Chapter - VII

Summary, Conclusions and Suggestions
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SUMMARY, CONCLUSIONS AND SUGGESTIONS

Chapter-I : Nature, Scope and Research Methodology of Thesis:

The development of villages into towns, towns into cities and cities into metropolitans has led to augment the demand for the urban passengers transport, and new modes of mechanised transport. This gave a bearth to the system of mass-scale public transport, mostly operated by the publicly controlled organization. Though this system has reasonable cost advantage distributable on number of users, it lacks in convenience as expected by the users. This inadequacy is met by the Auto-rickshaw Passenger Transport (APT). The APT business gives two fold satisfaction to users i.e. firstly it provides convenience in the respect of privacy, mobility from narrow roads and time consciousness. Secondly, it has competitive cost advantage as against the mass scale public transport under the circumstances when the vehicle is fully occupied by the passengers along with the luggage.

As against the mass scale public transport, the APT business has much utility. The Indian Cities would need un-imaginable amount of investment for converting their narrow roads into wide enough sizes to carry heavy public passenger vehicles. However, if Government makes a small fraction of the above investment in the development of APT business, it would be benefiting to the cities having narrow roads on which the Auto-rickshaw passenger vehicles are running with speed. Looking the importance of the auto-rickshaw vehicle in urban passenger transportation, it has thought worth to study the APT business carried at important capital places i.e. Aurangabad and Pune in Maharashtra. The study has main concern to investigate cost/profitability of business and find out how far the operators and passengers are satisfied.

The following are the objectives set for study :-

(i) Review briefly the development of passengers transport business.

(ii) Knowing the legal frame work of the business and understand how far the same is benefiting/obstructing to the operators/passengers.
(iii) Ascertain the cost, profitability, investment, social utility and economic aspects of business.

(iv) Investigate demand, competition, pricing policies and passengers’ & operators’ satisfaction.

(v) Suggest the model plan for the development of APT business in Maharashtra.

: The research methodology of study is both descriptive and exploratory types.

Chapter - II: Pivot facts of motor/auto-rickshaw transport and city development.

: The chapter is divided into three parts. First part accounts the development of transport and its significance to economy in various context.

: If you look around the room for a moment and see whether you can tell where some of the things in it were made, and how they were brought to us. You will be surprised when you find how far some of them have traveled. If they could talk, they could tell interesting stories about how their journeys began, and the different ways in which they have been carried. Perhaps, after you discover where these things were made, you can write a story yourself that tells about their travels from some far-away place to your own home.

: We often hear it said that the world is becoming a very small place and that now-a-days all countries are near neighbours. This means, of course, not that the earth is changing in size, but that the new ways of transportation are faster than the old ways. It means, too, that now people can go to parts of the world which years ago they could not reach. It means also that travelers feel better acquainted with the people of far-away lands, and think of them as friends and not as strangers.

: Good system of road transport helps to develop the allied sector in agriculture such as promotion of dairy farming, poultry farming, etc.

: The road transport offers incentives to increase cash crops and even production of perishable goods since market is available for the product and thus subsistence economy can improve.
The development of agriculture helps to utilise properly the natural resources and human resource available in plenty at the rural sector of the nation.

The relation between good transportation and the ability to growth and market more food has been demonstrated in many parts of the world. In Thailand, the friendship Highway transformed partially used jungle land along its hundred mile route into highly productive and prosperous farms. Travel time was reduced from eleven hours on the old road to the three on the new. The production of sugarcane, vegetables, bananas and other fruits more than tripled in three years, surplus corn was exported to Japan.

Poor transport has added the effect of preventing farmers from specializing in the crops that offer the best return. Where transport is inadequate, each growth attempts to keep his family and livestock supplied with all their needs and he retains more food than he actually may need. He knows that if he runs short it will be difficult to tap other sources and more expensive because of high transport costs.

Expansion of transport helps industrialization directly and also helps to raise national income. The demand for locomotives, motor vehicles, ships, etc., leads to the starting of industries which specialize in the production of these goods. Besides, transport development stimulated such large and heavy industries as iron and steel engineering, coal, etc. Expansion of transport is, thus of fundamental importance for a developing country like India which is on the road to rapid industrial progress.

For more support of the role of transport in industrialization is clear from this statement: "No single feature of industrial revolution was more striking than the factor of movement", and "no single industry played a more essential role than transportation in Japan's economic growth - the whole growth in the scale and productivity of the economy depend upon improved access to wider markets".

Due to the inadequacy of transport services, the cottage industries cannot afford in large production. Thus, the transport facilities are needed for the development of small scale cottage industries.

The cost of transport is the most vital element of price structure. If the goods are trans-
ported at lower cost, then its prices will be lower, and it may capture the foreign market, as well as those commodities will be consumed more in the domestic economy, thus promoting the domestic trade.

Thus, it is observed that transport plays a vital role in the economic development. The economy cannot exist without the net work of transport. It affects the entire economy. Thus transport is the pivot around which whole economy clusters.

The generation of employment opportunities are possible by the development of transport, the transport industry has its unique place in providing employment to the large number of people. The big number of persons are appointed in road transport itself in various capacities as per the skill, knowledge and suitability of the persons.

The transportation has important social effects. It provides opportunity for mingling of people, it breaks the barriers and overcomes the limitations of religion, region, caste and creed.

The road transport is prominent in all modes of transport, to achieve the political goals of national integration, national defense, security and control of the various regions of the country.

The need of political unity is essential for stability of nation. It is developed by the transport system in the country. The road transport provides easy access and control.

As a service, transport whether it is movement of goods or people, is a derived demand, for it is a means of serving other objectives and does not exist in isolation or for its own sake. Some of these objectives are economic in character - for example, exploitation of natural resources, increase in agricultural productivity and industrial output, enhancement of consumption levels, and diversification of the economy. Side-by-side with these objectives are those of a non-economic nature which include promotion of political cohesion, reinforcement of national security and encouragement to socially desirable settlement patterns. Further, economic and non-economic objectives are not always consistent; in fact they are often incompatible. This throws up a serious dilemma for those engaged in developing an optimal transport system for the country.
A self-propelled, two/three-wheeled motor vehicle designed for private transportation over public roads. The automobile, which normally carries from one to six passengers, thus differs from other motor vehicles, such as buses, trucks, and tractors, that are used for commercial activities. The automobile, which normally carries from one to six passengers, thus differs from other motor vehicles, such as buses, trucks, and tractors, that are used for commercial activities. The automobile generally has a gasoline-powered internal-combustion engine, rides on four air-filled rubber tires, has two or for doors, and comes in a variety of body styles, including sedans, hardtops, convertibles, station wagons, sports coupes, auto rickshaw etc.

The automobiles are the largest single public passenger carrier in the world today. In almost all the metropolises of India a largest segment of the population is moved by the motor vehicles which at present, has no serious rival as a commercial passenger carrier; and barring some new transport technology not yet in prospect it will retain its commanding position. The first mechanical road vehicle designed and actually used for carrying passengers was Richard Trevithick's Steam carriage of 1801. Its career on the streets of London was brief, but it was definitely a motor vehicle in the sense of being a self-propelled high way vehicle for the public carriage of passengers. It was in 1898 the first motor vehicle appeared in India. In its early days, it was an expensive luxury and utilized by only affluent. Not on very long after, the vehicles were seen with the state flags on the road of Hyderabad a capital of erstwhile Nizam State. The era of its commercial operation had not then started, and it was, however, must later i.e. after 1930 trucks and buses started plying and helping in carrying goods and people from one place to another.

Transportation can be classified conveniently on the basis of power, route and vehicles. Taking power into account, the following categories are significant: (i) man and animal power used as a force in transportation, (ii) mechanical power in form of force driving automobiles, trains, ships, aeroplanes, etc., and (iii) physical power like wind or running water facilitating movement of goods. The classification on the basis of nature of routes includes: (i) the land-routes including transportation by path or tack, road, rail and pipeline, (ii) water routes,
inland and sea, comprising transportation by stream, river, sea, ocean, and (iii) air routes comprising transportation by aeroplanes.

**Characteristics of Road Transport:**

1. **The road transport is used by many traffic, i.e., animals, bullock-carts, camel-carts, tam-tam, cycle, rickshaw, motor, motor-rickshaw, buses and trucks, etc. But this is not with railways, and water transport and air transport. These transport systems are particularly suited to certain traffics.**

2. **The road transport is cheaper than other ways of transport:**

   The railways are the very costly. There is need of a huge capital in rail-lines construction, engines, goods-wages, passenger-compartment, workshops, and in building of railway stations, quarters, etc. This is the case with air-transport and water-transport. In comparison to those transports, the road transport is cheaper in construction of roadways, and motor vehicles, etc.

