Inventory – a necessary evil?

* Balance between availability and cost
* Resources and supplier relationships needed for JIT may not be there
* SLOB
* Potential for increased customer service if inventory held of key components or at finished goods level
* Acid etch ratio – inventory can be used to inflate the assets of a company

Group 1 – Deere and Company

Answer the following questions – Time 30 minutes (max)

1. What were the overall challenges affecting the company?

Diverse product range, driving a large range of components in their inventory. No forecast, equipment is built to order, with demand being seasonal. Weekly replenishment to dealers, using a poorly designed, centralised supply chain network, which didn’t cater to the geographic range of their customers.

1. How did these challenges directly affect inventory?

* Heavily inflated inventory, no possibility to switch raw material stock into finished goods stock, seasonal patterns with peaks between March and July prove challenging for storage and the expanding and contracting of warehouses; the costs associated with trying to store and manage inventory for the busy period, while quiet periods leave warehouses empty. Poor logistics and supply chain network contribute to the inventory problem as delays can create bottlenecks and further fill any remaining capacity in Deer’s stores.

1. What did the organisation do about it?

* 10% supply chain cost reduction, through a redesign of the supply chain network, re-allocating storage space in strategically placed warehouses to lower transport times, increase customer service and optimise stock allocation.
* The use of third part logistics providers to improve flexibility in fulfilling changing demand patterns, turning fixed costs into variable costs.
* consolidating shipments and using break-bulk terminals during the seasonal peak.

1. What was the result?

* Deere & Company’s supply chain cost-management achievements included an inventory decrease of $1 billion, a significant reduction in customer delivery lead times (from ten days to five or less) and annual transportation cost savings of around 5%.

1. Was there any other methods the company could have applied?

* Negotiate consignment stock with suppliers
* Late customization / standardisation up to a certain point (sub assembly level, such as chassis and engine)

Group 2 – Intel  
  
Answer the following questions – Time 30 minutes (max)  
1.What were the overall challenges affecting the company? Their margin was being affected and the only way to save money across their organisation was to cut their inventory  
2.How did these challenges directly affect inventory? Inventory were the ultimate sacrifice, it had to work as they needed to make a saving.  
3.What did the organisation do about it? Worked on a more make to order approach, dramatically reduced their lead time and slimmed down their supply chain.  
4.What was the result? Massive reduction in Inventory and reduction in lead time to fulfill orders. The saving in cost and time throughout the supply chain was massive and beneficial.  
5.Was there any other methods the company could have applied? Asking the suppliers to hold and store higher levels of inventory for call off. Needs a very close relationship across the remaining supply chain. Huge trust and commitement.

Group 3 – ARGO

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| --- | --- | --- | --- |
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|  |  | **1.** |
|  | a) | multiple acquisitions in short period of time |
|  | b) | didn’t have infrastructure to deal with growth, so continued to operate as separate entities under the ARGO umbrella rather than 1 strategic company. |
|  | c) | Seasonal, will experience peaks and troughs in supply and demand and potentially impact cashflow. |
|  |  |  |
|  |  |  |
|  |  | **2.** |
|  | a) | all over the world, decentralised and fragmented, higher costs. |
|  | b) | not getting economies of scale. |
|  | c) | impacted by seasonal demand. |
|  |  |  |
|  |  |  |
|  |  | **3.** |
|  | a) | standardisation approach - rolled out what was working in the Americas across the European division. |
|  | b) | specialist logistics vendor to help manage their logistics requirements. |
|  | b) | SCOR - plan, source, make, deliver = return. |
|  |  |  |
|  |  |  |
|  |  | **4.** |
|  | a) | huge reduction in costs |
|  | b) | able to expand the model to other regions such as China. |
|  | c) | cut inventory by 25~~%~~ |
|  | d) | increased customer satisfaction. |
|  |  |  |
|  |  |  |
|  |  | **5.** |
|  | a) | could have brough logistics specialist in-house |
|  | b) | could have completely outsourced the logistics |
|  | c) | could have used multiple supplier relationships rather than just 1. - it just takes 1 thing to go wrong and it damages the performance. |
|  | d) | could have divested problem areas of the companies, regions, subsidiaries. |
|  | e) | make or buy solution. |

**Group 4 – Terex**

**(Texas based manufacturer of aerial working platforms such as scissor lifts or similar)**

Answer the following questions – Time 30 minutes (max)

1. What were the overall challenges affecting the company?
2. How did these challenges directly affect inventory?
3. What did the organisation do about it?
4. What was the result?
5. Was there any other methods the company could have applied?

1.

* High cost using a manual system for locating customers’ units in their yard. System was inexpensive, process was inefficient and expensive
  + Due to high labour costs and consumption of personnel time
  + Potential for human error

2.

* Potential for human error having a manual system of this time
* Single point of failure / reliance on personnel (e.g. what happens if they move on)
* Took around 6-minutes to locate an item in inventory
* Every month the challenge of hours spent taking physical inventory and updating ERP system

3.

* Replaced the outdated manual system with a new, digital RFID based system
* Researched most suitable system, surveyed the transfer centre & carried out a pilot on a small portion of the yard
  + Tested effectiveness of the system on a small-scale (minimises risk of business interruption)
  + Proven the functionality / concept is suitable for their business before rolling out across the full yard
  + Company put the implantation through approval process for full-scale implementation

4.

* Daily inventory count can be done automatically using the business intelligence module (substantial saving on labour costs by not carrying out manual counts)
* RFID based unit ID and location have saved the company around 70 weeks per year in labour costs
* Cutting down the time to locate from 6-mins to 30-seconds per unit
* Opened the potential to extend the system into the ERP platform at a later date

5.

* Part-automation could have been adopted
* Potentially seek to outsource their storage
* Vendor Managed Inventory?
* Segregate their facility by (for example) vendor or another segregation to better structure their storage and time to locate
* JIT II: Is there any way for this concept to be applied in this case?

Group 5

Avaya Business collaboration and communication technology

1. **What were the overall challenges affecting the company?**

Worst in class procurement

Multiple acquisitions, ended up with lots of different IT solutions, leading to

imbalance in supplier terms and conditions, excess inventory, inefficient supply chain processes

1. **How did these challenges directly affect inventory?**

Cash to cash cycle, imbalance in supplier terms and conditions, excess inventory, inefficient supply chain processes, unstable supply chain, lots of separate and redundant processes

* Several parts of company order independently, hard to keep track of and missing out on economy of scales

1. **What did the organisation do about it?**

Needed one overarching streamlined IT solution rather than lots of different ones,

this was ahead of it’s time back then

Migrate all process to one platform

Proactive supply chain management, namely: more analysis, better communications, better planning

* Point of sale analysis
* Procurement analysis
* Supplier communication
* Supply and demand planning
* Inventory planning
* Inbound and outbound logistics planning

More planning overall

Also standardisation, culture change, invest in talent and set KPI’s

This took 3-4 years

1. **What was the result?**

Over 3-4 years

improved inventory turn around by more than 200%, reduced cash tied-up in stock by 94%, and cut its overall supply chain expenditure in half.

Changed mindset, from being preoccupied with what to improve to a more strategic and analytic approach

General culture change, sustainable change

1. **Was there any other methods the company could have applied?**

ABC stock analysis, what is key stock for company

Further measure performance of individual parts of company,

Allocating direct and indirect costs of stock holding to individual costs of the company

Considered total cost of ownership for new system, as this was very new did they consider how this would develop and whether this would become obsolete at some point