CHAPTER - I
INTRODUCTORY PROFILE OF THESIS AND RESEARCH METHODOLOGY

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CHAPTER - I
INTRODUCTORY PROFILE OF THESIS AND RESEARCH METHODOLOGY

Introduction:
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 mechanized transport. This gives a birth 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 sometimes lacks inconvenience as expected by the users. This inadequacy is met by the Auto - Rickshaw Passenger Transport (APT) & Auto-Rickshaw Goods Transports (AGT). The APT & AGT business gives two fold satisfaction to users i.e., firstly it provides convenience in the respect of privacy, mobility through narrow roads and time consciousness. Secondly, it has competitive cost advantage as against the mass scale public and goods transport under the circumstances when the vehicle is fully occupied by the passengers along with the luggage or goods.

As against the mass scale public goods transport, the APT & AGT business has much utility. The Indian cities would need unimaginable amount of investment for converting their narrow roads into wide enough sizes to carry heavy public passenger vehicles. However, if the government makes a small fraction of the above investment in the development of APT & AGT business, it would be benefiting to the old portion of cities having narrow roads (Hingoli, Aurangabad etc.) on which the Auto-rickshaw and passenger vehicles are operating. Looking the importance of the auto-rickshaw vehicle in urban passenger & Goods
transportation, it has thought worth to study the APT & AGT business carried at important capital place of Marathwada i.e., Aurangabad, Nanded, Hingoli and Parbhani. The study has main concern to investigate cost/profitability of business and find out how far the operators, Owners and passengers are satisfied.

**Objectives of Study**

1. Review briefly the development Motor Transport with special reference to Auto-Rickshaw passengers & Goods Transport Business and the factor causing demand for the same.
3. Examining legal frame work for development and utility of APT/AGT business
4. Investigating the operational aspects of Auto-Rickshaw passengers and Goods Transport Business and users' satisfaction.
5. Suggest remedial measures for the development of Auto-Rickshaw Passenger & Good Transport Business.

**Reference Period:-**

The reference period for study was kept different for different purposes as below:

(i) While collecting the information on the development of passengers transport, the reference period was for five years preceding to the year 2006

(ii) The data on receipts and costs of the APT/AGT business were collected for the year 2006 or 12 months preceding to September, 2006 when the interviews of the vehicle operators/passengers were conducted.
(iii) In order to know the effects of inflation or price rise of input in APT/AGT business the data on Investment, cost, revenue, profit and scale of operation was collected for 2001-02 and 2005-06. During both of these periods, the month of September and 12 months preceding to that, were taken as reference period for data collection.

Geographical area:-

The physical or geographical area of the study, for the purpose of micro observation was confined to Marathwada with special reference to the Aurangabad, Nanded, Parbhani and Hingoli cities.

Hypothesis

(a) Pricing dynamics and conceptualities inherited in them are knowingly or unknowingly observed by the transport operators
(b) Passengers and Goods Transport business is useful and economical to users
(c) Government and legal frame work increases the utility of public passenger transport and simultaneously safeguard the interest of users and operators
(d) Cost, Profitability, Investment and Operational Aspects of Auto rickshaw Passengers and Goods Transport Business are in favor of transportation and city development
(e) Users have no or little grievances against the transporter operators
Geographical Area:-

The physical or geographical area of the study, for the purpose of micro observation was confined to Marathwada with special reference to the Aurangabad, Nanded, and Parbhani and Hingoli cities. Whenever the need was felt, the information of other places from the state of Maharashtra and outside to it was also referred to substantiate the main theme of the thesis.

Research Methodology:-

The research methodology of study is both exploratory and descriptive. While using this methodology only relevant dynamics were used to form the research design.

(a) Examination of Literature :-

The first task was to review the available material with an aim to explore the possibilities of developing hypothesis from it. In the transportation science, numerous hypotheses have been stated by previous research workers. Hence, it was though appropriate to gather these various hypotheses with a view to evaluate their usefulness for further research and to consider whether they would suggest new hypotheses.

In order to collect information, the need was felt to refer literature. Accordingly, the books, journals and dissertations in related subject were referred. This had facilitated to enrich the insight over the subject and to device course of research pursuit.
Recent statistical and other information about the development of transport was collected from the libraries of Dr. B. A. M. University, Aurangabad, the Gokhale Institute of Politics and Economics, Pune and from the offices of R.T.O., Aurangabad / Parbhani / Nanded / Hingoli / Mumbai and Directorate of Bureau of Economics and Statistics (State Government).

