QUALITY PERSPECTIVES IN PRIVATE BUS TRANSPORT SERVICES IN VIJAYAWADA

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Abstract: The quality of services offered by a private bus transport company at Vijayawada in Andgra Pradesh was assessed using appropriate dimensiuons. Primary data was collected from 389 travellers using deliberate sampling and structured questionnaire. The analysis revealed the level of satisfaction with various dimensions (variables). Areas requiring mild and drastic improvements in service quality were identified. Such studies would help in fostering better customer satisfaction and loyalty.

Keywords: Private Bus, Transportation, Service Quality, Satisfaction.

1. INTRODUCTION

The alarming increase in population in India has had severe impact on private and public transportation systems. The era of liberalization and growing importance of services sector has witnessed demand-supply gaps in infrastructure.

The presence of railways, airways and shipways has not made much of an impact. The major means of travel (transportation) in Indian cities continues to be buses. This critical components is fraught with logitical and operational challenges. Buses are inadequate, service quality is not upto world-class standards, and safety seems to be the least priority.

Further, the buses do not adhere to their schedule and often stop at an irrational location than the earmarked stops which creates inconvenience for the passengers. Apart from this the, design of the buses is such that most of them are unsupportive for differently-abled passengers. Such and other issues and challenges clearly reflect the current inefficiencies of bus transport system in India.

Understanding travel behaviour (Beirao & Cabral, 2005) and the reasons for choosing one mode of transport over another is an essential issue. However, travel behaviour is complex. For each journey, people have the choice between different transport modes, each one having specific characteristics, advantages and disadvantages, and costs. Additionally the choice of one specific transport mode can vary over time and with the type of journey.

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The passenger transportation industry is a large contributor to economic value all over the world within various transportation branches such as airlines, maritime, and ground transportation. Service quality is an aspect influencing travel user choices in the passenger transportation industry.

Service quality refers to customer perception of how well a service meets or exceeds expectations. Increasing quality is likely to be employed as a competitive advantage in services industry. Even though railway and airline transportation branches have been investigated several times in the literature in terms of improving service quality, highway passenger transportation services are not examined comprehensively in the same manner.

From the service providers perspective is essential to identify the most important attributes of service quality that are perceived by current and potential users'. This is the only way to attract more users.

Transport faces the challenge of increasing competition. In order to be an attractive alternative to competitors, transport companies must continuously improve their quality and services delivered to the market. A key factor in achieving this goal is to have highly satisfied users. This implies to grasp their needs and expectations and to be able to satisfy them on regularly bases. Therefore, transport has to become more consumer oriented.

The bus has many applications (Litman, 2008) in local transit which can be summed up in the following three:

a) It can assume the sole transportation service of an entire town.
b) It may be operated as a coordinated service in conjunction with rail vehicles (providing feeder, tangential, or inter-connecting service)
c) It may provide transport connection between city centre and peripheral communities as express or main trunk lines.

Bus transport is a major element in any transportation system in its role as a complementary mode. It offers flexibility to cover wide areas that cannot be covered by other modes. Bus Companies are required to carry passenger or contents to the destination quickly, safely, with same fare and same activity without discriminations.

Four main aspects (Mazzulla & Eboli, 2006) of the operation relate directly to the facilities:

a) *Safety*: The mechanical parts of the urban bus and especially the body structure, the chassis, the suspension, the types of doors and their mechanism, the control systems (brakes and steering), the transportation system, and other characteristics of the vehicle are the elements that influence directly on safety of the operation.

b) *Comfort*: A "traditionally" negative aspect of public transport, as compared to the private car is the lack comfort during the trip. Although by definition that "mass" transit operation cannot provide the same level of comfort as that of private car, an acceptable level must be provided so as, combined with other advantages of public transport to make modal choice turn in favour of the latter.

c) Efficiency of the operation: This aspect encompasses all those elements of the operation in a bus that directly relate to the proper and efficient execution of the daily service requirements.

d) *Effects on the environment*: These effects, which primarily include air pollution, noise levels, and vibrations, have become very important for the congested urban areas where the buses usually operate.

Service quality attributes considered across the world (Vanhanen & Kurri, 2005) are:

i)   Frequency
ii) Number of stops
iii) Cleanliness of interior, seats, etc.
iv) Comfort on bus
v)   Security against crimes on bus
vi) Availability of shelter at stops
vii) Information on services
viii) Availability of seats on bus
ix) Driver style and behaviour
x)   Smoothness and safety of ride
xi) Provision of routes (networks)
xii) Reliability, commitment and responsiveness.