4. **Freedom:**

   The transport playing on roads are free to move from one road of choice to another. Because, the construction of highways are such, that a traffic playing on one road can play on other also. But this is not the case with railways. The engines of R.G. cannot move on M.G. and N.G. There is also scope of flexibility in the highway services that men and materials can be equally carried by the motor transports, but in railways, there are separate provisions of engines and wagons for goods and passengers. Both (goods and passengers) cannot be transported in the same trains.

4. **Complete Service:**

   The road systems provide complete services, that the goods are carried from producing centres to the consuming centres. There is no need of any link services. While in the way, the goods are not changed from one traffic to another, it is the entire responsibility of a person. But this advantage is not with the railways and other transport systems, because in these services, the goods are sent through many agencies.
5. Saving of Time:

For short distances, the road transport saves time, although its speed is slower than other means of transport. Railways take more time in transportation, because in the absence of adequate availability of wagons, the goods are kept in godown. There are many formalities in railways for transportation, but in roadways, there is no such problem. The goods which are not full of wagons, take eight times changes, but the same goods, if transported by roads, take only three changes. It is estimated that the motor transport takes less time up to 150 miles, after that (350 miles) the railway transport is useful. The railways take time in stoppages, but the road traffic utilizes this time in reaching the destination quickly.

6. Packing:

The packing of goods is not essential in road transport, but in railways, nothing can be transported without packing. This is the case with air and water transport.

7. Safety:

There is sole responsibility an individual in road transport, so he keeps special care for these goods. In other means of transport the goods pass through many agencies, so responsibility cannot be fixed on a single person, in case the goods are damaged. But in road transport the responsibility can be fixed. The accidents are more in other means of transport (Rail, air and water), but in roadways its number is less.

8. Maximum Social Benefit:

The road-transport offers more social benefits, because a most common person can walk on the roads freely, but he will have to pay higher charges in railways and air-transport. The road transport is more popular than other means of transport.

Despite all those merits of road transport, it is limited to certain conditions, i.e., (i) the elasticity of road system is narrow, (ii) more goods cannot be transported, (iii) less reliable, (iv) there is reverse relationship between the Government, and the users of road, (v) lack of organisation, (vi) lack of control over expenditure.
A well-nit transport system is a sine qua non for all-round and sound development of city. It combines different components and different sectors of the city and affects the economy at all points of development. It is the basic ground on which the edifice of urban development is erected. It is hard to expect anything in absence of a well organised transport system. The city development is so much affected by the transport system that a well developed transport system has become a symbol of civilization. The more the developed transport system, the more developed and civilized a city is. It is axiomatic that the city development requires adequate and effective transport services.

R. Kumar and M. Ali have observed that both in primary and secondary sector major part of total input come from tertiary sector which includes transport. Whereas the contribution of primary sector in the Gross Domestic Product in the plan period have been decreasing both the secondary and tertiary sector contribute positively. Further tertiary sector contribute maximum all the sectors. Not only that there is enough scope of economic growth to tertiary sector but it has also at the same time enough of gainful employment potentiality. One estimate of the unorganised sector for the 1973 says that there were 24 million people employed of which 1.5 million were in transport, storage and communications after the primary sector, tertiary sector engages maximum number of workers.

Auto Rickshaw Transport and City Development:

In the surface transport system both for movement of passengers and goods, auto rickshaw transport is of crucial importance. Next to city bus auto rickshaw transport plays a key role in the city’s transport system. There is a wide variety of mechanised and non-mechanised vehicles in the city for road traffic which provides some choice to people to travel and transport goods according to their requirements and paying capacity. The vehicles include hand-driven and animal-drawn carts, bicycles and bicycle rickshaw, horse carriages, tongas, and different power-driven two and three wheelers, like scooters, rickshaw, motor cycles, auto-rickshaws, mopeds, motor cars, buses, minibuses, trucks, tempos, trams, trolley buses, and articulated vehicles. The auto-rickshaw transport efficiency depends on a good road system, in addition to quality vehicles, adequate repair cover and supply of fuel. In view of the characteristics of
easy availability and flexibility of operation, adaptability to individual needs, door-to-door service and reliability, auto rickshaw is ideally suitable for short and medium distances, except for bulk movement of goods and mass transit of passengers. Auto Rickshaw transport is also the main mechanised means of transport in congested and rural areas not served by railways. Further, auto rickshaw transport provide one of the basic infrastructures for economic development of city and serve as a feeder service to rail traffic, city bus, ports, harbours, S.T. stand.

: The most important effect of auto rickshaw transportation is the reduction in the cost of goods and services which it brings about. The cheap auto rickshaw transportation reduces the prices of goods by lowering the cost of production. This result is accomplished in several ways. The most obvious way in which this is brought about is through the reduction in cost of getting goods from the point of production to the consumer. The freight rates on goods and services are in reality costs of production. Higher freight rate means higher prices for the goods or services which are brought into a community and lower freight rates mean lower prices.

: Before the development of auto rickshaw transports, persons had to give higher prices for the essentials in the interior parts of the country. Doctor's services could be avail on the cost of Rs.50/-, but it sometimes cost Rs. 500/-, because of the cost of taxi transportation. Small lots of goods was high in price due to heavy cost of transport by the vehicle other than auto rickshaw.

: Auto Rickshaw Transport plays an important part in the price mechanism also that is of price equalisation and stabilization. When a large number of passengers are to be moved during festivals, it is difficult to move in the absence of auto rickshaw transport facilities; and this would cause a great rise in transport price. If adequate auto rickshaw transport facilities exist, the passengers would necessarily be transported as required areas. This would enable the local market to maintain steady prices, and prevent the price spiral of the deficit area from shooting up. If prices are stabilized, the producers are happy as they are certain of getting a fixed rate throughout the year at fixed and reasonable rates. Thus, auto rickshaw transport helps in establishing and maintaining interrelated prices of commodities for the benefit of both producers and consumers.
The flexibility of auto-rickshaw transport is, perhaps, the most important factor in its favour. Auto Rickshaw can supply services over public highways between any two points in the country, if necessary from door to door, on difficult gradients or on poor roads. Auto Rickshaw transport has been found particularly suited for certain special jobs, such as for pick up and delivery purposes, in handling small loads and in carrying traffic between places not directly connected by rail, to replace trains on unprofitable railway lines and in providing services to off-rail points. To quote from a report of the Committee on Transport Economic Research Relating to Road and Rail Transport set up by the Australian Transport Advisory Council in 1955.

The extent and scope of such development and consequent impact on transport demand (including demand for auto rickshaw transport) can be visualised in the light of the following parameters:

(i) Geographical expansion of the city
(ii) Growth in trade, commerce, industry and education.
(iii) Growth in population and working force.
(iv) Heterogeneous land use.
(v) Volume of passengers at the main transport terminals i.e. Aerodrome, Railway Station, MSRTC’s Bus Station.

Chapter - III : Cost, Profitability and Operational Dynamics

The word "cost" has different meanings under different circumstances. It is not only the expenses incurred but it is more than that. The chapter explains the same in the first part. Both Economist and Accountant, differ considerably while defining the cost. If one has to think viability of business on scientific lines, he has to deal with the number of transactions under various managerial dynamics. The chapter explains the theoretical aspects of the costs with the help of diagram and also analyses the model cost-profit-volume for APT Business with the help of Break-Even Analysis. The practical aspects of BEP are also considered.
After having been considered the costs from the various dimensions, the chapter delineates the cost-profit-volume of the APT Business on the basis of empirical investigation conducted at Aurangabad and Poona. Since this analysis is based on the collected data, the conclusions or derivations articulated in the chapter have practical utility. The scientific efforts are made to know the operations of APT Business.

The accountant determines the cost of any asset (say auto-rickshaw) by taking into account the actual money spent on the item. In other words, he considers only the actual cost, which is known as acquisition cost. This acquisition cost merely tells us about the cost or amount of possessing auto-rickshaw. On the other hand, the economist spells out the cost in terms of opportunity cost; that is to say, by the cost of holding the factor from its alternative use. Therefore, the economist recognizes the problem of choice faced by a vehicle operator in utilising its resources. This may be made clear by taking an example.

Total cost, consisting of fixed and variable cost when divided by number of kilometres operated, we get average total cost (ATC). The "ATC" of auto-rickshaw operation, with increase in the scale of operation goes on falling, because the element of average fixed cost in the ATC, goes on reducing. However, this is theoretically true, in actual practice, when auto-rickshaw is being operated on large scale, the AVC at some point of operational phase, starts increasing.

