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"AN INVESTIGATION ABOUT ROAD TRANSPORT RISKS IN
LOGISTICS COMPANIES IN UNITED KINGDOM AND INDIA."

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<u>ABSTRACT</u>

Logistics has been one of the main components of business since a very long time now and also contributes to the GDP of the country significantly. There are many modes available to the business through which, the transfer of the goods is possible. One of the main mode of transportation has been by the Road because of the flexibility it provides in comparision to others. A company is associated with various number of risks while distributing the goods. A company might face the risk due to the Economic, Cultural, Political changes in the market. Therefore, it would be interesting to explore this area a little bit more in detail. The purpose of this dissertation is to investigate the Road transport risk that are being faced by the Logistics company in India and the United Kingdom. The study's research question is answered by collecting information through interviews and secondary sources. From the findings, it can be seen that there is quite a different number of risk which are being faced by the Logistics company in both the countries. There are different methods that are being used by the companies to mitigate the risk.

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1. <u>INTRODUCTION</u>

1.1 Overview

The term Logistics was developed in context to the military activities in the late 18th and the early 19th century and was first propelled from the military logistics of World War II, though now logistics is a part of the modern production process. (TSENG, 2005) The origin of the word logistics is from a Greek word logistikos meaning 'skilled on calculating' (BTRE, 2001). Logistics has become one of the most important parts of any business today. Logistics has been the part of the industry from a long time and the importance of logistics is increasing due to the trend of nationalization and globalization. According to council of logistics management (1991), "logistics is a part of the supply chain process that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customers requirements." There are many components of logistics and one of the most important economic activities among the components of business logistics system is the transportation of the goods efficiently. Any logistics company spends around one-third to two-third of the total expenses of the Logistics cost on transportation (TSENG, 2005). According to the survey done by the national Council of Physical Dormant, the cost of transportation accounts to approximately 6.5% of the market revenue and 44% of logistics cost (TSENG, 2005). The main objective of a logistics firm is profit maximization, (Hise 1995; Nelson and Toledano, 1979) and to find the balance between efficiency and effectiveness (Mentzer and Firman, 1994). There are many risks, which are associated with the supply chain process which a logistics firm faces while distributing the goods across the country. The risk that a logistics company faces could be due to economic, cultural, policies, infrastructure, and competitive environment in the market. With the increase in the competition in the market, the industries are more prone to the risk that might be faced in the future. Road transport risk has increased significantly over the past recent years leading to more accidents and traffic congestions. This study has been conducted in order to explore more about the risks that the logistics companies are facing in India and United Kingdom. The next section will give a brief about the Logistics industry in India and United Kingdom.

1.2 Background of the Industry

India has the second largest road network in the world (Srivastava, 2006). Logistics and supply chain management in India constitutes to 13% of the total Gross domestic product while it contributes to only 8% in other developed countries (Srivastava, 2006). Trucking accounts for 60 % of the total transportation. Indian Economic environment has been inadequate in the basic inputs, which is required to support the organized economic activity (Srivastava, 2006). The Industry of logistics in India is also characterized by intense competition, which is the result of relatively lower capital requirement, ease of obtaining driving licenses, and permits (Srivastava, 2006). According to a study by The UPS Asia Business Monitor Survey, 2004 despite the government support, the poor logistics infrastructure and the supply chain inefficiency are the major obstacles which the country at the moment is facing (Srivastava, 2006). Though, the things are changing at a fast pace, according to the growth competitiveness index survey conducted by the Geneva-based World economic forum (WEF) for 2005-06, India has moved its position from 55 to 50 out of 117 countries in a years time in the global competitive report in the quality of infrastructure (Srivastava, 2006). The size of the distribution and the logistics market in India is expected to exceed $125 Million in 2013 (KPMG, 2009). The government of India is now formulating policies and regulations in order to improve the efficiency of the logistics sector (KPMG, 2009). Sixty two percent of the freight in India is carried by the mode of road transportation (KPMG, 2009). The vision for development of the road infrastructure in India has been well visualized till now and is in the process of being implemented, though there are many hurdles in the project execution, implementation and coordination with the state highways (KPMG, 2009).

In the UK, movement of the goods is primarily by road (Mandy borrow, 2013). There are approximately 3,62,000 km of roads in the United Kingdom (Mandy borrow, 2013). The UK logistics industry contributes over £96 billion to the economy each year and it employees approximately 2.3 million people in more than 180,000 companies (Agcas, 2012). 8 % of the United Kingdom workforce is employed in the logistics sector (Agcas, 2012). The United Kingdom transport industry contributes approximately £23.6 billion to the UK's GVA (Agcas, 2012). At the beginning of the 20th century, railway and Canal barges were the main source of transportation for heavy goods, but now the lorries are carrying approximately 65 % of the

goods across the country (Mandy borrow, 2013). Most of the businesses are concerned about the transport capacity issue, which the country is facing at the moment. A survey, which was conducted in 2011 showed nearly half of the UK transport networks, is below the international standards (CBI, 2011). As per critics, UKs competitive edge in logistics over other countries is undermined by the lack of investment in recent years (CBI, 2011). According to the Traffic master system, which, monitors the traffic flow of all major roads in UK and has around 7500 censors spread across 12800 kms, the average journey time has increased over the past five years making the supply chain more exposed to delays.(Traffic master/RAC Foundation 2007). According to the world Economic forum, UK ranked 33rd for the quality of the infrastructure in a 2010 report for global competitiveness whereas , other international competitors France , Germany and the United states ranked 4th, 9th and 23rd respectively (CBI, 2011).

1.3 Research Question and Objectives

It has always been a challenge for the managers to improve the efficiency of the supply chain for their products, to allow the products to move smoothly and effectively keeping the low cost at mind in the supply chain process (Water, D. 2011). This challenge has encouraged the young entrepreneurs to lower the gap between the risk and its consequence. There are many unforeseen incidents, which occur, and it increases the level of disruption. A small gap in the supply chain process can bring out heavy losses for the company, and it is becoming quite frequent with the Globalized market. For example, Industrial action in US ports and therefore, stopping the delivery of Chinese goods to Europe, an earthquake affecting the distribution of electronic supplies from Japan to the entire globe, a major supplier of components going out of business hence causing delay in the delivery, a container ship losing its load in the Indian Ocean and a manufacturer moving its factories from Germany (Water, D. 2011). There are a lot of incidents that might occur in the supply chain during the process of delivery of the good. Hence, it would be interesting to know how does companies manage to deal with the disruptions in the supply chain of their company. As discussed in the previous section, delivering goods by road has become one of the most important means of transportation in the past years because of its advantages over other modes, therefore the risks when transferring goods via roads increases.

Research Question: *"An investigation about road transport risks in logistics companies in India and the United Kingdom."*

In this research, a comparative study has been undertaken to analyze different road transportation risks in logistics companies in India and UK. The aim of the study would be to explore the risk that is being faced by the firm and an appropriate step to mitigate it or control it. Not much research has been conducted for comparing the risks in these two countries, and it would be interesting to know how different companies in the same field tackle with the risk in the two countries. By comparing the risk it would give us the knowledge of how and why the other country has an advantage over the other one. Thus, the focus of this research is to fill the gap in literature by providing a comparative study about road transport risks in these two countries.

The next chapter will provide a critical literature review of the theories, research and the opinion, which have been discovered previously in the field of Logistics and Supply chain Management.

2. LITERATURE REVIEW

The literature review in the qualitative research reveals the significant gap in the current theory. Therefore, by analyzing the current research in this area, I aim to fill the gap in the literature. The information in this section has been collected from various journals and other publications.

2.1 Supply Chain Management

According to Ganeshan and Harrison (1995) "Supply chain management is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers". "The supply chain is not a chain of businesses with one-to-one, business-to-business relationships, but a network of multiple businesses and relationships" (Lambert and Cooper,2000). Managers are aware of the fact that the companies goodwill, profitability, consistency, the ability to deliver the product on time, better share holder's return depends largely on how well they are being able to manage their supply chain (Chopra and Sodhi, 2004).

According to Cooper and Lambert (2000) there are 9 components in the Supply chain Management, which are: Planning and control, Cooperation, Product Flow, Process integration, Communication and information flow, management methods, power and relationship, risk and reward sharing and culture and attitude. Academicians and researchers are discussing the impact of supply chain on the performance and the way to prevent disruptions (K. B. Hendricks and V. R. Singhal, 2000). The supply chain becomes more complex with the nature of the product. For instance, the Logistics company which has tie ups with the fashion industry has to make sure that the product is delivered on time because the supply chain is strongly driven by consumer demand and demand is unpredictable in the fashion industry, the products have usually shorter life cycle and the company which has global chains has to make sure that the product reaches the consumers at the right time. The attention has dramatically increased in this sector because of the competitive global environment of business all across the globe has become more complex.

