

Comparative Study between Rajasthan State Road Transport Corporation and Haryana Roadways: Exploring Reason for Loss of Rajasthan State Road Transport Corporation

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SUMMARY

Road Transport plays a vital role in development of any economy. In developing countries like India having a road, rail network is about 468882 km and 115000 km respectively shows the importance of road network in India. Rajasthan State Road Transport Undertakings and Haryana State Road Transport Undertakings are providing mobility to passenger in Rajasthan and Haryana by offering Various Services. But competition in these services itself makes these projects loss making. There are various variables for which people prefer one service over another. Haryana Roadways is profit making where as Rajasthan Roadways is making huge losses. As these are government undertaking so they remains backward as compared with private ones. Services like regular maintenance and up gradation are not possible in government undertaking so people prefer private ones. Haryana Roadways has given freedom to its drivers to decrease level in daily management. In this study a public opinion survey is carried out for finding service quality of both the services and to find the variable which affects more level of demand and based on peoples survey, some recommendations are formed.

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CHAPTER : I

INTRODUCTION

India's Population is increasing at a growth rate of almost 2% per year since two decades. More than 2.8% of population migrates towards big cities for their livelihood, and this is because of limited connectivity and more travel time, despite of fact that about 60% of the total GDP comes from urban areas. Proper public transportation plays an important role in growth of any country. In present scenario, service quality is necessary because people have several options to choose the better mode of transport. It is essential to provide good service quality for economical stability in the world of competition

Roads as a means of transportation have been existing from last 5000 years and have proven to be the backbone of Indian economy. It has contributed in the transportation of freight as well as passengers to a large extent. With the increasing migration, the pressure on the road transport is exponentially increasing, but this is being overlooked by almost everyone. Moreover, being the highly accessible public transport it has not gained its momentum.

From time immemorial transportation sector is providing services and is being considered as a prominent part of service industry. In past few decades, service based industries have covered a large part of our economy. Due to its positive impact on business profitability, performance, customer satisfaction and customer loyalty, it has gained a remarkable attention by practitioners, managers and researchers. The success of the service based organization basically depends upon the delivery of high quality service and continuous improvement.

Indian road network, second largest in the world, covers approximately 46.89 lakh km (as of 2013) providing almost 0.7 km of highway per 1000 persons and quantitative road density of 0.66 km of roads per square km of land. According to the projections of National Transport Development Policy Committee (NTDPC) total passenger traffic is expected to grow at about 15 per cent per annum to reach 168,875 bpkm by 2031-32 from 10,375 bpkm in 2011-12. However in international standards India is far behind the other developed countries e.g. USA has 21 km of roads per 1000 persons while France has 15 km of roads per 1000 persons (Source: http://en.wikipedia.org/wiki/Indian_road_network#See_also). With the ever growing population in India, the road and rail networks are facing an unprecedented pressure on both quantity and quality. After the 90's the traffic percentage in rail and road networks has increased exponentially.

Haryana Roadways, a departmental passenger transport undertaking of the state government, is a prominent part of Haryana Transport Department. It has emerged as a convenient, reliable, safe, economic and eco-friendly transportation service using modern methods. Being the principal service provider of the state, it has around 3844 buses being operated by 24 depots and 13 sub-depots covering state as well as neighboring states. Everyday around 1.24 million passengers travel and it covers a distance of approximately 1.2 million km/day (Source: http://hartrans.gov.in/road_glance.htm). Over the years, Haryana roadways has shown a remarkable growth and proved to be a quality service provider. Its major initiative is the introduction of Volvo Ac buses (Saarathi) which connect domestic as well as international airport. With this there is an additional facility of online reservation for it's easy access. Moreover, Haryana roadways provide busses with deluxe facilities at ordinary fair which makes journey convenient and comfortable. This did not only curb the level of pollution, but Haryana roadways also started CNG bus service with the name 'Haryana Uday'. With all this it has earned a name and fame for itself. 'Haryana Gaurav' is another flagship service of roadways which is popularly named as 'AamAadmikikhas bus' and provides Deluxe type 2x2 seats, FM Radio, Mobile charger and pneumatically operated doors, tinted glass and curtains.

Rajasthan State Road Transport Corporation (RSRTC) Rajasthan State Road Transport Corporation is the largest provider of intercity bus transportation in the state of Rajasthan. It is headquartered in Jaipur, Rajasthan. The corporation has been established by Government of Rajasthan on 1 October 1964 under the Road Transport Act 1950. RSRTC has incorporated Ordinary, Express, Deluxe, A.G. Gandhi Rath, A.C., A.G. Sleeper, Volvo-Mercedes, Volvo-Pantry, Volvo-LCD, Volvo-LCD-Pantry bus services in fleet for all category of passengers. It has 5,000 buses in its fleet and 56 depots across the state and 3 depots outside the state i.e. Indore, Ahmedabad and Delhi.

Objective of the Study:

- ✓ To study of the quality of service provided by Government Bus Services.
- ✓ Comparative study between Rajasthan State Road Transport Corporation and Haryana Roadways.
- ✓ Important reason behind the attraction of customer towards any bus service.
- ✓ Exploring Reason for loss making of RSRTC and suggesting measures to overcome problem.

CHAPTER : II

LITERATURE REVIEW

Different literatures are reviewed to increase the understanding of the topic and its viability under different circumstances. Another motive behind reviewing literature was to become familiar with this topic.

Introduction:

Higher service quality is an important factor driving the perceived value of any service. Superior service quality helps in enhancing customer loyalty and improving service provider's image, sales and profitability. Since satisfaction is basically a psychological state of mind, adequate care should be taken in an effort to measure it in quantitative terms. According to R.K. Agarwal and Parmod Bhargava, the basic motive of Public Sector Bus Service is public welfare not profit making. According to Dr. Sanjay Tiwari in his paper of showing decline in profit of Haryana Roadways says that Management is the basic variable which makes decline in profit of Haryana Roadways.

Customer:

The word "customer" is derived from "custom," which means "habit". A customer is someone who frequents a particular shop, making it a habit to purchase goods of the sort the shop sells rather than elsewhere, and with whom the shopkeeper has to maintain a relationship to keep his or her "custom," meaning expected purchases in the future. A customer, also called client, buyer, or purchaser, is usually used to refer to a current or potential buyer or user of the products of an individual or organisation. This is typically through purchasing or renting goods or services. In the field of public transport, a customer can be described as one who has a habit of using the services provided by the transport operator over other service providers in the market. In this study, customer means a person who travels by a RSRTC bus.

Satisfaction:

Satisfaction is the contentment that one derives upon fulfilling a desire, need, or expectation. It may be noted that in the current study, customers satisfaction is taken on 3 level of scale i.e. Highly satisfied, Satisfied and Not satisfied.

Literature Reviewed:**➤ FINANCIAL PERFORMANCE OF HARYANA ROADWAYS : A COMPARATIVE STUDY**

By DR. SANJAY TIWARI

In this paper an attempt has been made to present real status of the State Road Transport Undertakings with particular reference to Haryana Roadways and the comparative financial performance analysis has been carried out in order to find the gaps and tell ways to improve the same. In the this study an eight year time period i.e. from 2000 to the year 2008 is taken for which data has been collected from the secondary sources. With the use of about twenty variables the comparative financial performance has been done during the period of observation.

The performance on profit front is absolutely disappointing and management is responsible for it. Profit before tax has shown negative growth.

➤ MEASURING CUSTOMER'S SATISFACTION ON BUS TRANSPORTATION

By Rabiul Islam and Mohammed S. Chowdhury

In this paper, the overall result show that service quality influences overall customer satisfaction in using public bus transport. High quality public bus transport not only keep customer to continue using public bus transport to fulfill their travel demand but also attract potential customer. The examination of the literature provide some interested results: Behavior of personnel and specifically behavior of bus driver, frequency of services, reliability of services as well as time and particularly waiting time seemed to be the most crucial factors affecting customer satisfaction within other.

➤ AN INVESTIGATION OF SERVICE QUALITY PARAMETERS IN HARYANA ROADWAYS

By Pragya Gupta and Babita Tanwar

The study was undertaken with the objective of identifying and analyzing the passenger's perception regarding the service quality of the Haryana roadways. Nineteen statements were used which were clubbed together as tangibility, reliability, responsiveness and price, the four key dimensions of service quality for roadways. The low weight age to the price clearly indicate that in present condition, passengers are becoming more quality conscious. Their emphasis is on the cleanliness, comfort, awareness, promptness and safety rather than expense of the travel. The second objective was to ascertain the relationship of demographic profile of passenger with

quality dimensions of roadways services. Here five different demographic parameters were taken into account viz. age, background, gender, education, income and their relation with each dimension was analyzed. It was found that out of five, three of the demographic parameters i.e. background, gender and income has no significant influence on the service quality dimensions. This means all the passengers, whether male and female, of any background i.e. rural and urban, having any level of family income all the four dimensions (tangibility, reliability, responsiveness and price) equally important. Qualification has also influenced the service dimension of Roadways. It can be easily concluded that qualification is the single parameter which has shown an appreciable difference in all the four dimensions of service quality.

➤ **SMALL IS EFFICIENT: A FRONTIER APPROACH TO COST INEFFICIENCIES IN INDIAN STATE ROAD TRANSPORT UNDERTAKINGS**

By: RaghendraJha

This paper attempts to measure cost-inefficiency of nine major Indian State Road Transport Undertakings (STU) for the period 1983-84 to 1996-97 in a manner that allows this inefficiency to vary both across time as well as across STUs. He found that given the size distribution of the STUs and relevant measures of their working conditions, the potential for reduction in cost inefficiency is very high.

First, the average cost curve is U-shaped. This means that economies of scale are present up to a certain output level, and then diseconomies set in. Second, he find that given the size distribution of the STUs and relevant measures of their working conditions, the potential gain through restructuring in terms of reduction of costs is very high. Also, there is evidence of wide disparity among STUs' efficiency levels throughout the sample period.

➤ **SERVICE QUALITY ANALYSIS OF PUBLIC ROAD TRANSPORT SERVICE: RAPID GROWTH OF PRIVATE VEHICLES IN THE BORDER ZONE AREA OF RAJASTHAN**

By Ravi Prakash Maheshvari, Parveen Berwal and Ravi Kant Pareek

They have worked to find out the current scenario of RSRTC bus with reference to survey conducted on sample of population. They found different reasons for the dissatisfaction of sample population.