Auto-rickshaw operation is undertaken for earning profit. In order to get profit, the operator should reach to position as:

\[ \text{Total Revenue} - \text{Total Cost} = \text{Profit} \]

In other words, it means that:

\[ \text{Total Revenue} - (\text{Fixed} + \text{Variable Cost}) = \text{Profit}. \]

The fixed cost, variable cost and revenue are shown in the following diagram, which is graphical presentation of Break Even Analysis.

The diagram tells that PS is the level of auto-rickshaw operation, where fixed costs (FC) are recovered and hence there is "NO PROFIT — NO LOSS" situation (Break Even Point-I).
The aim of auto-rickshaw operator would be to reach "BE" profit level. After this, the profit size starts shrinking on account of the following reasons:

(i) Variable cost increases disproportionately due to diseconomies in large scale operation of the vehicle.

(ii) Demand for auto-rickshaw for travel reduces on account of market saturation.

The Break-Even Analysis, when it is, (after PH level of operation) explained in the light of realities (as mentioned above i.e., I, II) shows that operator may reach to PC level of large size output where there is "No Profit or No Loss" (Break Even Point-III). This situation shows that the production of auto-rickshaw services or operations is the highest. However, no private auto-rickshaw operator can do such venture of public service. Only publicly owned transport company i.e. MSRTC can think of such level of production for the use of the large number of people. At this point known as Break Even Point-III, the large volume of the transport operation could be effected without any profit.

The auto-rickshaw vehicle operator has the following costs, which may be postponed:

(i) Cost of Repairs and Maintenance to the vehicle excepting machinery and wheels.
(ii) Insurance, taxes and other RTD expenses.
(iii) Depreciation charges.
(iv) Drivers' salaries.
(v) Interest payment on the borrowed capital.
(vi) Garage rent.

Many auto-rickshaw owners in Aurangabad have a practice to postpone the above costs, since their income from business is very low. The examples of non-maintained auto-rickshaws are many. Four out of ten vehicles are found improperly maintained. Excepting machinery repairs, other repairs to vehicles are neglected. Half of the auto-rickshaw owners who were interviewed in the experience survey did not pay insurance, taxes, etc. regularly. A practice of setting aside the amount for vehicle depreciation from the receipts is observed by very few vehicle owners.

A concept of replacement cost is very useful to the auto-rickshaw owner. The historical
cost gives poor projections to the operator; but the replacement cost projects true picture, while ascertaining the profitability and the deciding the business planning.

The auto-rickshaw operation cost is a function of price of inputs, the rate of output, the size of plant and technology. Therefore, the APT business cost or auto-rickshaw operation cost function may be written as - APT Business Cost = F (I, O, P, T)

Where,

"I" = denotes the price of borrowed capital, driver, fuel, Government protection etc.

"O" = denotes the scale at which the auto-rickshaw is being operated in given time (say day, week, month or year).

"P" = denotes the seating capacity of vehicle i.e. size of plant.

"T" = denotes the state of technology i.e. petrol operated or diesel operated vehicle.

The model costs of various types of auto-rickshaw operations are worked out on account of the reasons mentioned below:

(i) Different types of auto-rickshaws of different makes and seating capacities have with different quantum of the costs. So also the vehicle is more than the new one. As a result operational cost considerably differs from vehicle to vehicle.

(ii) An investment in auto-rickshaw made by new entrant is about Rs.55,000/- in 1995, while those who came in APT business two years ago, spent about Rs.47,000/- and those who came decade ago, spent about Rs.15,000/-. Thus, for the old operator’s vehicle cost, after deducting depreciation from the profit would perhaps be zero. The price rise of the vehicle and its spare parts etc. creates such situation that the investment size of the vehicle owners differs from period to period. It causes different scale of the economy for the different vehicles for the same scale of operation.

(iii) By and large the vehicle operators do not keep the record of receipts, expenses and opera-
tions in Kms. They, hence, are unable to furnish precise and correct cost data.

(iii) Operational practices i.e. shift operations, hiring out the vehicle for business, contractual terms etc. are different from operator to operator resulting different scale of the cost sheets.

(v) Operators borrow from the various sources for their vehicles on different rates of interest. As a result the borrowings costs are of varying scale from one operator to other.

(vi) Some operators incur all the operational expenses regularly while some may postpone the expenses for future settlement or sometimes they are kept un-incurred.

(vii) Traditions, culture and customs of the vehicle operators are varying and that may influence the APT Business costs.

Fixed Costs:

The fixed costs of auto-rickshaw operation consists of −

i) interest on borrowed capital
ii) insurance, taxes and fees, etc.
iii) rent paid to garage
iv) depreciation
v) salaries/wages paid to drivers.

The analysis of each of the above items of fixed cost is made in the subsequent pages :-

Variable Costs of Vehicle Operations:

As with the scale of operations, the variable costs increase. The APT business has with the following types of variable costs :-

(i) Cost of repairs and maintenance (R & M) including tyres, tubes, painting, cushioning, etc.

(ii) Cost of fuel, lubricant, and engine oil.

Briefly, the gross annual receipts for D0-6 amounted to Rs.1,23,300/-, for D0-3 Rs. 47,800/- and for P0-3 to Rs.56,400/- (Table No.3.13).
After deducting APT business cost from its receipts, one gets net profit or net loss. The annual net profit for DO-6 amounted to Rs.41,734/-, for DO-3 to Rs.7,211/- and for PO-3 Rs.1,913/- per annum (Table No.3.14).

The scale of operation for the vehicles of different types is worked out on the basis of observation of 10 selected auto-rickshaw of each type of vehicle. It is found that DO-6 covers 18.40 Kms. against per litre of fuel, DO-3 and PO-3 cover 22.50 and 23.40 Kms. per litre. The resultant daily average operation for DO-6 was 212 Kms., for DO-3 - 79 Kms. and PO-3 80 Kms. with annual operation of 63,600; 23,700 and 24,000 Kms. (Table No.3.15).

Per kilometre operational cost, receipts and profit of each type of auto-rickshaw are known from the table No.3.16. This table shows that operational cost, receipts and profits per kilometre for DO-6 were Rs.1.94, Rs.1.28 and Rs.0.66 respectively; the similar incidences for DO-3 were respectively Rs.2.18, Rs.1.80 and Rs.0.30.

Table shows that the DO-6 auto-rickshaw is better placed in the respect of per km. fixed and variable cost, while DO-3, as against PO-3 is better placed. In other words, the petrol operated auto-rickshaw has more costlier operation than the diesel operated auto-rickshaws.

**Capacity Utilization**

All the auto-rickshaws of different types operated in the city are not being used fully due to lack of transportation demand from the people. As a result, DO-6 was used 88 per cent, DO-3 used for 33 per cent and PO-3 used for 32 per cent of their respective available installed capacity. This under utilization is due to fact of lower scale of demand for travel in Aurangabad.

Thus, the ROI was as low as 3.75 per cent for PO-3, as high as 3.138% for DO-6 and reasonable i.e. 9.74% for DO-3 auto-rickshaw. The ROI level so estimated above may be maximized by the operators by using old vehicle needing small investment, and by avoiding or postponing the fixed costs of operations. In what ways the net earnings and ROI could be maximized in actual practice are discussed ahead:
(i) Avoiding to pay Interest or Reducing Scale of Interest Payable:

The interest payment as estimated is only for those who obtain loan from the bank for their vehicles. This heavy interest payment could be avoided by owner operator by practicing one or two methods mentioned below:

(a) Operating old auto-rickshaw in business by purchasing it at lower price;

(b) Operating old vehicle procured sometimes in the past on loan, but the loan amount on it is duly paid;

(c) Utilizing the own savings for vehicle purchase;

(d) Postponing the payment of interest which is due;

(e) Borrowing small amount for vehicle purchase.

This naturally reduces the borrowings cost and elevates the scale of profit and ROI.

(ii) Reduction in Depreciation:

The estimated rate of depreciation is of large size on the new vehicle, while for the old vehicle it may be less or even it may be zero. Many operators do not take into consideration the depreciation charge against profit. They may set aside gradually a small funds from the profit, so that in future they could purchase the new vehicle with the bank loan requiring initial borrower's contribution which may be equivalent to the above set aside amount.

When the depreciation of the vehicle is filtered or treated in the above way, the profit size found to be swelled and ROI too!

(iii) Avoiding Rent of Garage:

No operator takes the same in account, though the same as per law (Motor Vehicle Act) is considered while ascertaining the viability of APT business. As a result of omission of the "Rent", the profit size increases alongwith the ROI.
(iv) Avoiding to pay Insurance and Taxes:

The payment of Insurance and Income Tax is avoided by the operator skillfully. Only the payment of road tax is made. This naturally increases the profit size in an illegal way. This is a one type of un-authorised incentive to vehicle owner.

