International trade has experienced significant changes in the recent times. Trade is traditionally thought to consist of each country exporting the goods most suited to its factor endowment, technology and climate while importing the goods least suited for its national characteristics (Adam Smith, David Ricardo, Heckscher-Ohlin). The standard trade theory involves trade in homogeneous products; hence, with perfect competition there is only inter-industry trade. But in the past few decades it has been observed that great deal of trade takes place between similar countries and similar goods instead of different countries and different goods. Thus in a way the new type of trade (new trade theory) contradicts the traditional standard trade theory. 

Verdoon (1960) first noted the existence of such transaction between countries. This new type of commodity transaction can be defined as inter-country exchange of commodities belonging to same industry as Balassa (1966) first called it "Intra-Industry Trade". Grubel and Lloyd were the first to empirically test the notion of intra-industry trade, and they define it as “trade in differentiated products which are close substitutes" (Grubel & Lloyd, 1975).

Interest in Intra-Industry Trade arose mainly because the traditional theory of absolute costs, comparative costs and factor endowment dealing with homogenous products, is incapable of explaining the simultaneous exports and imports to a country of the same statistical category. Intra-industry trade describes trade in similar, but slightly differentiated products based on imperfect competition, or trade in close substitutes demanded by
consumers in different countries who may have distinct tastes or preferences.

Considering the importance that Intra-Industry Trade has been gaining in the last few decades, the present study has been undertaken with the following primary objectives:

1. The measurement of intra-industry trade for all the broad category of industries under SITC classification for selective years under two-digit classification; from the year of liberalization to the recent year for which data is available.

2. Considering the growing importance of transport sector in general and car industry in particular, the study also measures the extent of intra-industry trade under two digit classifications and also examines the trend of IIT of car industry under four and six digit of ITC (Indian Trade Classification).

3. In view of rising intra-industry trade the study attempts to examine the welfare impact of intra-industry trade.

1. To examine whether the current trends of intra-industry trade in long run are sustainable or not.

Data have been obtained through primary and secondary sources. For the primary data, a questionnaire was prepared and administered to respondents who owned cars. The aim of the primary data collection has been to ascertain the impact of decision to buy a new car or replacing an old car or buying additional cars can have on the level of satisfaction or welfare of the individuals.

Since covering the entire population is practically an impossible task so a sample representative of the population technique has been adopted. The aim of the sampling is to choose a subset in a way that it should be adequate in size and representative of population as a whole.
For the primary data, a questionnaire has been framed and target was to have a sample of more than 300. For the primary data analysis, several techniques such as tables, graphs, regression and ordered probit model have been used.

The researcher visited all the respondents for the collection of data. The secondary data were collected from the Monthly Statistics of Foreign Trade of India, Volume I and II published by Directorate General of Commercial Intelligence and Statistics (DGCI&S) for exports and imports containing commodity by country details. The analysis of present study pertains to commodities under sections that include two-digit level of Indian Trade Classification (ITC) for broad categories of commodities in general and four-digit level and six digit of ITC in Transport equipment in particular.

The years selected for the study are: 1989-90-the year before liberalization in India; 1994-95-the year after liberalization of India and formative years of WTO to study growth and extent of intra-industry trade in pre-liberalized and post-liberalized era; 1999-2000- the beginning of new millennium; 2002-03, 2004-05 and 2006-07-the latest year for which data was available at the time of conducting the study.

The main findings of the study regarding the measurement of intra-industry trade for the selected broad categories of goods can broadly be categorized into three parts that is:

a) Very low or Low levels of intra-industry trade
b) Average or below average levels of intra-industry trade
c) High or very high levels of intra-industry trade

**a) Very low or Low levels of intra-industry trade**

The very low level of intra-industry trade has been observed in the categories Live Animals, Hides and Skins, Wood,
Cork and Articles, Textile Articles, Footwear Headgear and Works of Art, Antiques and Collector's Pieces.

Trade in Live Animals is more of inter-industry in nature. The different measures of intra-industry trade reveal only insignificant level of intra-industry trade. Intra-industry trade in the Hides and Skins and Leather Products is found to be below average. But overall there has been an increasing trend of intra-industry trade in the different years of study.

In Wood, Cork Articles and Textile Articles category low levels of intra-industry trade have been found. The different measures of intra-industry trade reveal only insignificant level of intra-industry trade. But overall there has been an increase in levels of IIT in different years.