2.2 Risk Management in Supply Chain

Unexpected changes occur constantly on all levels in a business; on management level through globalization, introduction to new methodology or technology in a company, mergers and acquisitions, and on operational levels through demand fluctuations due to prices fluctuation of the products, and events like Just-In time production, late arrival of a commodity due to several disruption (Earth Quakes, Terrorist attacks) and therefore quality problem in the products. (Johansson, 2006). Uncertainty is becoming one of the major problems as the focus on cost reductions and efficiency in industry tends to stretch supply chains, making them longer and leaner, and thus more vulnerable to disturbances. (Johansson, 2006). The increasing uncertainties in the business are significantly increasing the risk that a company faces. The ideas of "risk management" were developed in 1950s. One of the earliest references about the concept of risk management appeared in the Harvard Business Review of 1956 (Gallagher, 1956). There are two ways in which the risk managers deal with the risk in business, risk control and risk financing (Vaughan and Vaughan, 2001).

"Risk control is a technique that utilizes findings from risk assessments (identifying potential risk factors in a firm's operations, such as technical and non-technical aspects of the business, financial policies, and other policies that may impact the well-being of the firm), and implementing changes to reduce risk in these areas" (Investopedia.com, 2013).

Where as According to the *Dictionary of Business Terms*, risk retention means, " A method of self-insurance whereby the organization retains a reserve fund for the purpose of offsetting unexpected financial claims." (Inc., 2010)

There are various risks that a firm faces when operating in a competitive market. They can be categorized under various sections: Economic challenges in a country can include tax rates, exchange rates, and inflations (Nelson and Toledano, 1979). Infrastructural challenges includes available modes, the type of documentation needed in a particular country, nature of intermediaries (Nelson and Toledano, 1979). "The infrastructural limitations in some developing economies may impose constraints on the efficiency of logistical systems" (Mentzer and Samli, 1981).

2.3 Overview of Logistics

Logistics is the process of materials and products moving into, through and out of the firm (Tseng, 2005). The definition of logistics is defined as, "It is the process of anticipating customer needs and wants; acquiring the capital, materials, people, technologies, and information necessary to meet those needs and wants; optimizing the goods- or service-producing network to fulfill customer requests; and utilizing the network to fulfill customer requests in a timely way" (Tilanus, 1997).
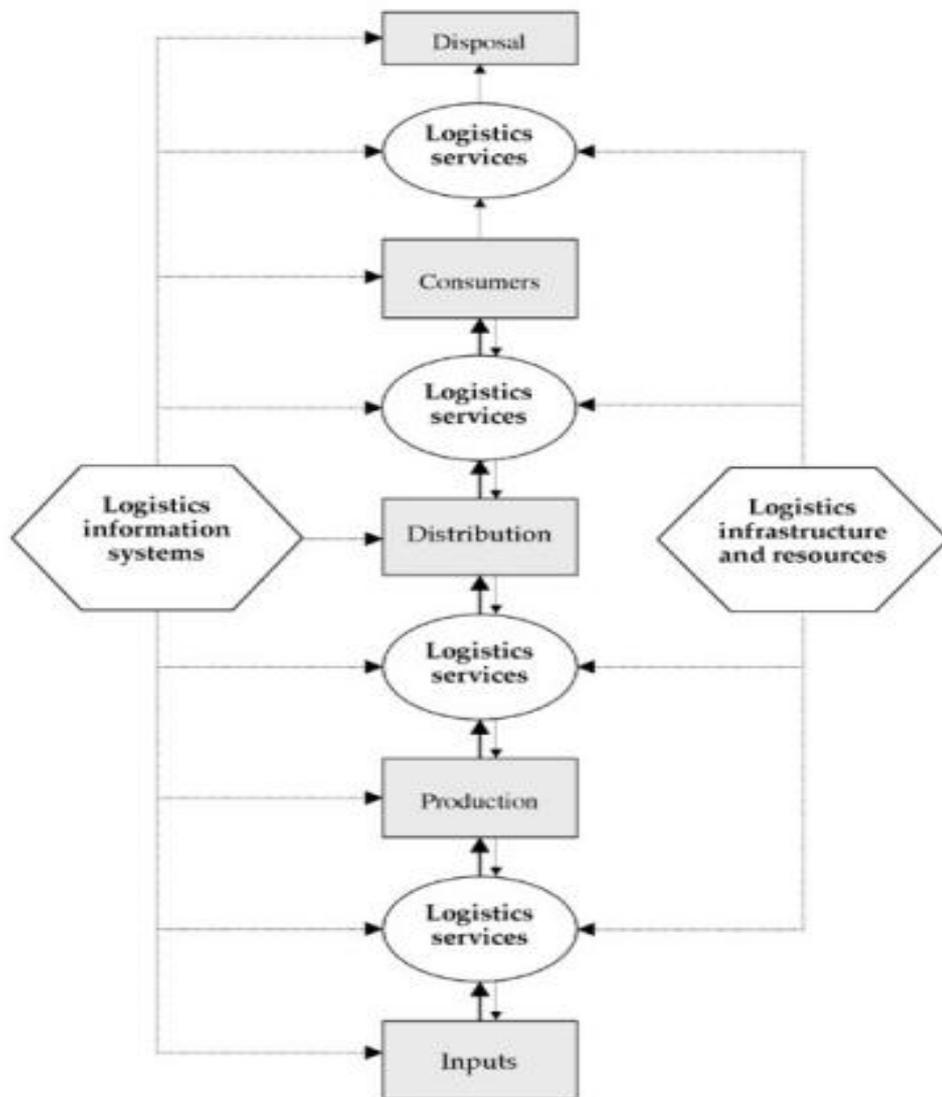
Overview of a Logistics system. Source : Tseng, 2005

The above figure provides an overview of the Logistics system. The three main components of a Logistics system are logistics services, information systems and infrastructure (Tseng, 2005).

The interaction of the components of the logistics system can be interpreted as: the logistics services, supports the movement of the products and the materials from inputs through production to the consumers (Tseng, 2005). Logistics services involves the physical and non physical activities like transport, storage, supply chain design, selection of contractors and so on (Tseng, 2005). The information system includes the modeling and the management of decision-making and the issues like tracking and tracing (Tseng, 2005). It helps by providing the essential data at each step of the interaction between the logistics services and the target station (Tseng, 2005). Infrastructure involves human resources financial resources, packaging, transport, communication and warehouses. It is the most concrete foundation of the Logistics systems. And it comprises of the maximum fixed investment in a logistics system (Tseng, 2005).

Though there are various modes of transportations: Water, Air and Road. This research aims only on the Road transportation. Next section will give a brief about the importance of the Road transportation.

2.4 Introduction to Road Transportation

Highway Transportation has expanded rapidly since the end of the World War II all across the globe (McKinnon 1999). This mode of transportation is convenient because it provides a door-to-door facility. Trucks have flexibility because they operate on a wide variety of roads. Over one million miles of highways are available for trucks (McKinnon 1999). In comparison to railroads, trucks have relatively small fixed investment. Transporting goods via roads has been widely accepted from the retailers to the warehouses till the wholesaler because of the delivery flexibility (McKinnon 1999). According to McKinnon 1999, Road transport has become the dominant land transport system today. He highlights the importance of the road transportation by saying "Road transport has a near monopoly in the distribution of finished products at the lower levels of the supply chain, particularly in the delivery of retail supplies It possesses significant advantages over other modes" (McKinnon 2006). He also said that the capital cost of the vehicle is relatively small and it makes it comparatively easier for new users to gain entry, which helps in ensuring that new innovation, and new technologies would always be the part of this industry (McKinnon 2006). Another great advantage is of the relatively high speed and the flexibility to choose the route. This multiple advantages made cars and truck the mode of transportation for a great number of trip purposes and made it the most used mode of

transportation for short distances (Rodrigue et al., 2006). On the other hand, the initial cost of railway transport is high because the construction of rail tracks and the provision of rolling stocks are expensive. (Rodrigue et al., 2006). Despite of all its advantages, the Road transportation is not without limitations. The primary difficulties related to Road transportation can be related to increasing cost to replace equipment, maintenance, safety, fuel cost, driver shortages, trucking being labour intensive, high wages is a major concern, Dock wages etc. (Cooper, M. et al 2010).

According to Tseng,2005 the highest cost amounting to in a logistics operation is Logistics cost which is 29.4 % , which is followed by the inventory (17.4%), warehousing costs (17,0%), packaging costs (11.9%), management costs (11.0%), movement costs (7.8%) and ordering costs (5.5%). These figure implements not only the cost in a logistics system but also the importance in improvement processing, Therefore, we can imply that the transport is one of the most important economic activity in the components of business Logistics. It moves the goods and products at the least cost and it affects the results of logistics activities and influences the production and sale (Tseng et al., 2005). A good transport system provides a company with increased logistics efficiency, reduces operational cost, and it also improves the service quality. But the share of the transport mode across the firm is not uniform. The mode of transportation represents an essential part of the transport system, as they constitute to the means by which the mobility is supported. Each mode of transportation has its own requirement and features, and is expected to achieve the specific demands of freight and the passenger traffic (Kersten and Schröder et al., 2012)

In the next section, the risk which are involved in the road transportation has been discussed

2.5 Risks involved in Road Transportations

The factors contributing to risks in road transport can be categorized as follows according to the study by (Prater and Biehl et al., 2001,)

Extent of geographic areas covered by the supply chain:

There are many geographical areas where distinct transportation is a problem. To illustrate, when goods are transported across the Ural Mountains to Western Europe they are transported by rail because the mountains and the distances make it harder to use road transport (Prater and Biehl et al., 2001,)
And in the North American region, which has an excellent road network, shipping goods by road transportation involves risks due to the Continents unpredictable weather and the

reconstruction state of the roads across the region (Prater and Biehl et al., 2001,). Thus while transporting good, geographical area is an important factor which should be taken into consideration.

