

Tesco logistic operations analysis



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The logistic operations

Executive Summary

The objective of this report is to critically analyse the logistic operations in the newly opened food outlets of TESCO, UK's largest multiple retailer in Central Europe, Thailand and the more recent “ Fresh and Easy store” in United States of America as against the well established logistic operations in the UK.

For the purpose of coming up with a critical analysis, we have first studied the operations of TESCO in United Kingdom starting with the initial supply chain operations and then a gradual evolution of an effective and efficient supply chain. Next we evaluated the operation strategies adopted to maintain and manage the international operations and the challenges faced by Tesco to maintain a consistent global brand image.

It was found that in order to maintain a consistent service delivery system across the globe; Tesco has been making necessary changes in the service operations like international warehouse management, continuous replenishment policy, and international logistics. The changes made have been in accordance to the legal and cultural sensitivity of the overseas country.

The maintenance of international logistics has been critical for Tesco and with the geographical expansion it is imperative for Tesco to adapt to intermodal intercontinental mode of transportation. It is suggested that Tesco develop expertise in sea freight transport by developing dock outs near to sea shore in overseas countries and then transporting goods from

docks to the respective central warehouse units. This will help in achieving economical and efficient freight cost considering the scenario that Tesco sources both locally and globally.

Highly advanced Information Technology and IT systems have given Tesco a competitive advantage over the competitors on an international platform and has helped Tesco in maximizing the overall supply chain profitability. With the expansion happening across the continents it is important for Tesco to maintain consistent service operations across the globe. This can be done by developing remote station controlling and tracking of movement of goods by latest RFID and satellite sensing technology. Tesco need to develop dual monitoring system both on national and international level. With the usage of upscale Warehouse management system, international fleet management systems and the ERP systems coupled with remote sensing technology, Tesco can monitor and control international operations.

1. 0 Introduction

TESCO was founded in the year 1924 by John Edward Cohen. The name TESCO comes from the initials of Cohen's tea supplier T. E. Stockwell combined with the first 2 letters of Cohen. Cohen is considered to be the biggest retail revolutionary responsible for several small revolutions which has led to the current retail industry. Tesco: OurHistory”

TESCO is one of the biggest retailers in the world operating around 2491 stores and employing over 350, 000 people worldwide with profits exceeding £3billion. The UK is the company's largest market while it has recently expanded their operations in Central Europe, Thailand and recently in US

under the name of “ Fresh & Easy”. In United Kingdom, TESCO operates under four banners of Extra, Superstore, Metro, Express, One Stop and Homeplus.

TESCO is listed on London Stock Exchange under the symbol TSCO and has a secondary listing on Irish Stock Exchange with the name TESCO PLC.

Tesco international operation was in line with the vision of Tesco to become a global retail house. It entered into joint ventures with local partners, like SAMSUNG group in Korea and Charoen Pokphand in Thailand; also it started its US operations under the name of “ Fresh and Easy”. The US operations were intended to be a direct competition to the Walmart. Tesco now operated in Ireland, Czech Republic and Poland as Central Europe operations, Thailand, South Korea, China, and Japan as Asian Operations and recently entered into US.

2. 0 TESCO Logistic Strategy

Initially under Cohen, TESCO sailed on the principle of “ Pile it High, Sell it Cheap”[Corina, M (1971)]. The idea was inspired from the USA retail format where bulk procurement was done resulting in low cost and thus better profit realization. However, with the changes in macro environment and increasing competition from other retail stores, there was decrease in profit margins and the company was left with tarnished brand image. Hence under leadership of MacLaurin, who succeeded Cohen, TESCO decided to bring in fundamental, radical and dramatic changes in the business operations and a business re-engineering was done with a focus to build an effective and

efficient supply chain aided with the innovative usage of technology.

(Tesco corporate. com, History)

Currently, Tesco operates both local and global sourcing. There has been continuous evolution in the distribution and operation strategy of Tesco which can be split majorly into four phases. First was the time when there was direct delivery from the suppliers to the stores, this transformed into centralized regional distribution system as the second move in the late 1970's. The third move was a composite distribution strategy in the late 1980's and in the 1990's it was the vertical collaboration in the supply chain as the fourth move.

Under its vertical collaboration strategy, the focus has been to streamline the supply chain processes with the usage of technology and sharing of information across the supply chain to build an effective and efficient supply chain. Sharing of information with the suppliers started in 1997 with the establishment of commercially secure data exchange system based on the internet to facilitate the suppliers with the information on the current inventory holdings.