The main challenges (Vanhanen & Kurri, 2005) found in transport (reasons for non-use) are:

a) Long wait at stops
b) Overcrowded buses
c) Low frequency
d) Slowness of vehicles
e) Service unreliability
f) Need for transfers
g) Difficulty of carrying loads
h) High fares

  i) Poor accessibility to stops

  j) Other reasons.

2. MATERIALS AND METHODS

The objectives of the study were: (a) to identify critical antecedents of service quality of bus transport services, and (b) to ascertain the perception of bus transport passengers (travellers) about the quality of services provided by Company X (Name of the private bus transport operator has been masked to ensure confidentiality) headquartered at Vijaywada, a city in newly formed state of Andhra Pradesh in India.

  Descriptive research deishn was used. The dimensiions of service quality were compiled based on unstructured interviews with private and public bus services' employees and executives. This aided the originality of the research besides ensuring relevancy and appropriateness of content.

  The population for the survey comprised customers of Private Bus (inter-city) services. The frame comprised customers of Company X at Vijayawada. Purposive (Deliberate or Judgemental) sampling was employed. Only those customers who had association (usually travelled) with Company X at Vijayawada were considered for the survey. In the current study, the population, namely, exact count of customers of Company X at Vijayawada, was not known. Also, the standard deviation value was ascertained from the pilot study.

  The ascertained standard deviation value was then used for computing the estimated sample size (Malhotra, 2010) using the formula $n = \sigma^2 . z^2 / D^2$ where n = estimated sample size; σ = standard deviation; D = level of acceptable error (Level of significance); and z = standard variate. The standard deviation value for was found to be 0.503. The sample size 'n' was 389 customers. Survey method was employed.

  The primary data was collected by administering structured questionnaire during the period January to February 2016.

  The limitations of the research were: (a) the study was focused on service quality and customer loyalty in bus transportation industry (Private buses) only and other dynamics of services marketing and management were not under its purview; and (b) there may be changes in the transportation environment, service delivery and consumer behaviour in the future which, in turn, may influence changes in customer perceptions, expectations and loyalty intentions.

3. RESULTS AND DISCUSSION

3.1. Routes and Logistics

The summary of mean ratings for five variables under Routes and Logistics and their respective positions are presented in Table 1.

Table 1
Mean Ratings for Routes and Logistics

Routes & Logistics	Mean Rating (Out of 5)
Route Networks	4.25
Intervals (Stops along the journey)	3.65
Travel Time	3.77
Reliability (sticking to mentioned route)	3.94
Frequency of bus services	3.9

The overall mean rating for Routes and Logistics in descending order was: (i) Route Networks, (ii) Reliability (sticking to mentioned route), (iii) Frequency of bus services, (iv) Travel Time, and (v) Intervals (Stops along the journey).

3.2. Ticketing System

The summary of mean ratings for nine variables under Ticketing System and their respective positions are presented in Table 2.

Table 2
Mean Ratings for Ticketing System

Ticketing System	Mean Rating (Out of 5)
Duration of ticketing	4.09
Visual characteristics of ticketing area	3.82
Error-free booking	3.69
User-friendly web site	3.71
24 x 7 online booking	3.91
Payment options in online booking	3.8
Bookings through Travel-related Apps	3.79
Cancellations / date changes	3.4
Pricing of travel tickets	3.25

The overall mean rating for Ticketing System in descending order was: (i) Duration of ticketing, (ii) 24 x 7 online booking, (iii) Visual characteristics of ticketing area, (iv) Payment options in online booking, (v) Bookings through Travel-related Apps, (vi) User-friendly web site, (vii) Error-free booking, (viii) Cancellations / date changes, and (ix) Pricing of travel tickets.

3.3. Services

The summary of mean ratings for eleven variables under Services and their respective positions are presented in Table 3.

Table 3
Mean Ratings for Services

Services	Mean Rating (Out of 5)
Availability of refreshments at Waiting Areas	3.38
Cleanliness of Waiting Areas	3.58
Safety at Waiting Areas	3.63
Fleet (Number of Buses owned)	3.84
Appearance (Modern-looking buses)	3.98
Punctuality	3.48
Assistance to board correct Bus	3.68
Accessibility (Ease of boarding bus)	3.62
General Cleanliness in bus	3.81
Driving style / control	3.41
Passenger boarding as per bus capacity	3.73

The overall mean rating for Services in descending order was: (i) Appearance (Modern-looking buses), (ii) Fleet (Number of Buses owned), (iii) General Cleanliness in bus, (iv) Passenger boarding as per bus capacity, (v) Assistance to board correct Bus, (vi) Safety at Waiting Areas, (vii) Accessibility (Ease of boarding bus), (viii) Cleanliness of Waiting Areas, (ix), (x), and (xi) Punctuality.