Keeping pace with technology:

Information Technology plays a vital role in supporting Logistics, Transportation, Warehousing and the Packaging of the products. Technology has sneaked into all the areas of logistics such as product movement (GPS), Warehousing (WMS) etc (NSDC, 2012). Therefore, it is difficult for all the Logistics Company to keep up to the technology as it experiences high cost. Therefore, not all company can keep up with the competition level, making them deficient in the market

Trained human resources:

There are very limited expertise in the field of Transportation, Logistics, Warehousing and packaging sectoe due to lack of institutions providing training in the Logistics . Thus making it more difficult for the firm to keep the Supply chain of the company efficient (NSDC, 2012).

Political areas and borders crossed:

The Political instability areas, makes it difficult for the transporter to carry goods from one place to the other. It can affect the assets, personnel and operations of the foreign firms (Jodice, 1984). The political instability of a region can delay the supply chain of the company if the area is prone to frequent curfews and strikes (Prater and Biehl et al., 2001,). However, even if the environment is politically stable, there are issues of border control. For example, the EU nations have eliminated the border controls for smoother flow of the goods but in the eastern Europe the problem still prevails, which contributes to increased complexity, uncertainty and supply chain exposure (Prater and Biehl et al., 2001,).

Communication:

Existing literature defined that the success to supplier relationship depends on the communication between the supplier and the customer (Prater and Biehl et al., 2001,). In order to improve the coordination between buyer and supplier there should be effective means of communication. (Carr and Pearson 1999). Poor communication can lead to poor performance by the Supplier Poor communication can also lead to road transports hazards if there has been no contact between the driver and his company about an unforeseen activity.

Number of transportation modes and their speed:

The three modes of transportation are by road, air and by rail. And According to Edmund Prater, "Speed is inversely proportional to the cost and the volume of the product which can be shipped"(Prater and Biehl et al., 2001). Speed is usually inversely proportional to the cost and volume of products that can be shipped (Prater and Biehl et al., 2001,). For example, if the goods has to be shipped by sea it can carry a large volume of goods and takes the maximum time to reach the final destination whereas if the goods is suppose to be transported via Air it is the quickest mode of transportation but the volume decreases significantly (Prater and Biehl et al., 2001,). Therefore, slow mode of transportation with long distances contributes to low flexibility and therefore increases the uncertainty and Supply chain exposure. (Prater and Biehl et al., 2001,)

Technical infrastructure and its degree of use:
Many developing countries lack in the technical and communication infrastructure and thus it becomes difficult for the supplier to communicate with the consumer and hence it decreases the flexibility and increases the uncertainty (Prater and Biehl et al., 2001,). Therefore one can say that the more advanced the country is, lesser the chances of the firm to face the uncertainties. (Prater and Biehl et al., 2001,)

Random occurrences:
There are many events, which are beyond control such as Earthquakes, Floods etc. The events can be foreseen and not be avoided. The greater the geographical extent of the supply chain, the

chain gets more vulnerable to random occurrences. The use of telecommunications infrastructure can mitigate the effects of random occurrences and political instability to an extent by providing advance notice of bad weather or political unrest. (Prater and Biehl et al., 2001,)

Weather

According to National Research Council, approximately 46% of the U.S. gross domestic product is affected by weather. (Frank Youhua Chen, 2010) Wal-Mart Stores reported that their inventory levels were way higher in June 2005 because below normal temperature had affected the demand of the product to a great extent. (Earnest, 2005). The Europe Cadbury business was hit by Cold summer in 2004 which lowered down the profits of the company and Coco-Cola and Unilever also blamed the weather for low sales of their product,(Kleiderman 2004). These examples clearly prove that the demand of the product is largely affected due to the weather problems in a country and hence causing the delay in the Supply chain too.

Also, The Company, which is operating in a developing country, may not be well verse in the informative technology sector or rail/ road/water connections and therefore are more prone to supply chain exposure. Road traffic accidents are one of the leading causes of work place death, injuries or disabilities in many countries across the Globe (Osha.europa.eu, 2013). There are many risks, which are involved in the Road logistics, activities like manual handling of the goods, which requires loading and unloading. The drivers also have to work at unfamiliar customer's premises, which might have hidden hazards (Osha.europa.eu, 2013). The drivers have to make sure that the product is delivered on time thus leading to high work pressures. Complex technology or monitoring system might be difficult for the drivers to understand, driving is a lone work so it might be difficult for the drivers at many situations to deal with the loneliness, Prolonged sitting and exposure to vibration is bad for one's health, accessibility of facilities and services when covering long distances journey in developing countries, Demand Crisis of a product makes the Logistics company under pressure, Infrastructure issues in developing countries, Thefts are many problems which a Logistics company faces when transferring goods from one place to another. (Osha.europa.eu, 2013)
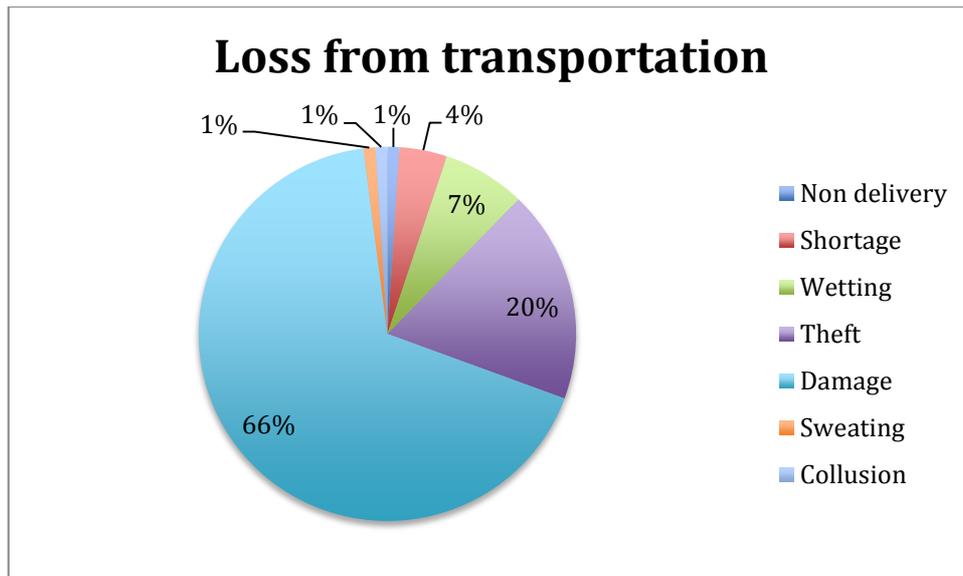
Source: (Tseng and Yue et al., 2005)

Damage : 66%	Theft: 20%	Wetting: 7%	Shortage: 4%
NonDelivery: 1%	Sweating:1%	Collusion: 1%	

According to the study done by (Tseng and Yue et al., 2005), From the above Pie chart we can conclude that the most damage in the transportation is done by the damage in the goods, which is 66%, and after that is directly from theft which is only 20%, followed by shortage in the goods which is 4% and Non Delivery, sweating and collusion being 1%.

2.5 Risk faced by Indian and United Kingdom Companies.

After the Indian economy got deregulated it attracted a lot of global players and unleashed a new competitive spirit in the Indian Market (Srivastava, 2006). Globalization of Businesses, the infrastructure in the country, increasing uncertainty in the volatile Indian market, shortening of the product life cycle has forced Indian firms to look beyond the four walls and react the way the market wants the country to. The country faces issues in choosing the right Supplier, fostering trust between them and measuring the performance and poor supply chain efficiency are one of the most major obstacles in India, the infrastructure comprising roads, railways, airports, seaports, ICT and energy production is poorer as compared to most of the other countries in the world. But, things are changing at a fast pace. Low cost in most of the companies in India has been achieved by employing low level of technology, low salaries to the

employees, poor maintenance of equipment, over loading the truck beyond its capacity and the price competition in the large number of service providers in the industry. All these factors also leads to a number of Road transport risk leading to a lot of accidents and disruption in the supply chain. (Srivastava, 2006)

Weather represents one of the most important determinants for demand of the product. According to Niemira (2005) the weather influences the sales of the product primarily through its effect on economic activity. Traffic congestion can also affect the efficiency and quality of Logistics operation in any country. If the traffic congestion was regular and predictable or may be evenly spread across the road network then it would have been easier for companies to increase the delivery schedules and accommodate the delays accordingly and incur minimum losses and provide better service standards. But unfortunately not all congestions are uniform everyday. (A. McKinnon, 2006)