This was followed with analysis on the primary distribution (manufacturer to distribution centre) to implement changes that added net value over the entire supply chain. Once the primary distribution was stabilised, there was business motivation to make the logistics and flow of material streamline to generate further cost-benefit competence. This led to negotiation of more competitive distribution rates. This process of continuous change and

improvement has led to radical decrease in the lead time to stores and from suppliers.

2. 1 Value chain Analysis

- 2. 1. 1 Inbound Logistics

This is the first step in the value chain, thus poses the first value creating opportunity. Tesco calls this as the primary distribution and the activities include receipt of goods at the warehouse from the suppliers, internal handling and distribution to the stores and finally placing the goods on display at the shelves. Quality control measures are taken at every point to ensure that the customers get true value for money and the unnecessary costs are not transferred to the customers.

- 2. 1. 2 Operations

Operations form a very important and critical area for the smooth functioning of Tesco. The tasks involve daily inventory management, shelf display and stock management to ensure competitive advantage.

- 2. 1. 3 Outbound Logistics

This involves delivery to the customer. Tesco offers convenience to the customers by giving them home delivery. Also efforts are made to improve trolley space, parking facilities and other tangibles to maximise feel good for the customers.

- 2. 1. 4 Marketing and Sales

Through the clubcard initiative, Tesco has successfully engaged loyal customer base and attract more customers by heavy advertising through

radio, local newspapers and TV. Tesco has also started their green initiative as a corporate social responsibility and branding itself as a green and responsible company in the eyes of the customer.

2. 2 Tesco Logistics: UK

Tesco holds a commanding 13% share in UK retail market. The focus has been to grow share in food while increasing the space contribution in hypermarkets.

Tesco, at this point of time reached the optimum level of supply chain efficiency and the logistic operations are now benchmarked by the competitors. Currently stock is checked every day on a real time basis and based on the inventory, orders are processed centrally. Production schedule plans are prepared and the same is then transported from depot to the store after approval of depot in charge. Jones and Clarke (2002)

2. 3 Continuous Replenishment: UK

CR introduced in 1999, replaced the batch data processing with a continuous flow system and then multiple orders are sent to the suppliers thus reducing stock holding and better inventory control. Through this, the risk of high inventory passed to the suppliers. The suppliers got the orders as per the requirements more than once a day through the central batch processing unit. The same were then processed by the suppliers and then assembled as per the batch orders at the Tesco depot. Multiple deliveries are then made to ensure efficient fleet utilization and faster replenishment.

- Image from book

The movement of goods happens through mostly road and railways in the UK. In 1997, Tesco started using canal mode of transportation to ship goods between Manchester distribution facility and Liverpool. The movement happens between a central warehouse and the local depots based on the batch orders generated through the central processing unit on a daily basis. The inventory is maintained by sharing the inventory status data with the suppliers on a real time basis. The control of stock levels is ensured so that no one runs out of any goods. By sharing the information, chances of bullwhip effect are minimized and actual forecasting and schedule planning is done. [Gustafsson K, Jönson G, Smith D and Sparks L (2006)]

2. 4 Overseas Operations

By 2003, Tesco has started functioning successfully in Ireland, Slovakia, Hungary, Poland, Czech Republic, Thailand and South Korea. It is evident from the 2003 annual report of Tesco Plc that overseas operation now accounts for almost half the Tesco retail space and nearly 20% of sales (Tesco Plc Annual report, 2003). Managing international operations has been a challenge for Tesco. With the experience of managing an efficient supply chain in the UK, Tesco has been able to replicate the operation overseas in a similar manner. However there has been change in procurement strategy. Tesco has adapted to local and global sourcing strategy. Tesco has been able to utilize the local talent and resources and also managed to maintain a consistent global brand image. Local Operation and distribution is done through rail and road between a central distribution facility and the stores. It also uses sea transport to source products from global suppliers, thus maintaining a consistency. The primary distribution is kept similar as the UK operations and the use of information technology has enabled Tesco to

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optimize the supply chain activities and maximize the supply chain value internationally as well.

Tesco unlike its UK operations has deviated from the just in time inventory management. To streamline the overseas operation they have identified local manufacturers to develop a cost effective competence over the competitors. The globally sourced products are ordered in bulk as per the freight management system and thus delivery of such products happens as per the stocks levels of the central processing units. Moreover, there have been legal bindings under the food and beverage laws of the various overseas countries and thus Tesco has to effectively manage as per the varying trade and labour laws.

Due to global sourcing there has been change in the Continuous Replenishment policy as adopted by Tesco in the UK. The replenishments of globally sourced goods do not happen on a daily basis. The future demand of such goods is anticipated in advance and thus they are procured in bulk and transported through intermodal operations to maximize the overall supply chain profitability.

