Dear students

Thank you for the effort and congratulations in completing your first assignment for this semester.

There are still students that do not follow instructions, all assignments should be **TYPED**, some students handed in assignments that are handwritten and are really not legible, and this makes the marking very difficult. I am aware that some of you might have experience difficulties or challenges; please try be all means to submit typed assignments. There are also students whom did not include the table of contents; introduction; title on the cover page; page numbers; conclusion and references. These students have lost marks allocated to these aspects. A comprehensive assignment report should cover all these sections.

**Remarks on Assignment 1:** The biggest problem is that students are not referencing (in text referencing) their work. Please purchase the APA referencing guide from the Library, this document can be used as a guide as you are referencing your assignments. Please note that if you are given a case study assignment, you should it carefully and analyse phrases that give you a hint on the problem experienced and the opportunity that an organization can explore to improve its current situation. You need to use the theory you have learnt in the module and apply it to the case study. You should also give practical examples relating to the case study. It does not help to give examples relating to the products or companies not discussed in the case study, while having the opportunity to use the scenario already presented to you in the case study.

Please also be guided by the marks allocated per question when answering questions.

Best regards,

Ms Ester Kalipi

SCM711S Marker Tutor
ASSIGNMENT 1: Case Study

Logic Building Supplies (LBS, Inc), a Gauteng-based company, specialises in the supply of ten exclusive items required in the building industry to estate developers and construction companies across the country. The weekly demand, unit price and current stock of the items are given in table below. Due to the high cost of certain items, the fast turnover of others and the fear of unavailability to the industry, LBS management spend much time and effort on inventory decisions, while also experiencing substantial inventory carrying costs. Even with all the time and effort, they don’t seem to get it right.

<table>
<thead>
<tr>
<th>Item</th>
<th>Weekly Demand</th>
<th>Unit Price (R)</th>
<th>Current Stock</th>
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</thead>
<tbody>
<tr>
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<td>10.</td>
<td>2200</td>
<td>500</td>
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</tbody>
</table>

**Table 1.1. Logic Building Supplies’ stock, price & demand (Source: Pienaar & Vogt, 2009)**

**Question 1**

According to the case, “LBS is experiencing high inventory carrying costs”. Explain what this means, suggest the possible causes of this and appraise them making use of an appropriate logistics theory.

25 Marks

**Tips on answering question 1:** On this question students are required to answer three sub-questions, namely explain what high inventory carrying costs mean, by giving the definition of high carrying costs and the types of carrying costs. The second sub-question students should answer is the possible causes of high carrying costs. The sub-question that students should answer is suggesting the appropriate logistics theory appraising the high carrying costs.

**Explain what high inventory carrying costs mean?**
The high carrying costs means that the company is keeping too many stock items that is resulting into high stock level at the time. Therefore the inventory carrying or maintenance cost is very high. These costs are:

- Capital costs on inventory investment: money used to purchase goods that are kept in inventory could have been for other types of investment. Capital is tied up in the stock, regardless of whether the money is borrowed or not.
- Insurance: inventory should be insured against theft and fire. Insurance risks is based on estimated risk or exposure over time, which depends on the nature of the product and the place of the warehouse.
- Storage costs: use of warehouse space for storing products in inventory. These costs are not related to the value of the product but rather to the size of individual products, which determines the storage space required.
- Inventory risk costs
  - Obsolescence: deterioration of products and it is not covered by insurance. This is the difference between original cost of the products and the salvage value.
  - Damage: damage incurred in the warehouse while inventory is stored. This could be the excess fee. These costs are not related to the value of the product but rather to the size of individual products, which determines the storage space required.
  - Shrinkage: loses that that are not easily identifiable and traced to a specific instance of theft. It cannot be claimed from insurance.

Causes of High Carrying Costs

High carrying cost can be caused by poor planning or poor demand forecast: this happen when an organization set an optimum inventory level that is very high to maintain considering the uncertainty in demand and supply.

Lack of collaboration within the supply chain: leading to lack of sound relationships and joint planning among the supply chain participants, with the aim of rapidly replenishing inventory which results into an organization keeping high stock as there is no visibility and it cannot risk losing customers due to stock-outs situations.

Logistics theory appraising the high carrying costs

High carrying costs leads to Bullwhip effects

Over supply is caused by lack of proper coordination within the supply chain of LBS. There is no information flow process through the entire supply chain. Each department focused on its objectives, and the procurement/production department had no clue of the actual demand, as the estate developers and construction companies are placing irregular orders, resulting in the slow increase in demand has result in exaggerated fluctuations on upstream, which is called a Bullwhip effect.

The possible causes of the Bullwhip effect are:

Demand information: relying on the past demand information to estimate current demand does not take into account the actual demand fluctuation. LBS is operating on a long term forecast, which is only
updated by the central planner based on weight of irregular orders from the marketing department without viewing a clear picture on the actual monthly demand.