(b) Experience Appraisal:-

Many people having concern to transportation business, by virtue of their particular placement - as Banker financing transport, as R.T.O. officials controlling transport, as operator under APT business are in position to observe the effects of different policies, legal implication, controls, etc. They may provide the solutions to problems as a result of their experience in the transportation field. These people are authentic or reliable source for the information required. For example, the RTO officials are likely to develop certain insight into characteristic of passengers transport business and become capable of suggesting possible ways or devices to assist the researcher in this work. The Banker financing transport business may acquire rich insight in respect of the relevant categories of transport operators' financial needs. The Traffic policemen controlling transport vehicles on roads for safety are, too, advantageously positioned to obtain fruitful insight into what really works in a practical situation. The passengers who use the auto rickshaw frequently may have good many things to tell about transportation. They can enlighten over many matters which are not even seen by the common people. Similarly the transport management institutions, insurance agents for vehicles, repair shop-men, vehicles manufacturers and such others have many ideas about the functioning or working of the APT& AGT business.
All the above referred to people have a rich fund of experience about APT or AGT business, its utility, its problems etc. It was though appropriate to gather and synthesize such experiences. This had done by contacting all these key positioned people who had concern to APT/AGT business by one or other purpose.

This forgoing mentioned exercise has facilitated to obtain the insights into the nature of the problem and provided the fruitful leads to the possible hypothesis. Since, the aim of experience survey was to look for provocative ideas and useful insights, the respondent were chosen on the basis of the likelihood that they would be able to contribute such ideas and insights. In order to avoid waste of time in an experience survey, only the people who found to have competence, relevant experience and communicability were interviewed. The strategically placed administrators working in the transportation field were found more useful.

During the experience survey, the people from Aurangabad, Nanded etc. were contacted and interviewed. Efforts were made to select informants so as to ensure a representation of different types of experiences. Variations in the points of views were also given adequate representations in the purposive sample of respondents. Thus, in an experience survey of "Passengers' or Customers Satisfaction", it was proved advantageous to interview the passengers/customers frequently using the Auto rickshaw (APT or AGT).

In an experience survey, the best way to determine the sample size is to identify the point (in the process of interviewing informants) after which an additional interviewers seen to fall into the pattern which has
already emerged from earlier Interviews. In other words an additional interview shall not be reverberation. This logic was observed while interviewing. Only the required number of people was contacted. For example, while collecting the information on financing, passengers or goods vehicle, only one or two bankers were contacted. As against this, while collecting the opinions over the passengers satisfaction, about required number (in between 10 and 20) passengers from each of the selected cities i.e. Aurangabad, Nanded, Hingoli and Parbhani were contacted.

After the exploratory study, it was noticed that, there were vaguely felt "Originating Questions" concerning to thesis objectives. Hence, the subsequent descriptive studies were directed towards these problems and solutions there on.

It was invariably true that, a researcher did not have any clear cut idea as to what specific, predetermined set of questions he would ask to the informants to be able to get the relevant information or answer. Hence, at an initial stage of interviewing investigating net was kept wide by asking general and flexible questions. On picking up a clue in the course of preliminary phase of conversion - for which maximum opportunity and freedom was allowed to informants - the process of querying was slowly led to tighten the lattice, i.e. by asking the respondents more pointed questions.

The above may be explained through example. General questions were asked as opinions about RTO Officials or bankers. This general question provided numerous types of information, since much freedom was given to respondents for answering. On the basis of information
provided or opinions advanced on the above question, it was possible for 
author to knit more and more pin-pointed questions. For example, once 
the respondent told about “Unsatisfactory” services of Bankers. It was 
then, appropriate to know what types of services that the operators 
required? And how far the Banker is lacking in facilitating these services? 
What are available remedies? Etc.

Thus, an experience survey was “Non-structured” flexible method 
of data collection. Questions were asked on the basis of information 
provided. In other words one question led to frame subsequent questions 
and so on.

The experience survey assisted in the following ways:-

(i) It assisted in developing subsequent judgment –cum-purposive 
    sample survey of operators and users and framing the structured 
    questionnaire.

(ii) It enlightened over practical aspects on the various matters that 
    observed in the survey of literature. Thus, it was learnt from the 
    Motor Vehicle Act, about statutory charges / expenses to be 
    incurred for APT business. However, its pragmatic or sensible 
    realities were noticed only when the survey of operators was 
    conducted.