Deployment of Buses

- (i) RSRTC should have need to explore flexibility in time schedule in case of peak and non peak hours

- (ii) RSRTC should have explored last mile connectivity after 19:00hrs since the passengers has complained no connectivity after that.
- (iii) RSRTC management should have concerned on the passenger complained that crew allows the people to board in between designated stands specially in case of express buses that causes delay in journey

Facility at Bus stand

- (i) Proper Drinking water facility must be provided in case of summer cool water facility is available.
- (ii) Departmental canteen should be opened where passenger can take refreshment
- (iii) Almost all the respondents have complain regarding especially female respondents regarding Toilet facilities are highly unhygienic, Unclean and close. RSRTC authority must have concern with respective department's i.e. Use and pay facility may be used

RSRTC Works with the Principal of Safe, Comfortable journey having 4500 buses on fleet working as a one of the biggest STU'S of the country. But the study suggests using periodical public opinion survey to know the exact performance of service on ground and provide better service and facility in economical manners to attract the passengers for using state transport service and compensate economical losses.

*Source: International Journal of Theoretical & Applied Sciences

CHAPTER : III

STUDY METHODOLOGY:

The study methodology is split into 5 tasks:

Task 1: Reconnaissance:

This task primarily includes the familiarisation with the project area by visual observations and by dummy survey.

Task 2: Review of relevant information:

This task aims at collection of information related with the research topic to have preliminary understanding of the services offered, physical characteristics of services and management in emergent situations.

Task 3: Primary surveys:

This task involves carrying out passenger opinion surveys at four different locations (Jaipur, Ellenabad, Hanumangarh and Ganganagar). Total of 86 people are surveyed at different time spans (4:00 AM – 6:00AM, 10:00AM – 12:00PM, 3:00PM – 06:00 PM and 11:00PM – 02:00AM) to make this survey more viable.

Task 4: Data analysis:

This task involves analysing of primary survey data by analysing all variables of questionnaire separately, their correlation with the demand, affect on demand and correlation t- test. The suggestions of sample were also collected.

Task 5: Recommendations and Areas of Focus:

This task entail's suggesting recommendations to RSRTC which can help the organization in alleviating passenger problems. It also prioritizes the areas of focus based on the level of importance and satisfaction levels of the passengers.

QUESTIONNAIRE

Name* :

Tel* :

Date of interview*:

Age* (B)

a. Below 18 () b. 18-40 () c. 40-50 () d. above 50 ()

Educational level* (C)

a. Below secondary ()

b. Secondary ()

c. Senior Secondary ()

d. above Sen. Secondary ()

Monthly income level* (D)

a. 0-10,000 ()

b. 10,001-20,000 ()

c. 20,001-30,000 ()

d. above 30,000 ()

Gender* (E)

Male ()

Female ()

Occupation*

➤ How often do you travel from bus? (F)

Daily

Weekly

Monthly

Very Less

➤ Which bus service do you prefer: private or Government? (G)

Private Government

➤ If government than of which state? (H)

Haryana Rajasthan Punjab Other

➤ Do you book your bus tickets online? (I)

Yes No

➤ Whose user interference is friendlier? (J)

Haryana Rajasthan Punjab Private

➤ Do you feel transaction with bus staff is safe? (K)

Yes No

HARYANA ROADWAYS

➤ Do you like travelling in Haryana Roadways if another bus service will be available after more than 10 min? (L) Yes/No

➤ Rate accordingly. Where 0 is for totally not preferable and 2 for totally preferable.

- Access to Service (M)
- Availability of Busses (N)
- Cleanliness (O)
- Comfortable Seating (P)
- Management of Busses (Q)
- En-route facilities (R)
- Speed (S)
- Time Management (T)
- Safety and Services (U)
- First Aid (V)
- Staff's Behaviour (W)
- Disciplined Staff (X)

RAJASTHAN ROADWAYS

➤ Do you like travelling in Rajasthan Roadways if another bus service will be available after more than 10 min? (Y)

Yes/No

➤ Rate accordingly. Where 0 is for totally not preferable and 2 for totally preferable.

- Access to Service (Z)
- Availability of Busses (AA)
- Cleanliness (AB)
- Comfortable Seating (AC)
- Management of Busses (AD)
- En-route facilities (AE)
- Speed (AF)
- Time Management (AG)
- Safety and Services (AH)
- First Aid (AI)
- Staff's Behaviour (AJ)
- Disciplined Staff (AK)

PREFERENCE IN THESE VARIABLES:

- Access to Service (AL)
- Availability of Busses (AM)
- Cleanliness (AN)
- Comfortable Seating (AO)
- Management of Busses (AP)
- En-route facilities (AQ)
- Speed (AR)

- Time Management (AS)
- Safety and Services (AT)
- First Aid (AU)
- Staff's Behaviour (AV)
- Disciplined Staff (AW)

CHAPTER : IV

MAIN OBSERVATION AND FINDINGS

HARYANA ROADWAYS

Access to Services:

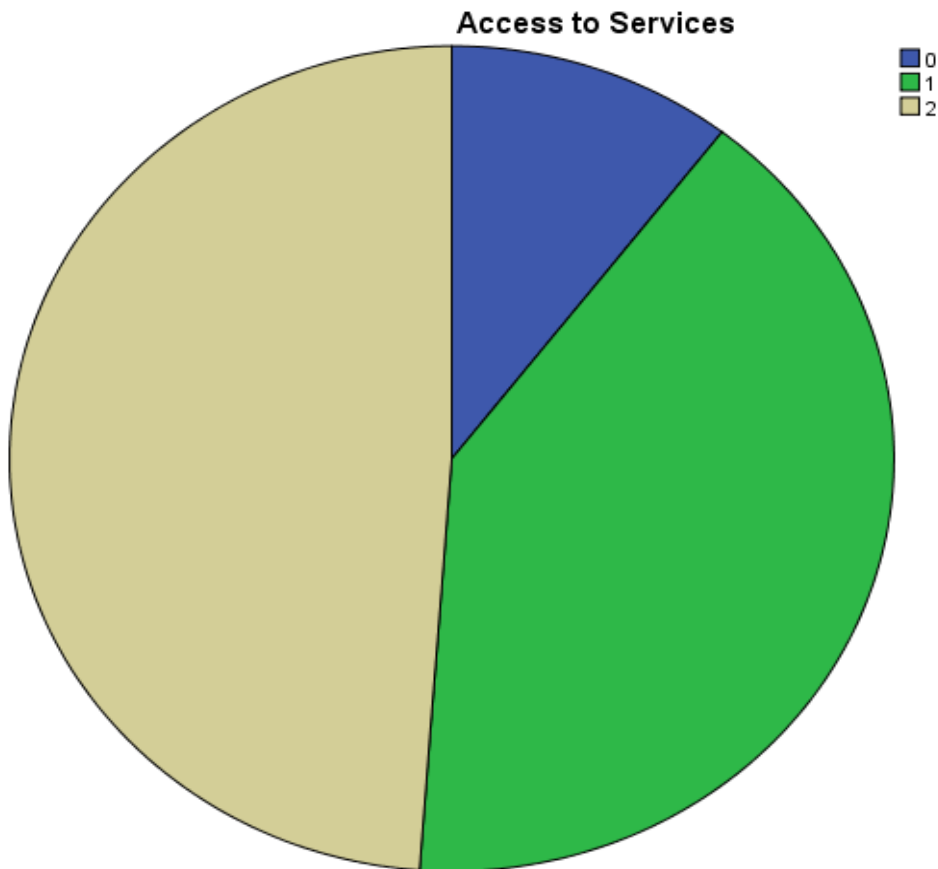


Figure: 7.4.1.1

Access to Services

	Frequency	Percent	Valid Percent	Cumulative Percent
0	9	10.5	10.5	10.5
1	35	40.7	40.7	51.2
2	42	48.8	48.8	100.0
Total	86	100.0	100.0	

Access to Services here covers the accessibility of consumers to the services like e-ticketing, easy reach ability to bus, facilities at bus stop etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, the average of access to services for Haryana Roadways is 1.38 that is on an average people are more satisfied with access to service of Haryana Roadways and there is scope to improve. Another variable that confirm this is 48.8% of people has given 2 which means about half of the population supports the access to service of Haryana Roadways.

Availability of Busses:

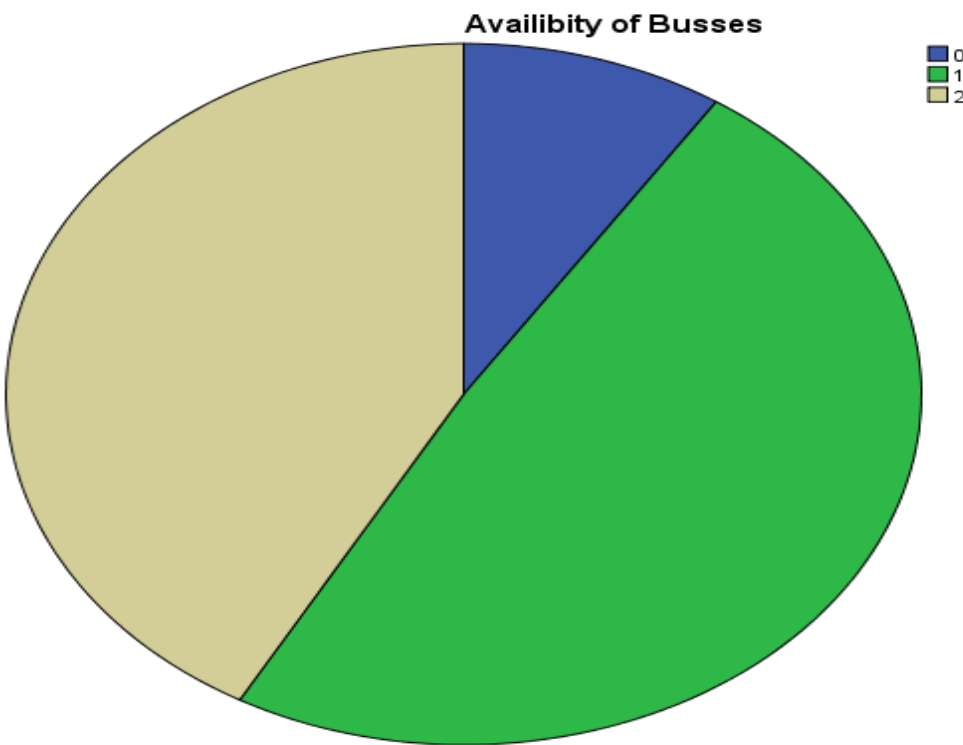


Figure: 7.4.1.2

Availability of Busses

	Frequency	Percent	Valid Percent	Cumulative Percent
0	8	9.3	9.3	9.3
1	42	48.8	48.8	58.1
2	36	41.9	41.9	100.0
Total	86	100.0	100.0	

Availability of Busses here covers the availability of Busses with Haryana Roadways, their fixtures according to demand daily services, hours of operation etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, the average of availability of busses for Haryana Roadways is 1.33 that is on an average people are more satisfied with availability of busses of Haryana Roadways and there is scope to improve. Another variable that confirm this is 48.8% of people has given 1 which means about half of the population are just satisfied with the availability of busses and having a hope for further development.

