

INVENTORY MANAGEMENT IN STATE ROAD TRANSPORT CORPORATION IN INDIA

Dr. Manish Kumar Dikhni*

ABSTRACT

The objectives of any business concern are to maximise its volume of profits or to earn the next rate of return on investment. The transport undertakings, besides rendering the general public utility service, are expected to earn a profit a minimum of adequate the speed of return of the large capital invested. The right maintenance of vehicles will account for an honest amount of profit. Therefore, internal control furthermore as effective management of capital plays a significant role within the maintenance of the vehicles. In road Transport Corporation, the inventory components alone constitute around 60 per cent of the whole disbursement. The full operational cost is reduced to a maximum extent, by minimising the inventory cost drastically. But it'll be difficult to cut back the inventory cost because the long run demand for the fabric components utilized in transport Corporations isn't certain. Hence, a little changes in materials cost may end up in saving an oversized sum of cash. If some efforts are taken and also the material cost is reduced by 5 per cent, it'll increase the profit substantially by 5 per cent. The reduction in material cost will lead to the increased profit admire 35 per cent increase in sales. An in depth analysis of the current situation of state transport corporations, within the midst of certain emerging trends, is important to form its performance better. During this context, the performance of the nationalised road transport has not come up to the expectation of either the government which owns and operates the system or the general public who are the users of the road transport. Therefore, an in depth scrutiny of STUs from the assorted angles with reference to various aspects of inventory operations becomes essential. The current study may be a step towards this direction.

KEYWORDS: *Inventory, Road transport, System, Potential Growth, Efficiency, Industrial Output.*

Introduction

Passenger transportation is a crucial aspect of the economic development of the state and it affects all aspects of mobility generally. Since independence, passenger road transport industry in India has been growing fast and has acquired considerable importance as a personal distinct activity with a large growth potential. The varied State Transport Undertakings (STUs) came into existence gradually after the enactment of the Road Transport Corporation Act (RTC) of 1950. In line with S. Sundari, the progress made by the state public utility sector altogether its operational aspects during the past four decades is indeed commendable. Despite the gradual diminishing role of the nationalised bus operations, the recognition of the STUs has picked up among the people in recent years. There are numerous difficulties in managing the inventories, the main one being the shortcoming of the materials manager to forecast the need of the materials accurately. Additions are made to inventory, anticipating the necessity for the materials, but the necessity comes later than anticipated, and sometimes it never occurs in the least. This ends up in surplus inventory. On the opposite hand, if the demand comes sooner or is quite expected, the inventory is insufficient. The establishment of an efficient and effective inventory management system isn't less significant than the other aspects of the road transport. There are risks related to the character of the inventories like, deterioration, obsolescence, theft, evaporation, and price fluctuations. In an operating concern just like the state transport corporation, orders for materials are to be made in bulk. Unless otherwise a correct system is adopted to keep up inventories, the investment in inventories may go fruitless. During this context, this study is very useful in focusing the matter of maintaining a successful and efficient management of the inventories.

* Former Research Scholar, Department of ABST, University of Rajasthan, Jaipur, Rajasthan, India.

Objectives of Study

The objectives of this study are as follows:

- To look at the pattern of growth rates on the ratios of the inventory within the selected transport corporations.
- To evolve the chance of modifying the network to make sure adherence to overall time schedule on purchase procedure prescribed by the transport corporation.
- To spot the critical mean inventory ratios, which may discriminate between the chosen transport corporations?
- To check whether the discriminate function results may well be taken as a yardstick to live the representation of the overall population.
- To suggest policy directions for effective management of inventory ratios so as to enhance the general efficiency of the transport corporations.

Review of Literature

Jegadish Gandhi and John Gunaseelan have stated that the bus transport operations may be evaluated in terms of three parameters viz., (i) adequacy, (ii) efficiency, and (iii) economy. They also said that state transport corporations are expected to control not only on profitable routes, but also on economically unviable routes. Satyanarayana⁴ found that the nationalisation of all the agricultural and village roads by state transport undertakings will contribute profit to the firms.

S.W. Pereira⁵ has explained the importance of budgeting, planning, and control. He explained that budgetary control helps to repair the responsibility and accountability let alone a correct delegation of powers and it helps to determine desired inventory levels.