Trade in the category Footwear Headgear, Umbrella and Articles Thereof is more of inter-industry in nature. The values of intra-industry trade in all the years have been found closer to zero indicating very low levels of IIT. In the Works of Art, Antiques, Collector's Pieces pertaining to a below average level of IIT was noticed in the initial year but after that a very low extent has been seen in all the years of the study.

b) Average or Below Average levels of intra-industry trade

The average or below average levels of IIT has been observed in the commodity sections Vegetable Products, Animal or Vegetable Fats and Oils, Beverages and Tobacco, Mineral Products, Paperboard and Articles, Stone and Cement, Machinery and Their Parts and Instruments and Apparatus. This section also includes categories with fluctuating levels of IIT.

Trade in Vegetable Products has experienced average levels of IIT. For all the years average levels of intra-industry trade has been noticed. It is only in the year 2006-07 that above average
level has been found. The different measures of intra-industry trade reveal significant level of intra-industry trade in the year 2006-07 of the study.

The category Animals or Vegetable Fats is indicating above average levels of IIT in earlier years but there has been decline in the value in the later years of the study. The intra-industry trade in the year 1994-95 in the category Prepared Foodstuffs Beverages and Tobacco is found to have high levels of IIT.

It has been found that trade in the category Mineral Products is more of intra-industry in nature. The different measures of intra-industry trade reveal significant level of intra-industry trade for different years of the study.

The study reveals that in the trade of Paper and Paperboard etc. IIT is of fluctuating nature.

In the category Machinery & Their Parts average levels of IIT have been observed. In the year 2006-07 a declining trend has been indicated.

The trade in the category Instruments & Apparatus depicts low levels of intra-industry trade. But overall there have been increasing trends in different years.

c) Very high or high levels of intra-industry trade

The high and very high levels of intra-industry trade have been observed in the categories like Products of Chemicals and Allied industries, Plastics and Rubber, Pearls and Stones, Base Metals, Transport Equipment, Arms and Ammunition and Miscellaneous Manufactured Articles.

Trade in the category Plastics and Rubber is more of intra-industry in nature. A high level of IIT has been observed for all the years of the study. In the category stones, cement and similar materials, trade has been found to be intra-industry in
nature. However, in the later years, decline in intra-industry trade has been noticed.

It has been found that trade in the category Pearls, Precious and Semi-Precious Stones and Base Metals is more of intra-industry in nature. A high level of intra-industry trade has been observed for all years of the study. Trade in the Transport Equipment category reveals the increasing extent of IIT. However in the year 2006-07 a declining trend has been observed.

The study reveals that in the Arms & Ammunition; Parts & Articles category high levels of IIT have been observed. Trade in the category Miscellaneous Manufactured Articles category reveals very high levels of IIT. In some of the years the trade is found to be completely intra-industry in nature. However in the later year, a marginal decline in IIT is noticed.

The main findings of the study regarding the detailed trends in Intra-Industry Trade in the Transport Equipment category are:

In the category Public Transport Type Passenger Motor Vehicles the study reveals a low extent of IIT.

The study reveals that in Vehicles with spark-ignition internal combustion reciprocating piston engine of cylinder capacity $\leq 1000$ CC category the level of intra-industry trade is low.

It has been observed that trade in the Vehicles with spark-ignition internal combustion reciprocating piston engine of cylinder capacity $> 1000$ CC but not $>1500$ CC category is more of intra-industry in nature in earlier years. However, in the years 2004-05 and 2006-07, decline in intra-industry trade has been observed.
In the Vehicles with spark-ignition internal combustion reciprocating piston engine of cylinder capacity > 1500 CC But ≤ 3000CC category, trade is more of intra-industry in nature but overall it shows a fluctuating trends.

Trade in the Vehicles with spark-ignition internal combustion reciprocating piston engine of cylinder capacity >3000CC category is more of inter-industry type.

It has been found that trade in the Vehicles with compression ignition internal combustion piston engine (diesel/semi-diesel) of a cylinder capacity ≤ 1500 CC category is more of inter-industry in nature. In the earlier years of the study though an average level of IIT has been noticed but in the later years trade becomes inter-industry in nature.

Trade in the Other Vehicles with compression ignition internal combustion piston engine (diesel/semi-diesel) of a cylinder capacity>1500 CC but≤ 2500 CC category has shown low levels of intra-industry trade.

Trade in the Vehicles with compression ignition internal combustion piston engine (diesel/semi-diesel) of a cylinder capacity > 2500 CC category has been showing fluctuating trends.

