

(2) Some of the other strategies call for a very high degree of cooperation and joint action by the enterprises in an industry group. It has to be seen how far they are practicable in the highly competitive business environment.

(3) The strategies which can be implemented at the organizational level like the status of the materials function, profit centre concept for materials departments etc. deserve serious attention and further examination.

**Padma Prabha T. B.**  
Fellowship Programme (Finance)  
Indian Institute of Management Calcutta

***Productivity in Road Transport : a Study in Innovative Management***, by Santosh Sharma ; New Delhi, Association of State Road Transport Undertakings. 1976. pp 280. Rs. 50.00.

A comprehensive study on the productivity of social services is conspicuous by its absence even in the developed countries, not to talk about developing countries. The task of communicating to the people concerned about the financial realities of the public services is a colossal one. It is in this perspective that the volume under consideration gains its importance. Here the author brings together the wisdom of an experienced administrator with that of a systems theorist in highlighting the problems of road transport management and in proposing practical solutions to it.

This book is concerned with the problem of achieving higher productivity and efficiency in road transport operation. The author ably demonstrates in this work how the principles of scientific management can be used to advantage in achieving this objective. It will be recognised without hesitation, perhaps by all concerned, that greater productivity and efficiency in this important service can yield tremendous benefits to the society not only in the form of savings in costs and increased satisfaction to commuters, but also in the form of conservation of fuel and environment.

The first four chapters of the book are devoted to the problems directly concerned with organization and management of transport operations. The fifth chapter discusses the legal framework of road transport operation. The sixth and last chapter review the implementation aspects of the suggested system of management. The technical aspects of the discussions in the text is contained in the eleven appendices following.

The book starts with the analysis of economics and diseconomies in bus operation. A critical analysis of the various elements which constitute the cost of bus operation is taken as the basis

of the study. The author shows the intimate relationship between the level of fleet utilisation and the costs of operation. A rethinking in the question of holding a large fleet of double decker buses is suggested, based on a comparative analysis of the costs, carrying capacities and other related aspects of double decker and single decker bus operation.

It is observed that tyre and fuel costs make up for seventy per cent of the operational costs and even a marginal saving in this area can lead to substantial economics in operation. Thus, attainment of high maintenance standards and proper management of tyre and fuel are identified as crucial aspects of high productivity. Another important area warranting close scrutiny is materials management. Traffic management is another important area which requires careful attention in considering the economics of bus operation. In this regard reliability of services is very important in inducing the commuters to change their travelling habits. The changed system of routes and scheduled based on a scientific approach to the problem requires the commuters to change their travelling habits for its success. The question of fares is discussed at length and in the context of changes in the routes and schedules in favour of nodal systems encouraging break journeys, a straight line fare structure is held as the most realistic one. Here one has to agree that the long distance commuters, used to a telescopic fare system, will find this costlier. The improvement in the transport system will necessitate a simultaneous improvement in the environment in which it operates. Hence this is to be considered only as a part of the whole problem of urban planning, road development and the like. Rather he argues for a total systems approach in tackling the situation.

Controlling the operating costs, Mr. Sharma argues, cannot be isolated from the optimization of operations. He shows how an unimaginative operating system can result in colossal waste of resources both in the form of higher costs of operations and waste of manhours on the part of the commuters, by waiting for the bus and round about travel. The optimization suggested in the book is aimed at achieving the minimization of these two forms of wastage. But on the practical plane this objective meets with the conflicting interests of increasing frequency of operation, for reducing the waiting time, and increasing occupancy of the buses, for maximising efficiency. Above all, any change should enable the commuter to reach the destination by the shortest route. The suggestion is for the adoption of a direction oriented nodal system as against the present destination oriented system. The new system has got the clear advantage of reduction in the number of routes, which will enable high frequencies to be maintained. The logic of the new system is to connect various determinations to a central node, with a system of feeder routes. The commuters are encouraged to commute to the nearest node in the direction of his travel and change for his destination. The system, though more efficient and able to reduce the travel time considerably; may turn out to be costlier to the commuters unless an efficient system of transfer tickets are evolved. The author himself is well aware of this problem.

The importance of personnel management is another area discussed in this book at length. Considering the labour intensive nature of the industry employing at an optimum level of about 10 persons to a bus, Mr. Sharma stresses, the need for a comprehensive planning of the man

power requirements and work systems. He tries to show that personnel management in transport organisations needs an integrated programme of vehicle utilization, shift management and selection, training, staffing and promotions, of both operating and non-operating staff.

Chapter four discusses the need for maintenance of the infrastructure facilities for achieving the objective of higher productivity in road transport services. Here it is pointed out that an extremely important aspect of auto operation is preventive maintenance, as it can sharply reduce or totally eliminate break downs and accidents due to machinical failures and deterioration of the fleet. Standardization of depots and work-shops cannot be overlooked in this context. A two tier system of fleet maintenance for urban operations consisting of vehicle depots for attending to routine running repairs and maintenance and a central workshop to undertake major repairs and overhauling is proposed. In the case of non-urban operations maintenance services will be provided in a three tier system with the addition of regional workshops. The discussions on standardization of design and layout of the depot and workshops facilities will be of great interest to people concerned with road transport operations.

A critical overview of the legal frame work and the problem of nationalization of passenger transport industry is taken up in the fifth chapter. Shortcomings of the Motor Vehicles Act, 1939, in the present context is well illuminated in this chapter.

The concluding chapter looks at the implications of the suggested changes and discusses the implementation problem. The author feels that the objective of higher productivity in transport services can only be attained by a radical change in the whole philosophy behind it. He argues for greater professionalization in the management of transport system. The present organizational structure is held responsible for lack of flexibility in decision making process resulting in huge losses to the organisation as a result of decisions delayed or not taken. The problem of scrap disposal is pointed out in this connection. Restructuring the organisation, preparation and use of exhaustive manuals, codifying organisational and procedural aspects, regular review of the systems and procedures with the help of outside consultants etc, are of the suggestions made for smooth functioning of the changed organisation.

The appendices provide more detailed discussion of the technical aspects of many of the changes recommended. They provide detailed framework for machanization of data processing, traffic engineering, training personnel, industrial engineering, preventive maintenance, planning designing and erection of depot and workshop, standardization of bus body and corporate organisation. This book also contains an elaborate glossary of Transport Terms, reading list, list of professional organisations in the field of transport training and consultancy in India and elsewhere as also an index.

This book exposes the readers to a hither-to neglected aspect of one of our major social services. The success of the author lies in the fact that it is capable of providing a good insight into

transport management for the general reader. The simplicity of style renders the book valuable. This book will be a useful guide to the students of transport economics and managers of transport undertakings.

**N. Ramchandran**  
Research Fellow  
Finance & Control Group  
Indian Institute of Management, Calcutta.

**SOME OF THE TITLES RECEIVED  
FOR REVIEW**

Breakthrough To Brighter Days : Editor  
Dr. R. K. Nigam. New Delhi, SCOPE, 1976.

Management in a Controlled Economy : Mahesh  
Chandra. New Delhi, Tata McGraw Hill, 1976.

Readings in Industrial Finance : L. C. Gupta.  
New Delhi, Macmillan, 1976.

Contemporary Auditing : Kamal Gupta.  
New Delhi, Tata McGraw Hill, 1976.