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Bringing Competitive Efficiency Through Trucking Co-operatives: A Case of Road Freight Transportation Industry in India

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ABSTRACT

Competitive market always has better consumer surplus provided that competition amongst the players is healthy i.e. firms or entities in a particular market is capable enough to compete. By bringing efficiency amongst unhealthy segment of the market from competition perspective, economy in general and respective segment in particular may have maximum gain. This simply reflect the condition of small truck operators and their operation condition when they compete with fleet operators in market for their business with help of one or two truck primarily. Given the small size they are not operating with economies of scale and hence viability along with other problems is a major issue. Therefore, bringing efficiency in operation of small operators for better competition is necessary, and this can be done through set – up of "Trucking Co-operatives" throughout the country.

Since trucking industry is backbone of our economy and hence viability of small operators is necessary because they comprise around 70% of the total trucking population. It is necessity now to do something to save small truck operators and further enhance their competitiveness in market. Primarily cooperatives being set-up by people who have less and insufficient resources, hence with limited resources they come together for maximum gain i.e. if small operators with insufficient resources come together to form trucking co-operatives, they may achieve viability through cost sharing and cooperative efforts with reference to co-operative marketing. Moreover, by addressing problems and challenges relating to trucking business of small operators we can make them more competitive and help them to sustain in the market. Because given the importance and role played by trucking industry, it is assumed that any kind of inefficiency in this segment leads to huge loss to our economy as suggested by some of the earlier studies too.

Thus, in this paper an attempt has been made to understand the trucking industry in India and to examine operations related issues which effects operational efficiency that ultimately effect the viability, particularly of small truck operators. Also, the aim is to look at various efforts done in past in our economy for the betterment of small operators via cooperative framework and analyze result so far. Moreover, the study undertaken will also attempt to understand the possible benefits that trucking industry in general and small operators in particular can derive through trucking cooperatives via cooperative marketing and can possibly solve many of its existing problems.

Keywords
Cooperative, Marketing, Viability, Transport, Business

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Introduction

Transport sector in general and road freight transport mode in particular serves as one of the key factors in developmental process of our economy. In past few decades, road transport with reference to trucking industry has emerged as dominating mode in terms of freight movement via surface transport and its share is almost four times more as compare to railway in our GDP. Despite of this the trucking industry has not come out from some of its basic problems. Again, the trucking industry in India is entirely in private domain and is dominated by small operators, a majority of whom own a single truck or two. Moreover, given the growth in agricultural and industrial sector output in absolute term, the overall population of trucks has also increased from merely more than 80,000 in 1948-50 to around more than 95 lakhs currently. Table 1 shows truck population, freight handled by road freight transport industry and GDP of India for 15 years period from 2001

Thus, Table 1 shows significant increase in truck population as well as freight handled by road transport segment. Trucking industry in general and small operator in particular are still going through certain challenges such as asymmetric information, finance, regulatory and legislative, operational inefficiency i.e. viability issue, economies of scale, etc. In past, various committees and studies have examined some of these challenges to bring operational and financial efficiency in trucking industry and specially for small operators. Some of the studies had suggested formulation of viable units through cooperative solution could be the relevant option to tackle the various challenges of small operators through cooperative marketing.

Further, past literature review helped us to understand that the productivity of the truck operators depends on fleet size & its utilization, trained manpower, etc. For the small operators with one or two trucks, the existing system does not permit them to enjoy economies of scale because they lack the manpower and their facilities to directly deal with consigner/consignee, financial institutions, suppliers of input, and save on commission given to the intermediaries. Moreover, their small size also makes it difficult to achieve objective of viability. Hence, it is assumed that productivity of system will improve considerably if efforts are made

towards the formation of viable units among operators especially small operators with one / two / three truck so that they do not restrict themselves to only haulage function but also via cooperative marketing activities undertake various allied transportation activities for their betterment (Parihar M. 2014).