Cleanliness:

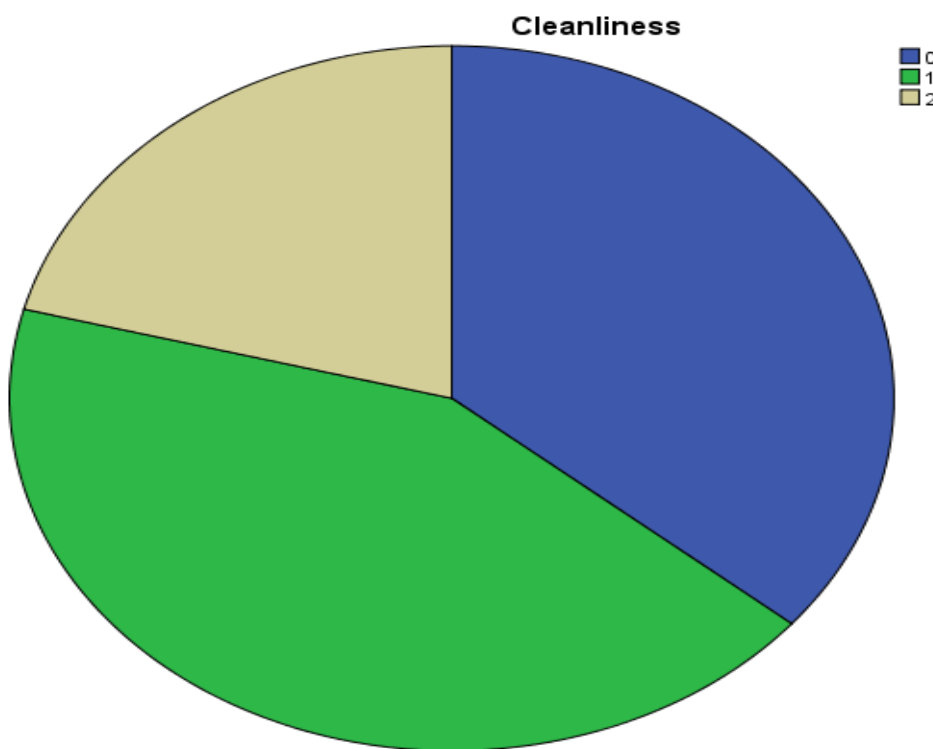


Figure : 7.4.1.3

Cleanliness

	Frequency	Percent	Valid Percent	Cumulative Percent
0	31	36.0	36.0	36.0
1	37	43.0	43.0	79.1
2	18	20.9	20.9	100.0
Total	86	100.0	100.0	

Cleanliness here covers the cleanliness of Busses with Haryana Roadways, Cleanliness on stands, Hygiene with staff etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average cleanliness of busses for Haryana Roadways is 0.85 that is on an average people are not satisfied with cleanliness of busses of Haryana Roadways and there is lot of scope to improve. Another variable that confirm this is only 20.9% of people has given 2 and 36% of sample has given 0 which means more part of sample is not satisfied with the cleanliness of busses and further development is necessary.

Comfortable Seating:

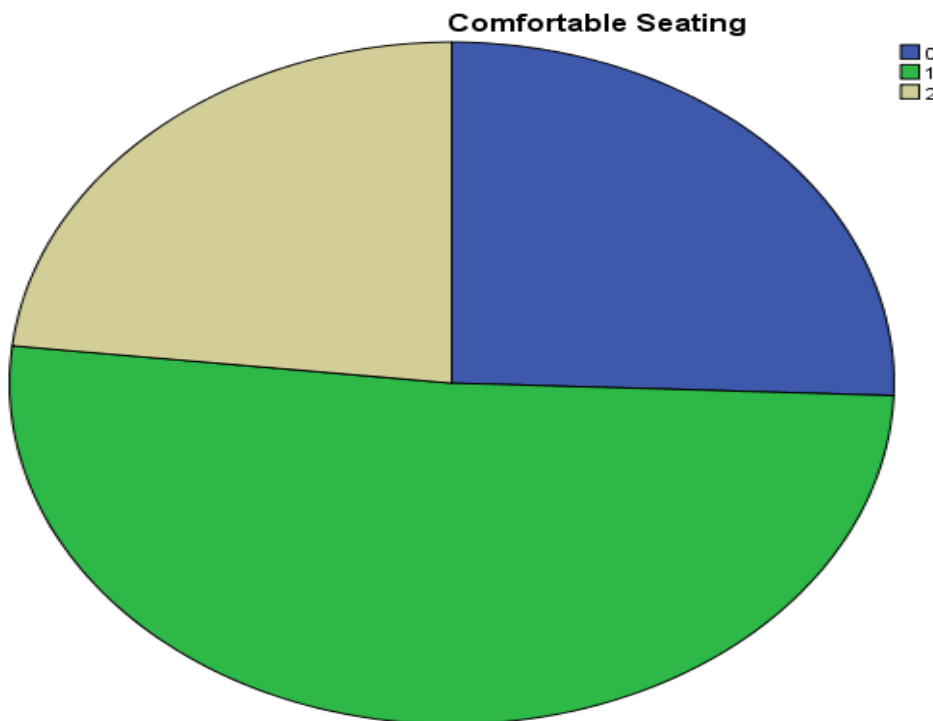


Figure: 7.4.1.4
Comfortable Seating

	Frequency	Percent	Valid Percent	Cumulative Percent
0	22	25.6	25.6	25.6
1	44	51.2	51.2	76.7
2	20	23.3	23.3	100.0
Total	86	100.0	100.0	

Comfortable seating here covers the cleanliness of seats with Haryana Roadways, Maintenance of Seats, and Quality of Seats with respect to comfort etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of comfortable of seating of busses for Haryana Roadways is 0.98 that is on an average people are less satisfied with comfortable seating in busses of Haryana Roadways and there is lot of scope to improve. Another variable that confirm this is only 51.2% of sample has given 1 where as 25.6% of sample has given 0 with respect of 23.3% of sample has given 2 which means more part of sample is not satisfied with the comfort in seating of busses and further development is required.

Management of Busses:

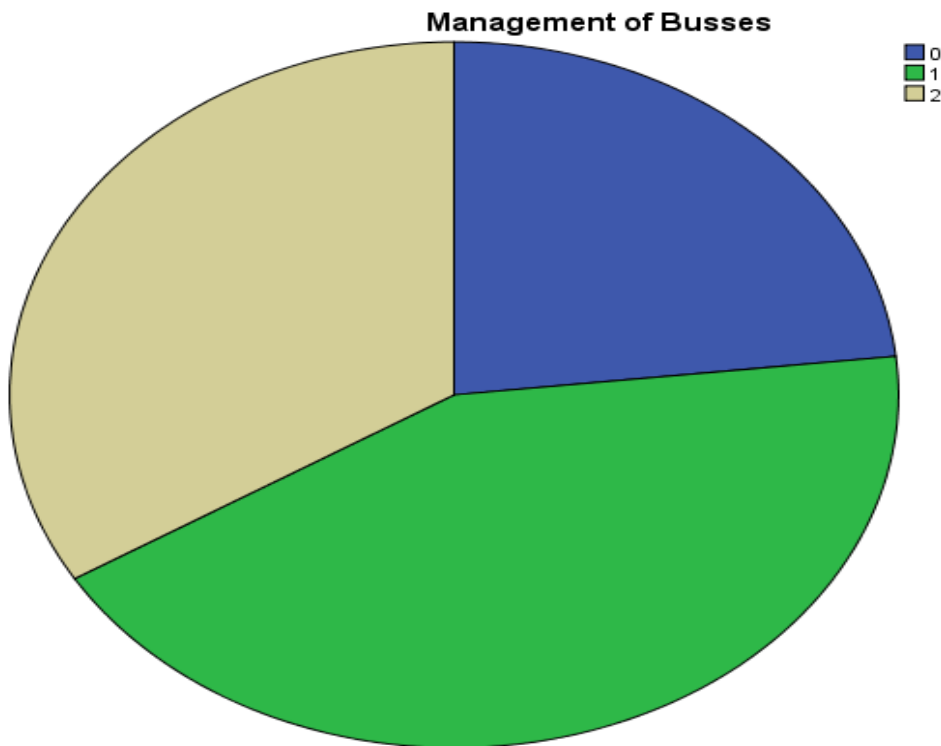


Figure: 7.4.1.5

Management of Busses

	Frequency	Percent	Valid Percent	Cumulative Percent
0	20	23.3	23.3	23.3
1	37	43.0	43.0	66.3
2	29	33.7	33.7	100.0
Total	86	100.0	100.0	

Management of Busses here covers the Quality management of the busses with Haryana Roadways, Maintenance of Seats, Timely Serviced Busses, Broken Busses etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of management of busses for Haryana Roadways is 1.105 that is on an average people are satisfied with management of busses of Haryana Roadways and there is a scope to improve. Another variable that confirm this is only 43% of sample has given 1 that is about half of the sample says that management of busses in Haryana Roadways is managed but can be improved where as 23.3% of sample has given 0 with respect of 33.7% of sample has given 2 which means more part of sample is highly satisfied with the management of busses but further development is required.

