Flavio De Roni
http://www.flavioderoni.ch

# Operations Management

## Recap

**Week 01**

- We defined the boundary of the Module: Operations
- We looked at business activities with a Process View
- We defined the meaning of Supply Chain and of Logistics
- We know that Quality is a neutral attribute – it can be good or bad
- Quality evolved from "Product Quality" to "Process Quality" to "Total Quality" and "Management System"
- ISO 9000 was defined to "protect" customers from bad quality – it is about "conformance"
- EFQM was defined to help companies perform better – it is about "excellence"
- Quality is much more than just "product quality"

**Week 02**

- Excellence is not found in a certificate nor in the Stock exchange results
- The search for excellence never ends
- The Company Culture makes the difference
- Challenges increase and surprises are always there: companies must be ready to change and improve or will die
- ABC helps focus on what is important
- Self-assessment, if well designed, gathers quickly useful information (multi-purpose)
- Strategy broken down into connected elements, can be made easy to see and to follow-up

**Week 03**

- Know and listen to your Customers: they tell you a lot more than you think – Know your "Customer activity Cycle" to sell more
- The way you sell can dramatically impact how you set-up your operations and supply chain (see case SKF)
- Don't pack all possible nice technical features in your product: What is really essential to customers? What will help them? What will they be glad to pay for? Will competitors affect your priorities?
- Design your products and processes starting with Customer in mind
- Global logistics makes a lot possible – with some distortions too
- A good in & outbound logistics enables smooth production w.w.
- In-plant storage ensures protection and retrieval of goods
- Demand variations in the Supply Chain are induced by its complexity (number of Tiers) and are bad for Operations

**Week 04**

- Measure yourself as the customer does (and do it before he does)
- Quality, Cost, Delivery are not enough
- Innovation in an area can have deep effects on others too
- Inventory management has to ensure continuity in the Supply chain
- Different ordering policies (advantages / disadvantages)
- Inventory is an expensive but needed devil
- Warehouse networks increase service level but have their cost too
- Several conveyance tools in a plant
- Traceability of goods is increasingly important
- Go to the roots of problems to solve them
- All problems are an opportunity of improvement

**Week 05**

- Logistics can be a USP in serving the customer (Bossard case)
- Intelligent bundling of product & services makes a "non-sexy" product attractive
- Consider your product (and costs) when "in use" at the customer
- Take customer opinion & issues as learning opportunities
- Keep current customers satisfied is less expensive than capturing new customers
- Materials planning is critical and its quality is strongly influenced by values & quality of part master data (LT, Lot size, Inventory values)

**Week 06**

- R&D must think beyond the product: consider Operations and the Use of the product
- Project management is vital (not only in R&D): beware of pitfalls!
- A Self assessment can help in a Function's improvement analysis
- Idea generation, open discussion, and prioritisation are vital
- Lack of management priority and attention kill innovation
- Product quality is determined in the Development phase
- Only "capable" processes ensure product quality
- Statistic process controls help design and maintain processes that respect desired tolerances
- FMEA is a simple way to identify risks in Development, leading to actions that reduce risks

**Week 07**

- Not all products purchased are equal: purchasing matrix – each purchasing category is to be managed differently
- Purchasing has a major impact on the financial results and on the excellence of a company, but also on business risks

- Big opportunities can be achieved in better Customer/ Supplier relations: a paradigm shift helps to strive for excellence
- The link between Purchasing and other Functions is key: early Purchasing involvement is essential

**Week 08**

- Market intelligence helps open the eyes on the outside world in three areas: Suppliers, Customers and Competitors
- Legal compliance is increasingly important and requires attention, both on the Sales and the Purchasing side
- Different production types serve different needs
- The Toyota System parted dramatically from Western methods, with impressive results
- Waste is hidden in all activities (not just Production): seeing and then eliminating it sets the basis for improvement
- Waste reduces the value of a company
- Five S is much more than cleaning, but just a first step in Kaizen: alone it does not bring you far

**Week 09**

- Learn to see the potential for improvement (everywhere) using Value Stream Mapping (process view)
- Identify and reduce constraints in order to free capacity
- Target waste reduction, improving the non-value adding steps
- "Pull" (opposed to traditional "pushed" production planning) reducing overall production lead time and inventory levels
- TPS does not mean zero, but minimised & controlled inventories
- Equipment that is up and running and efficiently produces good products is a key target: OEE indicates, in one number, if we are on track
- Orient all production activities to Takt Time (keep the customer in mind!)

**Week 10**

- The Future-state map is a guidance, a target to reach
- Several ways are open for improving a production process, chasing "waste" guides in designing a better process
- Making sure that Takt time is respected and production is levelled on all work centers is of major importance
- Remember that equipment, people and processes deviate from standards (both positively and negatively)
- Giving people more responsibility supports the improvement path
- Excellence in Manufacturing is not "hard" to reach, "just" use the right tools and be prepared to fight old wisdom
- Most of these tools are rather simple, and still very powerful, but they require adherence to manufacturing and quality standards, and require multi-skilled and responsible workers
- No need to use tools all at once, small steps are preferable and bring better, controlled results

**Week 11**

- SMED and TPM make 1 piece flow possible
- It is better to improve yourself than to be forced doing it
- Kaizen applies everywhere, not just in production
- Plan it, start soon and adjust the approach after the first results
- Continuous improvement is not just for smart educated people: blue collars do bring great results
- Management presence is paramount, persistence as well
- Communication is essential
- Sense of pride and achievement help
- The production workplace is often dangerous: put in place protective measures and train employees on safety (use 5S+TPM to help)
- Production that gave us a tremendous advantage, represents also a risk for the environment: be aware of our production footprint and foster Sustainable businesses

**Week 12**

- The usual situation in the shop floor is the continuous rescheduling due to delays and changing priorities: huge hidden cost
- Even integrated Planning Systems do not avoid the above
- The minimum Lead Time can be calculated on a chart, the actual one will depend on accumulation of parts in the system
- Production planning must take in consideration the real capacity of work cells, not only the materials requirement: production may need to start earlier than imagined
- Appropriate costing of work centers and products helps in making the right business decisions
- Wrong costing may lead to wrong management decisions
- The BoM allows to bring the costs to products

**Week 13**

- Charts must help people "see", not confuse or mislead readers
- KPI help make decisions – if well chosen
- Some KPI help see trends, most unfortunately look at the past
- Operational KPI are needed to see in advance what happens
- Periodic Management reviews are useful if based on facts and if risks and actions are identified
- Move to East driven by Low Labour cost: often not all costs are factored in
- Asia will be dominating manufacturing and the global economy
- An active Risk management is needed
- Leading Operations is rewarding, but also very stressful