

**STUDY ON LOGISTIC AND SUPPLY CHAIN MANAGEMENT WITH SPECIAL REFERANCE TO  
PETROCHEMICALS**

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**ABSTRACT**

*The term 'LOGISTICS' means rendering of products/goods from one place to another for final consumption/usage. In simple means Logistics can also be defined as transportation, irrespective of the means it is being done. And the various mediums through which it is being done is known as 'SUPPLY CHAIN MANAGEMENT'. It is a part & parcel of today's life. But for Logistics also to perform efficiently, PETROCHEMICALS is needed. Without it, transportation is immensely difficult in today's world. At present, the situation stats that "Humans have created machines and now they themselves are dependent on it also". Concluding to this fact, for a machine to work in today's world specifically... power is needed and major contribution of this power is nothing but 'PETROCHEMICALS'. This is one such product which is useful right from transporting goods from one place to another to shifting people. Shifting of people is also an indirect form of Logistics and for making it happen Petrochemicals is required. We would hereby like to get deep into it and explore more about this industry which at present is very under rated in our country.*

**KEYWORDS**

Logistics, Petrochemicals, Supply chain management, under rated industry, backbone of economy.

**REFERENCE**

Articles, personal experience, interactions and Google.

**LOGISTICS & SUPPLY CHAIN MANAGEMENT (petrochemicals)**

Increasing demand for oil and its by-products have helped companies and enabled them to provide these products to more and more customers. And the source through which these products are made available to the customers is nothing but Logistics. Demand for these products is increasing mainly due to increase in transportation sector. In modern times, 86% of the human population across the world depends on these products which gradually increases the demand for these products. The count for usage of these products is increasing on a very high scale due to individual dependency and needs. Moreover, personal comfort also affects the demand. As per the Researchers, the rate at which the demand for the product is increasing shows a negative scale in the availability of the product. They also claim that this natural resource might just extinguish in

near future by the way it is being utilized.

Petrochemical is one such product whose transportation is very hazardous and thus it has to be transported very precariously and with utter care. Thus, even elements as such, despite being a natural element cannot be utilized directly. It is here where LOGISTICS plays a crucial role in bringing it to the hub and then supplied to various customers via a network channel. The relationship of Petrochemicals and Logistics is similar to that of "Pen & Ink" because both are relied on each other in present times. This sounds a bit hypothetical but the fact is absence of either one of them would inversely affect the other one.

As far as logistics is concerned for this product, it can be done in numerous ways such as via ships, aviation, automobiles, pipelines, etc. But as long as final distribution is concerned, except for automobiles (road supply), I don't think there is any other alternative for it. At the end it depends only and only on road transport specifically. In India, Petrochemicals are majorly imported in present times. It is not that they don't have enough resources for extraction but because the resources are not enough to fulfill the needs of the people. Near about 90% of the world depends on the Gulf countries for this product due to loads and loads of resources available over there. India is also one of the prime customers for the Gulf countries (eg:- Iran, Iraq) in terms of importing this product.

#### **HOW IT WORKS**

The Indian government imports Petrochemicals mainly from Iran & Iraq. They work on national levels and thus transactions are also done as per unitized monetary terms. The Logistic of Petrochemicals into Indian sub-continent is done via ships as there isn't any alternative available. Indian government sells this product to companies like ONGC. This product is then purchased by India's 3 largest Oil Companies i.e. Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL). The raw material is then transformed into various by-products before distributing it in the market. Any firm/company who wishes to import from Gulf countries cannot import directly as the government doesn't permit so. Thus, as an alternative, the by-products of these petrochemicals are purchased from there and then imported into the Indian sub-continent via various channels which is also referred to as entre-port trading. Basically it means that the product is directly imported to India but the paper work is done via an alternative country from where one can import material eg- Dubai, Sri Lanka, etc. It then depends on the firm whether to sell it in its original form or after processing it. (eg- Reliance, Adani)

Once the Petrochemicals are processed and converted into by-products, they are then distributed via a chain of fleet suppliers which are also referred to as the transporters. These people play the role of Logistics product from one place to another, i.e. from the manufacturers to the retailers. There are hardly any middlemen kind of distributors for these products. As the top 3 companies of this business just can't handle things all alone, they give retailing rights to people where they can sell their products and then that product is bought by the customers at the end. These retailers

have to work under the banner of that specific company in order to sell the product.

