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Envisioning Trucking Business Through Containorisationof RoadFreight Transportation (Trucking) Industryin India for EnhancingProfit Level and Operational Effciciency

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Abstract

It is always better to have effective planning with an imagination to achieve certain goals, which might be more beneficial in larger context. Considering this and bringing trucking industry of India into the context for the larger benefits, the current study is trying to look at possibilities of envisioning trucking business through containerization. This is because transport in general and trucking industry in particular plays an important role and also considered as back bone for economy like ours and many others also. Having look at trucking industry in particular with reference to its growth in our economy, it has grown in terms of size i.e. number of trucks and freight handled by it. The trucking population has increased merely about one lakh during 1950-51 to almost nearly one crore now, and the share in freight handled with reference to surface transport in particular has increased from 12% to almost nearly 70% now as a result of growth in other sectors of our economy where transportation services required very prominently.

Further, with reference to the types of goods handled by trucking industry in India consists of long list. Some of the goods requires special protection, keeping aside the special vehicles like tankers and so on. Goods like food grains, fertilizers, coal, chemical ore, etc. need some additional protection especially during bad weather. On the contrary, at the time of loading and unloading the trucks get unnecessarily delayed/blocked for the whole time of loading and unloading and hence the trucking capacity with reference to operational utility not being fully nurtured. Thus, given this background, current study attempts to understand trucking industry in general and types of goods carried in order to find out the possibilities of doing containerization of trucking industry may be partially, if not fully to check on loss due to bad

weather and also to increase the operational capacity by reducing wastage of time especially while loading and unloading ofgoods/freight handled. Hence, finally the study will attempt to understand its impact on business of trucking operators in near future with reference to operational viability.

Key Words: Transportation, Sustainability, Operational Efficiency, Economy, Business.

1. Introduction

Indian economy is comparatively doing well since past some time and same is getting reflected in one or the other ways. The impact has been seen in the transportation sector of our economy too with reference to investment in physical infrastructure as well in various modes of transportation in general and trucking industry (Road Freight Transportation sector) in particular. Given in Table 1 budget estimates and actual expenditure for road construction in last few years by NHAI.

Table 1: Budget Estimates v/s Actual Expenditure from 2010 to 2017 (in Rs. Crore)

Year	Budget	Actual	Actual/Budget
2010-11	24709	24385	-1%
2011-12	26438	26073	-1%
2012-13	30798	22537	-27%
2013-14	31302	28400	-9%
2014-15	35435	33049	-4%
2015-16	45572	46913	3%
2016-17	57976	52447	-10%

Source: NHAI and Gudipati Rajendra Kumar: An Analysis of Road Transport- Budget 2017-18, The HANS, India,March 21, 2017.

The Table 1 simply indicates that our government is trying its best with reference to improvement in road infrastructure availability for better perspectives and same is getting reflected in terms of amount of investment which is almost more than double in the year 2016-17 as compared to year 2010-11. However, it has been found that whatever budget was allocated for the road infrastructure development , it is only in the year 2015-16 where it is being utilizes in most efficient manner otherwise in rest of the years an actual expenditure is less than budget estimates. This is where we need to focus and improve.

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Moreover, in order to meet the emerging needs of better road network, there is a need to create an adequate road network to carter the increased traffic and movement of goods. Thus, Government of India has set earmarked 20 percent of the investment of US $ 1 trillion reservedfor infrastructure during 12thfive-year plan (2012-17) to develop country's roads. With reference to market size, the transport infrastructure sector in India is expected to grow at 6.1% in real terms in 2017 and grow at a compounded Annual Growth Rate (CAGR) of 5.9% through the year 2021, thereby becoming the fastest-expanding component of the country's Infrastructure sector. In addition to this, the construction of highways reached 8142 kms during financial year 2016-17, with an all- time high average pace of 22.3 kms per day. In the first two months of financial year 2017-18, 1627 kms of highway were constructed at an average of 26.3 kms per day. However, under the Pradhan Mantri Gram Sadak Yojana (PMGSY), 133 kms road per day in 2016-17 were constructed as against 2011-14 average of 73 Kms per day. Again, it is learnt that the National Highway Authority of India (NHAI) plans to build 50,000 kms of roads with US $ 250 billion by 2022 as a part of long term goal of doubling the length of the National Highway Network to 2,00,000 kms.[1] Government has started focusing more and more on development of Road infrastructure and road connectivity. Work has been initiated for development of new highways and expansion of existing highways. Government is trying to develop world class infrastructure as its dream projects[2] such as:

1. Chardham Highway Project
2. North East Highway Project
3. Bharatmala Project
4. Setu Bharatam Project
5. Delhi Jaipur Super Expressway

Further, road freight transportation sector is considered as one of the important segment of our economy, it is also considered as back bone of our economy. The share of road transport in freight movement by road has also increased since last some time and this has resulted into increase in number of trucks in our economy due to increase in demand for movement of goods throughout the country, mentioned in Table 2:

Table 2: Truck Population and Freight Handled by Road Transport in India

[3]Union Budget 2017-18, NHAI website and Ministry of Road Transport and Highways, Government of India.

[4] Parihar M & Singh A (2018)…spm pdpu

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Year	**TRUCK POPULATION* (in Thousand)**	**FREIGHT HANDLED** (in BTKM)**
2001	2948	515
2004	3749	646
2007	5119	933.7
2010	6432	1287.3
2013	8307	1653.6
2014	8698	1822.3
2015	9344	1975***

Source:* Research Wing, Ministry of Shipping, Road Transport and Highways, GOI.

** Road Transport Year Book 2015. *** Estimated on the basis of previous growth rate.

The above Table 2 indicates substantial growth in trucking population as well as freight handled by road transport in last one decade or so. But the growth in trucking population is notices 3 times as compare to growth in freight is notices 4 times almost. This simply reflects that there would be more demand for trucking services in future too.

However, despite of the fact that trucking industry is one of the dominating sector in our economy with possible high growth potential in future, it has still not overcome its basic problem due to ownership profile of the industry i.e. the industry is dominated by small road transport operators, and this primarily results into the problem relating to viability of operation.

Although, there are some other ways and routes to address the issue of viability of trucking operations of all operators in general and small operators in particular, we attempted to address the same issue through an idea of containerization of trucking industry to some extent, if not fully, based on nature of operation and types of freight handled. Hence, given this backdrop it is believed that an envisioning of trucking business in much better way relating to viability of trucking operations can be done through containerization of Road Freight Transportation (Trucking) Industry in India.

2. Objectives

1. To understand the trucking industry and concerned issues.

2. To explore the possibility of containerization of trucking industry, partially if not fully.

3. To suggest policy recommendations on the basis of the study.

3. Methodology

With reference to the need and objectives of the current study, the methodology adopted includes Review of Literature, secondary data use, collection of primary information throughsurvey/observations.As the main objectives of the current study are to look at the trucking industry in general and issues pertaining to it in particular along with an exploring the possibilities of containerization of trucking industry partially, if not fully to tackle the problem relating to viability by protecting certain types of goods which can get ruined due to bad weather, and also save the wastage of time during loading and unloading for operational efficiency, we attempted a critical understanding of trucking industry in India and issues relating to operation particularly, having considered the importance of viability of operation and saving the time during loading and unloading as well as freight handled. This is sought given the role played by trucking industry in overall economic development of our nation.

Thus, given the importance of freight protection and reduce the wastage of time during loading and unloading of goods to the overall performance of trucking industry and its operational efficiency which can further enhance the productivity of trucking industry and strengthening its role for overall economic development. On the other hand the significance of current study can be considered from future policy framework perspective. Hence, secondary data gathered for the study. Further, the data technique will be employed to find out relative effect of independent variable on dependent variable with given stochastic term. The methodology thus adopted involved fitting log-log regression to the time series data.