In nut-shell, the major portion of the fixed cost is either avoided or postponed or there is no need to incur. As regards to the variable cost repairs excepting mechanical can be avoided but fuel expenses in no case are avoidable. However, the same are minimized by using kerosene instead of petrol or diesel.

On the whole, it is seen that, though the supply cost of APT services through the 6 seater diesel operated auto-rickshaw is Rs.1.28 per km., through small size 3 seater diesel operated auto-rickshaw it was Rs.1.80 per kg., and through the 3 seater petrol operated auto-rickshaw was Rs.2.27 per km., the same could be minimized or brought down to minimum level for securing higher profit or ROI.

: By inflation, in ordinary language we mean a process of rising prices. At present we face inflation because of two circumstances i.e., Demand Pull Inflation and Cost Push Inflation. The former is outcome of increase population anticipating more and more higher level of consumption goods and services as against the small supply. While latter is outcome of rise in the cost of input on account of scarcities. Both the circumstances have given rise to the prices.

Cost of Auto-Rickshaw Operations in Poona:

Like Aurangabad, the Poona city is selected for investigating the cost-profitability-volume of APT Business. The logic and research methodology used for the purpose are similar to that is used for study of APT business in Aurangabad.

After collecting the data, the same is processed and tabulated in tables vide table No. 3.21 to 3.39. The following significant facts are noted down from the above tables.

The yearly costs of diesel and petrol operated small sized auto-rickshaw in Poona were respectively 74,000 and 51,000. The respective scales of Bank
loan available amounted to Rs. 55,500 and Rs. 38,250, being 75% of the purchase price of vehicle (Table No. 3.21).

: The fixed costs of auto-rickshaw operation were as below :-

i) Annual amount of interest on loan procured for DO-3 was Rs.9,990 while for PO-3 it was Rs.6,095 (Table No. 3.22).

ii) Annual amount of insurance, road taxes, licence fees etc. amounted to Rs. 2,350/- for DO-3 and also for PO-3 (Table No. 3.23).

iii) The annual incidence of notional garage rent for each type of vehicle amounted to Rs.600/- (Table No. 3.24).

iv) Annual amount of depreciation after taking into consideration scrap value and duration of utility of vehicle (Table No. 3.25) is worked out to Rs.12,800 for DO-3 and Rs.8,600 for PO-3 (Table No. 3.26). Thus, depreciation rate for former vehicle was more than latter and also they were still more than that observed in Aurangabad (Table No. 3.27).

v) The amount of annual salaries that would be required to pay comes to Rs.12,000/- for each vehicle type (Table No. 3.27).

vi) All the elements of fixed cost i.e. interest, insurance/taxes, etc., rent for garage, depreciation and salaries or wages, when added together reveal the total fixed cost of APT business. The annual incidence of such total fixed cost for DO-3 came to Rs.37,740 and for PO-3, it came to Rs. 30,435 (Table No. 3.27).

Per kilometer annual fixed cost for DO-3 was Rs. 65 paise and for PO-3 it was 49 paise (Table No.3.37).

The annual variable costs of auto-rickshaw operators in Poona are as follows :-

i) Annual average fuel cost for DO-3 was Rs.23,630 and for PO-3 it was Rs.69,080 (Table No.3.28).

ii) Annual average repairs and maintenance expenses for DO-3 and PO-3 were respectively to Rs.3,100 and Rs. 2,100 (Table No.3.29).
iii) When added above (i) & (ii), we get total variable cost which was Rs. 26,738 for DO-3 and Rs.71,180 for PO-3 (Table No.3.30).

Per kilometre annual variable cost for DO-3 was 46 paise and for PO-3 it was 113 paise (Table No.3.36).

The total annual cost consisting of fixed and variable costs for operating DO-3 came to Rs. 64,478 and PO-3 to Rs.1,01,615 (Table No.3.31).

Per kilometre total cost for DO-3 was 111 paise and for PO-3 it was 162 paise (Table No.3.38).

Receipts :

DO-3 fetched yearly gross income amounting to Rs.1,31,700/- while PO-3 fetched Rs. 1,56,900/- (Table No.3.32).

Gross earnings against per litre of diesel consumption was worked out to be Rs.52.25 for DO-3, Rs.61.50 for PO-3. Per day earnings of DO-3 came to Rs.439, while for PO-3 to Rs.523.

ii) An annual net earnings i.e. gross earnings - total cost of APT business was Rs. 67,222 for DO-3 and Rs.55,285 for PO-3 (Table No. 3.33).

Scale of Operation:

i) DO-3 in Poona is annually operated to the extent of 58,500 kms, while PO-3 to the extent of 63,000 kms (Table No. 3.34).

ii) Per km. gross earnings, cost and profit for DO-3 were respectively Rs.2.25, Rs.1.10 and Rs. (+)1.15 while for PO-3 they were respectively Rs.2.49, Rs.1.61 and (+) Rs. 0.88 (Table No.3.35).

Capacity Utilization:

Out of the total available vehicle capacity of DO-3 in the year, only 54% was used, while similar percentage for PO-3 was 58 (Table No.3.39).

APT Business in Poona vis-a-vis Aurangabad :

i) Capital investment structure for APT Business both in Poona and Aurangabad is similar (Table No.3.40).
ii) Annual fixed cost of operation for DD-3 in Poona was Rs. 37,740, while in Aurangabad it was comparatively smaller amounting Rs. 31,340/-. The similar fixed cost for PO-3 in Poona amounted to Rs. 36,435 as against Rs. 28,135 in Aurangabad.

The fixed cost of operation for auto-rickshaws in Aurangabad is smaller than Poona because an annual incidence of depreciation, an one of the components of fixed cost is smaller than in Poona where the vehicle has 5 years of working life as against 10 years to Aurangabad auto-rickshaws.

iii) Amount of annual variable costs for PO-3 were Rs. 71,180 in Aurangabad and Rs. 28,135 in Poona; and similar cost for DD-3 amounted to Rs. 26,739 in Poona and Rs. 11,249 in Aurangabad. This difference was due to the small size of APT business operations in Aurangabad as against what was observed in Poona (Table No. 3.41).

The table No. 3.42 informs about a comparative scale of profitability of APT business in Poona and Aurangabad. It is seen that annual ROI is 90.6% for DD-3 and 100.40% for PO-3 in Poona, while the similar is 9.74% and 3.75% respectively for DD-3 and PO-3 in Poona. It shows poor state of APT business in Aurangabad in comparison with Poona.

Capacity Utilization:

Poona APT business though enjoys prosperity as revealed by ROI, is obstructed by under used capacities of vehicle. Thus only 53% DD-3 and 58% of PO-3 installed capacities of vehicles were used in APT business; far of the similar percentages was 22% for both the vehicle types.

It is expected that the vehicle should be used for 18 hours a day by covering 360 kilometres of operation. However, the APT business was not as brisk as to exhaust all such installed capacities. This is due to many reasons, discussed in earlier pages.

Chapter - IV : Competition and Pricing Practices

: Neither perfect completion nor monopoly is to be met with in the real world. Instead, almost every market seems to exhibit characteristic of both perfect competition and monopoly. Mr. Joan Robinson, the well known English economist called this the situation of imperfect competition while Professor
Edward Chamberlin, the American economist called it monopolistic competition.

: Actually imperfect competition is very loose term and may be referred to as a multitude of market situation. Actually imperfect competition may be referred to as a situation where one or more conditions of perfect competition is absent. The imperfect competition may thus, take any of the forms given below:

(i) Single seller versus buyers : Monopoly
(ii) Two sellers versus buyers : Duopoly
(iii) A few sellers versus buyers : Oligopoly
(iv) Many sellers (with differentiated product) many buyers : Monopolistic competition
(v) Large number of buyers and sellers gather to get together for homogeneous product exchange having full knowledge of market condition.

: The chapter discusses about the existence of competition in APT business and consequent pricing policies of operators.

: The auto-rickshaw operators, in competition are trying to attract the passengers and increase their revenues through the following practices.

: Over-loading the vehicle and charging the additional passenger less than the price which he has to pay, in case he hires other separate vehicle for the journey.

: Charging at fixed rate per passenger for the specific distance so as to make him feel (or enjoy consumer surplus) that he has saved, price of hiring rest of the seats in the vehicle.

: Offering the comfortable seating, audio-entertainment (Radio/Tape) while travelling.

: Hiring out the vehicle at the price less than fixed.

: Offering daily services at schedule time (carrying children to schools or employees to office).
Offering the services at odd time on fixed price.