As far as Logistics is concerned, it is mainly done with the help of automobiles. There are many types of vehicles ranging from 2-axles to 3-axles and under that too there are different sub sections/ various models. Logistics is done with the help of these vehicles only, which are also referred as tankers/Capsules in India. No other option is available except for these vehicles. As the companies don't have fleet of so many vehicles with them thus they issue a TENDOR and amongst those filed quotations, most compatibles are selected. These freight suppliers then help the company in distributing the product to the retailers, merchants. And finally these people make the product available to the customers.

### **CHALLENGES**

The foremost challenge in the logistics of these products is the intervention/indirect torture of humans i.e. The Drivers. They have numerous ways to trouble and indirectly torture the person where he is affiliated to. In order to earn that extra penny, they even don't mind to break the norms and take the path of illegality. They sell a bit of the product and keep that money in their pockets despite they being paid as per market value. Not only selling but now a new trend is being started amongst them that they remove a portion of the material and in return they add an alternative mixture of powder or else water which helps them regain the extracted material. This is a big challenge because this decreases the quality content of the product. Their actually ain't any way to stop them from these despite numerous efforts by the Police. It is rightly said that "if a person has to do that thing, he will do it irrespective of the consequences". This is one such thing which cannot be eradicated but it can surely be reduced to an extent.

Second challenge to face is the risking factor in this particular line. The reason behind this is that, this is the only business which runs on 100% risking factor and this is the only business which contributes the most in the GDP of India. As per the current scenario, the economy will just shut if Logistics is not there. If you give a second thought then you will notice that a businessman who owns a particular vehicle worth 30 lakh rupees (approx) and is filled with product worth 10-12 lakh rupees (approx) is handed over to a driver on monthly salary of hardly 12 thousand rupees. Not only this, he is completely reliable on that person for the product to be transported. Now the question is... what if the driver runs away with the vehicle and the product, or what if he sells it to someone? Thus it is rightly said that this is the only business which contains 100% risk and thus it is a major challenge to be faced.

There also contains a challenge of reducing the malpractices of oil thefting, oil manipulating, etc. it sounds a bit ridiculous but the fact is things as such are happening and no probable solution is being found to it.

Finally, most neglected kind of challenge is the challenge of transportation. In India, there are places where roads are not developed. Thus, there is a risk on the driver's life. Due to the condition of roads, he has to bare for the losses happening. It can be the loss of his life, loss of the material

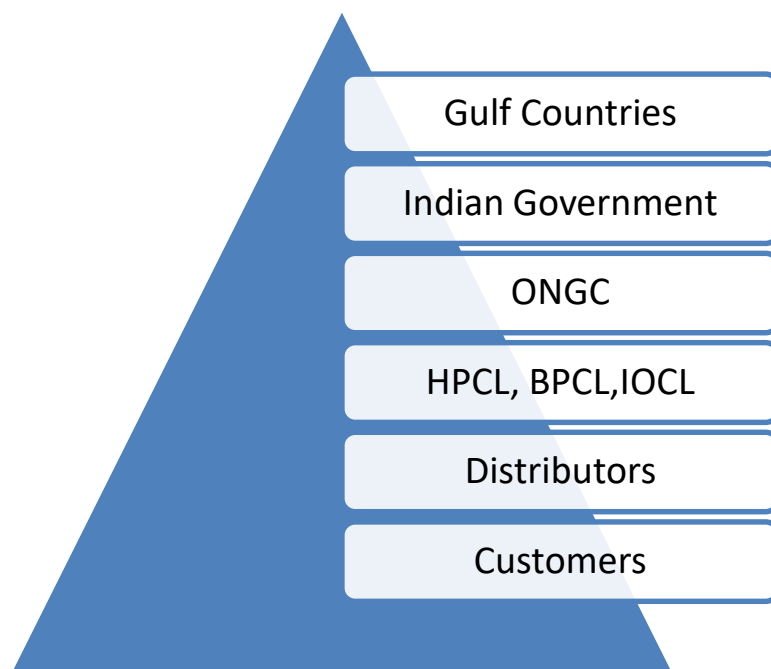
due to leakage or even loss of the automotive. These, all challenges are connected with the driver only... directly or indirectly. But then there arises a question as to should there be automatic vehicles? Or should the drivers be removed? The answer relies to a big NO. Because despite all this, they are the backbone of Indian economy. And after all, it is rightly said, "If not the humans then who will do it?"

### **SUPPLIER-to-PURCHASER**

WHO IS TO SUPPLY? WHO IS TO TAKE?