NCAER (1979) studied trucking industry and tried to look at the situation of small operators especially from viability perspective and asserted that as compare to large operators, the small operator's margin is insufficient and thus not able to grow appropriately. Study shows that small operators (those who owns up to 3 trucks) are around 70% of the total truck operators and if they fail to generate sufficient margins it is unlikely that the industry will attract necessary capital investment. Further, the study also revealed that large fleet owners have many advantages as compare to small operators because of its size i.e. especially with reference to cost sharing of each truck in term of operating cost. In other words, large truck operators have economies of scales due to offices and branches at many locations and having monopoly component in interstate and long distance traffic. The study also revealed that with reference to the economies of scales, the large operators have certain advantages such as enjoy purchase economies in procurements, commission expenses, truck utilization, freight booking and the last not the least i.e. formulation of viable units due to optimum utilization of trucks and higher net fright realizations.

NTPC (1980) studied trucking industry and observed that the industry faces challenges relating to inadequacy of working capital, motor spare parts and lack of other facilities since long and no concrete initiatives by government despite of many recommendations in the past. Not surprisingly, the nature of ownership i.e. large number of small operators and their individual operations resulting into operational inefficiency in many ways

TABLE 1: Truck Population and Freight Handled by Road Transport in India

Year	TRUCK POPULATION* (in Thousand)	FREIGHT HANDLED** (in BTKM)	GDP (Rs. Crore)
2001	2948	515	2348481
2002	2974	545	2474962
2003	3492	595	2570935
2004	3749	646	2775749
2005	4031	728.3	2971464
2006	4436	825.9	3253073
2007	5119	933.7	3564364
2008	5601	1021.6	3896636
2009	6041	1144.5	4158676
2010	6432	1287.3	4516071
2011	7064	1407.8	4918533
2012	7658	1508	5247530
2013	8307	1653.6	5482111
2014	8698	1822.3	5741791
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. GDP Data: CSO at Factor Cost 2004-05 Prices, Data Book 22-12-14.*

CIRT (1994) studied trucking industry with reference to its history and regulation, structure of trucking industry, viability of operation, financing, etc. and revealed that there is a need for fresh look at the industry's structure. The study asserted that there is a need for making viable units of operators (especially of small operators) because the small operators have sustained even without operational efficiency. The study talked of viable units because it would provide garage facilities, ensure proper repair and maintenance and induct professional skills, and thus transport cooperatives could be an interim measure.

AITD (1999) studied the road freight transportation industry from financial perspectives. The study is of the opinion that adequate, cheap and timely financial facilities or support is necessary for the growth of any sector or industry and the trucking industry is no exception. According to the study, the trucking industry facing huge financial problem or crisis due to its nature of ownership i.e. large number of small operators. The study found that banking system do not recognize small operators especially owners of upto 3 trucks and hence has not developed any mechanism or system to provide financial support to small operators. Thus, the study felt that through consolidation of operators (especially small operators) by way of formulation of associations/cooperatives should be positively encouraged. This is because the study realized that consolidation in trucking industry would facilitate greater flow of funds from banking sector. The study also asserted that formulation of cooperatives by small operators would make them to get loans from banks and also enable them to get insurance at better terms and conditions.

Sriraman et al. (2006) studied trucking industry with reference to competition issue and policy measures in India. Like other studies in past relating to trucking industry which emphasized on trucking cooperatives as a means of enabling viability of the operations for the small operators, this study also revealed that a cooperative solution would provide better flexibility in terms of operations which will be attempting to provide a viable basis of operations by handling the issue of asymmetric information. The study also tried to highlight scenario of cooperative solutions in India with reference to the trucking industry which really has not emerged if we compare it with countries like USA and others, where we can find some kind of cooperatives (such as Truck Load Carriers, American Independent Trucking Associations, etc.). The study also revealed that having the disadvantage of being small as compare to fleet operators, cooperative effort will ensure solution to many of the diseconomies of being small and individual operators especially with reference to asymmetric information, working capital and enroute expenses. This may also result into the reorganization of registered cooperatives by Indian Bank Associations (IBA) for financial support. Finally, the study revealed that trucking cooperatives will not only result into vibrant set of operators with lower cost and viable operations but also better deal for users by way of more competitive price.

