

A competitive Supply Chain Process with SCMSim™

Why improve the supply chain?

As web based commerce develops, many businesses find themselves having to manage a step change in their service performance in order to remain competitive. The speed of response of the supply chain is a key differentiator in many markets. Product companies looking to gain from service opportunities and service companies wanting better delivery and fulfilment are faced with the integration of product and service businesses.

Many companies are finding integration difficult, struggling with problems such as:

- poor customer service
- high operating costs
- long lead-times
- large replenishment quantities and batch sizes
- large variations in demand

Some of the companies have understood their order fulfilment processes and have managed to:

- reduce their manufacturing costs
- reduce their overhead costs
- increase the manufactured quality of their products

However, these companies have improved individual elements of the supply chain and will only grow revenue and profitability if they view the supply chain as a single entity.

Customer satisfaction can only be achieved if the complete supply chain is operated on a pull basis where products are made as close as possible to the time when they are sold.

Figure 1 indicates a vision for a *World Class* supply chain.

The basis of a *World Class* supply chain is that production is synchronised with consumer demand. In other words, supply and demand are in balance.

“The Change Works® simulation engages teams, rapidly in a real life taste of the business of running value-adding supply chains.” – Alan Percival, Company

Logistics Manager, Unilever HPC-E

In an asynchronous supply chain, inventory levels are higher to accommodate mismatches in lead-times, batch sizes, and individual variations in demand. Each node in the supply chain focuses on its own output rather than that of the whole supply chain.

In a synchronous supply chain, orders are placed with knowledge of the production plan. The orders are based on agreed replenishment methods. The manufacturers produce the mix of goods that matches consumer demand. The result is lower inventory levels and higher levels of customer service.

Getting the supply chain to a point where it is responsive enough to cope with replenishment is dependant on key capabilities. These are shown in **Figure 2**.

Reliability is the ability of the producers to create good products at the right time and rate without waste. Improving reliability usually means improving the equipment and the procedures used to operate it.

Run Strategy is the technique of scheduling which enables replenishment and the synchronisation of the supply chain.

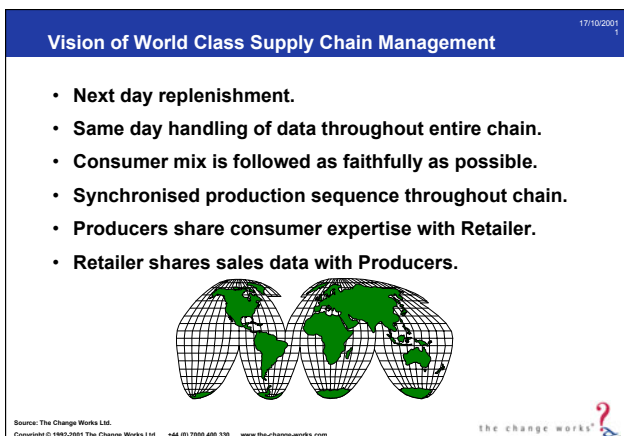


Figure 1



Flexibility is the ability to change from making one product to making another.

Demand Management is the ability to understand and influence the amount of product demanded by consumers or ordered by retail customers.

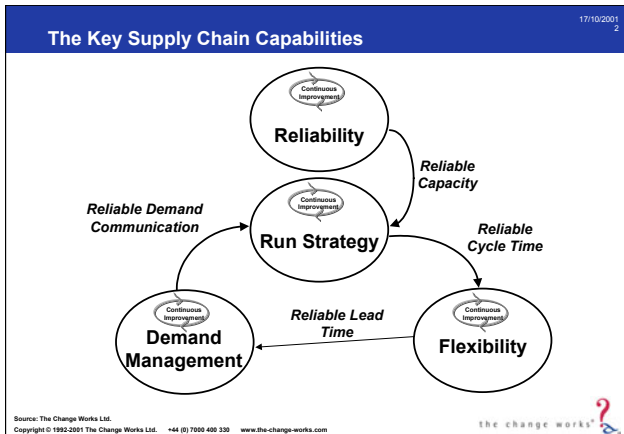


Figure 2

Why SCMSim™

SCMSim™ uses action learning to explore the issues facing companies who need to improve their supply chain performance. It educates participants in the theory as well as giving them an opportunity to try out their improvements in a safe environment before applying them within their own operations.