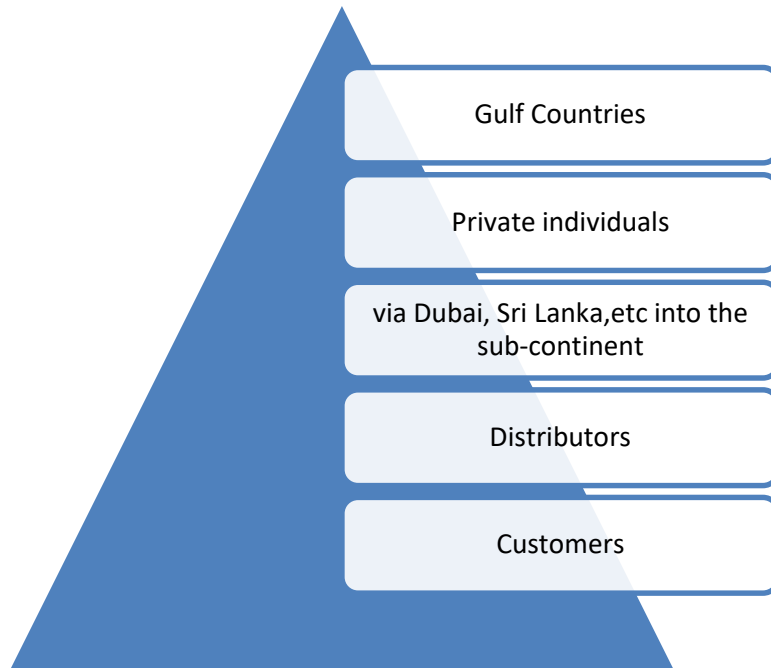
The concept of supplying and purchasing can be bi-forcated into 2 parts ie. From the point of view of nation and from the point of view of the private individual.

1.FROM THE POINT OF VIEW OF NATION:-



In this process, the material is purchased from the Gulf Countries as there is ample of resources available with them. These resources are then purchased by the Indian Government. The transaction is done as per the respective currency of that particular country and not the universally accepted currency. Due to this move taken by the government, it has helped them a lot in reducing the fares to an extent. Even though the transactions and all is done by the government, but the importing and further distributing right is given to no other but only ONGC. ONGC itself imports material from there into out sub-continent and then distributes it to India's 3 largest oil companies ie. HPCL, BPCL, IOCL. These companies then process the material and prepare various by-products of it which are then let into the market for final consumption. As companies cannot reach to each and every corner of the country, thus they set up their distribution plant by giving contracts to distributors where they will be selling their product. And finally from these distributors, product is purchased by the customers for their final consumption.

## **2.FROM THE POINT OF VIEW OF PRIVATE INDIVIDUAL:-**



In this process, the material is purchased from the Gulf Countries as there is ample of resources available with them. These resources are then purchased by the Private Individuals. The transaction is done as per the respective currency of that particular country and not the universally accepted currency. Due to this move taken by the government, it has helped them a lot in reducing the fares to an extent. As trading from these countries is not permitted by the government, and the people want to maximize their profit, thus they select an alternative path. Private individuals purchase the product from those countries, ie. Iran & Iraq and the material is transported directly from their via Ships and all but the paper work is done via an affiliated country. Which means, all formalities are done via countries from where trade is permitted. Eg- Dubai, Sri Lanka, etc. due to this, it seems that the product is supplied from the affiliated country. Once Petrochemicals enter into the Indian sub-continent, they are then processed into various by-products. After processing, it then depends on the individual whether to personally sell the product or to give it to distributors on contract basis for distribution. And finally the product is purchased by the customers for final consumption/usage.

### **FUTURE OF LOGISTIC.**

- Logistic being an important aspect, without logistic countries economic slow downs or stops.
- In order to track the automotives GPS systems should be installed or we can sy installation is in process.
- For better safety, Airbags and ABS in heavy transport have been installed to make sure the safety of the drivers as well the car which doesn't get damaged and long term working.

- With the upliftment of GST, border tax have been eliminated due to which it helps to save money and remove the middle men.
- On basis of safety and security, there is police intervention for betterment of transportation.

## **CONCLUSION**

This article covers broadly from logistics activities to transportation systems and attempts to determine the role of transportation in logistics systems through extensive review. The main contents of the research includes how it works, challenges, supplier to purchaser, who to supply and who is to take, future of logistic. To sum up, logistics and transportation has some relevance.

1. Logistics system has a more and more important position in our society activities.
2. Transportation and logistic systems have interdependent relationship that logistics management needs transportation to perform its activities and meanwhile, a successful logistic system could help to improve traffic Environment and transportation development.
3. Since logistic contributes the highest cost among related elements in logistics systems, the improvement of transportation efficiency could change the overall performance of a logistics system. The development of logistics will be still vigorous in the following decades and the logistics concepts might be applied in more fields.