Congestion unreliability affects the transport operations and it also reduces the productivity of operations in the warehouses, shops and factories. According to a study conducted in the UK an attempt was made to see the effects of congestion-related delays on the internal efficiency of warehouses (McKinnon 1999). And since then the traffic congestion in the UK road network has increased significantly. According to the department for McKinnon et al. Transport 2006, Between 2004–05 and 2007–08, the total delay to all journeys in the English inter urban road has increased by 8.4% due to weather. Weather conditions have a major effect on the road safety too. According to the investigation by Stern and Zehavi, (1990) it was concluded that the risk of an accident increases with the increasing heat stress condition. And also the fog and the wind increases the effect on the number of accidents therefore causing a delay in the Supply chain of the company (Edwards, 1996; Hermans et al., 2006). It was found out that the road accidents and injuries are more due to precipitation by using the data from mid-sized Canadian cities. The study showed that on an average precipitation increases 75% of the road accidents and the number of related injuries by 45 %. (Andrey et al.2003)

The most prominent changes which occur in the operating system via road is brought about by the weather which changes the physical outlook of the road which is a result from precipitation. When precipitation occurs, the road becomes either snowy or Icy, which results in accidents because the surface friction changes. The two most critical aspect of rainfall comes from either the time when the road is wet or the depth of water on the road surface at any given time. (Andreyl and Olley, 1990)

2.6 Risk Management Frame Work.

In order to mitigate the risk, the managers should do stress testing; stress testing is a group exercise that helps the manager to understand and prioritize the risk which the company is facing (Chopra and Sodhi, 2004). They should ask themselves a "What if" question and in accordance to the answer they should take a decision.Stress testing approach will be used in order to find out how the managers should react to the given situation.

The first step in the stress testing approach would be to identifying key risks, which can cause hindrance in the companies supply chain (Chopra and Sodhi, 2004). Next step should be accessing the risk individually. The managers should ask himself questions like, What if the risk has not been mitigated?, How much loss would the company face if the situation is not dealt with?, Who all would be effected with the particular situation and so on (Chopra and Sodhi, 2004). Through stress testing, the managers should be able to identify risk mitigation priorities for the near , medium and long term (Chopra and Sodhi, 2004). Managers should also have a clear idea about the impact of the risk at their sales, cost, revenues etc. All the big companies mitigate their risk by keeping extra stock or reserves for any unforeseen circumstances which the company might face but the manager should always chose that as a last resort and should try to mitigate the risk on their own (Chopra and Sodhi, 2004). The rules of thumb can be applied for risk-mitigation strategies, "When the cost of building a reserve is low, reserves should be decentralized. When the cost is high, reserves should be pooled. If the level of risk is low, focus on reducing costs. If the risk is high, focus on risk mitigation" (Chopra and Sodhi, 2004)

In order to implement the stress testing, and to identify the key risk which the company might face in the future, the manager can follow four steps which would help to achieve the corporate Goals. "Due to several corporate crises and insolvencies, specific pronouncements as well as regulatory requirements exist in numerous countries relating to the analysis, communication

and monitoring of risks" (Kajüter, 2003). The risk management process is a generic management and implements the following steps.

- Risk Identification
- Risk Assessment
- Risk Mitigation and Risk Control

2.6.1 Risk identification:

This step of the risk assessment is often considered one of the most important steps because only the risk, which has been identified, can be managed in a later stage and not those, which has not been taken into consideration. It is not realistic to identify all the possible risk associated with the business, though several risks, which may seem harmless, can accumulate and could cause severe damage to the business if in case they are not identified. As the risk management process, even the risk identification process should be carried out continuously since changes are constant in the Business, Supply chain or the Environment. (Eberle, 2005; Singer, 2012).

According to Romeike (2003a), there are many ways in which risk of a firm can be identified. For example, interviews, the SWOT analysis, Brain storming with the managers, Brain writing and the FMEA aims at identification of the risk of the future and so far the risk which are unknown to the business. Therefore, it is advisable to combine some of the methods in order to get better results. (Eberle,2005). The identified risk can be classified in different ways in accordance to the method, which has been used to identify them. For example: Tummala and Leung (1996) distinguishes the risk of catastrophic, critical, marginal and negligible risks on the level of hazard severity, Narasimhan and Sahasranam (2007) differentiate between strategic, tactical and operational risks on the planning level.

2.6.2 Risk Assessment:

After the risk identification the gathered risks are accessed at first by looking at the likelihood of the possible risks and the possible damage to the company. The evaluation can either be done

quantitatively or qualitatively . If there is enough historical data available with the manager he might use the quantitative method to assess the risk. Qualitative methods have disadvantages of leading to subjective results but it less time consuming and is more economical. Several methods which can be applied for risk identification could also be applied to Risks assessment, e.g. SWOT, FMEA, Brain storming etc. As also mentioned in the previous section it is more sensible to apply two methods together because it would fetch us better results. (Romeike, 2003b; Ziegenbein, 2007; Singer, 2012). In order to Visualize a single risk , risk map can be used which can consist if two axes "Likelihood of occurrence" and "possible damage" The scale may be chosen individually either qualitatively or quantitatively (Kajüter, 2003). After evaluating risks, they are prioritized in preparation for the risk mitigation step.

2.6.3 Risk Mitigation and Control

Risk handling represents the third step of the risk management process. Depending on the kind of risk, which the company has accessed, the enterprise, the objective of the company, company representative select strategies to mitigate the prioritized risks. When the representatives decide on the mitigating strategies and measures, cost of implementing the same and the chances of further potential risk should be taken into consideration. (Kajüter, 2003; Singer, 2012

During risk control step, the measures, which have been applied, are reviewed and seen if they are effective. If not, necessary action is taken especially in case of changes in the environment of the business. "A method which can be applied within the risk control step is for example the balanced scorecard" (Kajüter, 2003; Singer, 2012)

3. RESEARCH METHODOLOGY

The purpose of this section of the thesis is to provide the readers the details of the techniques and the methods, which has been used in order to collect the data. It includes the reasons and rationale for choosing the particular method(s) to collect the data and the limitations, which the researcher has to encounter in doing so.

3.1 The Research Approach

The research method is a process of structured data collection and information collection for the purpose of solving and answering a particular research problem or a research question, which is derived or formed at the beginning of the research (Ghauri &Gronhaug 2005). In this particular case, the research question is "*An investigation about road transport risks in logistics companies in India and the United Kingdom*"

There are many methods that the author can use for his/her research and methodology refers to the choices, which the author makes to analyze and collect his data. (Sliverman ,2007). In this research Qualitative method has been used. The Qualitative research allows greater flexibility between gathering the data and then interpreting them within the framework(Miles & Huberman, 1994). Qualitative research is done with small number of people, and is asked questions only in their context and then is analyzed unlike the quantitative research where large number of cases is studied and is seeking for statistical significance (Miles & Huberman, 1994). In Qualitative method, the results or the findings are not arrived by quantifications or statistical methods, it is a non-mathematical analytic method, in which finding and collecting data derives results(Miles & Huberman, 1994).

According to Zikund, 2000 Qualitative research is not to generalize the result but it helps to gain a better understanding of the study research and it emphasis more on the finding the opinions, experience of an individual. It is more concerned with questions like how, what, where, why? (Zikund, 2000) The qualitative method is better than quantitative approach, when studying about some organizations, groups or individuals, substantially to understand in-depth that why people or organization behave in a particular ways and their functions (Ghauri & Gronhaug 2005; Strauss and Corbin, 1990).

To gain knowledge about a certain issue, it requires the understanding of the entire system of how exactly it works. Similarly, to analyze the problems and the risk which firm faces when transferring goods from one place to another was studied in depth. The initial step was to acquire as much knowledge as possible about Logistics in general. For this purpose the data

collected about the industry comprised of reports from Economic times articles, Financial times, Annual Reports of the company etc. The main motive was to gather as much information available as I could to get a better understanding of the industry. After understanding the basics of the field, in order to compare the risk, which the companies are facing in the United Kingdom and India, five companies were chosen by the researcher which were dealing in Logistics. The Five Companies, which were chosen, were

- FedEx, India
- CMCL Logistics Company, India
- Atlas Logistics company
- S.W Logistics Company
- Anonymous company

3.2 Data Collection Method

The research of this dissertation is on the focus of Risk management in Road transportation in different countries in a Logistics operation. This research is new and complex because different countries face different Road risk when transferring goods from one place to another. Problems can vary largely and can affect the supply chain of the company; therefore this research is more appropriate for Qualitative method, which would aim to carry out the research question in a detailed manner. The more process oriented Qualitative method has been applied when collecting the data from companies.

Semi structured interview was taken in order to collect the primary data from the firm and after collecting the primary data, it was compared with the secondary data and theoretical frame work , in my case , risk management in road transportation, and then a comparison between countries would be done on the basis of the results. When interviewing a employee from the company, interviewer must be in open minded state, he should prepare proper questions, should be a good listener and he should be able to focus on his own ideologies. The interviewer should be able to interpret and analyze the important data, which he has gathered from the overloaded details collected during the process.

3.2.1 Primary Data

In order to collect the data, the researcher would be taking interviews as a primary source. According to Silverman, 2007 majority of the published research articles uses interviews in comparison to other methods of data collection. Also, interviews are more economical in terms of time and resources. (Silverman, 2007).