Just a few specialists within the company often understand the supply chain. SCMSim™ has been designed by experienced practitioners to demystify the subject and dispel some of these myths. It allows participants to take a typical supply chain to *World Class* performance in a safe workshop environment.

How SCMSim™ works

SCMSim™ is a role playing game in which up to 2 teams of 4 to 6 people simulate the execution of a supply chain improvement programme. The simulation is typically played in 2 to 4 cycles with a facilitated debrief after each cycle. Cycles 2 to 4 can be chosen to match business or participant needs.

Participants will recognise that it is possible to improve radically the performance of their supply chain. The simulation cycles are designed to cover different topics, such as:

- **The Traditional Supply Chain**

Participants are exposed to the systemic issues in a classic supply chain. During the debrief, participants are introduced to the concept of systems dynamics and understand the fundamental problems to be solved for the supply chain (i.e. replenishment, lead-times, demand characterisation and communication).

- **Managing Volatile Demand**

Participants experience the greatly enhanced performance of a Run Strategy controlled supply chain and collaborate to plan and execute successful responses to significant deviations in demand such as promotions.

During the debrief, participants understand the principles of implementing a synchronised supply chain and the importance of better relationships between members of the supply chain. The participants are then encouraged to develop the understanding that enables them to transfer their learning from the simulated experience to the supply chain management process in their own businesses.

- **Seasonal Changes**

The participants work as a team to plan and execute changes to the replenishment of base demand during season changes. Participants also learn how to balance the classic supply chain trade-off's between capacity, inventory, lead time and service performance.

During the debrief, participants learn how to characterise demand in situations where traditional forecasting methods fail, and evaluate changes to their own supply chain processes.



Figure 3: The simulation in action

- **Introducing New Products**

Participants collaborate as a team to plan and execute the successful introduction of a new product through the supply chain, while maximising service levels on the new product and minimising obsolescence of old product stock.

During the debrief, the participants get to understand the importance of synchronising the whole supply chain when getting new products to market quickly, and learn the importance of promotions in the new product introduction process.



What it feels like to be a participant

The participative roles in SCMSim™ represent the classic companies of a fast moving consumer product supply chain:

| | |
|---|--------------------|
| Retail Customers | 2 Participants |
| National Sales Organisation (Warehouse/ Distribution Centre) | 1 - 2 Participants |
| Supply Centre (Producer) | 1 - 2 Participants |

During each cycle the supply chain team must satisfy consumer demand for 2 products. Chain members must manage their product inventory and/ or production capability and place orders on upstream providers. The supply chain must cope with variability in demand, local promotions and spikes.

During debrief, each team collaborates to plan and make changes during the cycle. The teams' collaboration can be observed by one of the participants. Observers follow a brief that guides them to study behaviour against rational and interpersonal skill frameworks. In this way, constructive feedback and the development of relationships can be encouraged. The building of relationships during the simulation acts as a team development exercise as well as showing why and how to mobilise successful supply chain relationships.

Simulation Contents

SCMSim™ comes in a strong case and contains everything required to run the simulation, including:



Figure 4: SCMSim™ Contents

- Role Briefs for each participant.
- Play boards and all the necessary physical components.
- Consumables technology for quality reproduction.
- Quickstart technology to allow fast start-up.

We supply the simulation with a comprehensive handbook to help workshop leaders and contains chapters that cover the subject overview, how the simulation works, managing the simulation process, learning points, case studies and business examples, Quickstart storyboard, and event checklists.

SCMSim™ Learning points

Lessons drawn out during SCMSim™ include:

Characterise Demand

In entirely reactive supply chains it is easy to believe that it is impossible to characterise the demand and impossible to predict the future demand. To reduce inventories, SCMSim™ demonstrates the importance of characterising demand and shows the differences between demand characterisation and demand forecasting.