Numerous pricing practices are used by the auto-rickshaw men. His market behaviour, however, changes the situation changes. At odd place or at inconvenient time he may charge more exorbitantly than what he charges during the normal time.

In fact the Government has a motive to establish a situation of "Perfect competition" in APT Business so as to make available only normal profit to operators on one hand and justify his duly fixed fare rate schedule on the other. If, it is found that the entry of additional auto-rickshaws in industry leads to losses to operators, the Government may restrict the number, so as to avoid over-production and its consequent ill effects.

It is natural that the primary objective of any APT operator is to maximise his profit and therefore he tries in various ways which gives him maximum revenue and consequently the maximum profit. The APT operator can do so by exploiting the passengers. Hence the Government control is there in fixing the prices and subsequent profit to operator. As said already, the Government control has an element of initiating the perfect competition in APT industry so as to make available normal profit to the operator. The fare rates are, therefore, set. By adhering to fare rates, the APT operates manipulate various following pricing practices, though many of them are legally un-accepted:

(i) Offer the services as per rates shown in the metre.

(ii) Offer the services at odd time or for odd place of destination at the rates more than scheduled.

(iii) Carrying passengers more than prescribed and charge separately for such overloaded seats.

(iv) Carrying heavy luggage or prohibited luggage at the heavy rates.

(v) Operating the services in between two fixed point at rates specified on their own.

(vi) Offering the services at lower price than what is shown in metre.
(vii) Offering the services on monthly basis for carrying passengers or luggage.

: The factors governing the prices or fare charged by the auto-rickshaw operator may be divided into external factors and internal factors. External factors are Government control elasticity of demand and supply, competition, goodwill of the operator, market trend, purchasing power of customers etc. Internal factors included -

(a) Cost consideration and
(b) Owners view-point.

: The auto-rickshaw operator is normally having the following objectives in his business -

i) maximise profits

ii) as far as possible pursue the fare rates fixed by the Government

iii) face the competition by offering the services at lesser price than the other auto-rickshaw operator.

iv) achieving the target return.

v) charging the customers as per their ability to pay (Tourists are ready to pay more; or at odd time or for odd places some people are ready to pay more than the fare fixed).

vi) long run welfare of the business.

vii) survival.

: Hiring patterns of passengers also affect the fare decision of the auto-rickshaw operators. If the auto-rickshaw hiring frequency of the transport services is higher, lower fare may be fixed to have low profit margin resulting in higher total profits from the auto-rickshaw. The following usual hiring pattern and passenger types are observed:

<table>
<thead>
<tr>
<th>Hiring Pattern</th>
<th>Types of Passengers</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Hiring the vehicle on monthly contract</td>
<td>School going students or office going employees, basis.</td>
</tr>
<tr>
<td></td>
<td>Hiring the vehicle on daily or weekly or on monthly contract basis.</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>iii)</td>
<td>Hiring the vehicle at the fare shown in the metre.</td>
</tr>
<tr>
<td>iv)</td>
<td>Hiring the vehicle seat at fixed rates for the distance already fixed by the operator.</td>
</tr>
<tr>
<td>v)</td>
<td>Hiring the vehicle by paying more fare than what is fixed. Passengers travelling during odd time or for odd places.</td>
</tr>
</tbody>
</table>

Certain social and ethical considerations affect the price decisions. For example, during the festivals, some operators offer free services, while some charges higher or some keep the vehicle idle at home.

Chapter - V: Legal Framework for APT Business:
For Safeguarding Interest of Operators, Passengers and Society (General Public)

The chapter accounts the significant provisions of Motor Vehicle Act, 1988, applicable to APT Business. There is a need to control this business by giving due regard to:

(i) advantages offered to the public, trade and industry;
(ii) desirability of coordination with other means of transportation;
(iii) avoiding cut-throat competition amongst the operators;
(iv) providing adequate measure for road safety.

Accordingly, the Government has introduced the legal framework for APT Business. The legal framework so created is not without demerits. The chapter takes a critical review of the same and also insists for improved measures on the basis of existing.
Though Indian Constitution under Articles 19(1)(9) permits any one to engage APT Business, the State is empowered to regulate or restrict this business in the interest of public and their welfare. The Motor Vehicle Act, 1988 restricts or regulates the right to ply auto-rickshaw on public roads for conservation, prevention of congestion, safety and public welfare. The freedom to operate auto-rickshaw for business is subjected to the provisions of Articles 302 to 307 of the Constitution.

RTA or STA are the custodians of public trust and confidence, specially when it comes to the issue of permit to operate auto-rickshaw. Also it owes an obligation in the society to select appropriate person to operate auto-rickshaw. While selecting person STA or RTA is guided by considerations such as public safety, public health, public peace, viability of operation, character of operator etc.

The State Government as per section 67 of the Motor Vehicle Act 1988 is empowered to control auto-rickshaw operation having regard to -

(a) the advantages offered to the public, trade and industry by the development of APT Business;

(b) the desirability of co-ordination with other modes of transport;

(c) the desirability of preventing the deterioration of the road system;

(d) the desirability of preventing uneconomical competition among holders of permits.

The State Government time to time instructs the STA or RTA on the following matters:

(i) Fixation of fares or freight charges for auto-rickshaw,
(ii) Specifying routes or jurisdiction for the APT Business,
(iii) Issue of permits.

A person intending to get permit for APT business is required to go through the specific procedure. He has to complete the following documents -

(i) Prescribed Application duly completed in all respects.

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(ii) Proforma of Declaration containing part A, part B and part C.

(iii) Information of home address, parking arrangement for vehicle, letter of finance vehicle etc.

It is interesting to observe that the permit holder or driver of auto-rickshaw tries his best to get escape from the conditions, procedure etc. laid down by Motor Vehicle Act and rules thereunder. So also the police and RTD officials from their end try to impose all the restrictions on the vehicle drivers or permit owners as stated in the Act. While doing this there may be infringement of stated or desired practices, both by the vehicle operators or by the police or RTD officials.

The following infringements are noticed in execution of Motor Vehicle Act/Rules:

(i) STA or RTA, while issuing permit to ply auto-rickshaw for APT business shall be guided by consideration such as public safety, public health, public peace, viability of operation, character of operator and natural justice. However, this is not frequently observed.

(ii) The State Government (as empowered by Motor Vehicle Act 1988, Section 67) does not control the auto-rickshaw operations either in the interest of operators or passengers. There are frequent grievances either from the public or from the operators.

(iii) A person who intends to undertake APT Business has to complete the number of legal formalities such formalities need inordinate delay.

(iv) A much time is required in getting learning and subsequent driving licence for auto-rickshaw.

(v) A driver of auto-rickshaw having licence is often tempted to give his vehicle to others for driving by infringing the provision of Section 3 and 4 of the Motor Vehicle Act.

(vi) A revocation of licence given for auto-rickshaw driving is undertaken by some RTD official without any reasonable ground.
(vii) Some drivers having driving licence for auto-rickshaw driving are found criminal, liquor or drug addicts, involved in cognizable offenses, indulging in dangerous driving, and committing acts emitting nuisance or danger to public. This is against the Motor Vehicle Act. There is a need to check the same.

(viii) In order to get PSV authorization an intending applicant may need more than six months. Many times such authorization is issued by the RTQ to un-fit person having bad character or antecedents. The medical fitness is not properly checked while giving PSV auto-rickshaw driving authorization.

(ix) It is rather difficult to get permit to ply auto-rickshaw for the APT business, even though the applicant satisfies all the statutory requirements of the RTQ or RTA.

(x) Some permit holders give their permit to others for the use by charging price for the same. This is illegal, however, it is difficult to detect such Acts.

(xi) The transfer of permit after the demise of permit holder is difficult. Many times genuine legal heir suffers on account of delay in such transfer.

(xii) A permits though belonged to different persons may be controlled or possessed by a wealthy person against some un-authorised consideration. Poor permit holders frequently come into grip of such person.

(xiii) Some people obtain permits by fraud or misrepresentation, or they are staying in foreign countries or using the vehicle in a manner not authorised. These people and their unlawful practices are difficult to be traced out.

(xiv) Fitness of vehicle is not properly observed after its annual passing by RTQ.

(xv) Vehicle insurance is a protection against the losses arising from unpredictable but possible events. This protection is purchased for relatively small sum within the means of auto-rickshaw owner. As a result of this, when any insurance claim is entitled to the owners of the vehicle for damages, the same is realised only after giving some benefits to Police or RTQ or to insurance agents.
xvi) There are number of incidences of demanding excess fares from the passengers. While attracting the passengers many tactics are used. Shouting or sending agent for passengers is common. Vehicles are uncleaned and insanitary and often overloaded. Rude or arrogant operators are frequently found. Criminal practices and furtherance of prostitution are attempted by few operators. As response to condition to display badge and name plate, very few operators abide to the same. The transportation of dangerous or hazardous materials is made by some operators for extra fare.