En-Route Facilities:

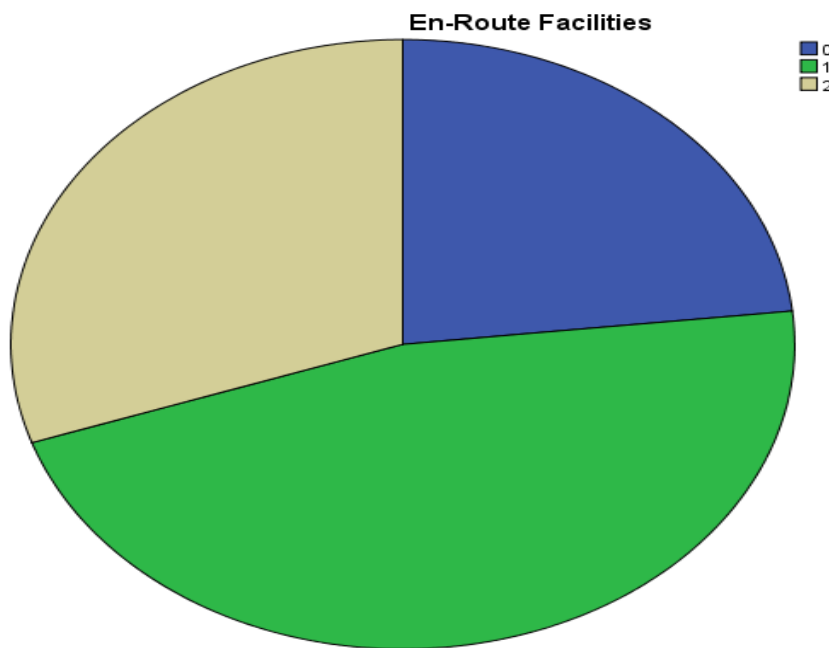


Figure: 7.4.1.6

En-Route Facilities

	Frequency	Percent	Valid Percent	Cumulative Percent
0	20	23.3	23.3	23.3
1	40	46.5	46.5	69.8
2	26	30.2	30.2	100.0
Total	86	100.0	100.0	

En-Route Facilities here covers the stoppages in routes of Haryana Roadways, Facilities like stops for washrooms in case of emergent situations, Environment during route etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of en-route facilities of busses for Haryana Roadways is 1.07 that is on an average people are satisfied with en-route facilities in busses of Haryana Roadways and there is of scope to improve. Another variable that confirm this is only 46.5% of sample has given 1 which means that nearly half of sample thinks that En-route facilities are satisfying but can be improved where as 23.3% of sample has given 0 with respect of 30.2% of sample has given 2 which means more part of sample is highly satisfied with the En-route facilities of busses and further development can be taken.

Speed:

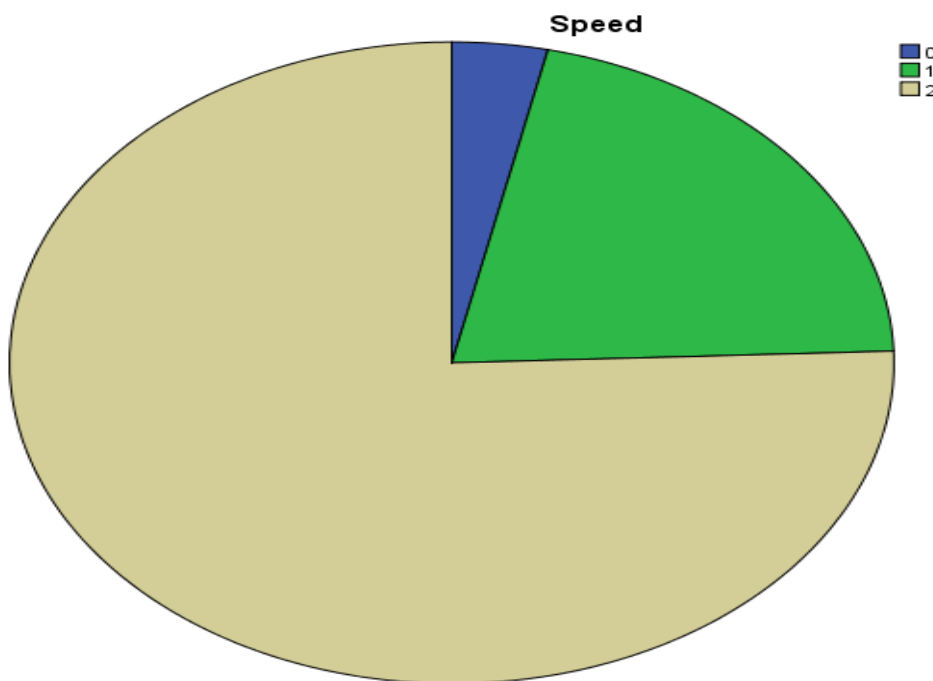


Figure: 7.4.1.7

Speed

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	3	3.5	3.5	3.5
Valid 1	18	20.9	20.9	24.4
Valid 2	65	75.6	75.6	100.0
Total	86	100.0	100.0	

Speed here covers the speed of busses with Haryana Roadways, Over speed, speed below than required etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of speed of busses for Haryana Roadways is 1.72 that is on an average people are highly satisfied with speed busses of Haryana Roadways and there is very low scope of improvement. Another variable that confirm this is 75.6% of sample which is more than 3/4th of sample has given 2 which means more than 3/4th of population says that no need for improvement in terms of speed is required whereas only 3.5% of sample has given 0 with respect of 20.9% of sample has given 1 which means only a few people says that any need for improvement is required in terms of speed of busses.

Time Management:

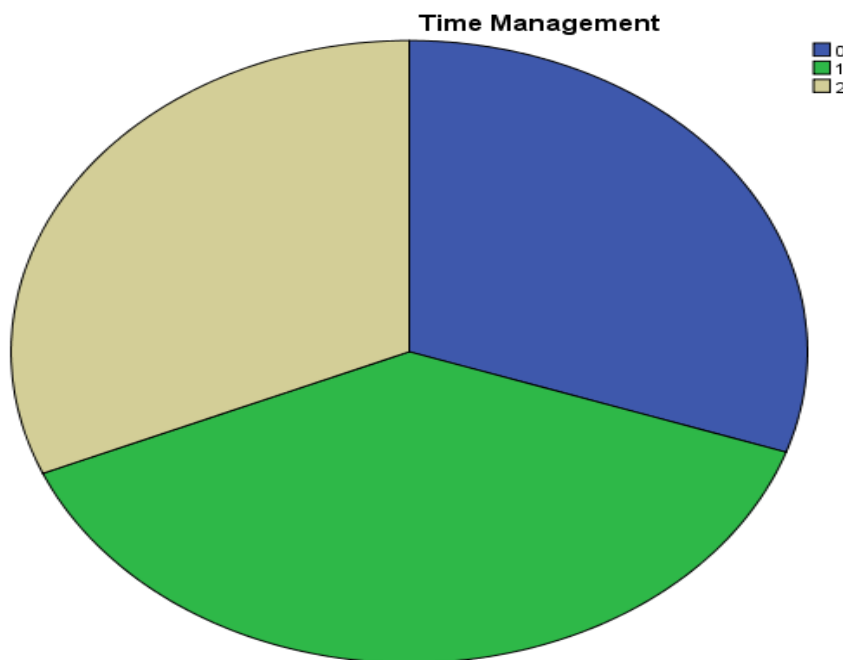


Figure: 7.4.1.8

Time Management

	Frequency	Percent	Valid Percent	Cumulative Percent
0	26	30.2	30.2	30.2
1	33	38.4	38.4	68.6
2	27	31.4	31.4	100.0
Total	86	100.0	100.0	

Time Management here covers fixtures of busses with Haryana Roadways, Management of speed according to time availability, Management of time at stops, Delays in arrival and departure etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of time management of busses for Haryana Roadways is 1.012 that is on an average people are satisfied with time management of busses of Haryana Roadways and there is scope to improve. Another variable that confirm percentage of sample giving 0 is less than of 1 and 2 where highest percentage of sample has given 1 which means sample is satisfied with time management of busses of Haryana Roadways and further development can be done.

Safety and Services:

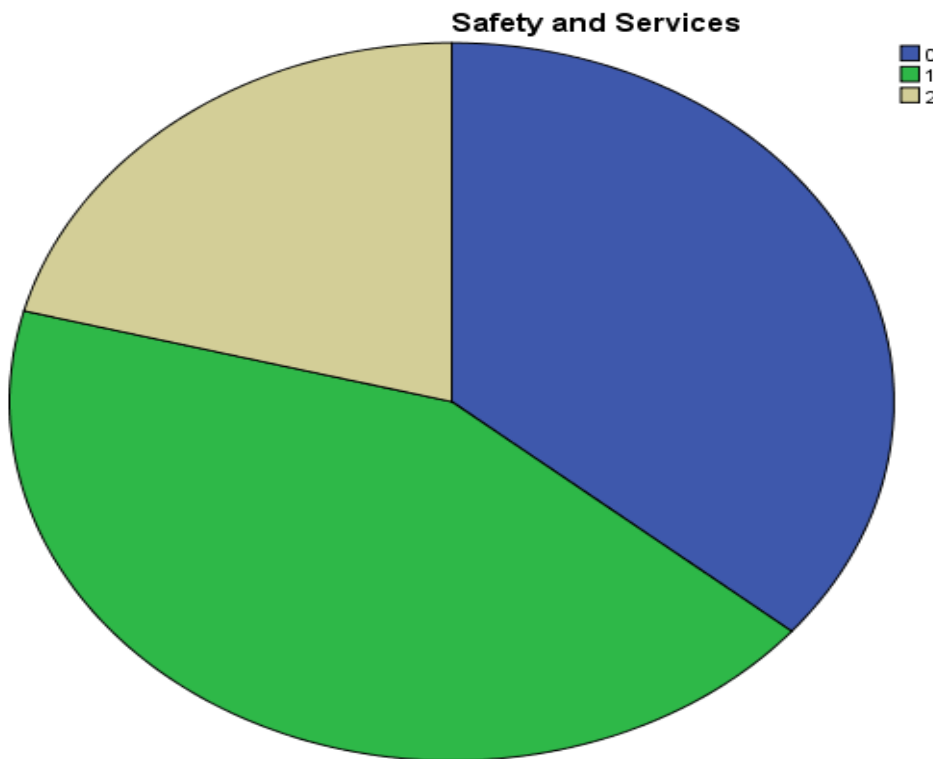


Figure: 7.4.1.9

Safety and Services

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	31	36.0	36.0	36.0
Valid 1	37	43.0	43.0	79.1
Valid 2	18	20.9	20.9	100.0
Total	86	100.0	100.0	

Safety and Services here includes the pattern of driving by drivers in Haryana Roadways, Management in unforeseen problems, Women Safety, Minor Safety etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of safety and services in busses for Haryana Roadways is 0.849 that is on an average people are less satisfied with safety and services in busses of Haryana Roadways and there is lot of scope to improve. Another variable that confirm this is only 43% of sample has given 1 where as 36% of sample has given 0 with respect of 20.9% of sample has given 2 which means more part of sample is not satisfied with the safety and services of busses and lot of further development is required.