Characterise Output Reliability

For supply chain management it is essential to establish a production facility whose absolute capacity matches the required demand. SCMSim™ shows participants what production variability is and how it can be managed.

Understand Inventory Lead Times

SCMSim™ teaches participants how to establish fulfilment order lead-times, physical order and material propagation times. These are essential ingredients to establishing a run strategy.

Define Run Strategy

A run strategy establishes a fixed sequence for scheduling supply activity and is visible to the whole chain so that:

- Materials and capacity can be planned efficiently.
- Inventory replenishment can take place.
- Suppliers & customers can easily synchronise their production & logistics.

During SCMSim™ participants learn how to calculate and design a run strategy. They then experiment with its implementation.

Define Target Inventory Levels

The power of replenishment to target amounts is that the performance of the supply chain can be predicted and controlled. SCMSim™ lets participants experience the seemingly uncontrollable being controlled. They also learn how to establish their own target inventory levels.



Synchronise Production Schedules

One of the most dramatic improvements in supply chain performance occurs when suppliers synchronise production with their customers. This can only occur after the Supply Centre establishes and shares its run strategy. SCMSim™ explores the merits of sharing such information.

Communicate Demand Instantaneously

SCMSim™ shows that with direct access to point of sale data the participants of the supply chain can make the supply chain work more effectively than a traditional physical serial ordering supply chain.

Introduce Demand-Based Scheduling

It is no longer acceptable for producers to independently schedule long production runs to minimise downtime. The supply chain must quantify and understand the trade-off's between following the consumer mix faithfully, production efficiency and inventory levels. SCMSim™ is designed to introduce participants to demand based scheduling and in particular draw out the issues associated with its introduction.

Balance Financial Measures with Process Measures

SCMSim™ shows that if you enhance the supply chain processes, costs will take care of themselves. Supply chain performance measures, such as cycle times, inventory target levels, flexibility, and quality should be used for performance evaluation and reward. These measures will deliver lasting results and improve internal capabilities for further improvement.

The Benefits of SCMSim™

SCMSim™ shows that:

- Operating the supply chain as a single entity and managing the complete supply chain process gives higher consumer satisfaction, less inventory and more flexibility.
- Examining how to manage the complete supply chain identifies alternative methods for controlling the process:
 - run strategies
 - replenishment to target amounts
 - flexible capacity management
 - spike response planning
 - instantaneous demand propagation
- Implementing any kind of change to traditional techniques needs:
 - a good process for unfreezing the ideas people have
 - a common language to change to
 - a clear new direction in which to go

Who Uses SCMSim™ ?

The Change Works simulations are designed to be used by those implementing changes inside a business or external companies engaged to provide expertise and implementation skills. These could be Trainers, Managers or Consultants.

Accreditation training is provided by The Change Works to assure the quality of the simulation play and to ensure the workshop leaders are capable of facilitating a first class event that achieves its objectives.

SCMSim™ Vital Statistics

- SCMSim™ is designed to illustrate supply chain issues, unfreeze mindsets, educate, develop teams, and illustrate improvement opportunities.
- Four supply chain topics are demonstrated and debriefed;

| | |
|------------------------------|--------------------------|
| The Traditional Supply Chain | Seasonal Changes |
| Managing Volatile Demand | Introducing New Products |

- The simulation is provided with 2 sets of materials for simulating up to 2 supply chains.
- Each supply chain has 3 roles; Supply Centre, National Sales Organisation and Retailer.
- Each set can accommodate 4 to 6 participants. Each simulation can therefore entertain up to 12 participants. Multiples of simulations can be played simultaneously.
- Quickstart presentations are provided for a 4 and 8 hour play. Workshop Leaders may adapt these lengths to suit needs.
- Workshop Leaders are trained and accredited to deploy the simulation.
- Language packs available.

Contact The Change Works

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TCW Simulations

- KANSim® Visible production control
- LAYSim® Cellular Manufacturing
- NPISim® New Product Introduction
- OFFSim® Office & Service Processes
- PDM Pack Product Data Management
- PRODSim® Just in Time Manufacturing
- SCMSim™ Supply Chain Management
- SETSim® Machine Change-over Reduction