Operators' ill practices:

1. Operators many times stand away from the vehicle, when it is parked on the busy-stand. This is knowingly done to get passengers of their choice.

2. The condition of keeping proper distance between auto-rickshaw and other vehicle is frequently overlooked and same causes accident.

3. Many disabled auto-rickshaws are found parked on stand for passengers.

4. When auto-rickshaw operators park their vehicles at busy stand, they try to bargain for fare.

5. There is a common practice to use the longest route or slowest route when the passengers in the vehicle are strangers to city.

6. Furtherance of prostitution is thought profitable by many operators.

7. Sometimes the driver terminates the hiring on lonely route by pleading fuel inadequacies or loss of load pulling capacity of vehicle. This is done for extra money.

8. Meter-fare is charged only when peak hour operations take place in busy residential or commercial areas. Opportunities of charging the fare without meter are always taken by operators when passengers want to go remote areas from the city main complex.

: When any person drives auto-rickshaw in contravention of Section 3 or Section 4 is punishable with imprisonment for a term which may extend to three
months, or with fine which may extend to five hundred rupees, or with both (Section 181).

: During the experience survey it is noticed that there are some persons who venture to go against section 181. In cities like Beed, Parbhani. These types of illegal operations are frequently noticed. In Pune or Aurangabad or in such big cities there are rare examples of driving by contravening the section 3 or section 4.

: Sometimes owner of vehicle or passengers inside the vehicle asked the auto-rickshaw driver to limits referred to in section 112. In such circumstances the owner or passenger (and not drive driving auto-rickshaw) is punishable with fine upto Rs. three hundred. If the same offence is committed second time, the fine extends upto Rs.500/-.

: No auto-rickshaw operator is convicted of an offense punishable under sub-section (1) solely on the evidence of one witness to the effect that in the opinion of the witness such person was driving at a speed which was unlawful, unless that opinion is shown to be based on an estimate obtained by the use of some mechanical device.

: In actual practice such mechanical device is rarely at the disposal of inspecting officer and, hence, he alleges the auto-rickshaw operator with his own estimation of speed of vehicle on road. As a result there are almost rare of punishing auto-rickshaw operator for excessive speed. In actual practice when auto-rickshaw operator is found contravening section 112, is held guilty for some other causes such as not keeping documents with him, uncleaned dress or vehicle etc.

: It is noticed that many auto-rickshaw operators are motivated by the hirer or owner to drive with speed for completing the task in specific time. For example, for going to railway station or ST stand or school or to office, the passengers insist for speed contravening unknowingly the section-112. This is, though satisfactory for passengers is dangerous to public safety. Inspecting authorities, however, reported that such ill practices are difficult to detect and send in the court of law.

: The realities in the respect of the above are different. It is difficult to detect the drive who drives the auto-rickshaw dangerously or by con-
travelling the section 112 and place his case in the
court of law for punishment. In actual practice the
inspecting officer should be allowed to judge the
merit of case on the spot and be empowered to endorse
his act on his driving licence. After completion of
six such endorsements by different officers during the
subsequent period, the case of defaulting auto-rick-
shaw operator shall be considered for severe punish-
ment.

: Although there are many incidences of
driving auto-rickshaw by operator after having been
consumed small doses of liquor etc. They are diffi-
cult to detect. During night time, the auto-rickshaw
drivers are frequently found as drunk with small
quantity of liquor on the plea that they have to
protect themselves from cold policemen at rare occa-
sions take the cognizance of liquor drunken driver.
Infact there is need to find out the liquor addict
drivers for their rehabilitation.

: When auto-rickshaw operator drives the
vehicle in any public place when he is to his knowl-
edge suffering from any disease or disability calcu-
lated to cause his driving of the vehicle to be a
source of danger to the public, is punishable for the
first offence with fine which may extend to two hun-
dred rupees and for a second or subsequent offence
with fine which may extend to five hundred rupees.
(Section 186).

: This type of operator is difficult to
locate. It is observed that there out of ten drivers
of auto-rickshaw are caught in disease or disability
which may be source of danger to the public. Hence,
there is a need to have intensive health checking and
medical treatment at free of cost by charging some
premium for health insurance with the vehicle insur-
ance.

: Although in section 190 prohibits to drive
vehicle in un-safe condition, 4 out of 10 operators
violates provisions of this Act and rules made there
under. This is done to save repairs and maintenance
expenses or earning more than scheduled. This act is
source of dis-satisfaction to passengers and general
public also. The measures of road safety, control of
noise and air-pollution are attended by the auto-
rickshaw operator carelessly and this troubles the
passengers in particular and people in general. When
auto-rickshaw operator drives his vehicle in contra-
vention of the provisions of Section 113 or of the conditions prescribed under that section or in contravention of any prohibition or restriction imposed under Section 113 or Section 115 is punishable for the first offence with fine which may extend to two thousand rupees, and for any second or subsequent offence with fine which may extend to five thousand rupees.

Any auto-rickshaw operator who refuses to stop and submit his vehicle to weighing after being directed to do so by an officer authorised in this behalf under Section 114 or removes or causes the removal of the load or part of it prior to weighing is punishable with fine which may extend to three thousand rupees.

Despite the provisions of section 194, 6 out of 10 auto-rickshaw operators do not miss an opportunity to drive vehicle exceeding permissible weight for higher freight charges. The inspecting officers do not take care of this.

A police officer arresting without warrant the driver of an auto-rickshaw, may consider proper for the temporary disposal of the vehicle. (Section 202).

This section gives highest power to police officer and, hence, the auto-rickshaw operator seeks the mercy of even an delegation of officer's power in him. It is no wonder to watch that Policemen are indulged in catching the guilty operator and taking money from him. The reports go that the policemen exploit even the operators who are not involved of offence.

Any police officer may, if he has reason to believe that any identification mark carried on a motor vehicle or any license, permit, certificate or registration, certificate of insurance or other document produced to him by the driver or person in charge of an auto-rickshaw is a false document within the meaning of Section 464 of the Indian Penal Code, (45 of 1860) seize the mark or document and call upon the driver or owner of the auto-rickshaw to account for his possession of or the presence in the vehicle of such mark of document.

Any police officer may, if he has reason to believe that the driver of an auto-rickshaw who is charged with any offence under this Act may abscond or
otherwise avoid the service of a summons, seize any licence held by such driver and forward it to the Court taking cognizance of the offence and the said Court may, on the first appearance of such driver before it, return the licence to him in exchange for the temporary acknowledgement given under sub-section (3).

Any police officer may, if he has reason to believe that a auto-rickshaw vehicle has been or is being used in contravention of the provisions of Section 3 or section 4 or Section 39 or without the permit required by sub-section (1) of Section 66 or in contravention of any condition of such permit relating to the route on which or the remain which or the purpose for which the vehicle may be used, seize and detain the auto-rickshaw, in the prescribed manner and for this purpose take or cause to be taken any steps he may consider proper for the temporary safe custody of the vehicle:

Provided that where any such officer or person has reason to believe that a auto-rickshaw has been or is being used in contravention of Section 3 or Section 4 or without the permit required by sub-section (1) of Section 66 he may, instead of seizing the auto-rickshaw, seize the certificate of registration of the vehicle and shall issue an acknowledgement in respect thereof. (Section 207)

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Offences for the purpose of Section 208:

The offences for the purpose of sub-section (1) of Section 208 shall be:

(a) Driving during the period of disqualifications (Section 23);
(b) Failure to stop the vehicle when it is involved in an accident (Section 132);
(c) Obtaining or applying for a driving licence without giving particulars of endorsement (Section 182);
(d) Driving dangerously (Section 184);
(e) Driving while under the influence of drinks or drugs (Section 185);
(f) Abetment of an offence under Section 184 or Section 185 or Section 188;

(g) Taking part in unauthorised race or trail of speed of any kind (Section 189);

(h) Altering a driving licence or using an altered licence;

(i) Any other offence punishable with imprisonment in the commission of which a motor vehicle was used.