A. Varadarajan in his paper makes an effort to clarify the necessity for, and also the take pleasure in forecasting the actual application in internal control. He identifies with the forecasting systems and therefore the criteria in choosing techniques. The relative advantage of exponential smoothing models moreover because the importance of measuring forecast errors and using them in determining inventory levels has been explained by him.

Dr. Y. Satyanarayana has explained that the system for procurement of quality materials is important to regulate consumption. it's difficult to acquire quality materials unless suitable specifications are called for. the standard control of incoming materials has improved the STUs. It helps to scale back the inventory cost, to cut back breakdowns, accidents, and to enhance the punctuality and efficiency.

V. Soman has opined that the annual work are often simplified through periodical checks like perpetual inventory and surprise checks. He also suggests that within the depot all the old and condemned spare parts should be kept safely and be disposed periodically either by way of sending them to move office or through auction-cum-tender.

D.S. Rao has stated that codification could be a basic tool for better management of inventory, so it's been implemented within the very beginning of the project/ware-housing operation. Similarly P.S. Rao²³ has stated that code because the foundation of the internal control, so as to satisfy its proper needs the understanding co-operation and support of all the involved agencies like purchase and stores organisation, finance and accounts department, electronic processing department, and material control department.

Rational of Study

This above Research Paper could be a pioneering study on inventory management of Transport Corporation. No study has attempted a quantitative measurement of the pattern of growth rates on inventory ratios, by considering over a period of your time. Though the information on inventory are available within the existing literature, they're presented within the kind of ratios, average, and percentage only, but this study focusses on the pattern during which the expansion rates of the inventory ratios are fluctuating. The merit of the technique is that it presents the expansion rates and curves consistent with the character of the information. This analysis has also the added advantage in estimating the expansion rate of inventory ratio. Same as No study has focussed on the road of time-lag involved between the time schedule prescribed and therefore the actual time taken on the inventory purchase procedure by the, transport corporations. During this context, a highly sophisticated analysis viz., Network

Technique, is adopted. The results of this system would be much useful so as to cut back the time-lag within the inventory purchase procedure. Therefore, this study aims at analysing the inventory ratios from the angles of growth, efficiency, and performance, in selected transport corporations.

Research Methodology

It includes the framework of research design and data analysis. Research design is that the operational framework of the research study that stipulates what information is to be collected its sources and also the procedures. It's a classy planning of the methods to be adopted for collecting the relevant data and thus the techniques to be used for the data analysis.

- **Sample Design:** The study has been administered by selecting mainly Gujarat and Rajasthan State Transport Corporations and three others.
- **Data Source:** the knowledge required to finish the study has been collected from the published resources of various road transport corporations.
- **Study Period:** The study has been conducted over lawfully limited period of 5 years only i.e. 2015-2016 to 2019-2020.
- **Tools and Techniques of Data Analysis:** the Data collected from the published sources has been analysed using polynomial technique on the degree on regression function of Y on X.

Results and Analysis

A close scrutiny of state transport corporations from the varied angles with relevance the assorted aspects of its operations becomes essential. While looking into the overall cost of the transport, nearly 60 per cent is being occupied by the inventory operational cost. Unless necessary changes are introduced within the inventory policies, procedures and practices, and therefore the management techniques within the organisation of the transport corporations besides the assembly of services with the optimum output at minimum cost, the longer term of the firms could also be fraught with risk, uncertainty and even unpopularity among the users. During this context, the current study is preoccupied to fill this gap.

The Polynomial Regressions for Consumption per Kilometre Operated

S.No.	Name of the Corporations	Fitted Regression Equation	Current Year Value 2019-20 (in Rs)	Estimated Value for 2020-21 (in Rs)
1.	RSRTC	$.0210X^2 - .075X + 1.63$	3.18	4.98
2.	GSRTC	$.023X^2 - .06X + 1.47$	2.98	4.17
3.	TNSRTC	$.02X^2 - .06X + 1.83$	3.01	4.83
4.	UPSRTC	$.21X + 1.89$	4.11	5.65
5.	DRTC	$.1X + 1.65$	2.99	3.19

Source: Computed by researcher

It may be noted from the results of the analysis that the second degree parabolic curve can be the acceptable method in terms of consumption per km operated, especially to the firms like RSRTC, GSRTC, and TNSRTC. The second degree polynomial curve indicates that when the consumption per km operated decreases during the initial years, the steady upward trend may well be seen during the newest years. In general, it's significant to notice that after the year 2015-16, there's a steep increase within the consumption per km perated because the years move.