So far as the ranking of the various reasons for buying the car for the first time, the main findings of the study are that overall individuals consider comfort and convenience as the most preferred reason for buying the car. The average rank for comfort and convenience comes out to be 1.77 denoting it to be the most significant reason for buying the car.

After comfort and convenience respondents consider fuel efficiency as an important reason for car purchase. The average rank for fuel efficiency comes out to be 2.76 thereby indicating it
to be next important reason for buying the car. Finally the other factor, which comes out to be significant for car purchase, is bigger family. The average rank for the bigger family comes out to be 4.88, which is the third most preferred reason for car purchase. The other reasons like status, family pressure, and advertising affecting car purchase are observed to be insignificant with an average rank more than or equal to 5.

The present study proposed to analyze the impact of the decision to buy a new car or replacing an old car or buying additional cars on the level of satisfaction or welfare of the individuals. The measurement has always been a crucial aspect of economic analysis involving subjective variables like satisfaction, welfare etc. Since there is no measuring rod, subjective variables are measured on a verbal or numerical scale. Instead of judgmental questions, an ordinal scale of 0-9 or -5 to +5 has been chosen so that respondents are able to answer them easily. The analysis based on such a questionnaire is based on the assumption that individuals are able to understand and answer the questions correctly.

To measure the level of satisfaction the present study used a scale of 0-9 for a large part of the questionnaire and respondents were asked to give their opinion on this scale. The respondents were also asked to give their opinion about their welfare level and happiness level on a scale 0-9 after car purchase. The different questions of same type were asked to eliminate any possibility of inconsistency in the respondents response due to any confusion regarding satisfaction, welfare and happiness.

On the question on level of satisfaction the average level of satisfaction comes out to be 6.8609. Thus most of the
respondents find themselves on scale 7 out of scale 0-9. On the other hand average level of welfare experienced by the first time car buyers comes out to be 6.39. Similarly on the question of specifying the level of happiness the average level comes out to be 6.78 on a scale 0-9. Although respondents were asked the same question in three different forms, yet the overall level comes out to be, between six and seven for the questions on satisfaction, welfare and level of happiness.

The main findings of the study regarding the impact on level of satisfaction or welfare of the individuals buying another car(s) reveal that individuals do experience substantial level of satisfaction from the purchase of second or third car. The average level of satisfaction for second or third time car owners comes out to be 6.6400.

The respondents were asked to rate the level of happiness on a scale 0-9 by comparing the financial burden and satisfaction received. The average rank comes out to be 6.49 as a whole indicating that overall respondents consider car as a significant source of happiness.

The results of empirical analysis of relationship between level of satisfaction from buying car and its determinants are discussed below.

The Ordered Probit model was applied on the level of satisfaction from the purchase of first or more cars as a dependent variable and various variables that is increase in income, fuel efficiency, security and protection, easy loan availability, family pressures, bigger family, status consciousness, comfort and convenience, attractive look-as explanatory variables. The results indicated insufficient variation
in the level of satisfaction for both first and second or more time car buyers indicating that various considered explanatory variables do not lead to significant variation in the level of satisfaction of the car purchasers.

For the first time car buyers comfort and convenience (CC) is the only variable which significantly affects the level of satisfaction of the car buyers.

The level of satisfaction of the second or more time car buyers is independent of the various explanatory variables that is increase in income, fuel efficiency, security and protection, easy loan availability, family pressures, bigger family, status consciousness, comfort and convenience, attractive look. Moreover, it is also indicated that that it is comfort and convenience (CC) which dominates the decision of second or more time car buyers.

Both Comfort and Convenience and the level of satisfaction decrease for the second or more times car buyers. Consequently it can be concluded that over a period of time significant improvements in the level of welfare through blanket increase in intra-industry trade (IIT) may not take place.

**Suggestions and Policy Implications**

1. Since blanket increase in intra-industry trade (IIT) may not lead to significant improvements in welfare level, an in-depth analysis of the impact of intra-industry trade on the level of satisfaction for each category of good, should be made and IIT for only those categories of goods should be encouraged which can lead to significant improvements in the level of welfare.
2. Since basis of any trade in general and IIT in particular is economical, efficient and cheap transport costs; an increase in the oil prices (like experienced recently-oil price touching almost 140/barrel) can hamper the sustainability of trade in many goods.

From the long run point of view, it follows that if liberalization and globalization policies are to be followed, they need to be selective rather than blanket. This is all the more important for a country like India for which only a small proportion of total trade is of the IIT type. Therefore, corrective measures in the above directions need to be taken well in advance to avoid adverse effect on different macro economic variables.