

Goal write up

[Business](#), [Management](#)



Alex used the concept of "theory of constraints (TCO)" and new set of measurements and goals with the help of his mentor, Joana, to find constraints or bottlenecks in his plant. Joana defined bottleneck as any resource whose capacity is equal to or less than the demand placed upon it. This paper analyzes Argon's actions in The Goal with respect to the changes and tools that are available today and how the availability of newer tools in the manufacturing area might have affected the choices and priorities on which Ergo is focused.

An integrated framework with TCO, Lean, and Six Sigma can maximize Argon's goals after evaluation of his goals, challenges, and application of the present day tools. New Tools Technological and operations management theory developments over the last three decades provided new tools to Ergo if he faces his choices and priorities today. The most prominent of these are Lean operations, Six-sigma, internet, and various other software tools for operations management effectiveness.) Lean Operations: Lean operations theory focuses on smooth flow by removing the mud, a Japanese term for waste in the operations processes. Sources of waste are (GAG, 2009): over production, waiting, transportation, inventory, motion, over-processing defects, and not leveraging creativity of the employees. The five principles of Lean thinking are (Womack & Jones, 1996): Specify value from customer point of view, identify steps in the value stream, create smooth flow, customer pulls value, and pursue perfection.

Thorough understanding and identification of the various wastes in the operations process can help Ergo to target improvement initiatives. B) Six-sigma: The main objective of Six-sigma DYNAMIC (Define- Measure-Analyze-
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lampooner-Control) methodology is improving processes and quality through reduction of defects to the extent of 3.4 defects per million, reduce cycle time, increase throughput, and increase customer satisfaction by reducing variation in products and processes, thus giving an organization a competitive advantage (GAG, 2009).

Jack Welch emphasizes by calling variation as "evil" (III, 2014). "The methodology looks at a statistical number to determine whether or not to make a change in a company manufacturing process" (Stephen, 2009).

Availability of Six-sigma methodologies would have helped Alex increase throughput while improving the quality and reducing variation in the products and processes. C) Internet and Software: Internet provided many tools for the operations manager over the past two decades.

These tools increased efficiencies of the production processes by finding the information in minutes, tracking people, and running complex operations management software on the internet. They range from communications and search engine tools, to the more recent cloud based hosted MM applications on the internet such as customer relationship management SW such as Salesrooms etc. Sophisticated software packages and simulation tools also include enterprise resource planning (ERP) which is an evolved version of the material resource planning (MRP) that include other departments such as inventory and order management packages.

These tools would have helped Ergo to find Joana quickly, communicate with him on Keep, and conduct net meetings with divisional headquarters, track inventory and customer orders with ERP rather than the archaic homegrown

information system. D) New MM Techniques: There are several new operations management techniques such as just-in-time (KIT) partnership with suppliers, Toyota production system (TAS), total quality management (TQM), supply chain management (SCM), and total productive maintenance (TAMP). . KIT focuses on continuous improvement through continuous and forced problem solving via focus on increasing throughput and reducing inventory. KIT partnership between suppliers and purchasers reduce waste and drive down costs by removing unnecessary activities, in-plant and in-transit inventory, improve quality and reliability (Hazier & Render, 2011). ii. TAS three core components are continuous improvement, respect for people, and standard work practice (Hazier & Render, 2011). iii.

Although KIT and Six-sigma are key components of the TQM, TQM provides other concepts and tools such as continuous improvement, employee empowerment, benchmarking, attaching concepts, and TQM tools to generate ideas (check sheets, scatter diagram, and cause-and-effect diagram), organizing data (Pareto chart and flow chart), and identifying problems (histograms and statistical process control charts) (Hazier & Render, 2011). iv. The objective of SCM is to build a sequence of suppliers that focuses on maximizing value to the end customer (Hazier and Render, 2011).

SCM process technique takes an integrated approach to procuring, producing, and delivering products and services to customers, veering the management of material, information and financial flows (Venerates, Hachure, & Caulker, 2007). V. TAMP is a manufacturing program designed

primarily to maximize equipment life effectiveness through the participation and motivation of the entire work force (Ca, McKeon & Schroeder, 2001). Alex could make good use of these new MM techniques to increase effectiveness of his operations. Argon's Goals and New Tools The goal of any organization in general is to make money.

Joana asks Ergo to change his plant measurements to the following measurements that express the goal of making money in a different way. These measurements are throughput, inventory, and operational expense. According to The Goal, definition of throughput is the rate at which the system generates money through sales. Inventory is all the money that the system has invested in purchasing things which the organization intends to sell, and operational expense is all the money the system spends in order to turn inventory into throughput.

