough to eliminate the constraint. Major changes such as reorganization, divestiture, or capital improvements may occur.

Step 5: At this stage, if the compulsion process has been interrupted, the organization will repeat the steps again to find what limits the performance of the system (Marton et al., 2010).

7. Principal advantages and disadvantages of constant theory

Benefits:

- Existence of potential for extra productivity gains, but with minimal changes in operations.
- The most efficient and powerful tool for increasing production capacity
- Very simple to apply and communicate, being ideal for all teams of an economic entity.
- This is excellent to stimulate teamwork because the different areas are aware of the existence of constraints, but also the need for co-operation to assist in the coercion process.
- A very effective process for all the efforts to perfect the beginning, as it offers very tangible and immediate benefits.
- This constraint theory increases productivity / turnover, but without the need for additional staff or space.
- It provides a way of evaluating the real values of change (by using T, O, I) and using them to select the most advantageous options and to determine the right decisions / behavior.
- Only by increasing congestion can the overall production capacity increase (Cox et al., 1986).

The goal of the theory of constraint is to overcome the problems arising from the incompatibility of production capacities between machines or stages which requires re-arranging the factory to generate compatibility, through the efficient management of the elements that affect this goal. These elements include the following (Hussein, 2013): efficient management of records, satisfying workers and enhancing their competence through training and motivation, ensuring customer satisfaction through the control of critical success factors.

Disadvantages:

- The most important disadvantage is that it can be very difficult to apply in the work environment of economic entities, but with all this impediment, it is still very applicable).

8. Conclusions

Consequently, constraints theory is a new philosophy in the management of economic entities. It has been found that TOC has proven to be very effective in the recent past, but also in all sectors of the industries that use it. This article may be the general guide to its five basic steps in any field, but also the application of the TOC principles.

We believe that the management of the TOC buffer is a very good focusing mechanism for all initiatives to improve the production area. Any problem solved and eliminated interruption improves flow, makes the production area more reliable and offers a competitive advantage to the company.

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