According to Saunders, Lewis and Thornhill (2007), there are three kinds of interviews, which are explained below.

- **Structured interview:**

  The interviewer meets the respondent personally to collect the data. The interviewer asks him set questions in a predetermined order and records or notes down his response to each question (Saunders, Lewis et al.,2007).

- **Semi-structured interview:**

  The interviewer commences with the set of interview questions in a prepared way, but it can vary in order and a new question can also be asked in the context to the research situation (Saunders, Lewis et al., 2007).

- **Unstructured interview:**

  The interviewer takes the interview informally and in loosely structured questions. The questions are not predetermined and have one or more themes to ask the participant (Saunders, Lewis et al., 2007).

The researcher would be taking semi structured interviews and in depth interviews in order to obtain the Primary data from the Logistics company. There will be a total of five companies in India and in United Kingdom who would be taking part in the interview. And no interview would involve people below the post of a manager in the company. The interview questions are attached in the Appendix one at the end of the dissertation.

Questions related to the risk, which the company faces when transferring the goods from one place to another via Road, have been asked. Questions related to the working environment and

the relationship with their supplier has also been taken into consideration. The interviews lasted for about 45-60 minutes and the interviews were conducted mostly on the phone or through Skype. The sessions were recorded to ensure the data were not misinterpreted and to analyze the same at the later stage.

3.3 Data Analysis

Data analysis is one of the most important steps in any research method, Qualitative or Quantitative. In the Qualitative results it involves interviews, recording, reviewing and revaluating the data, which, has been collected, and also interpreting the observation. According to Robson and Hedges (1993), data analysis has two major interlocking stages, data handling and thinking or interpreting. Data handling refers to the process of arranging and structuring the information collected during the interview source. According to Robson and Hedges (1993), good analysis of data should include Recording all interviews with all good quality equipment and not just pretending to memorize the information provided. Revising the data by listening to the recording over and over again and making notes at the same time of the information, which the researcher thinks is important to the study. The researcher should think about the findings by evaluating them and should reach to the conclusion. The researcher should try to come up with more productive results, which may provide richer and insightful results.

Content Analysis will be used as a technique in analyzing the data. According to Stemler (2001), Content analysis is a systematic, replicable technique for compressing. Many words of text into smaller and few content categories, which are based on explicit rules of coding (Berelson, 1952; GAO, 1996; Krippendorff, 1980; and Weber, 1990). Holsti (1969), gives a broader definition as "any technique for making inferences by objectively and systematically identifying specified characteristics of messages". It is a useful method of allowing us to discover and describe the focus of individual group, institutional or social attention (Weber, 1990). The primary purpose of this approach is to make the research findings easier by analyzing the raw data and interpreting them without using a structured methodology.

3.4 Limitations

Focus groups method could also have been used instead of the Semi structured interview. This

method might have been used in answering the research question but limitation might have aroused because of lack of knowledge of the researcher in this particular field and in managing this kind of discussions, it would have been difficult to gather several respondents at one particular time and could have also been more costly way to gather the information. Another important limitation is that, the researcher could not have interviewed all the people at the same time due to non-availability and unwillingness to share secretive information about the companies strategies.

4. FINDINGS AND DISCUSSION

In this section, the data that was obtained after taking the interview of the companies has been studied in order to obtain the answer to the research question. The information gathered during interviews as the primary source as well as the information using the secondary sources such as, the internet, Financial reports, Magazines and their documents were collected from the companies and have been analyzed together.

Upon taking the interview, this study has been exposed to various forms of risk, which a Logistics company has to face when transporting goods via one of the most important modes of transporting; the Road. The table below is the summary of risk the researcher discovered during the data collection process.

4.1 Types of Risks

Regulation:	Delay due to Problems with Customs, Legal requirements, Customs Clearance (Time

	Consuming, Corruption).
Environment:	Strikes Blocked Motorway, Breakdown of the Truck, Natural Risks, Infrastructure, Traffic Accidents.
Political:	Strikes, Curfews.
Communication:	Computer system breakdown, Communication Problems, Illiteracy
Packaging:	Over-Loading of the Vehicle, Shortage of shipping Capacity, Packaging, Damaged Goods, Deficient Wrapping, Quality Problem.
Others:	Lack of Drivers, No information about the Freight, Theft from Warehouses, Reliability of professional Drivers, Obsolete Equipment, Fraud on Freight exchange.
Weather:	Exterior Influence like Ice on the road, Rains

From the interviews, which were conducted in different companies within the UK and India, the researcher found various forms of road transportation risk being faced by the companies in the two countries. The risk exposed during the research, could be categorized under different section and themes. Regulation, Communication, Environment, Delivery process, Commodity Prices fluctuation and so on. Different companies around the globe face different risks. All the five companies, which were interviewed, had different risks and different ways to approach the risks, which the company faces.

Below are the company wise findings, which the researcher was able to gather during the course of the Research.

4.2 FedEx, India

Fed Ex Jaipur, India, the Branch manager was interviewed in order to find out the answer to the research question. According to him Fed Ex in India is one of the most leading companies in the field of Logistics and is one of the most efficient in the country. When the manager was

questioned about how a global company faces different risk in comparison to a domestic company. "The interviewee stated that as a global company operates in more than one country therefore demand for it services is usually higher. As it operates in several countries, the distance of delivering the goods increases which leads to higher costs, the documentation is more when operating globally and the work is more diverse. FedEx India has different alternatives in case of a foreseen risk, which the company might face. Upon interviewing the branch managers, it was concluded that the company believes in prioritizing the risk according to the financial losses, which the company might incur in, and it does not prioritize the risk on the basis of how important mitigating the other risk are. The main risks which Fed Ex, faces was with the infrastructure problem which causes delay in the delivery of the product and Loading and unloading of the product because the products are not taken off the vehicle carefully which causes damage to the goods and the company has to incur the losses. The manager of the company stated that due to lack of funding from the government, the transportation of India has been one of the major problems, which the road transportation of India is facing. According to him, the way FedEx approaches to work in India is entirely different from the way it performs in any other country. The company formulates the approach to work according to where the firm is based but the procedure of the work remains the same. For instance, in India the employees of the company undergo an intense training program. This is due to lack of technological awareness among people in India and it takes time for them to understand new technology. He further added that because of poor infrastructure of the country, the company incur into losses by diverting the route of the trucks because the company has to make sure that the delivery of the products is on time in order to match the international standards of the company.

4.3 CMCL Logistics Company Ltd.

The CEO of CMCL (Cement Manufacturing Corporation Limited) Logistics Company was interviewed. CMCL is situated in the state of Meghalaya in the Eastern part of India, In his words, " The risk which my company faces is entirely different from the risk which any other company located in other parts of the country" He further added, the company faces the risk of political instability which is prevalent in this region and which causes further disruption in the supply chain for the company. Frequent Strikes and curfews in this part of the country delays the delivery of the product across the country. The interviewee further added that the octroi points are one of the major concerns for the corruption, which prevails. Octroi is levied when

goods are brought in from different city, which is not supposed to be taken. The government of India introduced VAT in order to remove the Octroi system but now it is of double the loss to the business owners. The company delivers goods in countries like Bangladesh and Nepal and he said that there is a lot of corruption and bribery, which the company has to bear with in accordance to deliver the product in such areas. Due to heavy rainfall in the east region of the country, he added it gets more difficult to deliver the product on time, which causes a lot of hindrance in the supply chain of the company. Traffic is another issue, which causes delay in the delivery of the product. Due to establishment of several cement manufacturing plants in this area, the traffic congestion is really high. It sometimes takes days to get out of the road blockage, which causes delay in the supply chain.

4.4 Atlas Logistics Company, Bangalore

Another Company, which was interviewed in India, was the Atlas Logistics Company based in Bangalore. According to him, the highways of India are very congested and the poor qualities of the road disrupted the supply chain of the company. The risk, which their company is facing, is mainly due to the lack of coordination amongst their drivers and the main head quarters. Due to lack of tracing devices where the company can trace the actual location of the truck, the supply chain of the company was often delayed, he added. The drivers were unable to reveal the actual location because of poor communication between them and the headquarters, which resulted in the delay of the delivery of the product. One of the interesting factors, which were mentioned by the manager of Atlas Logistics Company based in Bangalore, was illiteracy. Most drivers in their company are illiterate and are not able to understand the rules and regulations related to handling of the products. Therefore, the handling of the products is of a great concern to them. Mishandling of the product by the drivers and overloading it beyond the capacity of the truck effects the quality of the product. He also mentioned that, the drivers have tie ups with other companies too and they load the truck with the products of both the companies, over loading the truck, and saving the latter company a lot of money and the driver too gets incentives.. He also stated "To summaries, the major challenge is to coordinate with the truck drivers in order to ensure the delivery on time."

