The benefits of Segmented Supply Chains

- **Organizations experience different performance in the various supply chains they manage**
- **The performance difference can be planned and proved or just happen caused by different factors, or as a mix of these causes, - and the latter is often the case**
- **This article describes why the difference happens, and how it can be dealt with to support and enforce the business by using a Segmented Supply Chain Strategy**

What are the symptoms of differences in performance:

- A manufacturing company with shared production capacity encounter that customer lead times for different product lines varies a lot. Even though the total yearly capacity equals all product lines by +20% demand, and inventories for finished goods are high.
- The service level for a ferry company towards different customers segments varies a lot when the ferry must share its deck space between trucks, buses, and private cars. Even though the space in their ferries statistically exceed the vehicle demand for each sailing slots.
- A hospital with shared ER, diagnostics and surgery facilities let their patients experience different waiting times for treatment and health care. Even though the total number of patients treated is less than theoretical capacity in each department.
- A service desk operator lets some customers wait for 15 minutes while others get access to the desk in 30 seconds. Even though the total minutes of standard service capacity exceeds the yearly number of calls, chats and emails.

Why is this happening?

- Capacity is not mapped precisely enough, and not updated frequently (Hours, machine time, warehouse, transport, etc.)
- Capacity mapping lack customization and specialization for each supply chain requirement (human competences, right machinery, right type of warehouse and storage, transportation gear etc.)
- Operating units to not plan capacity to demand plan for S & OP process, but book capacity to incoming orders FIFO. And on top of that FIFO is not always respected as some key accounts or demanding client can change priorities. (A mix of S&OP and open order book is recommended)
- Demand variation between supply chains is big. Lumpy demand for big jobs, order driven" clean the desk" overrides deliveries and other supply chains, - the back log starts to grow. As demand continues to use up more and more of the available capacity, waiting times increase rapidly, especially after reaching a critical point, which is typically around 70%.
- OP management tend to batch to keep cost under control, people with special competence, machines with high IPO/change cost, and warehouse strictly schedules disturb a demand driven continuous flow of deliveries. Batching is also driven by knowledge of expensive production and delivery.
- Unplanned production stoppages can decrease the supply chain's available capacity. Think of the seven wastes identified in Lean as examples.

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What is a segmented Supply Chain Design?

A situation of **operating mode** for an organization, where desired performance for each value stream (physical, virtual, financial) is determined in mainly same set of target parameters. The work "segmentation" means that single value streams with similar targets and operational conditions can be clustered in homogeneous units.

By performance is meant main end-to-end dimensions:

For customer facing delivery time/ service level, and supply chain flexibility downstream for internal facing cost of goods/services, capital utilization and supply chain flexibility upstream.

The clustering makes it possible to manage service levels and capacities in **fewer clearly identifiable blocks** of planning and delivery including individual major supply chains. The clustering makes it possible to manage shared capacities in a proper way based on a solid quantitative mapping of capacity in the right, but few uniform dimensions (i.e. liters, tons, machine hours, operator hours, pallet places, patient diagnosis or treatments, customer calls or square meters on a ferry deck)

The organization must identify the **rules of clustering**: Is it similarities in service levels, sales channels, customer contracts? - or capital expenditure, accessibility of critical materials or resources the standardization level of products and services?

Main generic **internal enablers** for clustering are among others: Lean standardized working/labor, physical equipment, demand variance, material groups, certificates and authorizations for human work.

The analysis to determine the clusters finds its way in several internal and external factors, but to be operational for the daily management, the clustering must end of day end up aggregated **in the classic few supply chain end–to-end design parameters**.

For-profit organizations like private companies the clustering should include commercial factors like growth, contribution margin, competitors service levels, and the business plans target for market position each main supply chain.

Further the selected capacity management dimensions must be **replicable in the frequent reporting systems** the organization is running. This to understand and act upon how the supply chain clusters are balanced in real numbers.

I.e. an organization with 40 product streams ends up in 3-5 segments, making 80% of revenues and some smaller, a smaller organization with 10 lines end in one big cluster with 5 lines and 60% of revenue and 3 small, each with one or 2 lines in a cluster.

A public of private service organization may have 100 service lines, where only 60 can go into standardized clusters, because all the others differ in many ways, and it is not making sense to cluster these. The complexity grows, but operations management can still benefit of simplicity for managing the already defined clusters.

Is segmented supply chain only for large companies?

NO! As soon as there is more than 2 products/services lines sharing capacity, the basic conflict of interest exists…

How to get started? RECOGNITION OF:

- We should not, and cannot, manage our supply chains with "one size fits all" philosophy.
- When we try to manage "one size fits all" we over-invest in some places and under-invest in others.
- We do have shared capacities, some we know, others we do not know, but we must find all important ones.
- When we start up a new supply chain, the supply chain design and eventual cluster inclusion is mandatory to define.
- Our business management relation to operations management is like **DOG & CAT**. They run around after each other, and single random cases fill up the agenda.

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Obstacles

- The Profit & Loss organization is not capable of managing shared capacities across business units/PL.
- A strong SC analysis, design an operational management organization will replace the PL divisions struggle to get capacity.
- The SC analysis must identify dependencies in the supply chain and in production.
- We do have lack of understanding of the shared capacities, and we lack data.

Who has the responsibility for the segmented SC?

Both business management and operations management are responsible to create the layer of designing and managing the defined segmented supply chains.

The process to define the designs, capacity. determination of bottlenecks and quantifications of capacity are a common process.

The perception of the operating performance is often not so easy to change.

The organization must therefore be willing to adopt change management programs to cope with the transformation into segmented supply chains.

The shared responsibility will help drive the analysis of both dependencies between products and customers portfolios. It is important to identify the strategically important products and customers, and their relationships/interdependencies.

scat3 is a consulting business, technology adviser and dealer of technology solutions, which improve supply chain performance and development.

For developing your business to stage of segmented supply chain we can deliver:

- Mobilising the need
- Collect mirror of actual performance
- Data analysis and AS IS mapping of existing performance, hard data
- Identification of capacity management critical dimensions, hard data
- Internal and external review of supply chain stakeholders perception of performance, soft data
- Design draft of supply chain and clusters
- Drive decision processes with client
- Alignment for segmented supply chain with business strategy requirements and PL leads
- Design and monitor implementation and lead projects

scat3 solutions are always developed based on a supply chain strategy and process understanding at the customer, and the solutions are developed through a dialogue.

The toolbox of digital products is used when the solution is in place and the technical solution consist typically of integration between existing internal systems, provided by an integration platform, eventually new applications, and the customers business partners systems, i.e., transport, ecommerce, 3rd party logistics, warehouse may be included in the solutions.