

Supply Chain Management and Logistics Individual Coursework (50% weightage) Subject Code: MANM250

Company Chosen: **TESCO PLC**

Student Name: Vishwanath Mankala

URN: 6721246

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1. Introduction

Tesco PLC is the ninth biggest retail industry in the world and the first biggest and highest revenue generated industry in the UK with more than 345,000 colleagues in more than 10 countries. Started in the year 1929 by Jack Cohen. Over a period, the supply chain model has evolved with potential implications according to market trends and customer behaviour.

In its supply chain, Tesco employs lean management methods and JIT (Just-in-Time) concepts (Mason, 2019). Consignment orders are placed according to customer demand, which minimizes inventory levels in distribution centers (DC) by enhancing order agility. Logistics were viewed as a flow, and products were shipped as ready-to-sell goods. Tesco employs CPFR (Collaborative Plan, Forecasting, and Replenishment) used in inventory management to assess the trends in consumer needs and then communicates that data via IT systems.

The flow of information is critical in the retail industry, and Tesco has a good infrastructure in this area. Electronic Point of Sale (EPOS) systems is used to track individual product sales. Using SKU, the product scanner keeps track of how many products are sold, returned, and how many remain in stock (Stock-Keeping Unit) (Alan Harrison, 2019). TIE (Tesco Information Exchange) technology is used to track and update cumulative sales in real-time. This closer collaboration has resulted in several advantages for both Tesco and its suppliers, including shorter lead times, higher levels of customer service, and lower costs (Zhenyu LIU, 2013).

Tesco PLC has had several supply chain disruptions despite having effective supply chain resilience. The disturbance that the organization experienced and how they dealt with it are described in this research.

2. Supply Chain Disruptions in Tesco PLC

2.1. Horsemeat in beefburgers

2.1.1. Consequence faced

In 2013, beef products like burgers in Tesco PLC had horsemeat in some of its stores. Nearly \$300m was erased from the value of Tesco (Muhammad Shujaat Mubarik, 2021). It was a huge setback to Tesco and this disruption is called 'Horse gate' and launched a PR offensive to retaliate headlines that beef burgers had 29% horsemeat. The supply chain was infiltrated with horse meat as beef. In Ireland, this was first found out due to testing of frozen food by FSAI (Food Standards Agency Ireland). All the products were recalled. All the

suppliers and sub-suppliers from Europe, North America, and South America were investigated and held responsible. Due to bad publicity since it arose as a public issue, it helped Tesco push from 3.6p lower to 346p, a 1% fall in the FTSE 100 which is down just 0.5%. Analyst (Fletcher, 2013).

2.1.2. What did Tesco do about this?

To retain customer trust, the organization apologized to the public being the unwilling victims in this scenario. Red lion Dutch horsemeat is a sub-supplier to Selton Factory which is a supplier to ABP, the main supplier of products to Tesco. The chain was investigated, and measures were taken by law (Lawrence, 2013). But Tesco continued to purchase from ABP due to balance the supply chain meanwhile planning for new suppliers to change the chain. From 2018, 100% of beef products sold in Tesco are supplied inside the UK or the Republic of Ireland. No Cattle products are outsourced from the high-risk region. Tesco made sure to render the beef sourcing policy to all the 10,000 or more suppliers inside UK and ROI (Website, 2022). Through Tesco Quality Connect, all the sourcing quality and requirements information will be available maintaining transparency.

2.2 Backhauling of food waste

2.2.1. What was the Issue?

"Food enterprises that create above 5 kg of food waste per week must deliver food trash separately for collection," according to the waste regulations (Scotland) 2014 On January 1st, 2016, it went into force, and Tesco PLC was faced with the challenge of managing food waste for Tesco Metro and express (dssmith, 2019). Contrary to large businesses, food delivery trucks were never fully loaded. The vans travelled on "round-robin" routes, making multiple stops to drop off goods at multiple outlets throughout the city (dssmith, 2019). Tesco collected waste using four-sided and slim-sided cages, which resulted in the backhauling of food waste.

2.2.2. How did Tesco PLC cope with this issue?

Tesco PLC collaborated with DS Smith to resolve this issue before January 1st. To improve the current backhauling model, food waste must be removed efficiently and without contaminating the environment. Whitham Mills was brought to design and manufacture a specialized hydraulic tipping and conveying system for this project. To avoid contamination from leakage, food waste was placed in brown bags and dumped directly into the cages. The material is then directly rolled into the hydraulic tipping and transported to the anaerobic digestion plant for energy recovery using the conveying system (Mills, 2019). Immediately this

was implemented in England and Wales store outlets. For the 150+ outlets in Ireland, Vision Green supports Tesco by designing and implementing a process to transport food waste via their fleet every week using diesel trucks to an indigenous anaerobic digestion (AD) plant in Kildare and reduce transport emissions via backhauling from the year 2022. From the food, waste biogas is generated which is used to heat 6 Tesco stores annually (Green, 2022). Additionally, all the food waste packaging was fully recovered including plastic which is used to make eco-friendly recycle bins and barriers.

2.3. HGV Drivers Shortage (Road Haulage)

2.3.1. Challenge faced

After the COVID-19 crisis accompanied by BREXIT, Tesco faced a huge driver shortage for heavy freight articulated trucks. The national shortage raised to 100,000. The RHA (Road Haulage Association) had high demands and due to BREXIT, the effectiveness was higher (Sillars, 2021). The HGV sector in the UK suffered more in the scenario of delivery from flight to courier which is an attractive opportunity for drivers to earn more. According to TEG (Transport Exchange Group), the average hauling price increase is up to 30% per mile in the year December 2021 (McElhatton, 2022). Due to the immense shortage, Tesco was forced to bin 50 tonnes of fresh food. The crisis is still severe and around the time of December 2021, 65,000 HGV drivers were required in the UK to run the businesses smoothly (Grant, 2021).