4.5. S.W Logistics Ltd, United Kingdom

The risks faced by UK companies is very different to risk faced an Indian company. The Commercial manager of S.W Logistics Company was interviewed in the UK. According to him, the risk which the company faced and which caused the delay in the supply chain was mainly due to the weather. He further added that due to the uncertainty of the weather it becomes quite difficult to deliver the product on time. He also added that the road freight of the country has increased significantly over the past few years, which has made it difficult for a small logistics company to survive in the market. According to him, the traffic on the highways has increased significantly over the past six years and the number of vehicles has been increasing every day, which causes the disruption in the supply chain and causes delay in the delivery of the product. He further added that the weather of the country causes road blockage in the country and increases the chances of accidents on the road snowy/icy roads can causes the vehicle to slip causing accidents. Therefore, it is advisable for the drivers not to drive. The manager of SW Logistics Company also mentioned the language problem, which they encounter with when exporting goods to the European countries. He added, it gets really difficult to communicate with the receiver of the good sometimes due the language barrier due to which we lose the track of the inventory hence causing the supply chain disruption. Another Risk, which the manager faces, is with the product handling. He adds that perishable items needs to be handled with care and they have to make sure that the product quality is not encumbered. He adds that a lot of damage is done when the products are being loaded and unloaded onto the trucks. He also added that sometimes it takes a lot of time for the Truck to clear the customs because of increased number of documentation in the past couple of years. The risk management strategy which the company uses is by analyzing the historic data of the company and then making a list of possible risk which can reoccur in the future and accordingly prioritizing it by the consequences of the targeted risks.

4.6 Anonymous company

Due to confidentiality the name of the company has not been disclosed. The manager of the company was interviewed. The company deals into Logistics of FMCG goods. The interviewee stated that, it is the greatest challenge to deal in the FMCG goods for any Logistics company because delivery of the product on time is crucial. The managers states that, nearly 15-20% of the product is wasted due to mishandling of the perishable goods and the company has to bear a huge amount of money because of the same. According to him Packaging of the products is of a great importance for any company, which deals in the FMCG products. If a good care of the

products is not taken then the goods might be destroyed and causing a lot of damage to the company and the subsequent company. He further added that, to ensure the delivery of the product on time , the Logistics company has to make sure that correct mode of transportation is used and the correct or the shortest route is opted . Ware housing is another problem which the company is facing , he added, which sometimes spoils the quality of the product. He also added, sometimes weather is of a great problem and it decreases the visibility of the road and therefore it delays the supply chain. Upon asking him how is it different operating in a domestic country than being a global company, he stated, " It is as different as Moon is from Earth" If a company is global it has to consider a lot of factors while operating. Like currency Fluctuation, Market stability, Documentation, Legal requirements, Market Demand and so on. He also added that, because the company is dealing in the FMCG goods, deficient wrapping for a product could hamper the quality of the product. A lot of money is invested in packaging of the goods so as to keep it intact and without any flaws. The strategy which the company uses in order to mitigate the risk is, they double check the packaging of the goods and incase of bad weather or road blockage, they have officials who inform them about the same and they choose a different route instead of taking the regular route for delivery. The interviewee mentioned that, they have a lot of old trucks at the moment which is incurring in a lot of losses for the company because it increases the maintaining cost , the motor breakdown is disrupting the supply chain of the company hence the company is investing in more money to get new vehicles and continue the efficiency of work in a orderly way. The company measures the consequences of a risk against the chances of it of reoccurring and mitigates the risks accordingly. The risks are mapped on a chart and the risk, which is the most prone, and which can be the most harmful to the company are mitigated accordingly.

5. DISCUSSION AND ANALYSIS

In the previous chapter the researcher has discussed the data, which was collected using the primary and the secondary source, the data will now be analyzed and discussed in this chapter. Content Analysis is the technique, which the researcher has used to analyze the data in this chapter. According to Holsti (1969), "Any technique for making inferences by objectively and systematically identifying specified characteristics of messages".

In order to find out the risk that the companies were facing while transferring the goods in the two countries which affect the supply chain of the company to the most, the researcher used the frame work which was discussed in the chapter two. Firstly stress testing was used on the

managers through which various risks that the companies were facing were identified. And the risk were Assessed by the impact of it on the operation of the firm.

Identify and Assessment of the risk:

Various risk were explored, which the companies were facing in the two countries during the course of the study. From the study that was conducted, it was explored that the risks, which were being faced by the Indian companies, were totally different from the one in the United Kingdom. From the data collected, it can be concluded that the risk Indian company confronted with was more due to the poor infrastructure in the country, Poor quality of service, Political Instability, Legal Requirements, Traffic congestion, and so on. Whereas the risk, the companies in the UK were facing were mainly due to the weather problem, and the packaging of the goods, which hampered the quality of the products. Below is the summary of the risk that according to the findings were identified and is one of the most affecting risk to the businesses in these two countries.

5.1. Quality manpower:

According to the interviews, which were taken, Quality manpower in the firm in both India and the United Kingdom are lacking which causes a lot of disruption in the supply chain. The firms are facing problems with loading and unloading the goods, which damages the quality of the products. Also as mentioned in the chapter two, the cost, which is incurred by the damaged goods, is the most, which consist of 66% of the total, cost (Tseng and Yue et al., 2005). Both the countries are facing the similar risk of the quality manpower, which is increasing the cost of the operation. Intensified training of the employees and drivers can be an appropriate step to minimize the damages.

5.2. Technology:

The companies in India, are not advanced with technology as stated by the manager of Atlas Company, and also according to Edmund Prater, " Many developing countries lack in the technical and communication infrastructure and it becomes difficult for the supplier to communicate with the consumer and hence it decreases the flexibility and increases the uncertainty" (Prater and Biehl et al., 2001). Also, as mentioned in the previous section "Information Technology plays a vital role in supporting Logistics, Transportation, Warehousing and the Packaging of the products. Technology has sneaked into all the areas of

logistics such as product movement (GPS), Warehousing (WMS) "(Reference)Therefore, we can conclude that India yet have to overcome the technology challenges whereas, the companies in the United Kingdom is pretty well verse with the technology which makes the supply chain smoother in the country in comparison to India.

Infrastructure issues:

According to Armstrong, the inadequate infrastructure and poor condition of roads in India leads to higher vehicle turnover and it increases the operating cost and reduces the efficiency of the company, it also delays the delivery of the goods on time. Where as in the United Kingdom, the infrastructure is pretty well developed.

Regulatory restrictions:

If there is a sudden rise in the demand of a product the transporters overcharge the customers due to lack of rules and regulations in India, which is not the case in the United Kingdom. As also mentioned by the manager of the CMCL Logistics company, the corruption and Bribery prevails in the country which doubles the expenditure of the companies.

Political Areas and Borders crossed:

As discussed in the chapter two, Jodice says that , "The political instability areas makes it difficult for the transporter to carry goods from one place to the other. It can affect the assets, personnel and operations of the foreign firm" And also, in the previous section, the data which was gathered from the manager of the CMCL company, he mentioned, the Political instability in the region is causing a lot of hindrance in the effective functioning of the company which leads to a significant financial loss for the company, where as no such issues were brought by the companies which were interviewed in the United Kingdom.

Weather :

As discussed by Andreyl and Olley, 1990 , "the most prominent changes which occurs in the operating system via road is brought about by the weather which changes the physical outlook

of the road which is a result from precipitation. When precipitation occurs, the road becomes either snowy or Icy, which results in accidents because the surface friction changes. The two most critical aspect of rainfall comes from either the time when the road is wet or the depth of water on the road surface at any given time" (Andreyl and Olley, 1990), And when interviewing the companies in the UK and India, the problem which the managers faced in the UK was mainly due to the unpredictable weather which prevails in the country and no such issue was brought in by the managers in India .

5.7.Packaging:

For any Logistics company, packaging is one of the most important aspects, because it ensures the quality of the good and it also shows the efficiency of the company. Upon interviewing the companies in the United Kingdom and India, the researcher found out, mostly all the companies were facing the problem with the packaging of the goods, which affected the quality, and hence, the company bears a significant amount of loss. Packaging is of a great concern for the company that deals in the FMCG goods; therefore it increases the cost of transportation.

5.8. Communication:

In order to keep the flow of the operations, the company has to make sure that the communication between the associates is efficient. From the data that has been gathered the communication is efficient in both the countries, UK and India.

5.9. Traffic Congestion:

Traffic congestion has been increasing in all the parts of the world. The companies which were interviewed faced the problem of traffic. Traffic Congestion has increased significantly over the past five years in both the country India and United Kingdom. This change has affected the supply chain of the companies to a great extend. The number of vehicle on the road has increased causing the delay in the supply chain. Also, as mentioned by Kinnon 2009, "Traffic congestion affects the efficiency and quality of Logistics operation in any country. If the traffic congestion was regular and predictable or may be evenly spread across the road network then it

would have been easier for companies to increase the delivery schedules and accommodate the delays accordingly and incur minimum losses and provide better service standards. But unfortunately not all congestions are uniform everyday"

The above mentioned risks were the main risks which the companies in India and UK were facing due to many complexities in the environment. To summarize the main risk which the companies in India and UK were facing are due to the problem of Quality Manpower: lack of professional drivers in the country, Infrastructure: it is causing delays in the supply chain of the company, Weather: it is also causing delays in the supply chain of the company and leads to increase in the traffic congestion, And Packaging: Deficient wrapping or poor packaging of the product hampers the quality of the product.