**Fare Meter:**

Fare meter is important devise in APT business for recording fare. It is noticed that these meters are often defective, not used properly, fitted without any care, kept unmaintained, repaired at unauthorised shop, etc. The auto-rickshaw operators complain that these meters are not of use, since the fares are changed number of times. When fares change, there is a need to re-adjust metre. The same is difficult because very few shops are authorised to make any adjustment. Passengers complain that the fare metres are kept knowingly faulty for getting extra fare. 6 out of 10 auto-rickshaw have metres with some defects. Motor Vehicle Rules 1989, No. 136, 137, 138, 139, 140, 141 and 147 are made to protect the passengers from exploitation by the APT operators. Further they also endeavour to elevate the confidence of general public over correctness of fare charging. The following pages delineate with the rules, so made.

**Auto-rickshaw Meters:**

No auto-rickshaw required to be fitted meter, can be used in a public place unless, -

(1) it is fitted with a mechanical meter or an electronic digital meter of a type, which in the opinion of the Transport Commissioner complies with the provisions of rule 140, or is so designed or constructed that the constructional requirement as specified in rule 140 are substantially complied with;

(2) the provisions of rules 141, 142, 143 and 144 are complied with. (Rule 136).

Despite the above legal provisions for metre, few auto-rickshaw operators run the vehicle with
defective mere or without metre. This disturbs the other operators who do thieves business honestly.

Chapter VI: Marketing of APT Services And Passengers Satisfaction

: In the initial start of service especially in the remote urban areas, there might not be adequate response from the public for the APT services. However, after some passage of time when it was realised that auto-rickshaw provides convenient mobility from the heart of city to remote places, people might have started to give response to APT services. During the early period (1965) of APT services in Aurangabad, when Tonga was used by the passengers invariably, the auto-rickshaw operators were required to make recurring appeal to passengers even by squandering the meagre own resources.

: Now-a-days situation is changed. It is told by auto-rickshaw operators that if he runs a vehicle for passengers anywhere at any time, he is almost certain to get passengers. If the same vehicle is operated during peak period of traffic, the prospective passengers have pre-knowledge of service and they, in large proportion come to use one APT services. Thus, in this case operator has a definite certainty of obtaining more passengers than envisaged in the former case. In the latter case, as the market is brisk and APT services are known to public, the possibilities of procuring the larger revenue are evident. Thus in APT services or in any transportation service, development of passenger service market is an important aspect. Passenger "Market" in economic sense refers to that economic place where passengers and transporters are brought together.

Nature, Characteristic of APT Service Marketing:

: Like product marketing, APT service marketing has a wider connotation than only providing services to passengers. The passengers of auto-rickshaws can be divided into following categories:

i) Regular users like school children, officials, businessmen etc. availing APT services on monthly contract basis;

ii) Random users like Passengers moving towards or back from Major Transport Terminals like S.T., Railway Station, etc. and passengers requiring
services for residential purposes such as medical, entertainment, social visits, etc.

: The passengers of First category who enters in contract with vehicle operator have the privilege of availing some special APT services such as alternative arrangement of vehicle if usual vehicle is under repair, dropping at or collecting from the locations desired by passengers, caring the miscellaneous domestic needs of passengers having concern to travel, etc.

: The operator/owners frequency are unable to satisfy fully their passengers due to reasons mentioned below:

i) There is one negative aspect which goes against the operator. While value of money invested in vehicle is appreciated due to gradual rise in price of new vehicle, the value of rupee comes down as a result of inflation, the value of investment loses much of its meaning. The dis-satisfied operator owing to inflation is an instrument for passenger dissatisfaction caused out of rising fare rates on account of inflation.

ii) As regards to services provided by auto-rickshaw operator, it may be stated without hesitation that there has been serious deterioration despite the control through Motor Vehicle Act of 1989. The service deterioration is attributed by operator to excessive issue of permits leading to over installed capacity resulting low industry profit shared by many. The situation of marginal or no profit has demotivated the operators, and subsequently it is being reflected in operator behaviour, which is alleged as arrogant. The Government is blamed because it has, as alleged by operators, never taken the interest of existing owner operators into account while issuing permits in a liberal way.

iii) Rising fuel prices are great obstacles to operators while planning business profits. They disturb the viability of business and passengers' feelings about consumer surplus while utilizing the APT services.

iv) The "Market Building" or "Market Publicity" for APT services is difficult task due to the following complications associated with the production:-
a) APT service is perished as soon as it is produced. Like tangible product it cannot be stored and displayed.

b) APT services are required to be made available to specific number of people by keeping in view provisions of Motor Vehicle Act of 1989. Moreover, these services are to be made available in different parts of the city and city sprawl.

c) For transmission of knowledge of APT services to prospective customers, there is no practice of setting time-table and route ways. On the contrary the availability of APT services depends upon sweet weal of operators.

d) If any group of operators schedules time-table, the same may be altered in view of low passengers load or earnings.

e) Operators on their own by infringing the Motor Vehicle Act of 1989, may with-hold driving of vehicles for want of adequate revenue or safety.

f) Though some routes or some trips deserve to be catered by APT services under the aim of social objectives, the same, however, is not observed by many operators who have profit hunting approach.

Because of above intricate nature of APT services, the vehicle operator could not plan his services (and even profit !) in advance. There are possibility of spill over of fixed cost for want of passengers.

We have seen already that APT operator market its services to different types of passengers. The care is taken by the market constituents that the general public should avail the APT services at reasonable cost. While rendering these services, the operator has to incur costs and many of such costs are escaped or temporarily postponed by the operators either for profit or survival. The operator has to make his concern to costs and profit and consumer satisfaction receive low priority in above claims.

If operator has to take care of general public interest, and increase the satisfaction of travelling passengers, there is a need to build revolutionary model on par with Municipal Transport Service engaged in catering the transport needs even on
unprofitable slack routes or during slack hours. In fact the APT operator should be motivated to accord his preference of marketing its services to the general public. If at all he tries to strive for that, he will suffer loss and he will have to liquidate his business.

APT services facilitate directly or indirectly employment generation, reduction in geographical distance in terms of time, boosting of socio-economic, industrial and educational activities, effective link with many etc. In view of importance of APT services in urban economy and its potentiality to generate socio-economic linkage effects it is imperative to understand that under what scale of services or marketing operations the auto-rickshaw operator may function? In other words, what should be the sale if service/marketing operation and ROI? and where the passenger satisfaction should stand? In order to answer this, the use of Break-Even Analysis (vide Page No.) may be made use of. The figure given on above page, refers to that point at which the total costs and total revenue are equal and it is only, after the attainment of this point that operator can hope to earn profit. The technique of Break Even Chart was introduced by Walter Rautenstrauch at the beginning of present century. The same could be used after modification for answering over problem of cost-profit-volume and consumer satisfaction.

Preference to Vehicles for Transport:

The preference given by the passengers for various types of hired vehicle indicates the level of utility envisaged by the passengers. Both in Poona (50%) and Aurangabad (50%), the large number of sampled passengers preferred city buses for travelling. While Tongas are preferred by very few.

Taxi, in Poona by 16% and in Aurangabad 12% is preferred also by few; comparatively little higher preference is given to auto-rickshaw, thus 32% sampled passengers from Poona and 22% sampled passengers from Aurangabad accorded the preference for the same. (Table No.6.1).

Thus, auto-rickshaw, after city bus has place in the city transport.
Monthly Income :

It is true that the higher income group people put demand for auto-rickshaw in larger proportion than the lower income group people. In both the cities, the passengers using auto-rickshaws, are from almost all the income groups. However, higher percentage of passengers from the higher income groups are found using the auto-rickshaw. Passengers whose monthly income is less than Rs.1,000/- use auto-rickshaw for medical purposes or for railway station or ST stand.

Those who are from the higher income group, they have many complaints about the APT services. Rough driving and arrogancy by operators are reported by them as the source of dis-satisfaction about APT business practices.

The lower income passengers do not lodge any complaint about APT services. They are fully satisfied (Table No. 6.2).

Occupation of Passengers :

The passengers using APT services are from the different occupational categories; (Table No. 6.3). However, out of the total sampled passengers, 38% & 40% from Poona and 32% & 44% passengers from Aurangabad are having "Service" and "Business" as respective occupational categories. The passengers from "Professional" and "Student" categories are small in proportion.

The "Students" especially school going children are found using auto-rickshaw at scheduled time. Every alternate operator is having monthly contracts for conveying students from the home to school and back. In Aurangabad, overloading of the auto-rickshaw with unmanageable number of students causes much concern to police men. They have total dis-satisfaction for such mal-practice, since it is source of accidents.

The businessmen, in majority have satisfaction about APT services, since these are available at reasonable fare rates. Passengers having service as occupation, in majority have numerous complaints against APT services. Since the servicemen have with comfort as one travelling motive besides main motive to reach at the place desired, they are little bit anxious to get the same while travelling. As contrast
the businessmen have convenience as one travelling motive besides reaching to desired place, they least care about comfort, but bother about timely APT services.