2.3.2. How is Tesco finding its way?

The disruption is not completely ended yet, but Tesco PLC is striving hard for alternatives. Due to this consequence, Tesco had to impose a 14% increase in the primary distribution for the suppliers to compensate for the losses incurred continuously due to the haulage issue (Smith, 2021). Regularly, Tesco imports 40ft 65,000 containers of goods from Europe but by the end of November or December 2021, Tesco had planned to import 90,000 containers of goods from Europe to fill the empty shelves which elude from the HGV problems encountered up to a better extent (Butler, 2021). HGV drivers were handled tactically by Tesco offering £1000 as a joining bonus (Race, 2021). Tesco has introduced UK's first commercial electric articulated HGV which is a 37-tonne DAF electric vehicle. They have 2 lorries which are electric replacements for 65,000 diesel-fuelled road miles with green emissions, removing 84.4 tonnes of CO2e per year (Pigott, 2022). This move will reduce emissions and the maintenance of an electric vehicle is lesser than Diesel, leading to cost savings that compensate for the Haulage issue currently.

3. Recommendations

We have discussed a few supply chain disruptions and the organization has proved how strong the supply chain is. Now, in this section the recommendations for supply chain disruptions are discussed for improvement.

3.1. *International Sourcing and Local Sourcing*

Tesco does have suppliers and sub-suppliers and goes on, which is indirectly making Tesco rely completely upon the suppliers which will make it vulnerable to any unprecedented issues in the upcoming years moreover all the suppliers are not within the UK, and many are international. Instead, if Tesco is stepping ahead and putting some additional efforts by working with individual suppliers and having more transparency of the sub-suppliers through direct communication can avoid incapabilities during forecasted demand and bullwhip effect up to a certain extent. Moreover, the 'horse gate' issue made Tesco realize the risk of international sourcing of beef. The measures were taken care of after 5 years of that case, by sourcing within the UK and ROI (Republic of Ireland). Instead, additional suppliers and home suppliers have always been required in case of any sudden breakdown. Splitting the volume of procurement from the suppliers and pre-check the infrastructure facility to make sure in case of an emergency the additional supplier can hold up to a certain level of volume to run the regular business.

3.2. Bullwhip effect

The bullwhip effect which is a sudden distortion can be tackled in certain ways that Tesco would not have given an attempt. Tesco uses ASO (Automated Store Ordering) systems to replenish processes. ASO and improvements to the replenishment process have resulted from the advent of Electronic Point of Sale (EPOS) technology and increased automation efficiency. The bullwhip effect produced by ASO systems is one element that has gained minimal attention. To reduce this a task must be taken up by the organization. A simulation model based on people-based information, system-based information, and ASO-based information could be built keeping a unit of one for the SKU (Stock Keeping Unit). Here, people-based information is from the employees inside Tesco outlets. System-based information is based upon the analysis of generic inventory control systems and Order Based Production Control Systems (IOBPCS). ASO-based information is the forecasted demand for SKU and this information is collected into a database. Based on all the information, a dynamic simulation model can fetch results that could lead to a new order methodology. A constant can be introduced to alter the existing Stock ordering process. This method can be used to reduce Bull-whip effect, but this

is effective only when research is performed regularly because market trends changes, and information also changes accordingly and is implicated to the industry.

3.3. Sustainability

To sustain in the industry for the long run is not easy and Tesco has proved that. But there will always be scope for improvement. The introduction of electric HGVs is the best move but the pace of count of trucks to be brought into transport must be increased rapidly to reduce carbon-emission.

Tesco uses a lot of plastic, as can be seen right now. Plastic is one of the factors that contribute to fracking. It degrades soil, water, air, and many other things. This challenge could be greatly reduced by the establishment of a dedicated research center or by connection with other research organizations.

The organization must strive for a motive 'Need to supply more and reduce waste' as it is a big retail outlet, and wastage is abundant. The SKU (Stock Keeping Unit) for fresh food has to be compromised to an extent to control the number of varieties of fresh procured.

Organic food promotion is not up to the mark compared to competitors like Sainsbury's. Better packaging and attractive pricing will steal consumers' attention, leading to the higher sale of organic food making the organization most sustainable on an international platform.

3.4. International Expansion

The expansion of the industry must not be conformed to the UK only, though there are outlets operating in different countries Tesco has faced a failure in the USA. This supply chain disruption was not mentioned in detail because the organization closed its existence in the USA by merging with another industry. The point that needs to be focused on in the future when expanded is consumer behaviour is diverse according to region. The similarity of outlets has to be maintained for the brand, but products have to be according to consumer choice.

3.5. The advent of the Digital World

Application of technologies like Big Data, data analytics, and AI is already in the retail industry. But even with technology, there are delays in freight not with at least sudden information. Regular tracking of freight condition information and location based on the traffic and infrastructure using digital technology plays a vital significance in agile management.

4. Conclusion

In a nutshell, Tesco has grown by learning from its disruptions. But there will be always a need and urge for improvement to stand out and sustain. Based on the recommendations if further research and significance gave particularly on these aspects, there can be improvements and better progress in the organization.

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