First Aid:

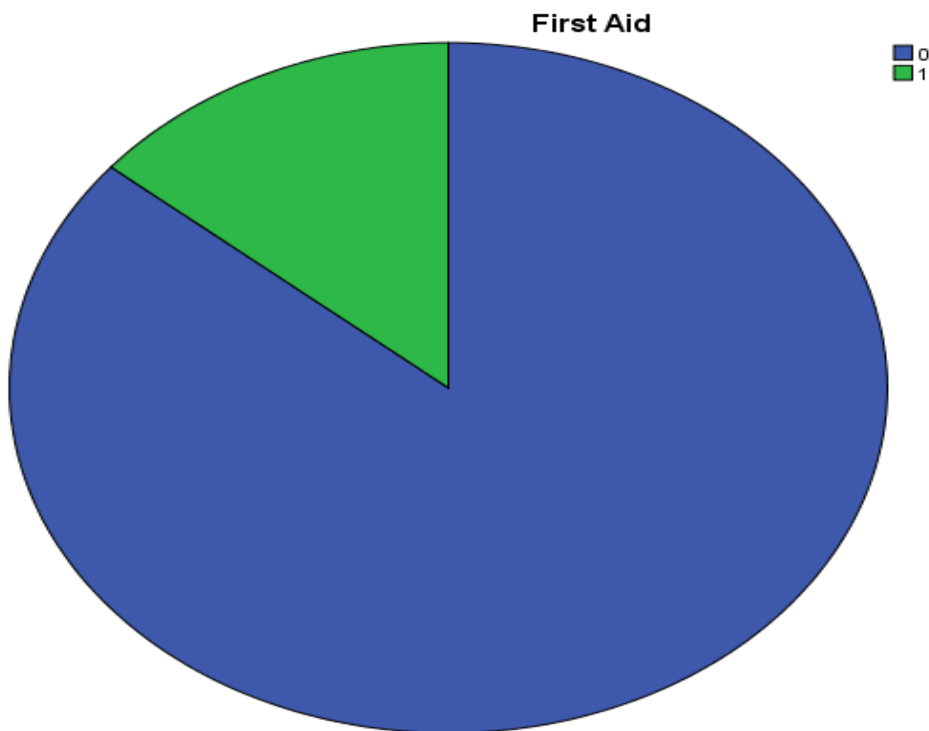


Figure: 7.4.1.10

First Aid				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	74	86.0	86.0	86.0
Valid 1	12	14.0	14.0	100.0
Total	86	100.0	100.0	

First Aid here covers the availability of first aid kit with Haryana Roadways busses, Management during first aid, Management during emergent situations etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of first aid with busses of Haryana Roadways is 0.14 that is on an average people are not satisfied with first aid in busses of Haryana Roadways and there is lot of scope to improve. Another variable that confirm this is only 14% of sample has given 1 whereas nobody has given 2 which means Haryana Roadways is worst in First Aid and this should be improved because first aid is necessity while travelling.

Staff’s Behaviour:

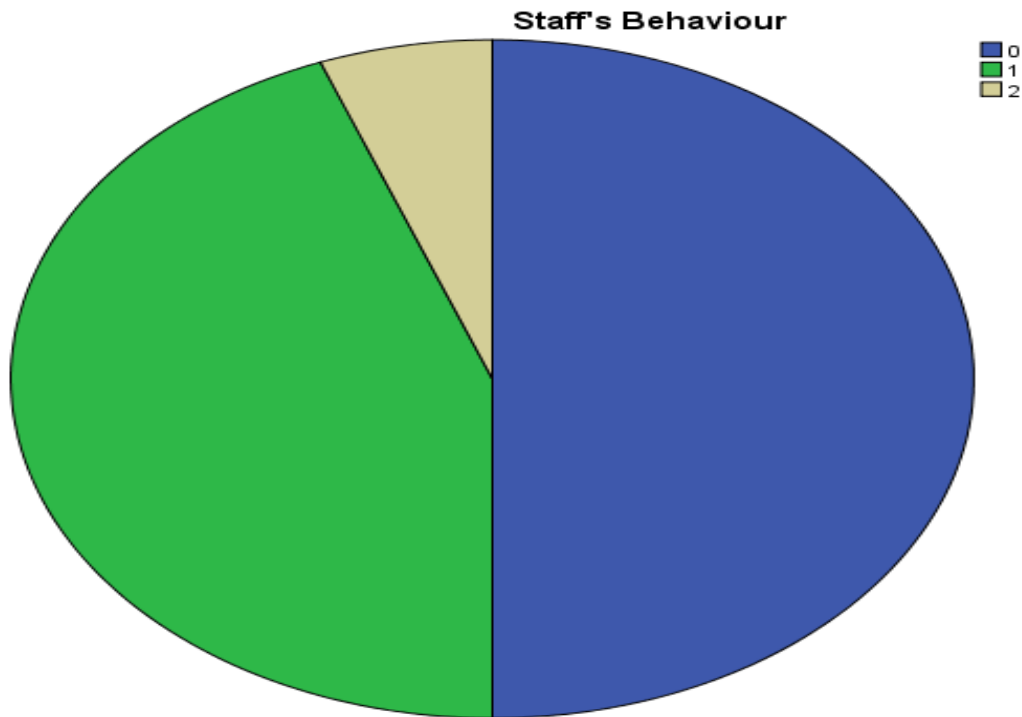


Figure: 7.4.1.11

Staff's Behaviour

	Frequency	Percent	Valid Percent	Cumulative Percent
0	43	50.0	50.0	50.0
1	38	44.2	44.2	94.2
2	5	5.8	5.8	100.0
Total	86	100.0	100.0	

Staff’s Behaviour here covers the behaviour of conductor of Haryana Roadways, Behaviour of Staff available at bus stand, behaviour of customer care executives etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of behaviour of staff of Haryana Roadways is 0.56 that is on an average people are less satisfied with behaviour of staff of Haryana Roadways and there is lot of scope to improve. Another variable that confirm this is only 44.2% of sample has given 1 where as 50% of sample has given 0 with respect of 5.8% of sample has given 2 which means more part of sample is not satisfied with the behaviour of staff and further action is required.

Disciplined Staff:

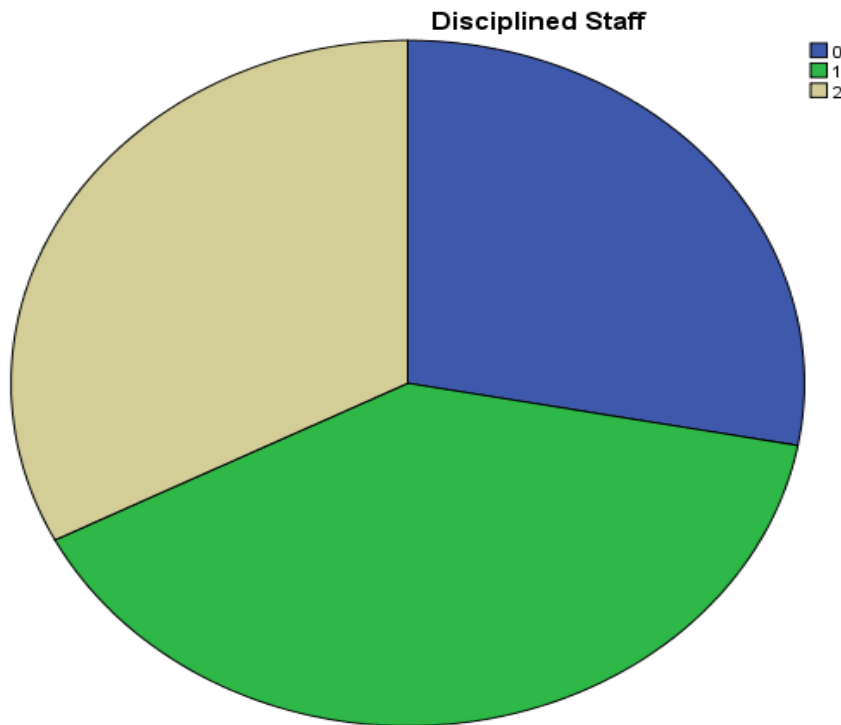


Figure: 7.4.1.12

Disciplined Staff

	Frequency	Percent	Valid Percent	Cumulative Percent
0	24	27.9	27.9	27.9
1	34	39.5	39.5	67.4
2	28	32.6	32.6	100.0
Total	86	100.0	100.0	

Disciplined Staff here covers the time discipline of staff with Haryana Roadways, Proper follow of Rules and Regulations by drivers and conductors etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of discipline of staff of Haryana Roadways is 1.05 that is on an average people are satisfied with discipline of staff of Haryana Roadways and there is scope to improve. Another variable that confirm this is only 39.5% of sample has given 1 where as 27.9% of sample has given 0 with respect of 32.6% of sample has given 2 which means more part of sample is satisfied but there can be high satisfaction that can be gained in terms of discipline of staff so necessary actions are required.

RAJASTHAN ROADWAYS:

Access to Services:

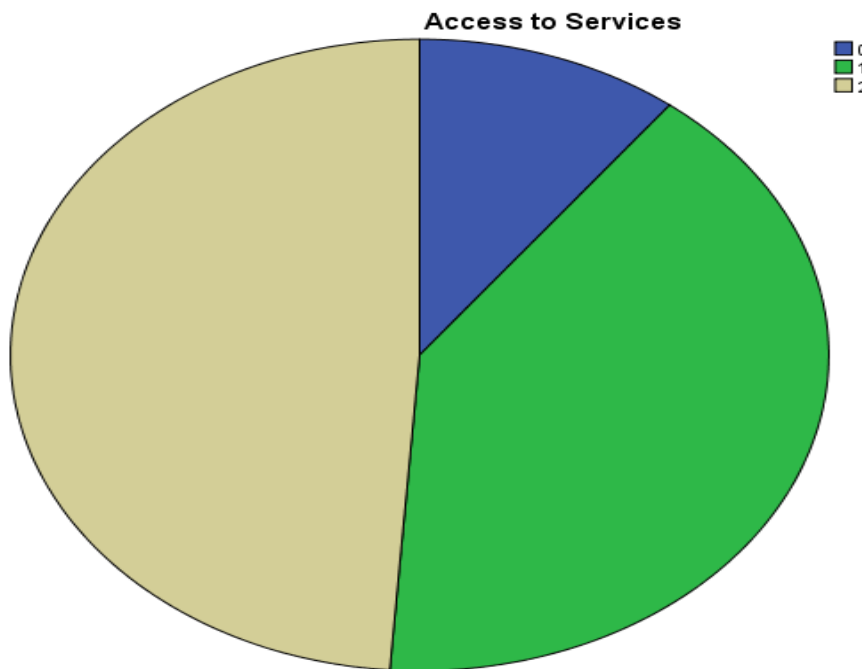


Figure: 7.4.2.1

Access to Services

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	14	16.3	16.3	16.3
Valid 1	31	36.0	36.0	52.3
Valid 2	41	47.7	47.7	100.0
Total	86	100.0	100.0	

Access to Services here covers the accessibility of consumers to the services like e-ticketing, easy reach ability to bus, facilities at bus stop etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, the average of access to services for Rajasthan Roadways is 1.314 that is on an average people are more satisfied with access to service of Rajasthan Roadways and there is scope to improve. Another variable that confirm this is 47.7% of people has given 2 which means about half of the population supports the access to service of Rajasthan Roadways.