Implement and Monitoring the Risk:

One of the most important components of business is to exchange information. For the efficient working of the business, not only the physical flow of the goods is crucial but also information management plays a vital role. IT tools enhances the exchange of information. In the field of risk management it can be one of the most important tools to mitigate the risks. (Erben and Romeike, 2002). In the first phase of the risk management, which is identifying the potential risk, IT tools can be used to support this phase. Data sources like accounting, financing, inventory management can be done with the help of the IT tools, IT-tools can support this phase by identifying the risk. Data sources can be e.g. the accounting division, inventory management, the legal department or internal claims records. Furthermore, IT-tools can be used to support activities with the aim to Assess the risks, e.g. by conducting workshops, interviews or FMEA (Erben and Romeike, 2003). The assessment of risks is performed in the second phase of the risk management process. IT tools can be used for statistical methods and calculations. (Erben and Romeike,2003). The use of IT tools can measure the impact of risk, which were discovered at the time of study. For example, the risk which the companies in the UK were facing was due to packaging and the weather. In this scenario, IT tools can help the company to forecast the weather and decide for an alternative accordingly. GPS system can help to monitor/ trace the location of the goods and this way, the supply chain disruption can be prevented.

6. CONCLUSIONS

The purpose of this chapter is to highlight the findings and the discussion which the researcher has been able to gather and link it to the research question and the objectives. This chapter also includes the recommendations to the manager regarding the result of the study, the limitation which the researcher faced , and finally the future research on the topic.

The research question as stated in the previous section

> "A comparative study between Logistics companies in United Kingdom and India on Road transport risks"

The objectives were-

- Review and research on the literature of Risk Management in Road Transport in India and United Kingdom.
- Understanding the importance of risk management and the understanding the risk faced by different companies.
- Analyze the data which from the interviews and compare the different working styles of the company in order to perform efficiently .
- Compare the risk of the companies in India and United Kingdom.

The researcher has been successful in achieving the objectives which are mentioned above by reviewing in detail, the literature on Road transportation and the risk which the company faces. The data which the researcher was able to gather was through Primary and secondary sources and the key points were compared to the literature review in order to get the answer to the Research Question.

6.1. The Summary of Discussions

There have been many research and studies which has been done on the Risk which a Logistics company faces. However, very little study has been done on the comparison between the companies in India and United Kingdom and the risk which are being faced. This study has

been able to fill the gap by trying to understand the risk which a Logistics company faces in different countries. But there is still score to carry out further studies in this particular field.

As the authors emphasized at the beginning, one of the purposes of this research is to explore the role of road transport in logistics operations. From the study it shows that the primary activities for any Logistics operation constitute of materials flow and the delivery on time of the products, also from the study we can conclude that road transportation is one of the major parts in distributing the product across the region , therefore it is important to understand the risk which a Logistics company faces while undergoing the Logistics operation. It is therefore important for companies in the Logistics operation to increase the efficiency of the company by ensuring the delivery and the quality of goods at time.

6.2.Recommendations to Managers

Based on the study conducted by the researcher on this topic, the following are the recommendations made to the manager of any Logistics company across the globe.

- More importance should be laid upon the delivery of the product on time and alternative measures should be the part of the operation in the case of any Unforeseen activity.
- More emphasis should be given on the packaging of the product because the damage of goods in the course of the operation can destroy companies Goodwill.
- Indian Managers should train the employees more extensively in order to meet the international standards of any Logistics Operation.
- Alternative routes should be formed for delivery of the products in India because of Poor infrastructure and Traffic Congestion.
- The Managers in the United Kingdom should forecast the weather before Scheduling the delivery in order to ensure the delivery on time.
- All the Logistics Company should place a tracking device on the Truck/ Lorry in order to get the actual location of the goods.

6.4.Limitations of the Study

When the data was being collected, there were many challenges, which the researcher had to

face. Some of them were regarding the disclosure of information regarding the approach, which the company follows to mitigate the risks, and other promotional strategies, which they thought were confidential and sensitive information. Due to lack of study in this particular field Researcher had to face many

Limitations, which are as follows-

- The methodology which the researcher has used is Qualitative method , which makes it difficult to generalize the results, where as Quantitative method makes it very easy.
- Semi structured interviews were taken by the researcher in order to gather the primary information which increases the chances of getting biased data due to the fact that interviewees sometimes are not able to disclose confidential information, resulting in inaccurate and incomplete information.
- The number of companies which the researcher interview seems less in comarision to the market of Logistics, the researcher might have been able to obtain a deeper insight if there were more people to interview, but the lack of time, finances and resources restricted the researcher.
- The interviews which were taken were done through the phone, which limits from obtaining information as a person expresses a lot of things from Body language also.

6.3.Future Research

The above study has been able to answer the reaearch question by comparing the companies in India and UK. The risk which the companies faces are totally different. To validate these findings , further Qualitative and Quantitaive reseach may be carried out to challenge the above findings. Also research can be done using more than five companies to get better information and Data which can be useful in backing up the data.

References:

Andrey, J.C., Mills, B., Leahy, M., Suggett, J., 2003. Weather as a chronic hazard for road transportation in Canadian cities. Natural Hazards 28, 319–343.

Anon 2013, Moving goods by road, https://www.gov.uk/moving-goods-by-road. [online] Accessed on 15.08.2013

Agcas 2012. Industry insight – Transport and logistics, http://www.mmu.ac.uk/careers/students-and-graduates/resources/insights/transport-and-logistics.pdf [online] Accessed on 05.08.2013

Bansal, P. & Corley, K. (2012). Publishing in AMJ -Part 7: What's Different about, Qualitative Research?. Academy of Management Journal, June.

Berelson, B. (1952). Content Analysis in Communication Research. Glencoe, Ill: Free Press.

Bowersox, D., Closs, D. and Cooper, M. 2010. Supply chain Logistics Management. 3rd ed. Singapore: Mc graw hill, pp. 205-207.

Bryman, A., and Bell, E. (2007), Business Research Methods (2nd ed.), New York: Oxford University Press.

BTRE (2001) Logistics in Australia: A Preliminary Analysis. Bureau of Transport and Regional Economics, Canberra, <http://www.btre.gov.au/docs/wp49_contents.htm>.

Carr, A.S. and Pearson, J.N., 1999, Strategically managed buyer-sellerrelationships and performance outcomes. Journal of Operations Management, 17,497-519

Chen,H., & Hu, M.Y. 2002. An analysis of determinants of entry mode and its impact on performance. International Business Revei,11(2):193-210.

Chen and Yano: Improving Supply Chain Performance Under Weather-Related Demand Uncertainty Management Science 56(8), pp. 1380–1397, 2010 INFORMS

Chopra S, Sodhi MS (2004) Managing risk to avoid supply-chain breakdown. MIT Sloan Manag Rev 46:52–61

Cooper, M. Cc and Lambert, D.M.,2000. Issues in supply chain management, Industrial Marketing Management, 29(1), pp. 65-83

Cousings,p., Lamming,R., Lawson, B. & Squire, B. (eds) 2008. Strategic Supply Management Prentice Hall.

Council of Supply Chain Management Professionals (CSCMP) (1991), "Glossary of terms – logistics", available at: http://cscmp.org/digital/glossary/glossary.asp, p. 114,

Dickson, G.W. 1966 , An analysis of supplier selection systems and decisions. Journal of Purchasing and Materials Management, 2,5-17

Dion,p., Banting,P., Picard,S. and Blenkhorn, D.,1992,JIT implementation: a growth opportunity for purchasing. International Journal of Purchasing and Materials Management,28,33.

Earnest, L. 2005. Same-store sales rise 2.9% in May. Los Angeles Times (June 3), http://articles.latimes.com/2005/jun/03/ business/fi-retail3.

Eberle, A. O. (2005): Risikomanagement in der Beschaffungslogistik – Gestaltungsempfehlungen für ein System, Dissertation der Universität St. Gallen, Difo-Druck, Bamberg.

Edwards, J.B., 1996. Weather-related road accidents in England and Wales: a spatial analysis. Journal of Transport Geography 4, 201–212

Gallagher, R.B. (1956) Risk management: A new phase of cost control, Harvard Business Review (September-October).

Gammelgaard, B. (1997) "The Systems Approach in Logistics", Institute for Logistics and Transport, Copenhagen Business School, pp. 9-20.

Ganeshan, R, and Harrison Terry P., "An. Introduction to Supply Chain Management," Department of Management Sciences and Information Systems, 1995

Ghauri, P. & Gronhaug, K. (2005). Research Methods in Business Studies: Apractical guide. 3rd ed. FT Prentice Hall: Harlow, England.

Harland, Christine, Richard Brenchley, and Helen Walker (2003), "Risk in Supply Networks," Journal of Purchasing and Supply Management, Vol. 9, No. 2, pp. 51-62.

Hahn, C.K., Pinto,P.A and Brag,D.J., 1983, Just-in-time purchasing and the partnership strategy. European Journal of purchasing ans supply management , Fall, 2-10

Hermans, E., Brijs, T., Stiers, T., Offermans, C., 2006. The impact of weather conditions on road safety investigated on an hourly basis. In: Transportation Research Board Annual Meeting, CD-ROM Paper 06-1120.