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Parihar M. (2011) studied trucking industry in India by conducted economic analysis and tried to find out an appropriate solution to various existing issues of trucking industry, viability of operators especially small operators is one of the main component through financial analysis. The study asserted in line with several other previous studies that formation of transport cooperative would be act as a viable solution for the small operators. It can be achieved through economies of scale in marketing, operating and sharing of information, elimination of some elements of intermediaries in the supply chain process, etc.

Further, Road Transport is considered as the most efficient mode for short and medium haul due to its certain inherent features (Customer tailored schedule, easy availability, smaller cargo acceptance, flexibility in organization and operation, door-to-door services, greater distributive ability, more suitable for hilly, rural and inaccessible areas than railways, waterways and airways, act as feeder services to other modes of transport, large employment potential, etc.). Road transport sector has grown significantly during last six decades due to its deep linkages with the rest of the economy and strong multiplier effect. However, despite the fact that trucking industry is one of the very important component of our economy, it has still not come out of its basic problem amongst other problem i.e. nature of ownership profile (Other problems and challenges includes viability of operation, enroute barriers, legislative and regulatory measures, overloading, taxation, tolls, finance and insurance, highway safety, corruption, etc.). The transport system in general and trucking industry in particular in the Indian context also suffer from severe governance inadequacies, poor decision making practices especially with reference to fixed component of transport infrastructure (Parihar M, 2014).

With reference to ownership profile of trucking industry in India it is entirely in private domain and is dominated by small road transport operators, a majority of whom own a single truck or two. Although, it has been observed that in past few decades the share of road transport in total surface traffic movement in India has increased with a distinct shift away from railway, but despite of this and even emerging as dominant mode, the industry has not been able to emerge out of the traditional unorganized framework i.e. large number of small operators. Even today the situation is almost similar with marginal change in terms of ownership profile if we compare it with the situation in last 2-3 decades {As mentioned by ATDI (1999) where 77% were small operators with upto 5 trucks, 10% with 6-10 trucks, 4% with 11-15 trucks, 3% with 15-20 trucks and 6% with more than 20 trucks. This is also marginally good if we compare it with situation of 1990's as mentioned by U N Mission (1993)}. Again, this unique ownership profile in trucking industry has also created middleman issue. Thus, in the current context, it has been observed that small road freight operators due to their fragile ownership nature do not have greater level of competencies and given that they are not operating at adequate level with reference to viability.

Objectives

Operational inefficiency of trucking segment in India with reference to small road transport operators is one of the major concern since no appropriate measures have been taken so far despite of various High-Powered Committees set-up by the Government in past and recommendations provided by those Committees. Although, concerned Government in past and current too tried their best but due to fragile nature of trucking industry in India in the context of operation and ownership profile, adopted policies and measures proved to be less effective and thus continuation of similar problems in varied proportion from past to present.

However, it is presumed that unless and until small truck operators by themselves not initiate any efforts along with legislative and regulatory support for their betterment, all the attempts by Government for betterment of trucking industry will not give better results. Hence, it is expected that formation of trucking co-operatives especially for small road transport operators and their collective efforts for business via co-operative marketing can bring good amount of relief for truck operators. Therefore, current study is undertaken with the following objectives:

1. To understand the nature of operation of trucking industry with reference to small operators.
2. To examine the issues pertaining to small operators of being small having upto 3 trucks.
3. To evaluate the impact of operational inefficiency of small operators in particular.
4. To examine the option relating to formulation of trucking cooperatives to tackle the issues of small operators through cooperative marketing efforts.
5. To suggest policy guidelines and recommendations on the basis of the study.

Methodology

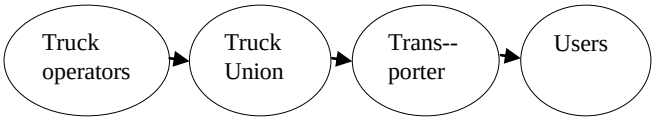
As the main objective of this study is to examine the option relating to formulation of trucking cooperatives to tackle the issue of small operators through cooperative marketing efforts in order to strengthen the small truck operators in their operation and make them sustainable proportion of our economy. Since small operators are going through the problem of operational inefficiency, even today they are not operating on economies of scale. We attempt to examine issues pertaining to small operators of being small having upto 3 trucks and also look at impact of operational inefficiency of small operators. We will also try to understand the level of viability of operations w.r.t. specific route, load, distance and freight rate on the route with the help of cost model, especially for small operators (with the inclusion of facts such as length of route, operation per month in terms of kilometers, truck off the road for number of days in a month, commission paid to agents due to asymmetric information, number of trips per month, total time taken and actual time required per trip, etc.) for better calculation of viability level so that it can be understood easily that whether small units/operators are viable or not and if viable then to what extend. Is the viability level is enough that they can grow by themselves or not. Check