Monthly Income and Satisfaction:

It is seen that 50% passengers from Poona do not envisage any satisfaction from the APT services. So also as with the increase in income, there is numerous expectations from the passengers for satisfactory APT services. It is, however, noticed that the higher percentage of passengers from the higher income brackets are dis-satisfied over APT services.

Out of the total sampled passengers from Poona, 26% envisage "Full" and 24% envisages "Partial" satisfaction from APT services. Passengers envisaging such level of satisfaction are from all the income groups (Table No. 6.4).

The case of passengers from Aurangabad is more or less same as stated above. Thus, 34% sampled passengers from Poona do not have any satisfaction from APT services, while 24% envisage "Full" and 22% "Partial" satisfaction from the similar services sample passengers envisaging either "Full" or "Partial" satisfaction are from all the income groups (Table No. 6.5).

Occupation and Satisfaction:

Sample passengers who get "Full" satisfaction from the APT services in Poona are 4% from "Service", 12% from "Business", 4% from "Professional", another 4% from "Students" and rest 2% from "Other" categories of occupation (Table No. 6.6). In Aurangabad, passengers envisaging "Full" satisfaction respectively 4%, 14% from "Service" and "Business" categories and in rest of the categories i.e. Professional, Students and other the similar percentage is 2 for each case (Table No. 6.7).

As contrast to the above, the passengers, both from Poona and Aurangabad envisaging "No" satisfaction or "Partial" satisfaction are in the larger proportion than passengers envisaging "Full satisfaction".
Vehicle Ownership and Satisfaction:

Table No. 6.8 informs about ownership of various vehicles by sampled passengers. About half, (52% in Poona and 54% in Aurangabad) of the sampled passengers do not have any vehicle ownership. While 18% from Poona and 21% passengers from Aurangabad having their own bicycle, the similar percentages for moped is 12 in Poona and 10 in Aurangabad, for motorcycle 8 in Poona and 6 in Aurangabad and car 10 in Poona and 6 in Aurangabad.

No car owners from Poona or Aurangabad are found satisfied from APT services; while 33% cycle owners from Poona and 25% from Aurangabad, 67% moped owners from Poona and 40% from Aurangabad, 50% motorcycle owners from Poona and 67% from Aurangabad envisage "Full" satisfaction from APT services.

Condition of Vehicle:

12% auto-rickshaws from Poona and 16% from Aurangabad are found in good condition, while 24% from Poona and 22% from Aurangabad are found in "Fair" condition in working and rendering services.

As against above small percentage, overwhelmingly the larger (64% from Poona and 62% from Aurangabad) percentage of auto-rickshaws are in "Poor" condition. This is source to dis-satisfaction (Table No. 6.9).

Journey Purpose and Frequency of Use:

The utility of auto-rickshaw is understood when it is used for different purposes. In Poona, 44% use the auto-rickshaw for work, 4% for education, 10% for social needs, 26% for ST or Railway Station and 16% for other purposes including medical. In Aurangabad, the similar percentage in respective categories are 39, 6, 12, 24 and 20. It proves the "utility" of the auto-rickshaw in the urban activities of the citizens (Table No. 6.10).

Occasional users of auto-rickshaw are 78% in Poona (Table No. 6.11) and 80% in Aurangabad (Table No. 6.12) and rest i.e., regular users form only 20 to 22 percent. The regular users are using for the different purposes i.e., work, education, social, ST/railway station and for other purposes including
medical. The majority of regular users are found fully satisfied with the APT services.

**Distance Travelled:**

Out of 50 trips made by sampled passengers in Poona, 12% are below 1 kilometres, 6% between 1 and 2 kilometres, 4% between 2 and 3 kms, 6% between 3 and 5 kms., 8% between 5 and 7 kms, 36% between 7 and 10 kms and remaining 28% between 10 and 20 kms. distance (Table No. 6.13). The similar percentages in respect of Aurangabad are 16, 8, 12, 16, 20, 14 and another 14 respectively (Table No. 6.14). Thus, the distance travelled by passengers is frequently more than 5 kms. There is a tendency to use auto-rickshaw for longer distance and city bus for shorter distance. Since Poona is having the larger geographical area, the passengers travelling for longer distance are larger in number than passengers travelling in Aurangabad having small geographical area.

Amongst the regular users of auto-rickshaws, 14% travel distance more than 5 kms, while in Poona smaller i.e. 18% travel the same distance (Table No. 6.15). In respect of occasional users the above percentage i.e. percentage of passengers travelling more than 5 kms stands 58% for Poona and 18% for Aurangabad (Table No. 6.16).

It means that Poona being a city of the large size as compared to Aurangabad, the APT passengers both from regular and occasional categories are more in travelling long distance than what is found for Aurangabad.

**Waiting Time:**

Passengers wait for auto-rickshaw and auto-rickshaw operators, too wait for passengers. If this waiting time is less than 10 minutes, both passengers and auto-rickshaw operators are found satisfied. However, the realities are some what different.

In Poona, 4% passengers wait for auto-rickshaws for 6 to 10 minutes, 8% for 11 to 15 minutes, 18% for 16 to 20 minutes, 34 for 21 to 25 minutes, 24% for 26 to 30 minutes and 12% waiting for auto-rickshaws for more than 30 minutes. auto-rickshaw operators, however, has to wait for passengers comparatively longer time. Thus, 4% operators wait for passengers for 16 to 20 minutes, 40% for 21
to 25 minutes, 26% for 26 to 30 minutes and 20% operators wait for passengers more than 30 minutes (Table No. 6.17).

: In Aurangabad, both passengers and operators wait for longer than what is experienced in Poona. Thus, 16% passengers in Aurangabad wait for auto-rickshaw for 16 to 20 minutes, 28% for 21 to 25 minutes, 28% for 21 to 25 minutes, 32% for 26 to 30 minutes and reaining 24% wait for auto-rickshaw for more than 30 minutes.

: Likewise Poona, Aurangabad operators do wait for passengers for longer duration than experienced by passengers for auto-rickshaws. Thus, 4% operators wait for auto-rickshaw for 11 to 15 minutes, 12% for 16 to 20 minutes, 26% for 21 to 25 minutes, 30% for 26 to 30 minutes and the rest 28% wait for passengers for more than 30 minutes (Table No. 6.18).

: The foregoing statistics show that both in Poona and Aurangabad passengers have to wait for auto-rickshaw for longer duration due to inadequate supply of auto-rickshaws during peak hours. Against this findings all the operators expressed their dissatisfaction.

: They are of the opinion that they have to wait for passengers for more than half an hour due to excessive issue of permit. It is, however, natural that when operator gets passengers some times in a day after waiting one or two hours, he accumulates unfavourable feeling about his business even by overlooking many incidences of getting passengers in reasonable waiting time.

: Few passengers travelling during the slack hours were interviewed. So also some passengers were also asked about their journeys during the slack hours. The information received in the experience survey is given ahead in summarized form:

(i) The passengers demandng services of auto-rickshaw are either going to railways station or ST stand, or they are coming by ST or railway from the places outside city and going to home.

(ii) Some passengers are going to home after entertainment programme i.e. Cinema, drama, etc.

(iii) Few passengers are undertaking journey for medical treatment or returning from medical treatment.

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(iv) Passengers have to pay fare rates more than what are charged during the peak hours for same distance.

(v) Passengers during slack hours may easily get auto-rickshaw at S.T stand or at railway station. However, in order to get auto-rickshaw from other location the passengers have to undertake special efforts. Sometimes an advance intimations are also given by passengers to auto-rickshaw operators.

(vi) Number of females undertaking journey by auto-rickshaw at slack hours is insignificant.

(vii) Sometimes in order to get auto-rickshaw the passenger may have to walk down 1 to 3 kilometres.

(viii) Passengers have not express any fear while undertaking journey at night time especially after 12.00 a.m. in mid-night.

(ix) Passengers have to complaint about auto-rickshaw operators about their behaviour during the slack hours. They are found co-operative and easy to help passengers.

Likewise contacting passengers, the vehicle operators were also contacted during the slack hours and they were interviewed. They have given the following information:

(i) The slack hour business is normally undertaken by the persons other than vehicle owners.

(ii) The auto-rickshaw operators have to bargain with passengers for securing higher fare charges than what could be obtainable during the peak hours in a day time.

(iii) The operators are with sense of insecurity while operating vehicle during night hours.

(iv) Operators have to wait for 2-3 hours for getting passengers.

(v) They do not get any sympathetic treatment from the passengers in case anything happens wrong with them.

(vi) Policemen using the vehicle during slack hours almost free and charging some illegal premium.