3.4. Facilities

The summary of mean ratings for five variables under Facilities and their respective positions are presented in Table 4.

Table 4
Mean Ratings for Facilities

Facilities	Mean Rating (Out of 5)
Seat Comfort	4.14
Temperature and ventilation inside bus	3.86
Audio-Video (TV)	3.49
Distance between seats	3.67
Accessories (Plug, Holders)	3.2

The overall mean rating for Facilities in descending order was: (i) Seat Comfort, (ii) Temperature and ventilation inside bus, (iii) Distance between seats, (iv) Audio-Video (TV), and (v) Accessories (Plug, Holders).

3.5. Information and Communication

The summary of mean ratings for five variables under Information and Communication and their respective positions are presented in Table 5.

Table 5
Mean Ratings for Information and Communication

Information & Communication	Mean Rating (Out of 5)
Handling of enquiries	3.51
Facility for registering Complaints	3.07
Resolving of complaints	3.26
Sales Promotion	3.69
Information about available tickets and price	3.67

The overall mean rating for Information and Communication in descending order was: (i) Sales Promotion, (ii) Information about available tickets and price, (iii) Handling of enquiries, (iv) Resolving of complaints, and (v) Facility for registering Complaints.

3.6. Employee (Staff) Quality

The summary of mean ratings for five variables under Employee (Staff) Quality and their respective positions are presented in Table 6.

Table 6
Mean Ratings for Employee (Staff) Quality

Employee (Staff) Quality	Mean Rating (Out of 5)
Discipline of employees	3.62
Knowledge of employees	3.63
Appearance of employees	3.58
Courtesy of employees	3.47
Responsiveness of employees	3.37

The overall mean rating for Employee (Staff) Quality in descending order was: (i) Knowledge of employees, (ii) Discipline of employees, (iii) Appearance of employees, (iv) Courtesy of employees, and (v) Responsiveness of employees.

3.7. Travel Experience

The summary of mean ratings for seven variables under Travel Experience and their respective positions are presented in Table 7.

The overall mean rating for Travel Experience in descending order was: (i) Sense of smoothness (no bumps, shakes, rashness), (ii) Safety of baggage, (iii) Location of Boarding / Alighting Points, (iv) Sense of safety (accident-free) and Understanding of special customer needs (Patients, disabled, elderly), (v) Information assistance at destination and (vi) Individual attention to customer needs.

3.8. Suggestions

The areas which required mild improvements as well as those which required drastic improvements in the various dimensions of service quality are summarised in Table 8.

Table 7
Mean Ratings for Travel Experience

Travel Experience	Mean Rating (Out of 5)
Sense of smoothness (no bumps, shakes, rashness)	4
Sense of safety (accident-free)	3.59
Individual attention to customer needs	3.33
Understanding of special customer needs (Patients, disabled, elderly)	3.59
Safety of baggage	3.64
Information assistance at destination	3.47
Location of Boarding / Alighting Points	3.61

Table 8
Suggestions for Improvements in Bus Travel Services

Service Quality Attributes	Mild Improvements	Drastic Improvements
Routes and logistics	Frequency of bus services.	Travel Time, and Intervals (Stops along the journey).
Ticketing system	User-friendly web site, and Error-free booking.	Cancellations / date changes, and Pricing of travel tickets.
Services	Cleanliness of Waiting Areas, and Accessibility (Ease of boarding bus).	Punctuality, Driving style/ control, and Availability of refreshments at Waiting Areas.
Facilities	Distance between seats.	Audio-Video (TV), and Accessories (Plug, Holders).
Information & Communication	Handling of enquiries.	Resolving of complaints, and Facility for registering Complaints.
Employee (Staff) Quality	Appearance of employees.	Courtesy of employees, and Responsiveness of employees.
Travel Experience	Understanding of special customer needs (Patients, disabled, elderly).	Information assistance at destination and Individual attention to customer needs.

4. CONCLUSION

This research helped in assessing the quality of service offered by Company X at Vijayawada. The originality stemmed from the fact that dimensions relevant to private bus transport (travel) services were assessed rather than just sticking to SERVPERF (Jain and Gupta, 2004) dimensions. The areas that require mild as well

as drasticx improvements were identified. Implemenattion would ensure that the private bus service operator (Company X) would be able to foster greater customer satisfaction and loyalty.

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