various options to formulate viable units via cooperative efforts i.e. trucking cooperatives and cooperative marketing.
Given the importance of trucking industry in our economy through many perspective, a structured approach has been followed in this study. The methodology adopted for the study to meet the requirement and objectives includes review of literature to gather insights, secondary data use, collection of primary information through field survey/observations, etc. which has provided some basis for the study. Further, secondary data relating to various aspects of current study would be procured and subsequently, data analysis technique will be employed for the trucking industry. The methodology thus adopted involved fitting log-log regression equation to time-series data.

Result Analysis:

It has been observed in the current context of trucking industry in India that since small operators who are holding one or two trucks and given their ownership with reference to types of trucks most of them are owning trucks with Registered Laden Weight (RLW) upto 10-12 tonne. Very recently, although the share of truck-trailer and multi-axle vehicles with RLW 20-25 tonne has increased but given their share in total truck population in India, with aggregate effect, still trucks with RLW 10-12 tonne dominates and mostly of them are with small operators. Further, as suggested by some of the earlier studies undertaken with reference to viability of operation using appropriate COST MODEL that the trucks with RLW 9 tonne and operation on daily basis ranging from 225 kilometers to 300 kilometers, the operation is not viable. This is because the small operators with one or two trucks do not enjoy certain advantages being enjoyed by fleet operators of being big. Again, due to small in size and no market advantages in one or the other way, the total time taken per trip on specific route is also more on many occasions. Small operators also face problem with reference to getting load on time and thus again wastage of time. Moreover, due to small in size and no appropriate support in case of mechanical failure or financial crunch, their operation suffers and this resulted into off-the-road of trucks of many times for more number of days.
Further, because they are small in size, they do not enjoy economies of scale in operation at individual level with reference to the connectivity with the market. Thus, due to low level of operations with reference to kilometers travelled because of timely load availability and marketing inefficiency, trucking industry with reference to small operators suffers lot. The study observed that small operators with the formation of trucking cooperatives and efficient cooperative marketing efforts can solve their problem of operational viability, physical efficiency and other issues.
Moreover, the study found that the concept of trucking cooperative is not new to the road freight transport sector, but the presence of trucking cooperatives in the form of truck unions is completely different than what current study undertaken think of. In case of truck union, the truck owners irrespective of their size come together and form a kind of a trucking cooperative in that particular area or region. These truck unions are formed as per Indian Trade Union Act 1926. Now, as a case for this study Sumerpur truck union is selected which was setup and registered with sub-labour Director- Pali (Rajasthan) on 17th May 1959 as per Indian Trade Union Act 1926. On the basis of discussion with stakeholder of Sumerpur truck union it is learnt that there are around 500 such truck unions in India around 40 in Rajasthan with varying in numbers with reference to their members i.e. truck operators.
Further, as of now there are around 300 members with more than 2500 trucks along with Sumerpur truck union. With reference to the working procedure of this union, on the basis of their own cost component calculations they fix up the freight rate for a specific route and given distance on the basis of some selected parameters. However, parallel open market in Sumerpur also operational i.e. those truck operators (basically fleet operators/owners) who are not members of Sumerpur truck union and functioning as per load availability with no particular mechanism of freight rate as undertaken by Sumerpur truck union. On many occasions, it is learnt that they carry the goods at lower rates than truck union.
Given below the Business Model of Sumerpur Truck Union (Source- Our Analysis):

1st Business Model:



2nd Business Model:

Freight rate per truck is fixed by truck union and therefore as per 1st Business Model, they have already fix up the broking charges to transport operators for providing help in getting load to truck operators. In case of 2nd Business Model, there are no intermediary and thus no commission also. Further, since all the truck operator who are members of union are different in size, a truck operator with more number of trucks will not have to wait for truck union to get load for him directly. They try to get load directly from intermediaries at lower freight rates and therefore many of the truck unions have been collapsed, as same can happen with Sumerpur if this situation happens repeatedly.
As observed during the conduct of the current study that the role of truck unions is confined only to get loads for its members. They are not involved in other facilities, which are primarily required for its operations such as finance, support, damage or theft, regulatory and legislative support, purchase, etc. However, these truck unions primarily being set up to save small operators from their exploitations by intermediaries. It has been observed that the major reasons of failure of truck union at some places is different size of operators as members of union. In this situation, some of the operators who are member of truck union, started dealing with open market component to get freight directly instead of waiting for their turn as a member of truck union.

Thus, trucking cooperatives have to come up with completely different strategy may be by way of introducing new model of operations with complete or slight shift from model used by truck union. This may include not only provision of load for its members but facilities relating to financial availability as per working capital requirements, theft or damages control, set up provision or mechanism to deal with legislative or regulatory regimes, bulk purchase of components like oil, fuel, tyre or even trucks though tie-up with different suppliers at concessional rates. During the course of this study, it is also observed that with reference to number of members in one trucking cooperative should be around 100 and the number of trucks with those operators should be around 250-300 with varying in load capacity. This proportions should be found appropriate and we should have number of such trucking cooperatives at many places.

Further, once cooperatives as suggested above being formed then they should have their own office to handle their business which will further reduce the dependence of truck owners (who are members of trucking cooperatives) on intermediaries to large extent. Moreover, same trucking cooperative can also set-up city office and can market their services and contact users for better services, model followed by logistic companies to tap more business. These trucking cooperative should have separate marketing department to handle marketing and other public relations activities. Aim is by way of trucking cooperatives and though their marketing department, they should able to increase trucking operations in terms of number of kms on monthly or annual basis by timely provision of load, reduce their purchasing cost through bulk purchase, availability of working capital, decline in their dependence on intermediaries and commission paid to them. Idea is to promote a trucking cooperatives to save small truck operators who are not in good financial and operation situation. It is expected that setting up of trucking cooperatives will have huge impact on the operations of small truck operators. This has been studied by way of discussion with around 100 small operators with the help of structured set of questions for various routes of operations, given in Table 2.

Table 2 explained that with similar route length on various routes, the operational kms varies along with number of off road days for truck due to various reasons. We felt that this is where trucking cooperative can play important role. This has also been shown in total time per trip and actual time per trip, duration between loading and unloading. With the help of trucking cooperative and their marketing abilities, the small truck operators can increase operational kms on monthly basis and reduce time between loading and unloading and can improve operational efficiency. The operational efficiency can also be improved by reduction in dead kms i.e. by reducing empty movement of trucks through marketing efficiency.

Further, trucking cooperative can make operation of small truck operators financially by way of saving in commission paid to agents or middlemen, gratuity paid to police and others in case trucking cooperatives strong enough. These cooperatives can tie-up with garages, manufacturers, suppliers of various inputs, banking institutions, etc to get these facilities at lower cost and with favourable terms and conditions.

Further, as discussed in past studies, due to the operational inefficiency of small operators, without of trucking cooperative, their viability remains big issue on many of the specified route especially in case of lesser payloads and lower level of movement. The level of non-viability is ranging from 10% to 40% irrespective of distance covered annually, i.e. 75,000 kms or 100,000 kms or even 125,000 kms per annum.

Moreover, it has been observed that the truck population has increased over period of time along with increase in freight handled by road goods transport industry in India. Keeping this in mind, if this continues and no reforms are carried out to save small operators and make their business viable, the trucking industry will be in a big trouble as major stakeholders of this industry as operators/owners, are small operators (with one or two trucks and with carrying capacity of trucks with 9-12 tonne). Therefore, it is being analyzed that given the growth in freight handled by road transport industry, demand for trucks will be on rise because due to positive correlation between growth in trucks population and growth in freight handled by road transport industry. This relation has been analysed via econometric analysis adopted for the study using fitting log-log regression model (2001-2015) as shown in Table 3.