With the onset of international operations, Tesco has realized the need of technology advancement and the high scale information systems to maintain and manage the global operations. The recent use of RFID technology has enabled Tesco to track and find the shipments and the local transportation in real time. Also, the ERP systems have been in place to maximize the supply chain value globally as well. However, to maintain the international standards and global brand image, there has been high cost occurrence on

the transportation of goods procured from the international suppliers, thus leading to low margins in some cases. But with efficient supplier management program and real time sharing of information with the suppliers high transportation cost has been offset with the overall increase in supply chain profitability.

Strategic Changes made to incorporate international operations

- Heavy investment is involved to expand geographically and there is need to provide cross cultural training to the employees.
- International sourcing from standard suppliers is shipped to the new locations through sea transport.
- RFID technology implemented to track and find the shipments.
- Utilization of local human and natural resources to achieve better margins.
- Hub and spoke model implemented to build central warehouses and docks near to sea and then transporting the same to the distant locations.
- Forecasting and demand estimation done centrally and the inventory details shared with the suppliers on a real time basis to ensure low inventory holding cost.
- Multiple deliveries from the suppliers ensured fast replenishment and zero stock out situations.

3.0 Transportation Policy

Tesco sources both locally and globally. With the geographical expansion of Tesco to Central Europe, Asia and recently in US, it has been a challenge to manage the transportation and distribution of goods at the new locations

keeping the quality consistent to that of the global image of Tesco.

[Anderson, D. L., Britt. F. E., and Favre. D. J. (1997)]

Risks associated with international logistics and transportation (Zhihui Song, Apr 2005)

- * Easy to lose control of operation and movements
- * Increase in paper work and documentation binding to the different legal and taxation in overseas countries.
- * Risk of delays in receiving and arrival of goods internationally.
- * Difficult to trade and trace as the point of action is remote.
- * There can be conflict in the customs and culture of the overseas country,
- * Lack of infrastructure capabilities in the host country which may hamper the easy movement of goods

3. 1 Rail Freight

With the extensive rail reach in some of the overseas countries rail freight proves to be an economical on bulk ordering and low value goods. This mode of transport is low on speed and thus need to be used in slow moving goods and in instances where demand forecasting is accurate for a longer period of time. However there is a limitation in this mode because of the slow speed and inflexible service. But rail cannot be solely be relied as a transportation mode as the last mile has to be road.

3. 2 Sea Freight

With the geographical expansions, sea freight offers a cost effective mode of operation. The service however is slow but there is easy and quick availability of service due to the regular routes and service offered. There is a delay caused in this mode of transportation as it involved additional investment in developing port infrastructure for loading and unloading of goods.

3. 3 Road Freight

Road freight has to be put in place as a result of the strategic decision to ensure a balance between speed and responsiveness of the inventory management. Road Transport offers a fast and regular service but this can be a relatively expensive mode of transportation. This can be used in combination with roll on and roll off ferry services to cover intercontinental journeys.

3. 4 Transportation Model for International and National Operations

For the national distribution of goods, Tesco has been following intermodal transportation policy using rail, road and canal as means of transportation. It follows a hub and spoke model where in central warehouses are maintained and through them the goods are sent to the local stores. Inventory at both the warehouse and local stores is tracked by a central processing unit. Inventory reports are generated on a real time basis in the local stores and in case of inventory falling under safety limits, warehouse is informed and the stock is dispatched. Freight management system is put in place which makes sure that the least cost incurring transportation is selected. [Bearnon, B. M (1998)]

For the international operations, Tesco should look for standardizing their suppliers on an international level. A similar hub and spoke model can be implemented. The warehouses can be suitably located near the sea shore as dock units to ensure that the international supplies can be maintained on a relatively cheaper mode of sea transport. The choice of the dock units need to be made depending on the commercial and labour laws to ensure maximum profitability of the entire supply chain. Central warehouses can be maintained depending upon the location of the final local stores. An extended hub and spoke model can be realized with the goods being transferred from the dock units to the central warehouse and then finally to the end stores.