Lack of communication between each link in the supply chain makes it difficult for process to run smoothly. Estate developers and construction companies perceived demand quite differently within the supply chain link and therefore ordered different quantities. Every supply chain partner had a different view of the demand.

Panic Orders: estate developers and construction companies may intentionally overstate demand due to shortages of supply or incomplete back orders by LBS. Panic order is also a sign of disorganization within the supply chain as their customers are over reacting beforehand. The bullwhip effect has the following side effects:

- The bullwhip effect has triggered oversupply resulting in excessive inventory management which entails high carrying costs, i.e. carrying deteriorated or obsolete stock, cost of insuring the stock and capital tied up in the inventory that could be used on other LBS activities for generating income.

NB: A good sketch of Bullwhip effects may help to sum up the explanation of this question.

**Question 2**

**What suggestions can you put forward to LBS to assist in its inventory control?**

Tips on answering question 2: students are required to work out the ABC classification of LBS and advise the company accordingly.

<table>
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<tr>
<th>Item</th>
<th>Demand</th>
<th>Cost</th>
<th>Current stock</th>
<th>Turnover</th>
<th>Rearranged Turnover</th>
<th>Turnover %</th>
<th>Cumulative turnover %</th>
<th>Rank</th>
<th>Rank %</th>
<th>Class</th>
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*Table 1.2 ABC classification of LBS*
One of the inventory control mechanisms that LBS can implement to reduce inventory costs and optimise the lowest possible total operating costs is the ABC Classification Analysis. The ABC classification of LBS in Table 1.2 must be interpreted as follows:

**Classification of product lines based on annual turnover:**

- **A class = 10% of lines contributing to 65% of turnover**

Hence the line item number 1 represents 10% in the warehouse and contributing to 65% of the inventory turnover, which is class A. This line item requires tight control, personal supervision, and communication and balance safety stock. LBS can frequently monitor this line item on daily basis, keep accurate records and service level policy should be high to avoid running out of stock, however the company should implement sophisticated forecasting methods to be accurate.

- **B class = 20% of lines contributing to 25% of turnover**

There are two line items that fall under class B, rank number 2 and 3 form 20% (i.e. 30-10 = 20%), contributing to 25% (i.e. 17 + 8 = 25%) of the inventory turnover. These are important items to have as they are contributing a significant turnover. LBS needs to have a lean stock policy which is typically controlling these items, they should be managed by exception and they require less frequently monitoring, calculated safety stock, limited order value and computerized methods.

- **C class = 70% of lines contributing to 10 percent of turnover**

Seven of the remaining line items contribute a low turnover value, i.e. 70% (100-30 = 70%) contributing to 10% (3.5+2+1.6+1.1+0.9+0.6+0.3 = 10) inventory turnover. These line items require minimum supervision; supply to order where possible (keep stock centrally); zero or high safety stock policy. LBS must try to avoid stock shortages or excess, infrequent ordering and a simple but automatic system can help to control the stock.

The students are also required to draw the ABC classification graph apart from the discussion above to illustrate the items that contribute to most turnover, those that contribute significant turnover and the items that less significant or low turnover value.
Apart from the ABC Classification analysis, LBS can also apply the following inventory control measures to reduce their operating costs.

**Collaborative Planning, Forecasting and Replenishment:** this process is initiated by the fast-moving consumer goods (FMCG) industries to achieve such coordination.

- CPFR coordinates the requirements planning process between the supply chain partners for demand creation and demand fulfilments activities.
- CPRF shares information involving promotions, forecasts, item data and order using a system or internet.
- Information developed collaboratively is used by planners to generate demand, determine replenishment requirements and match production to demands.

**Joint Business Planning:** customers and suppliers share, discuss, coordinate & rationalize individual strategies to form a joint plan

- Joint calendar is created to share information determining the product flow.
- A common sales forecast is created and shared between retailer & supplier based on knowledge of each supply chain partner’s plan.
- Forecast and requirements plan is exchange and refined by partners until consensus is reached.

**Quick Response:** the sharing of retail sales information among supply chain participants.

- Continuous sharing of information as regards the availability and delivery reduces uncertainty in demand and supply across the total supply chain.
- It reduces the need for safety stock
- It increases the flexibility of the supply chain
- QR enable the company to react faster to market changes and run operations in cost-effective manner to satisfy the end consumers’ needs.

**Vendor inventory management (VMI):** similar to QR however it eliminates the need for the downstream customer to place a replenishment order.

- Suppliers manages the customer’s stock and plans replenishment orders based on inventory balances and demand information.
- Suppliers commits to maintaining appropriate inventory levels on the customer’s premises.

**Profile replenishment:** an extension of QR and VMI, whereby the supplier anticipates future demand based on overall knowledge of the market for a specific product category.

- Categories provide details about the size, colours and products likely to sell in a retail store
- Suppliers can simplify retailer involvement by eliminating the need for the retailer to keep records of sales and inventory levels.
References


*End of feedback letter*