Table 2: Trucking Industry's Operational performance on Specific Routes in India

ROUTE	Length of	Operation	Off the	Commissi	No. of	Total time	Actual	Empty	Duration	Gratuity	Monthly repair
Rajasthan	3000	10000-12000	8-10	2000	4	5-6	2-3	200-300	1	3000	10000-15000
Haridwa	4500-5000	14000-15000	12-13	1500-2000	3	10	6	500	3-4	3000	10000-15000
Mumbai-Delhi	3100	8000-9000	10-11	1000	2-3	12-15	7-8	400-500	2-3	3500-4000	8000-10000
-	2800	11500-12000	5-6	1000	4	7	5-6	100-200	1-2	2000-3000	8000-8500

Source: Our Analysis

The Model is: $Y_i = \beta_i + \beta_2 X_i + U_i$

Whereas, Y_i = Truck population, X_i = Freight Handled by Road Transport, β_i … β_2 = parameters to be estimated Handled by Road Transport.

TABLE 3: Truck Population Growth

	Freight Handled by Road Transport Growth
Elasticity	0.86
Intercept	1.14

R^2	0.99
Standard error	0.01
t- stats	54.34

Based on the data applied in the econometric model for estimation, the hypothesis constructed that there is no significant relation between truck growth and growth in freight handled by road transport. However, the result in the Table 3 below shows that given the value of R^2 is 0.99 which indicates that the freight handled by road transport growth explains 99 % of the variability if the truck population and the result is statistically significant at 5% level of significance. Therefore, the hypothesis is rejected.

Findings And Implications Of The Study

To begin with, the study concludes that trucking industry is considered as backbone of our economic systems with its strong growth relating to growth in agriculture and industry sector via demand elasticity. The study also concludes that due to its ownership profile i.e. industry is dominated by small operators owning upto two or three trucks which doesn't help the industry to enjoy economies of scale and many other benefits or facilities especially with reference to small operators and the operation viability is a big question for them. Furthermore, due to its unorganized structure and fragile nature, the small operators in particular have no other choice but to depend on intermediaries for business, other private sources of finance at high cost for working capital and no concessions on purchase of a truck. The study also concludes that small operators given their socio-economic conditions and background especially in Indian context are not able to enjoy the marketing benefits because the marketing provisions of those facilities and systems require additional investment which is not possible for small operators to manage, who are already struggling with viability of operations.

Thus, with reference to our study, it is suggested that trucking cooperative be formed at various levels in different parts of the country and the structure as well as functioning should be more appropriate and efficient than existing system of truck union at many places in India. These trucking cooperatives should include only small operators owning upto two or three trucks. There should be check on size of trucking cooperatives that the study suggests that number of members should be around 100 and number of trucks should be around 250-300 with varying load capacity. Further study also suggests the trucking cooperatives being setup by following govt. regulations as applicable for formation of cooperatives.

The study conclude that due to increase in number of trucks in future with the assumptions that similar kind of ownership profile will continue with just marginal change, the number of small operators will also increase and thus number of trucking cooperatives will also increase, and therefore, the study suggests that government should provide additional support and facilities to trucking cooperatives to strengthen it further. This is because once those cooperatives will be recognized by government and once these trucking cooperatives starts functioning efficiently in terms of availability of loads to small operators, provision of finance for working capital need, bulk purchase at concessional rates, dealing with government mechanism, mechanical failure or enroute issues, their operation efficiency will improve.

Further, to strengthen the small operators, the study suggests that each trucking cooperatives must have multiple offices with appropriate staff members and at centralized level. Each cooperative should have one marketing manager who will get business for them from market through by establishing good relationship with various stakeholders while taking care of proper information flow i.e. no asymmetric information problem. Additionally, we strongly suggest that govt. through appropriate mechanism ask financial institutions to recognize those trucking cooperatives and provide loans for the purchase of trucks at a reasonable rate. This is because finance is one of the major concerns of the small operators.

