



Flow Management System (FMS) Maximizes Revenue and Profitability



FMS Benefits include:

- Sales / Throughput increase of 20%-30%
- Inventory reduction of up to 50%
- Lead time reduction of approximately 50%
- On time delivery improvement up to 99%
- EBITDA percent of sales increase by approximately 10%

Most organizations need to continuously improve in order to stay competitive. Many of them decide to start their Lean or Six Sigma journeys with the intention of maximizing productivity and increasing sales. Sometimes their efforts don't bring the expected results and consume a lot of time and money. In fact, according to a recent survey, 74% of companies claim to be adopting Lean Thinking Methodology but only 24% claim any kind of positive results. In addition, despite significant progress and development of the Big 3 Improvement Methodologies (Lean, 6 Sigma, Theory of Constraints (TOC)) many manufacturers still suffer from ineffective operations, resulting in longer than desired lead times, late deliveries, high inventories and significant operational costs. All of these problems negatively impact their ability to stay competitive.

FMS has proven to be one of the most effective approaches to improve manufacturing business revenue and profitability.

FMS utilizes all 3 improvement methodologies focused by TOC. It consists of four key steps:

1. Define inventory position and levels and create a pull-based replenishment signal
2. Identify production streams, schedule only key resources and reinforce schedule attainment as the primary plant and business measure
3. Drive plant-wide continuous improvement process based on the main reasons the schedule is not achieved
4. Base key market and product profitability decisions on the Throughput Economics approach

1. Define inventory position and levels and create a pull-based replenishment signal
FMS focuses first on defining all inventory requirements, utilizing a TOC based Demand Driven Replenishment (DDR) sizing algorithm, to set up targets for key Finished Goods, Raw Materials and Sub-Assembly items. These inventory buffers break supply chain dependence between unreliable supplier deliveries, variable customer demand and the plant, providing significant stability for the manufacturing operation. Once inventory buffers are in place, a pull-based replenishment signal, in combination with other customer demand, creates the basis for generating the plant load.

2. Identify production streams, schedule only key resources and reinforce schedule attainment as the primary measure

Drum-Buffer-Rope (DBR), a TOC production planning and execution methodology, is used to schedule each production flow stream within the plant and ensures timely production execution. Then, while measuring schedule attainment of each critical resource in a production stream, the reasons and work centres that most often hinder the flow are tracked and recorded.

3. Drive plant-wide continuous improvement process based on the main reasons the schedule is not achieved

FMS creates a Continuous Improvement process that uses Pareto Diagrams, comprised of the reasons hindering the flow, to prioritize plant-wide improvement opportunities reducing system variability in a quick and systematic way. Once the Flow Issue Reporting (FIR) process is in place and improvement opportunities are known, Lean Thinking and Six Sigma principles and tools are used to remove obstacles and create operational improvements. When the Lean and 6 Sigma tools are applied, based on the TOC driven priorities, plant performance drastically improves, throughput goes up, service levels increase, and productivity and revenue are maximized.

Once plant performance is stabilized, by breaking dependence (inventory buffers) and having FIR based continuous improvement process in place to reduce process variability, the business is in a much better position to turn its improvement focus towards increasing business profitability through how we evaluate product profitability.

4. Base key market, customer and product profitability decisions on the Throughput Economics approach

Cost-per-unit, the world's most popular analysis process, is a devastating and flawed paradigm of traditional business decision making. Regardless, many organizations still attempt to align their understanding of profitable markets / products with their manufacturing operation's performance using this approach. The cost-per-unit approach supports a simple process for decision-making as it allows managers to use the concept of gross margin or contribution margin to evaluate business opportunities. That's what makes it very popular but unfortunately fundamentally flawed.

FMS uses an alternative approach to understand relative product and market profitability - based on Throughput Economics (TE) principles. The TE based approach with its Throughput Velocity (TV) indicator, has a significant impact on

plant performance, market focus, pricing evaluation and new product development strategies. Some of the strategic questions the new process answers include:

- Which market segments are the most profitable?
- Which products make the company the most profit?
- How should investment and make vs. buy decisions be analyzed?
- At what price should we accept an order?
- How to align your operating costs and plant capacity with market demand?
- On what products to focus its R&D effort?

Using the four key components of FMS, organizations can significantly improve operational and financial performance. Most companies that successfully implement FMS realize the following:

- Improved flow and reduced operating costs because of their new TOC / Constraints' Management scheduling tools
- Increased sales from pricing decisions driven by 80/20 TE-based methodology
- Released working capital by improved inventory turns as a result of DDR
- Maximized throughput from a stable plant protected from system variability by the DBR based operations management approach
- Increased shareholder value



CMS Montera provides consulting and software to help clients grow by solving problems in operations and the supply chain

CMS RoadRunner Software enables FMS implementations and significantly advances business profitability