Availability of Busses:

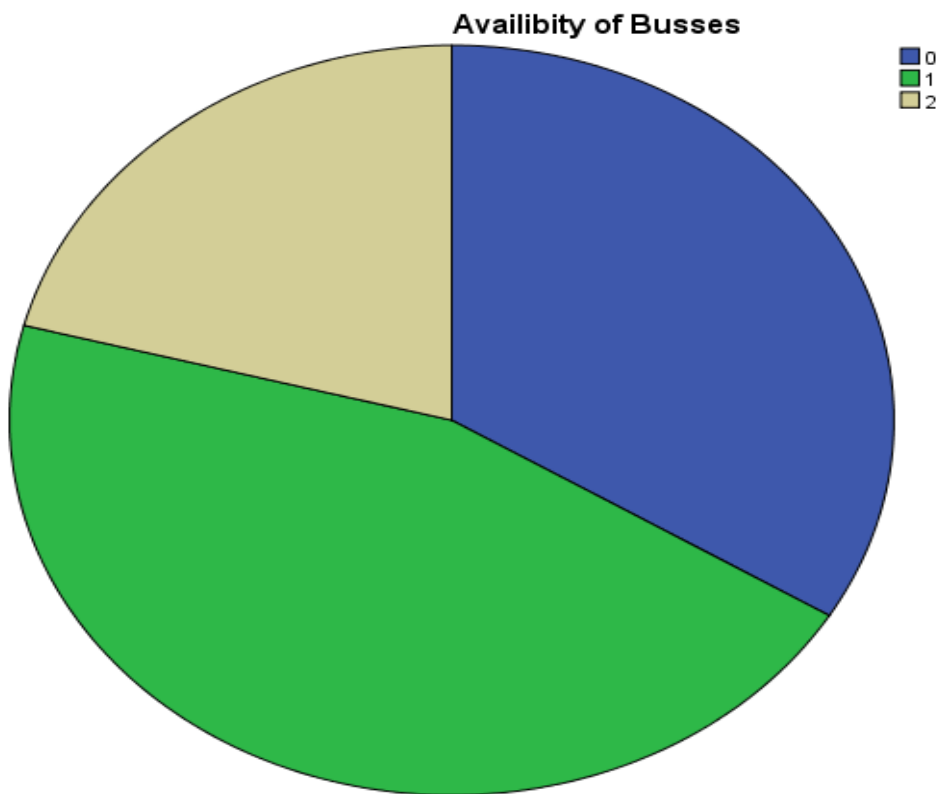


Figure: 7.4.2.2

Availability of Busses

	Frequency	Percent	Valid Percent	Cumulative Percent
0	29	33.7	33.7	33.7
1	39	45.3	45.3	79.1
2	18	20.9	20.9	100.0
Total	86	100.0	100.0	

Availability of Busses here covers the availability of Busses with Rajasthan Roadways, their fixtures according to demand daily services, hours of operation etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, the average of availability of busses for Rajasthan Roadways is 0.872 that is on an average people are less satisfied with availability of busses of Rajasthan Roadways and there is lot of scope to improve. Another variable that confirm this is 45.3% of people has given 1 which means about half of the population are just satisfied but 33.7% of people are not satisfied with the availability of busses and having a hope for further development.

Cleanliness:

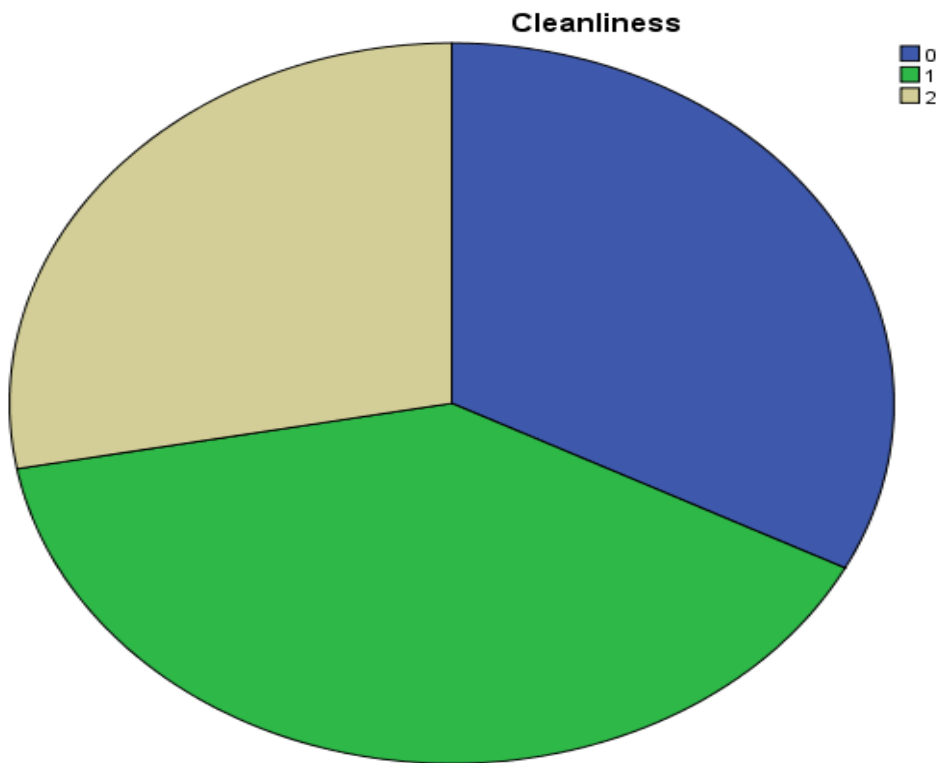


Figure: 7.4.2.3

Cleanliness

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	28	32.6	32.6	32.6
Valid 1	34	39.5	39.5	72.1
Valid 2	24	27.9	27.9	100.0
Total	86	100.0	100.0	

Cleanliness here covers the cleanliness of Busses with Rajasthan Roadways, Cleanliness on stands, Hygiene with staff etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average cleanliness of busses for Rajasthan Roadways is 0.953 that is on an average people are satisfied with cleanliness of busses of Rajasthan Roadways and there is scope to improve. Another variable that confirm this is only 27.9% of people has given 2 and 32.6% of sample has given 0 which means more part of sample is not satisfied with the cleanliness of busses and further development is necessary.

Comfortable Seating:

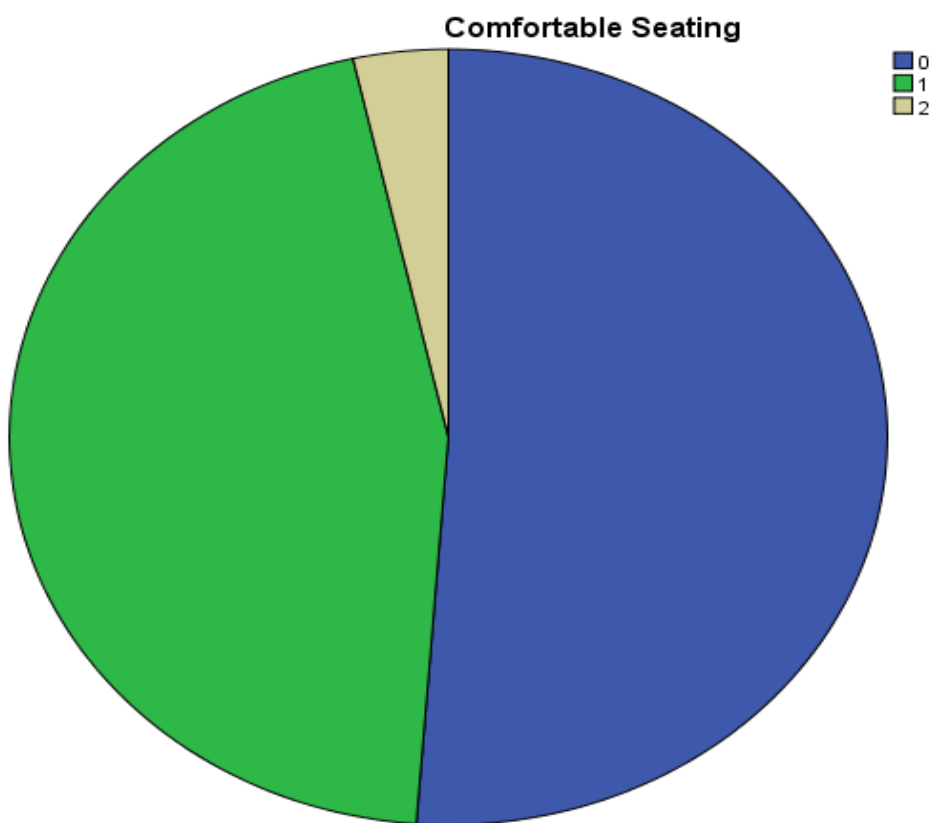


Figure: 7.4.2.4

Comfortable Seating

	Frequency	Percent	Valid Percent	Cumulative Percent
0	44	51.2	51.2	51.2
1	39	45.3	45.3	96.5
2	3	3.5	3.5	100.0
Total	86	100.0	100.0	

Comfortable seating here covers the cleanliness of seats with Rajasthan Roadways, Maintenance of Seats, and Quality of Seats with respect to comfort etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of comfortable of seating of busses for Rajasthan Roadways is 0.52 that is on an average people are less satisfied with comfortable seating in busses of Rajasthan Roadways and there is lot of scope to improve. Another variable that confirm this is only 45.3% of sample has given 1 where as 51.2% of sample has given 0 which means more than half of sample is not satisfied with the comfort in seating of busses and further development is required.