(iii) It developed confidence and insight over the subject.

(iv) It was a sort of pilot investigation before beginning the Judgment- 
    Cum- purposive sample survey and, hence, it provided nut-shell 
    ideas about occurrence of difficulties in the said sample survey. All 
    such difficulties, when felt in advance were removed neatly so as to 
    avoid the bias in the investigation.
(c) Descriptive Study:-

(i) Survey of Operators:

After completing an experience survey it was thought appropriate to undertake the sample survey of APT & AGT operators. This survey was an attempt (i) to evaluate the social economic and entrepreneurial profile of the owners/operators (ii) to know the cost, profits and operational details of the APT/AGT business and (iii) Operators satisfaction on various matters of APT & AGT business.

The procedure of sample survey was carefully planned for Aurangabad, Nanded, Hingoli and Parbhani with an aim to obtain complete and accurate information of APT & AGT business. The sampling frame and other consequent requirements were neatly adhered to. For the purpose of sample survey, 50 AP vehicle operators from each of the cities i.e. Aurangabad, Nanded, Parbhani, and Hingoli were selected from the queues of vehicles waiting for passengers at ST Stand by using judgment- cum -purposive but Non-probability sampling method. While in the case of AG vehicles, 50 vehicles from the each selected cities were selected from the market yards or grain bazaars by using the similar method of selection.

A survey of passengers for knowing their satisfaction and travel characteristics was conducted in the four cities under study. The methodology of the same is explained ahead:-

(ii) Survey of Passengers and Users of Goods Vehicles:

Hired passengers transport vehicles are used in for multiple numbers of purposes like going to or coming back from the work place,
shopping, recreation, education, business health care (Medical treatment). Hired goods transport vehicles are also used in the selected cities for carrying goods/passengers from the business centers to required places and vice versa.

However, the survey was conducted only in Aurangabad where the AG and AP transport business are carried under competitive environment. The derivations derived from such survey are adequate to visualize the situations prevailed in other cities where these business are not as brisk as in Aurangabad.

All these users i.e. passengers and users of goods transport vehicle were difficult to hold as the target for enquiries about their journey characteristic, cost etc. on account of the following reasons:-

: Very few users or passenger are regular users of hired vehicles.
: The passengers or users are residing all over the city along with non-users and hence they are very difficult to locate and catch up for enquiries.
: If the users or passengers are managed to be contacted, they might be unable to provide information for the journeys which were made sometimes in past.

As the incidence of the above hurdles in the data collection from the passengers undertaking journey sometimes in the past, it is though appropriate to contact them while they are using the hired vehicles. In order to facilitate this enquiry the following steps were designed and practiced:-
(a) **Selection of Routes:**

For APT Business the two main roads going to stations or bus stand were selected, as they are invariably busy streets of the city and almost more than 90% of the passengers transport vehicles use these streets. For AGT business two main roads going towards Central Business District (CBD) were selected for study.

(b) **Choosing a Time for Interview:**

The morning peak hours i.e. 9.00 a.m. to 12.00 p.m. and evening peak hours i.e. 6.00 p.m. to 9.00 p.m. were selected for the purpose of survey.

(c) **Selection of Vehicle and Passengers or Users:**

During both peak and slack hours vehicle operators carrying passengers or goods were requested to stop for few minutes and the passengers sitting inside were interviewed; while in the case of goods vehicles, instead of users or hirer the operators were asked to give the information on behalf of hirers hiring the vehicles In the work of data collection, the help of Police, Union leaders, lady investigators and students was sought.

(d) **Period of Survey:**

The survey was difficult to be started simultaneously at all the places due to huge expenses required for hiring the investigators. Hence, the author with the help of few had conducted the survey for seven days during the month of September, 2006. The survey timing was, however, confined only to peak hours.
(e) **Number of vehicles and passengers contacted:**

Only 20 auto-rickshaws business were randomly selected from each category of vehicles i.e. auto-rickshaw carrying passengers & Carrying goods.

While interviewing, only the passengers in vehicle who has a responsibility to remit fares were interviewed. Rest of the passengers was not interviewed. When there were passenger sharing fares, only the passengers sitting left side of the driver was interviewed. In the case of Goods Auto-rickshaw, instead of users/customers the operators carrying goods were asked what types of goods they are carrying. And other related questions

Sometimes the passengers paying fares was not earner. In such cases, the person who is incurring cost of transport was considered as the point of enquiry in the respect of total income.