The Polynomial Regressions for Consumption per Bus

S.No.	Name of the Corporations	Fitted Regression Equation	Current Year Value 2019-20 (in Rs)	Estimated Value for 2020-21 (in Rs)
1.	RSRTC	$.0432x^2 - .31X + 2.18$	4.67	5.07
2.	GSRTC	$.043x^2 - .115X + 1.83$	4.63	5.62
3.	TNSRTC	$.04x^2 - .15X + 2.21$	4.52	5.13
4.	UPSRTC	$.05x + 2.27$	3.19	3.79
5.	DRTC	$.07x^2 - .03x + 2.99$	3.19	3.44

Source: Computed by researcher

From the results shown within the table, it's very clear that the second degree parabolic curve may well be the suitable method in terms of consumption per bus, especially to the firms like RSRTC, GSRTC, TNSRTC and UPSRTC. It indicates that the consumption per bus decreases slightly during the initial years, but there's a gentle upward trend during the newest years within the above corporations.

Conclusion

The road transport encompasses a crucial role to play within the economic development of industry, agriculture, trade, and commerce and further it also helps to realize the equality within the socioeconomic goals of the state. Since inventories constitute a serious portion of funds invested within the transport undertakings, any improvement within the effective management of materials will have a big impact on the financial strength and competitive position of the corporation. Therefore, the current study assumes a greater significance. The primary and foremost step in inventory management is that the planning and forecasting of materials. Within the road transport corporations, planning is that the duty of the acquisition department. Usually the Deputy Managers (Materials) of the transport corporations are the authorities to execute the plan for materials management. Forecasting is a crucial aspect within the materials planning within the state transport undertakings. Estimates for future requirements in road transport corporations are usually supported the information of past consumption. Another component of inventory management is storekeeping. Store keeping is that the art of keeping the materials within the stores. The central store is found at the pinnacle office in each of the transport corporations. Various items like spare parts, tyres, stationery, and other items are stored within the same central store, but separately. The layout of the shop department is effectively arranged. The chosen transport corporations follow their own centralised system of store - keeping.

Widening of rural roads and narrow bridges upgrading of pavements of rural roads should be obsessed by government, because it'll help to boost the operation and r the price of inventory. Further, the govt. must take immediate road up-grading measures for the route, which is chosen for public-service corporation in rural areas, before the corporation provides the sanction for this purpose, allotment of funds should be made liberally by government. The government may provide the fuel tax rebate at certain level and relaxation of the licensing in certain areas to those that are willing to work in rural or rarity areas. This may reduce the budget items.

References

- ✘ Anil Dey, "Modern Methods of Managing Materials," Journal of Transport Management, 23-26.
- ✘ Arunachalam, S. "Working Capital Management in Road Transport Corporations of Tamilnadu," Ph.D. Thesis, Bharathidhasan University.
- ✘ Bhabatosh Banerjee, "Cost Accounting," Calcutta: The World Press Private Limited.
- ✘ Chaturvedi, M. C. "Fleet Utilisation in State Road Transport Undertakings," The Management Accountant: 366-368.
- ✘ Gopalakrishnan, P. and Sunderasan, M. "Material Management," New Delhi: Prentice Hall of India, Private Limited.
- ✘ Gopalan, S. "Maintenance in Aviation Industry its Adoptability to Road Transport Industry," Journal of Transport Management: 17-19.
- ✘ I.C.W.A. "Terminology Published by the Institute of Cost and Works Accountant of India," Calcutta.
- ✘ Iyengar, S. P. "Cost Accounting," Sultan Chand /36 Sons (Fifth Edition).
- ✘ Selvam, M. "Service Efficiency of Pallavan Transport Corporation Limited in Madras City," Ph.D. Thesis, Annamalai University.
- ✘ Westing, Fine, and Zenz., 'Purchasing Management," New Delhi: Willey Eastern Limited.