Management of Busses:

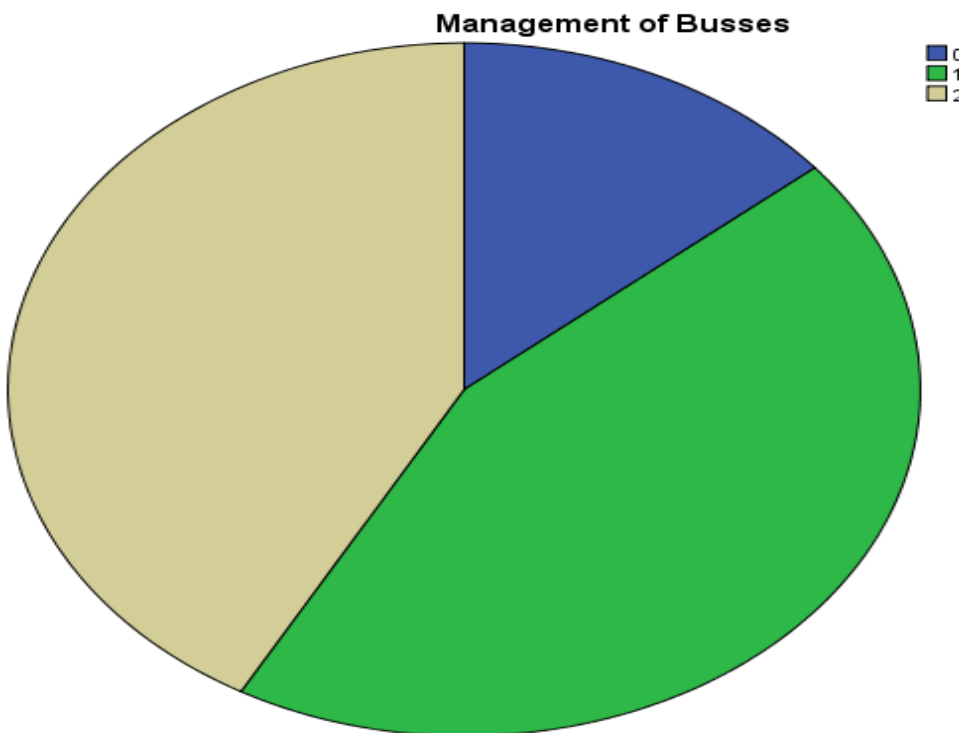


Figure: 7.4.2.5

Management of Busses

	Frequency	Percent	Valid Percent	Cumulative Percent
0	12	14.0	14.0	14.0
1	38	44.2	44.2	58.1
2	36	41.9	41.9	100.0
Total	86	100.0	100.0	

Management of Busses here covers the Quality management of the busses with Rajasthan Roadways, Maintenance of Seats, Timely Serviced Busses, Broken Busses etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of management of busses for Rajasthan Roadways is 1.28 that is on an average people are satisfied with management of busses of Rajasthan Roadways and there is a scope to improve. Another variable that confirm this is only 44.2% of sample has given 1 that is about half of the sample says that management of busses in Rajasthan Roadways is managed but can be improved where as 14% of sample has given 0 with respect of 41.9% of sample has given 2 which means more part of sample is highly satisfied with the management of busses but further development is required.

En-route facilities:

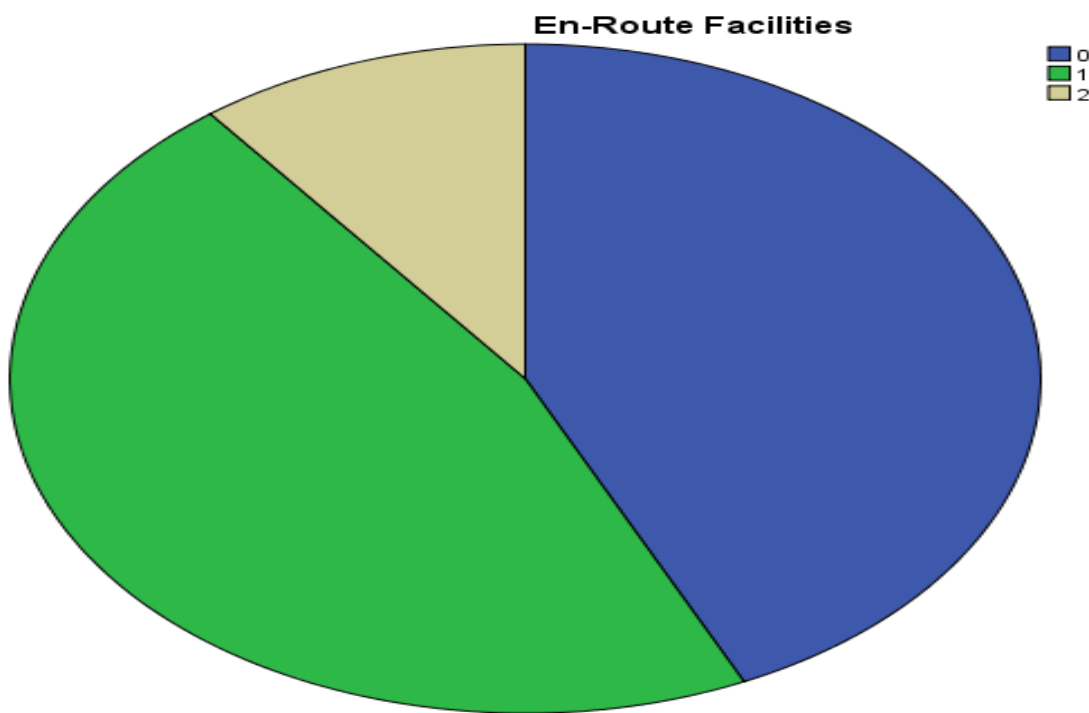


Figure: 7.4.2.6

En-Route Facilities				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	37	43.0	43.0
	1	40	46.5	89.5
	2	9	10.5	100.0
Total	86	100.0	100.0	

En-Route Facilities here covers the stoppages in routes of Rajasthan Roadways, Facilities like stops for washrooms in case of emergent situations, Environment during route etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of en-route facilities of busses for Rajasthan Roadways is 0.67 that is on an average people are satisfied with en-route facilities in busses of Rajasthan Roadways and there is of scope to improve. Another variable that confirm this is only 46.5% of sample has given 1 which means that nearly half of sample thinks that En-route facilities are satisfying but can be improved where as 43% of sample has given 0 with respect of 10.5% of sample has given 2 which means more part of sample is not satisfied with the En-route facilities of busses and further development should take place.

Speed:

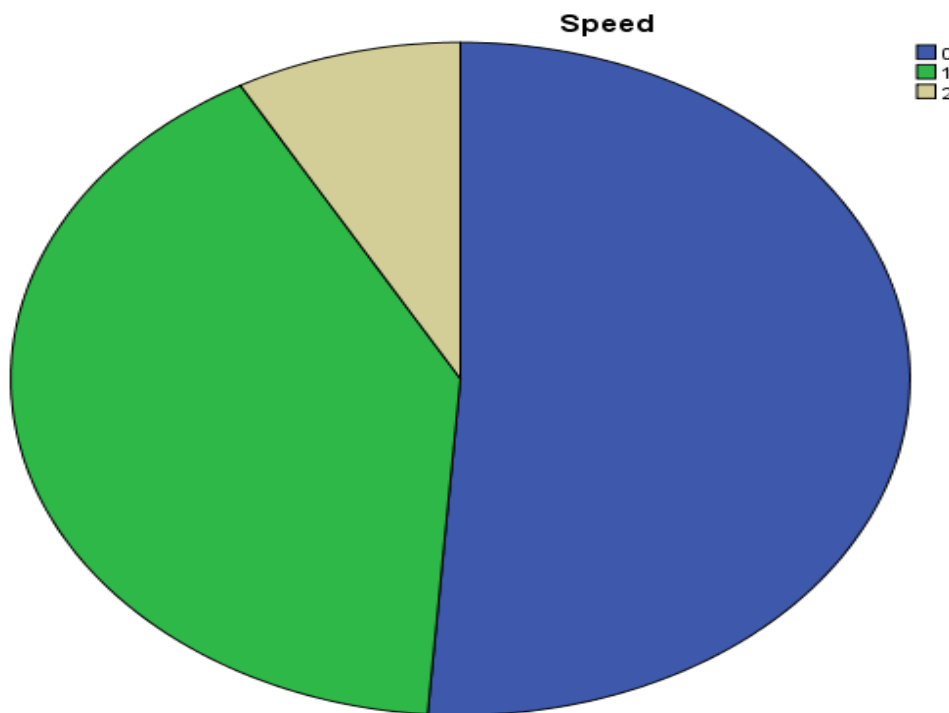


Figure: 7.4.2.7

Speed				
	Frequency	Percent	Valid Percent	Cumulative Percent
0	44	51.2	51.2	51.2
1	35	40.7	40.7	91.9
2	7	8.1	8.1	100.0
Total	86	100.0	100.0	

Speed here covers the speed of busses with Rajasthan Roadways, over speed, speed below than required etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of speed of busses for Rajasthan Roadways is 0.57 that is on an average people are not satisfied with speed busses of Rajasthan Roadways and there is very low scope of improvement. Another variable that confirm this is 40.7% of has given 1 which means some people says need for improvement is required but is satisfying today itself in terms of speed whereas only 8.1% of sample has given 2 with respect of 51.2% of sample has given 0 which means half of the sample is not satisfied with the speed of Rajasthan Roadways.

Time Management:

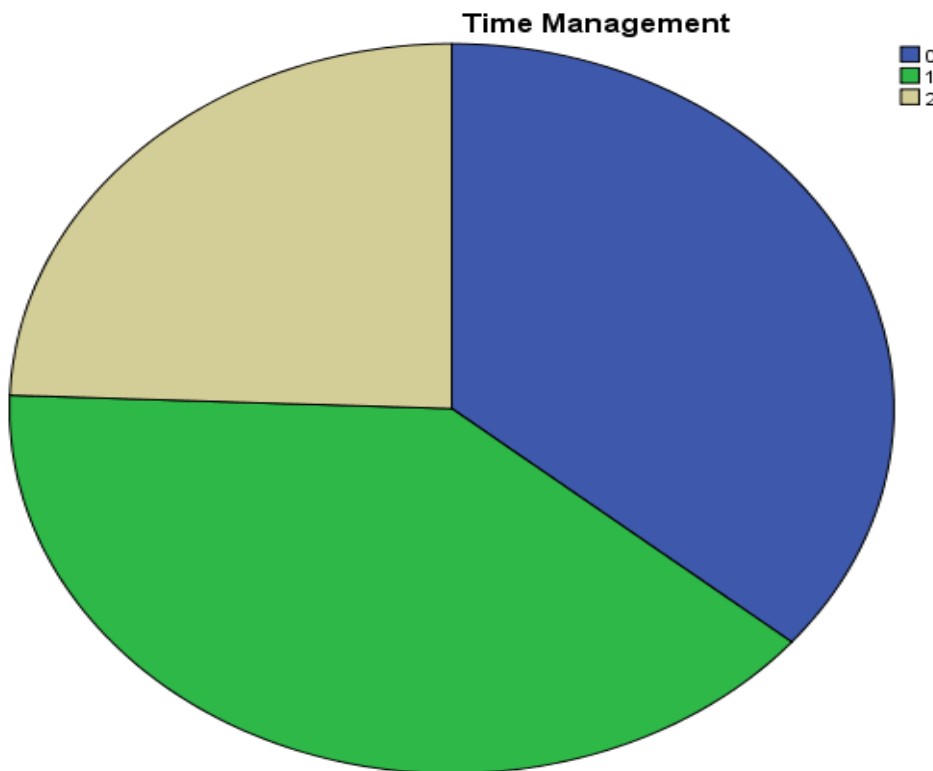


Figure: 7.4.2.8

Time Management

	Frequency	Percent	Valid Percent	Cumulative Percent
0	31	36.0	36.0	36.0
1	34	39.5	39.5	75.6
2	21	24.4	24.4	100.0
Total	86	100.0	100.0	

Time Management here covers fixtures of busses with Rajasthan Roadways, Management of speed according to time availability, Management of time at stops, Delays in arrival and departure etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of time management of busses for Rajasthan Roadways is 0.88 that is on an average people are less satisfied with time management of busses of Rajasthan Roadways and there is scope to improve. Another variable that confirm percentage of sample giving 0 is less than of 1 but more than 2 where highest percentage of sample has given 1 which means sample is less satisfied with time management of busses of Rajasthan Roadways and further development can be done.