(f) **Nature of Interviews:**

Only the following questions were asked to passengers or operators of goods vehicles:-

(i) Time required to get the vehicle.( In case of APT vehicles)

(ii) Purpose of journey.

(iii) Frequency of journey.

(iv) Regular/occasional

(v) Occupation

(vi) Monthly income bracket i.e. up to Rs. 500, 500 to 1000, 1000 to 2000, 2000 to 3000, 3000 to 4000, 4000 and above.

Passengers Auto- rickshaw operator is asked bout "time" required for getting the passengers traveling in his vehicle, while goods auto-rickshaw operators were asked for time they had spent for getting goods for transport.
During the course of interview the passengers were asked only few questions without asking their names. As a result of this, the information, especially about income was sought immediately. Similarly, the vehicle operators were also not asked about their names etc. And hence they were also cooperative in pursuing passengers for providing the information. As the information is a sort of surprise contact with the respondents, the probabilities of exploring true and fair information were more.

Other Details of methodology:-

(a) Selection of vehicles for study:
During the last three years, the maximum number of Bajaj Auto-rickshaws was financed by the bankers or financial institutions. And, hence, it was decided to consider or select only the above models or vehicles for study.

(b) Interest on borrowed capital:
This information was collected from the banks financing vehicle purchases. Normally in 2006 and prior to that the rate of interest was 12% per annum for auto rickshaw and taxi finance.

(c) Insurance, Road taxes, License fees, etc.:
This information was collected by visiting RTO office, commission agents, and operators of the vehicles and the owners of the vehicles.
(d) **Rent paid:**
There is no practice to keep the vehicle in garage, when it is not being operated. However, the MV Act insists for parking of the vehicle in garage during rest hours and for that purpose it was required to assume that the vehicle owner incurs some rent charges. These are hence, taken into account in consultation with the vehicle owners.

(e) **Depreciation:**
Truly speaking the depreciation has concern to the scale of operation. However, the bankers and experts are of the opinion that the Bajaj model of auto rickshaw gives a service upto ten years in Aurangabad. Taking the same for granted the annual depreciation charges were worked out as below:

\[
\text{Purchase price of vehicle - Expected scrap value at the end of ten years = Depreciation per year} \\
\text{Life Span of vehicle i.e. 10 Years}
\]

(f) **Salaries paid to Drivers:**
The vehicle operator, though he is owner of the vehicle was assumed to receive salary for his driving. In case, if driver is appointed no question of estimation arises.

(g) **Fuel Cost, Kms. operated and Receipts**
Only ten selected vehicle owners from each one of the four selected cities under study having new vehicle were asked to fill up the following pro-forma for the month of September 2001 and 2006. In order to maintain accuracy the author the author had established close rapport with each vehicle owner.
On the basis of data collected in pro-forms, the fuel cost and receipts from the business were estimated for the year i.e., for 300 working days.

The working period of the vehicle for the year is assumed as 300 days, since it is told by the R.T.O. officials, drivers and other experts that, normally, the vehicle is being operated for 300 days out of 365 days in the year due to the following reasons:

(i) Illness of operator
(ii) Holidays, leave of operator for his domestic work
(iii) Repairs and maintenance
(iv) Any other unforeseen events.

(h) *Repairs and Maintenance of vehicle:*

The owners were asked to quote the average R&M expenditure that they would have to incur per year by taking into consideration (a) the life span of vehicle, (b) likely occurrence of expenditure on account of overhaul replacement of spare parts, tires, tubes, cushion, meter etc. and (c) repair/maintenance charges to body.
The reporting on the above, from the ten operators was collected and the average expenditure per year on R&M was worked out.

(i) **Utilization of Data collected under case study:**
Not all the data asked for were used. Only the necessary data and information were summarized. This exercise is done in the subsequent chapters at appropriate places.

(j) **Tabulation of Data:**
After collection of primary data, there was need to tabulate the same. Before tabulation, the data was examined for completeness, comprehensibility, consistency and reliability. The process of analyzing the data was then followed by coding the responses, placing each item in appropriate category, tabulating the variables and performing statistical computation.

The secondary data was restructured and were tabulated by keeping in view the objectives of the study.