4. 0 Information Technology: Critical Factor

Information Technology now finds itself as an indispensable activity for any world class organization operating in any field, technology or sector. IT is now used as a means of competence over the competitors. IT has been used by organizations to restructure and re-engineer the distribution set up to achieve higher service standard, accurate production planning and demand forecasting thereby achieving low supply chain cost and high supply chain profitability. The recent advancements in the Information Technology enable the organizations to have a real time track and management of stock inventory at each level of the supply chain thereby elimination of any chance of information mismanagement and bullwhip effect. IT infrastructure now provides competitive position to a company through reduction of cycle time, implementation and free flow of cross functional information. [Smith, W B (2000)]

Companies have now gone into maximum vertical and horizontal integration of supply chain stages by engaging into strategic tie ups with the suppliers, wholesalers, distributors and retailers. This inter organizational development of supply chain has been enabled by strong IT infrastructure, thus providing three distinct advantages of [Mishra R K (2004)]

- Cost Reduction
- Higher Productivity
- New product/ Market Strategies

Typical supply chain as in case of Tesco can be split into 2 subchains. The first can be called as movement supply chain. This involves movement of raw material from suppliers to the company shop floor, cross functional movement of work in progress goods and the final movement of finished goods from warehouse to the retail stores. The other part of the supply chain is forward and backward information flow. The later subchain of information flow is rather more complex than the forward movement of the product from assembly line to the final retailing stage because of the integration of the multiple parties involved in the entire supply chain. Critical issue is of providing the right information at the right time at each stage of the supply chain, failure of which leads to passage of erroneous information across the supply chain which gets cascaded at each level. [King, J. (2000)]

Also the use of strong IT infrastructure and advanced software services have helped Tesco in identifying the usage patterns of the end customers and has aided in developing a strong loyal customer base. This has helped in accurate demand forecasting, low inventory levels and an efficient production scheduling.

Some of the advanced technological developments happening across different industries can be listed below

- **Electronic Commerce:** With the increase in internet savvy customers and continuous focus on providing convenience to the customers, organizations have resorted to conduction of business in a paperless environment. This involves emails, electronic money transfer and buying and selling of goods and services electronically on internet. This also involves quick and paperless cross functional movement of documents.
- **Bar coding and Scanner:** This is one of the most common technological advancement in the retail industry and can be seen at the checkout counter of the retail outlets. The bar codes carry full information of the products, details of suppliers and the entire product life cycle details.
- **Data Warehouse:** Data Warehouse refer to the consolidated database management of the company's entire production system database. This is used in making analytical and strategic decisions like demand estimation, production planning and forecasting by the top management of the companies.
- **Enterprise Resource Planning tools:** The SAP, Oracle ERP system forms backbone of the IT infrastructure of almost all the fortune 500 companies. These systems provide complete end to end highly optimised supply chain process flows that reduce the manual activities and help in achieving automated flow of information across the entire chain.

With well equipped IT infrastructure, Tesco has developed a competitive advantage against the competitors. Sharing of information with the suppliers at Tesco started in 1997 with the establishment of commercially secure data exchange system based on the internet to facilitate the suppliers with the information on the current inventory holdings. This aided the suppliers to have a real time tracking of the required inventory at the production facility and the warehouse of Tesco, thus low inventory holding cost for Tesco and better demand estimation for both Tesco and the suppliers.

With the use of IT, Tesco has become a market leader in United Kingdom, but with the globalization and geographic expansion, Tesco faces a challenge to monitor and manage the supply chain activities in the overseas location as well. For efficient monitoring and effective control it is imperative for Tesco to develop remote monitoring systems that can be used to track and locate the movement of goods locally and internationally. These remote monitoring applications have to be in consistent with the existing policies and the supply chain activities of Tesco, UK. The real time monitoring can be done by using satellite monitoring and tracking of movement of goods by implementing RFID technology, ERP systems to monitor the procurement, order processing and overseas supplier management, warehouse management and fleet management systems.

International Warehouse Management System will help in providing buffer between supply and demand considering the fact that Tesco sources products and goods both internationally and globally. It can develop international stock holding facilities through which the goods can be transported efficiently and economically to the remotely located retail

outlets. This will also help Tesco to maintain good dispatch facilities and warehouse operational activities.

Developing an international Fleet Management System is needed for long term reliability of vehicles. It will help in maintaining scheduling, vehicle maintenance and tracking. This will help in international movement of goods across borders efficiently and economically,

Electronic data systems need to be deployed to capture essential data of customers like customer details, usage patterns, order sizes and order details like product and quantity. This can be done by using a database system to select customers delivery, past shopping details across the different countries where the customer has shopped and thus producing a digital report of the special requirements if any of the customer.

5. 0 Conclusion

The report thus highlights on the critical evaluation on the changes in the supply chain operations especially international logistics and Information Technology up gradations in order to maintain consistent service delivery. Tesco need to adapt as per the legal and culture of the overseas countries, hence need to maintain global monitoring and controlling mechanisms to track the cross continent movement of goods and thus achieving maximum supply chain profitability. With the adaptation to international logistics and high scale information technology systems, Tesco can replicate the success in the UK on a global platform as well.

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