4. Containerization of Trucking Industry in India

Having look at the amount of freight handled by road transport sector and its substituent i.e. railway, one can simply identify that the share of road transportation in freight handling has increased substantially despite the fact that per unit transportation cost by rail is lower than road transportation given the nature of those particular goods. This has happened especially after 1960 (i.e. limitations of railways created path for road transport sector in freight handling) due to certain inherent characteristics of road goods transportation industries such as customer tailored schedules, easy availability, easy maneuverability and smaller cargo acceptance, flexibility in operation and organization and door-to-door service. It entails small

losses due to pilferage and damage and low packing expenses and is more economical in terms of total cost and time. As it possesses greater distributive ability in terms of delivery and collection, it is strategically more suitable for hilly, rural and inaccessible areas than railways, waterways and airways. It acts as a feeder services to all other modes of transport (Parihar M, 2018).

However, in many respects and on many occasions the goods transported by train is more protected as compare to road transportation especially during bad weather. This is because thegoods transported by rail especially food grains, mineral ore, cement bags, fertilizers bags, etc. are kept in closed container, whereas in case of road transport they are almost kept open (only during rainy seasonthe truck being covered). However, during the transit in non-rainy seasons when those goods bags are kept openand ifsuddenly weather change, it creates huge trouble for operators and other stakeholders. Further, on many occasions the goods carried by truck without containerization gets damaged or spoiled, and unnecessarily the amount of loss being recovered from truck operators. However, the biggest threat is that if this loss happened by small operators as they are already struggling with viability of operation, the small operators are not in position to fulfil the loss happened and thus forced to bear the burden and it may result into the sale of truck or huge financial debt. On the contrary, in case of fleet operators, although they have a capacity to bear the loss due to above mentioned reason, but ultimately it effects their business too and thus, in overall the entire trucking industry suffers on many grounds.

Again, through containerization of trucking industry especially for long haulage we can bring good changes in other respects too apart from protecting the goods from damage and spoiled i.e. by bringing digitalization component which can be inbuilt in container itself can provide all the information relating to the types of goods carried, total weight, goods origin and destination details, information regarding owner of consignment, tax payment related information, value of goods shipped, installation of GPS system to track the container, etc. which can further help concerned government authorities to trace easily the consignment and also there would be less enroute detention. This is because there are around 10-15 concerned authorities related to regulatory and legislative measures which can stop enroute truck for checking. Thus, containerization of trucking industry can bring substantial improvements with reference to safety of goods, less enroute barriers due to digitalization results into improvement in operating time on a particular route. However, it is being observed that although containerization of trucking industry partially, if not fully is a good option but it is not that easy to execute, unless proper planning and strategy being followed for execution.

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Thus, for this whole support from government, truck manufacturers, financial institutions and other stakeholders along with the willingness of operators is required.

Further, the study also realized that containerization can help in reducing the wastage of time during loading and unloading of goods too. The study observed that given the nature of goods, sometimes it takes half to one complete day for loading and unloading. Hence, if the goods are already in container, it requires just to load the container directly on the truck or trailer with the help of crane without wasting much time as how it takes place at ports for either goods train and on many occasions for trucks too. Although, it has been observed that there already exists a system where containers being loaded on trucks but this exercise being only limited to shipping containers in major cases and marginally with reference to Packers and Movers Companies along with few fleet operators. Even today, as we presume that the share of containerization on trucks is hardly upto 5 % of the total truck population, and therefore, if it will be increased upto 15% in short run and more than 25% - 30% in long run given the nature of goods transported, it will be great support to our economy by protecting goods, and no doubt very beneficial to trucking operations too with reference to viability. Although, containerization of trucks would be a specific service again but looking at the geographic and climatic conditions of our economy we are in very much need of it. This can be simply understood by the correlation between the sectors like agriculture and industry with transportation services requirement i.e. correlation between growth in demand for trucking services and growth in agricultural and industrial sectors of our economy. It can be seen via econometric analysis adopted using fitting log-log regression model (2004-05 to 2013-14)[3]:

The model is:

$Y_i = \beta_i + \beta_2 X_i + \beta_3 X_2 + U_i$

Whereas,

Y_i = Truck Traffic i.e. Number of Trucks or Trucking Population

β_i------$\beta 3$ = parameters to be estimated

X_i = Agriculture and Allied Activities in Growth

X_2 = Industry Growth

Thus, given model for the estimation, the result is as follows in Table 3 below:

[1] Parihar M. (2018).