Most importantly, as observed during study that small operators face huge challenge with reference to working capital and to manage this, they largely depend on local trader, money lenders and intermediaries which is available at high cost, which adds to overall cost of operations and ultimately viability of small operators. It is found that for to lend Rs 10,000, lender charges Rs 500-1000 per week. Small operators have no other choice but to accept these terms.

Therefore, the study suggests that the government should come-up with the mechanism in-line with KISAN CREDIT CARD for farmers, where government through financial institutions provide loan or credit upto Rs. 2 lakhs at a concessional interest rate lower than the base rate of major public sector bank. However, in case of trucking industry the scenario is little different i.e. the small operators need on working capital on urgent basis to complete one or two trips for around 10-20 days. Which means revenue generation takes place in 10-20 days for small operators. If we compare revenue generation cycle of small truck owners with farmers, farmers entire crop production cycle that could be of 3-4 months whereas for small truck owners it is 10-12 days. Thus, our study strongly suggest that government should provide to small truck operators the CREDIT CARD with credit limit of upto Rs. 50,000 through public sector banks with the facility of grace period. In this regard Government can set up certain guidelines such as:

(a) Any truck operator or owner owning upto 5 trucks are eligible.

(b) Applicant must be between ages of 18-65 years.

(c) Applicant must be a member of trucking cooperative and that particular trucking cooperative must be registered with the government as per norms.

(d) If member fail to pay on time, no additional loan (via credit card to meet working capital need) will be sanctioned, because this loan sanctioning process does not require any guarantee or mortgage.

(e) Proper documents of small truck operator or owner which must indicate/proof that-

I. A person is small operator.
II. Domicile or proof of resident.
III. Aadhar and Pan Card details.
IV. Applicant must have bank account.

V. Undertaking from applicant in case of any fraud or other mischievous action.

Finally, in order to save the small operators from exploitations and further to improve their operation viability, formulation of trucking cooperatives and cooperative marketing activities could be the best solution considering their current scenario.

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References

[1] AITD (1999), Trucking Operations in India, Asian Institute of Transport Development, Ministry of Surface Transport, Government of India, New Delhi.

[2] CIRT (1994), Road Goods Transport in India - A Study of its Structure and Organisation, Central Institute of Road Transport, Pune.

[3] GOI (1980), Report of the National Transport Policy Committee, Planning Commission, Government of India, New Delhi.

[4] GOI (2012), Working Group Report of Twelfth Five Year Plan, Government of India, New Delhi.

[5] GOI (2015), Road Transport Year Book, Government of India, New Delhi.

[6] Government of India, Research Wing, Ministry of Shipping, Road Transport and Highways, Government of India, New Delhi.

[7] Keith Fox et al. (2003), A Common Language, Marketing Management (May/June 2003), Pp 14-17.

[8] NCAER (1979), Road Transport Industry, National Council of Applied Economic Research, New Delhi.

[9] Parihar, M (2014), An Economic analysis of Trucking industry in India with Special reference to The Mumbai metropolitan region, Ph.D. Thesis submitted to University of Mumbai, Mumbai.

[10] Parihar, M (2014), Challenges in Road Goods Transport (Trucking) Industry in India: An Overview, Supply Chain Pulse, Navi Mumbai, Volume 5, Issue 1, Pp 13-22.

[11] Parihar, M (2014), Viability of Trucking operations in India, Supply Chain Pulse, Navi Mumbai, Volume 5, Issue 2, Pp 11-21.

[12] Sriraman et.al. (1998), Report of the Sub-Committee on Financing, Taxation, Fares and Freight and Insurance, submitted to the Steering Committee on "Trucking Operations in India", Asian Institute of Transport Development, New Delhi.

[13] Sriraman et.al. (2006), Competition Issues in the Road Goods Transport Industry in India with special reference to The Mumbai Metropolitan Region, report submitted to the Competition Commission of India, New Delhi.

[14] UN Mission, (1993), Transport Sector Needs Assessment in India, Mission Report, United Nations Development Programme, New York.

[15] World Bank (2005), Road Transport Service Efficiency Study, Mimeograph, World Bank, Washington D.C.