Then that the real goal of an organization is to increase throughput while simultaneously reducing both inventory and operating expense. Joana introduces Ergo to the TCO to help him achieve his goals and solve problems in his plant in terms of the measurements that express the goal of making money. TCO approach includes the following five steps to improve the plant performance:

- C] Step 1. Identify the system's constraint(s)
- C] Step 2. Decide how to exploit the system's constraint(s)
- C] Step 3. subordinate everything else to exploit the constraint(s)
- CLC Step 4. Elevate the system's constraint(s)
- 0 Step 5.

If in the previous steps, a constraint has been broken, go back to step 1, but do not allow inertia to cause a system's constraint. TCO primarily focuses on

increasing throughput. When the current system constraint or bottleneck is resolved, a new system constraint is then identified creating a continuous cycle, which drives performance improvement forever. Because of this continuous improvement and focus on throughput, Argon's goal will remain the same in light of the availability of the new tools. Several of the new tools from these modern concepts can be applied to solve or improve the challenges faced by Ergo in the 1 ass's.

New Tools Application to Ale's Challenges Ergo can bring several of the new tools to the challenges he faced at Unaware in the 1 9805. Some of these tools to improve the goals are: a) Lean production ass checklist: sort/segregate, simplify/straighten, shine/sweep, standardize, and sustain/self-discipline. This will help to address waste. B) pull system: This is a standard tool in KIT system to increase throughput and it is used with both suppliers and within the immediate production process (Hazier & Render, 201 1).

Pulling the needed materials through the system in very small lots eliminates waste and inventory. C) Continuous Improvement: As a core component of T AS, continuous improvement builds an organization ultra that processes can be improved and that improvement is part of every employee's responsibility (Hazier & Render, 201 1 Kamikaze is the formal process for this component believing that perfection is achieved through many incremental changes. Operations manager plays a key role in building kamikazeculture.) Respecting and empowering people: TIPS empowers employees to stop process or machines when quality problems surface. TIPS

respects employees by empowering them to enrich their jobs and lives. E) Scheduling: KIT scheduling tactics include communicate schedules to applicers, eliminate waste, produce in small lots, use Kanban, and make each operation produce perfect part. F) Inventory Management Systems: Ergo can establish these systems using ABC classification of all types of inventory and maintaining accurate records of the inventory. G) Forecasting: Forecasting demand has been a challenge for Ergo.

He can make use of qualitative methods such as Delphi method as well as quantitative methods such as time-series forecasting to predict the demand. Demand forecasts impacts plant capacity, human resources, and SCM (Hazier & Render, 2011). Integrated Framework of TCO, Lean, and Six-Sigma Ergo and his team had to work with long established archaic management processes in the sass's setting. If The Goal were set in 2014, Ergo and his team would likely find management more willing to embark on a process of ongoing improvement including the new methodologies such as Lean and Six-sigma.

However, these methodologies are not competing strategies, as each has significant value and applied differently with an integrated framework comprising of TCO, Lean, and Six-sigma. Ergo can make use of this integrated framework to maximize his goals. The integrated framework uses the synergy of TCO, Lean, and Six-Sigma to consistently achieve a concentrated system improvement beyond what might be accomplished by applying each method individually with a traditional continuous process

improvement approach. The most efficient way to integrate TCO, Lean, and Six-Sigma starts with strategy as a first step (GAG, 2009).

The strategy provides the strategic roadman to improve business performance. The strategic roadman provides the direction for the areas of the organization that maximizes benefit for the total system by applying improvements first. This continuous business success framework has two major parts: the constraint based system architecture and the TCO-Lean-Six-Sigma based continuous improvement architecture. A) Strategy- the output of a good strategy is a clear, agreed upon, roadman to improve business results.

The focus is on optimizing the performance of the total system versus improving the individual functions in isolation. B) Design: This step determines the correct alignment of the business processes including changing any policies, measurements, roles and responsibilities, and information systems. C) Activate: During this step, the newly defined business processes are implemented. D) Improve: Improvements are evaluated based on their ability to increase throughput, and to reduce inventory and operating expense and improve overall system performance. (Jacob, Berglund & Cox 2009). Key performance indicators (KPI's) are used to identify gaps between present and desired performance levels. Some useful improve techniques include AS system, TAMP, point of use storage (POLIS), Mistake proofing (Poke yoke), SSP, Capability Studies, Design of Experiments, etc. E) Sustain: As for the last step, Ergo should continuously review key measurement results to assess, address and institutionalize the

policies, measurements and behaviors to guarantee that the results are sustained and do not degrade.

Ergo can utilize the full integration of TCO, Lean and Six Sigma in order to obtain focused system improvement that achieves real, sustainable breakthrough performance. Although internet and internet based tools and sophisticated software packages certainly improve Argon's operations, they will not have direct impact on the choices and priorities that Ergo has focused. With respect to the other tools to help Ergo, the principles and techniques of KIT can be shifted to an entire SCM to strengthen Argon's SCM strategy in pursuit of improved organizational performance.