Hise, Richard T. (1995), "The Implications of Time-Based Competition on International Logistics Strategies," Business Horizons, Vol. 38, No. 5, pp. 39-45.

Holsti, O.R. (1969). Content Analysis for the Social Sciences and Humanities. Reading,MA: Addison-Wesley.

Ila Manuj & John T. Mentzer, "GLOBAL SUPPLY CHAIN RISK MANAGEMENT", JOURNAL OF BUSINESS LOGISTICS, Vol. 29, No. 1, 2008.

Inc., R. 2010. *What is Risk Retention? : Risk Retention Insurance Services*. [online] Available at: http://rris-insurance.com/rr/ [Accessed: 9 Sep 2013].

Investopedia.com. 2013. *Risk Control Definition | Investopedia*. [online] Available at: http://www.investopedia.com/terms/r/risk-control.asp [Accessed: 9 Sep 2013].

Jean Andreyl and Richard Olley, 1990 , Relationships Between Weather and Road Safety: Past and Future Research Directions, http://www.cmos.ca/CB/cb240301.pdf [online] Accessed on 29.08.2013

Kajüter, P. (2003): Risk management in supply chains. In: Seuring, S.,Müller, M., Goldbach, M., Schneidewind, U. (Eds.): Strategy and Organization in Supply Chains, Physica-Verlag, Heidelberg, New York, pp. 321-336.

Kajüter, P. (2007): Risikomanagement in der Supply Chain: Ökonomische, regulatorische und konzeptionelle Grundlagen. In: Vahrenkamp, R., Siepermann, C. (Eds.): Risikomanagement in Supply Chains, Erich Schmidt Verlag, Berlin, pp. 13-17.

K. B. Hendricks and V. R. Singhal , "Supply Chain Disruptions: Theory and Practice of Managing Risk"

Kersten, W., Schröder, M., Singer, C. and Feser, M. 2013. RISK MANAGEMENT IN LOGISTICS. [report] Hamburg, Germany: C.A.S.H., pp. 39-50.

Kleiderman, A. 2004. Soggy summer spells boardroom gloom. BBC News (September 25), http://news.bbc.co.uk/2/hi/business/ 3686742.stm.

Kotabe,,M., martin,X. and Domoto, H., 2003, Gaining from vertical partnerships: knowledge transfer, relationship duration, and supplier performance improvement in the U.S. and Japanese automotive industries. Strategic Managament Journal,24, 293-316

KPMG 2009, *Competitiveness through Efficient Logistics,* http://www.kpmg.de/docs/India_Competitiveness_through_Efficient_Logistics2009.pdf. [online] Accessed on 15.08.2013

Lambert, D. M., Stock, J. R., and Ellram, L. M. (1998) Fundamentals of Logistics Management, International edn, McGraw-Hill Higher Education, London.

Mandy Borrow, 2013, types of transport in Britain, http://resources.woodlands-

junior.kent.sch.uk/customs/questions/transport.html, [online] Accessed on 05.08.2013

Mark, S., Philip, L. and Adrean, T. (2007), Research Methods for Business Students: Fourth Edition, Prentice hall-Financial Times.

Mark, S., Philip, L. and Adrean, T. (2009), Research Methods for Business Students: Fifth Edition, Prentice hall-Financial Times.

Mckinnon, A. 2009. Traffic congestion, reliability and logistical performance: a multi-sectoral assessment. Logistics Research Centre, Heriot-Watt University, Edinburgh, UK, pp. 331-333.

McKinnon, A.C., 1999. The effect of traffic congestion on the efficiency of logistical operations.International Journal of Logistics: Research and Applications, 2 (2), 111–128.

Mentzer, John T. and A. Coskun Samli (1981), "A Model for Marketing in Economic Development," Columbia Journal of World Business, Vol. 16, No. 3, pp. 91-101.

Mentzer, John T. and John Firman (1994), "Logistics Control Systems in the 21st Century," Journal of Business Logistics, Vol. 15, No. 1, pp. 215-227

Miles, M.B. and A.M. Huberman (1994), Qualitative data analysis, 2nd edn, Thousand Oaks, CA: Sage.

Min.S. and Mentzer, J.T.2004. Developing and measuring supply chain management concepts. Journal of Business Logistics, 25 (1),pp. 63-99

Narasimhan, S. N. L., Sahasranam, C. (2007): Managing Disruptions in a Supply Chain. In: Proceedings of the 18th Annual Conference of the Production and Operations Management Society (POMS), Dallas/Texas, USA, 4th-7th May.

Nelson, Paul T. and Gadi Toledano (1979), "Challenges for International Logistics Management," Journal of Business Logistics, Vol. 1, No. 2, pp. 1-21.

Niemira, M. P. 2005. Weather matters. Internat. Council Shopping Centers Res. Rev.

12(2) 23–27.

Ola Johansson. (2006) Towards a model for managing uncertainty in logistics operations. Lund University.

Paulsson, Ulf (2004), "Supply Chain Risk Management," in Claire Brindley, ed., Supply Chain Risk, Hampshire, UK: Ashgate Publishing Limited.

Prater, E., Biehl, M. and Smith, M. 2001. International supply chain agility-Tradeoffs between flexibility and uncertainty.*International Journal of Operations \& Production Management*, 21 (5/6), pp. 823--839.

Robsun, S. and Hedges, A. (1993). Analysis and Interpretation of qualitative findings: report of MBS Qualitative Interest Group. Journal of the Marketing Research Society,v35.n 1:pp 23.

Romeike, F. (2003a): Risikoidentifikation und Risikokategorien. In: Romeike, F., Finke, R. B. (Eds.): Erfolgsfaktor Risiko-Management: Chance für Industrie und Handel; Methoden, Beispiele, Checklisten, Gabler Verlag, Wiesbaden, S. 165-182.

Romeike, F. (2003b): Bewertung und Aggregation von Risiken. In: Romeike, F., Finke, R. B. (Eds.): Erfolgsfaktor Risiko-Management: Chance für Industrie und Handel; Methoden, Beispiele, Checklisten, Gabler Verlag, Wiesbaden, S. 183-198.4444

Samir K. Srivastava, Logistics and Supply Chain Practices in India, Vision: The Journal of Business Perspective. [Online] Accessed on 15.08.2013

Saunders, M., Lewis, P., & Thornhill, A. (2007). Research methods for business students, (4thed.).Harlow : Financial Times/Prentice Hall.

Silverman, D. (2007).A very short, fairly interesting and reasonably cheap book about qualitative research. London: SAGE

Stern, E., Zehavi, Y., 1990. Road safety and hot weather: a study in applied transport geography. Transactions of the Institute of British Geographers 15, 102–111

Stemler, S. (2001). An overview of content analysis. Practical Assessment, Research &Evaluation , 7(17).

Strauss, A. & Corbin, J. (1990). Basics of Qualitative Research: Grounded Theory Producers and Techniques. Newbury Park, CA: sage.

Tilanus, B. (1997) Information Systems in Logistics and Transportation. Elsevier Science Ltd., UK

Trafficmaster/RAC Foundation, 2007. Trafficmaster/RAC Foundation congestion report: volume 1 – avoiding the commuter jams. Cranfield.

Tummala, V. M. R., Leung, Y. H. (1996): A risk management model to assess safety and reliability risks. In: International Journal of Quality & Reliability Management, 13 (8), pp. 53-62.

Vaughan, E.J. and Vaughan, T.M. (2001) Risk Management. New York: John Wiley & Sons.

Water, D. 2011. *Vulnerability in Resilience in Logistics*. 2nd ed. London pp. 1-10.

Weber, R. P. (1990). Basic Content Analysis. 2nd ed. Newbury Park, CA.

Zikmund, W.G. (2000). Business research methods, (6th ed.).Fort Worth, Tex.: Dryden Press

Appendix 1

Interview Questions

- What is your responsibility in the Company?
- How many years have you worked in your organization for?
- How many numbers of Employees do you have in your company?
- Could you tell me some History and background of the Company?
- How many trucks do you have in your company?
- Where in the field of Logistics, do you place your company at the current Situation?
- Who are the main clients for your company?
- When transporting goods, what all are the risk which your company faces when transporting goods via road?
- What is the major risk that your company faces?
- What is the Probability of the risk happening?
- What if the risk is not mitigated?
- How much loss would the company face if the situation in not dealt with?

- Who all would be affected with the particular risk?
- How is the infrastructure of your country affecting the supply chain?
- How is the weather of your country affecting the supply chain?
- If in a particular situation, there are multiple risk in transferring goods, how does your company makes a decision about risk and how do you prioritize it?
- How is it different to operate in a domestic market than in a global market in respect to the risks faced?
- How long is the delay caused by the bad conditions of roads?
- Cargo security on the roads is another obstacle, which many Logistics company are facing, how does your company deal with it?
- Do you have your own warehouses for cargo unloading?
- To what extent has the frequency of major congestion incidents increased over the past 5 years?