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	Trucks	
	Agriculture and Allied Activities	Industry
Elasticity	**2.24**	**1.20**
Intercept	-11.04	-2.42
RSQ	0.97	0.98
Standard Error	0.05	0.04
t-stat	16.99	20.30
Source: Parihar M. (2018)		

Hence, as per analysis, firstly the hypothesis constructed i.e. there is no relation between truck traffic and agriculture & allied activities growth, but the result showed that there is strong relation between truck traffic and agriculture & allied activities growth, therefore the hypothesis is rejected. Further, the R^2 value 0.97 indicates that the agriculture & allied activities growth explains 97% of the variability of the truck traffic It also justify that there is strong impact of agriculture & allied activities growth on truck traffic. Accordingly, secondly the hypothesis statesthat there is no relation between truck traffic and industry growth, but the result stated that statistically there is strong relation at 5 % level of significancebetween truck traffic and industry growth. Therefore, the hypothesis is rejected. The value of R^2 is 0.98 indicate that truck traffic explained by the industry growth. In other words, there is correlation between both variable.

Moreover, during the course of study it is observed for various routes that on certain occasions the truck operators being asked to halt for many hours to a complete day sometimes due to the non-availability of space at warehouse of users or transport company. However, in this case the operators are paid some compensation called as “KHADI”, which is very less amount ranging from Rs. 500 to Rs. 700 per day, this amount is comparatively very less if we compare to the revenue generated by truck operators if the truck is in operation for same duration, same can be understood through given Table 4:

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TABLE 4: Trucking Routes and Time Duration for Loading and Unloading in India

Route	Route Length (Kms.)	No. of Trips (per Month)	Total Time (Days per Trip)	No. of Event of Loading (per Trip)*	Total Time for Loading and Unloading (Days per Trip)*	Time Duration Between Loading and Unloading (Days per Trip)
Mumbai-Delhi	3100	3	8-10	4	1-2	2-3
Mumbai-Chennai	2800	4	7-8	4	1-2	1-2

Source: Our Study.

Thus, given in the above Table 4 that in a trip on particular route 4 events of loading and unloading in total takes place, and for each event the assumed time is around 5-8 hours minimum and maximum could be one full day also. So, at minimum level if we consider 1 day in totality on a route say Mumbai-Delhi, and given number of trips done on this route in a month, the operator is almost wasting 3 days' work hours per month which is equivalent to one side journey or more of this route. Hence, the revenue being generated for one side trip is net monthly loss to the operators. And on the basis of estimated cost of trucking operations and revenue generation as per cost model of trucking in one of the earlier study done by author of current study clearly reflects that the revenue lost monthly might be equivalent to the monthly instalment of trucks in many cases. Thus,by bringing corrections or improvements in trucking industry throughcontainerization of trucking industry will result into better viability of trucking operation and thus, trucking industry can grow further for better economic perspectives of our nation.

5. Conclusions

The study concludes that in the deficiency of proper protection of goods transported by road transport segment in our economy especially during non-rainy season, there happened to be a lots of economic loss in many respects. Further, with the growing economy and its component, the trucking services demand will rise in future and thus, proper system or

mechanism is to be followed in regards to safeguards especially those goods which have more chance to get spoil or damage. The study also concludes that in current situation the time required or taken for loading and unloading of goods is also more which resulting into unnecessarily engagement of truck/trailer happens, and therefore, the truck's operational efficiency also get affected. Therefore, in this regard our current study is of the opinion that containerization of trucking industry partially, if not fully is an appropriate solution to these problems. Thus, the study also suggests that government should support truck operators and manufacturers too as this exercise in not that easy and also do have multidimensional effects. Hence, in this regard a detailed study is called for.

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