Safety and Services:

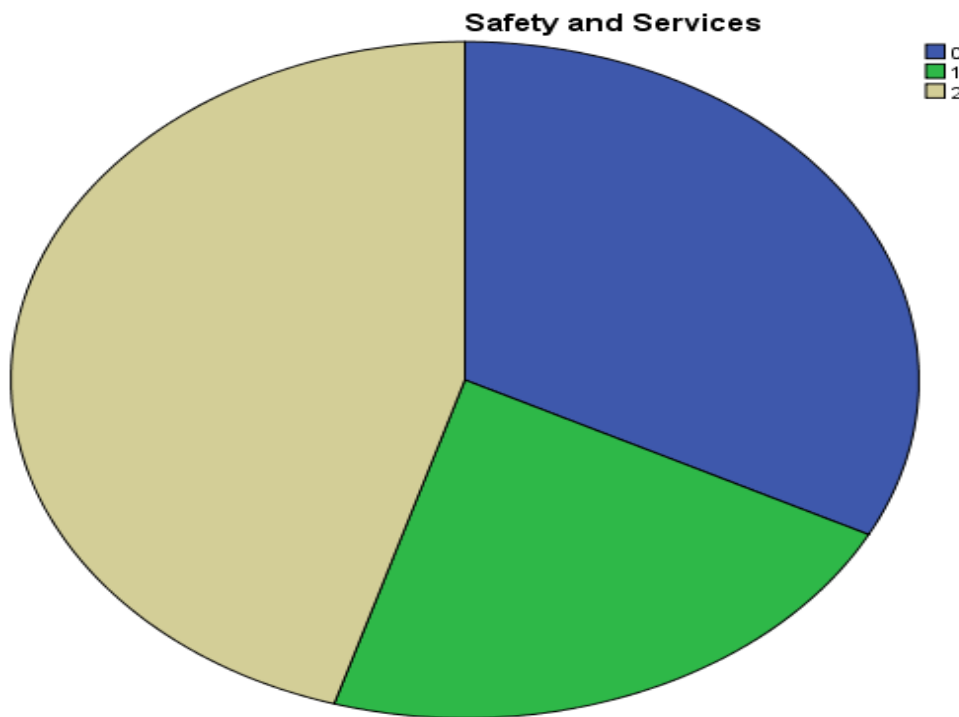


Figure: 7.4.2.9

Safety and Services				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	28	32.6	32.6	32.6
Valid 1	19	22.1	22.1	54.7
Valid 2	39	45.3	45.3	100.0
Total	86	100.0	100.0	

Safety and Services here includes the pattern of driving by drivers in Rajasthan Roadways, Management in unforeseen problems, Women Safety, Minor Safety etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of safety and services in busses for Rajasthan Roadways is 1.13 that is on an average people are satisfied with safety and services in busses of Rajasthan Roadways and there is less scope to improve. Another variable that confirm this is only 22.1% of sample has given 1 where as 32.6% of sample has given 0 with respect of 45.3% of sample has given 2 which means more part of sample is highly satisfied with the safety and services of busses and lot of further development is required.

First Aid:

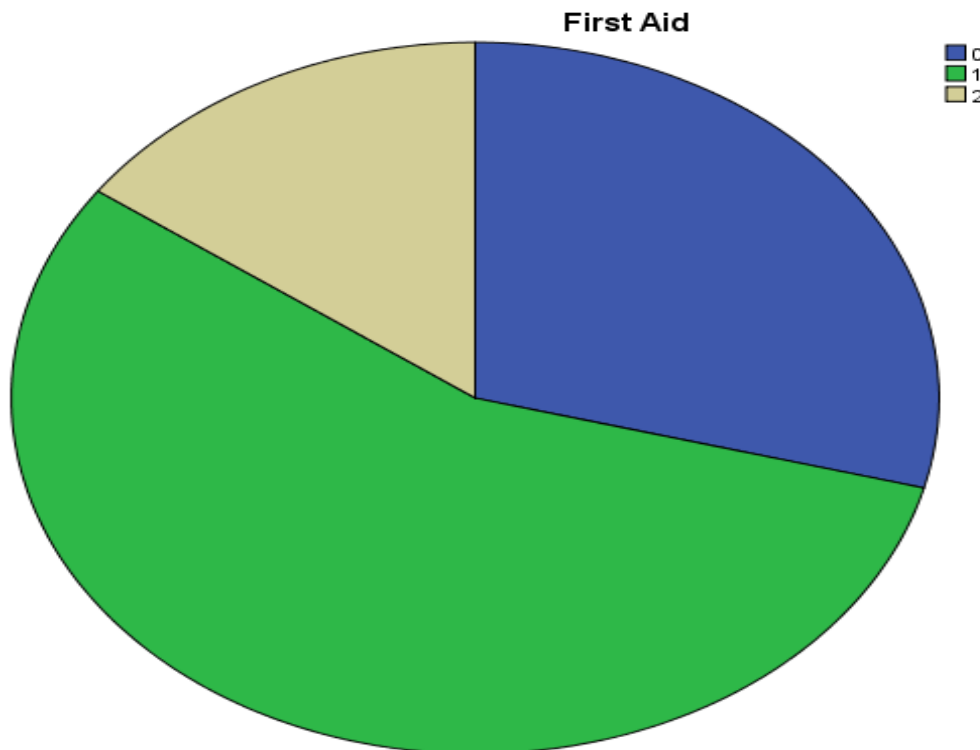


Figure: 7.4.2.10

First Aid				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	25	29.1	29.1
	1	48	55.8	84.9
	2	13	15.1	100.0
Total	86	100.0	100.0	

First Aid here covers the availability of first aid kit with Rajasthan Roadways busses, Management during first aid, Management during emergent situations etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of first aid with busses of Rajasthan Roadways is 0.86 that is on an average people are less satisfied with first aid in busses of Rajasthan Roadways and there is scope to improve. Another variable that confirm this is only 55.8% of sample has given 1 whereas 15.1% has given 2 with 29.1% giving to 0 which means Rajasthan Roadways is good in First Aid and this should be improved because first aid is necessity while travelling.

Staff’s Behaviour:

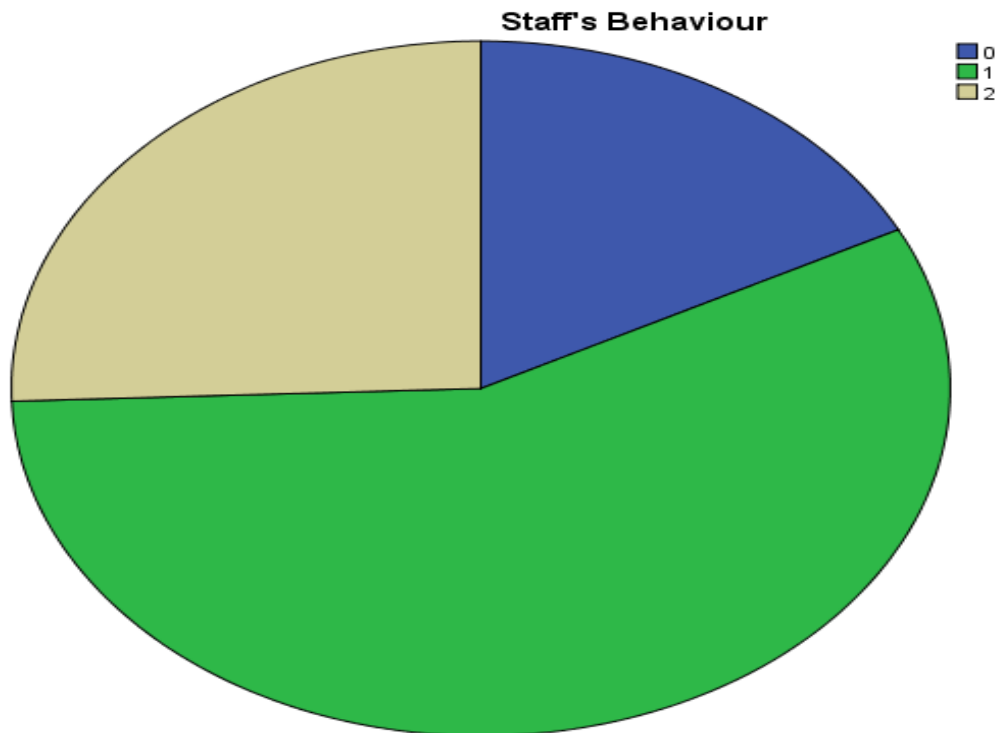


Figure: 7.4.2.11

	Frequency	Percent	Valid Percent	Cumulative Percent
0	15	17.4	17.4	17.4
1	49	57.0	57.0	74.4
2	22	25.6	25.6	100.0
Total	86	100.0	100.0	

Staff’s Behaviour here covers the behaviour of conductor of Rajasthan Roadways, Behaviour of Staff available at bus stand, behaviour of customer care executives etc. The scale taken is ‘0’ for not satisfied, ‘1’ for satisfied and ‘2’ for highly satisfied. Here, average of behaviour of staff of Rajasthan Roadways is 1.08 that is on an average people are satisfied with behaviour of staff of Rajasthan Roadways and there is scope to improve. Another variable that confirm this is 57% of sample has given 1 where as 17.4% of sample has given 0 with respect of 25.6% of sample has given 2 which means more part of sample is satisfied or highly satisfied with the behaviour of staff.

Disciplined Staff:

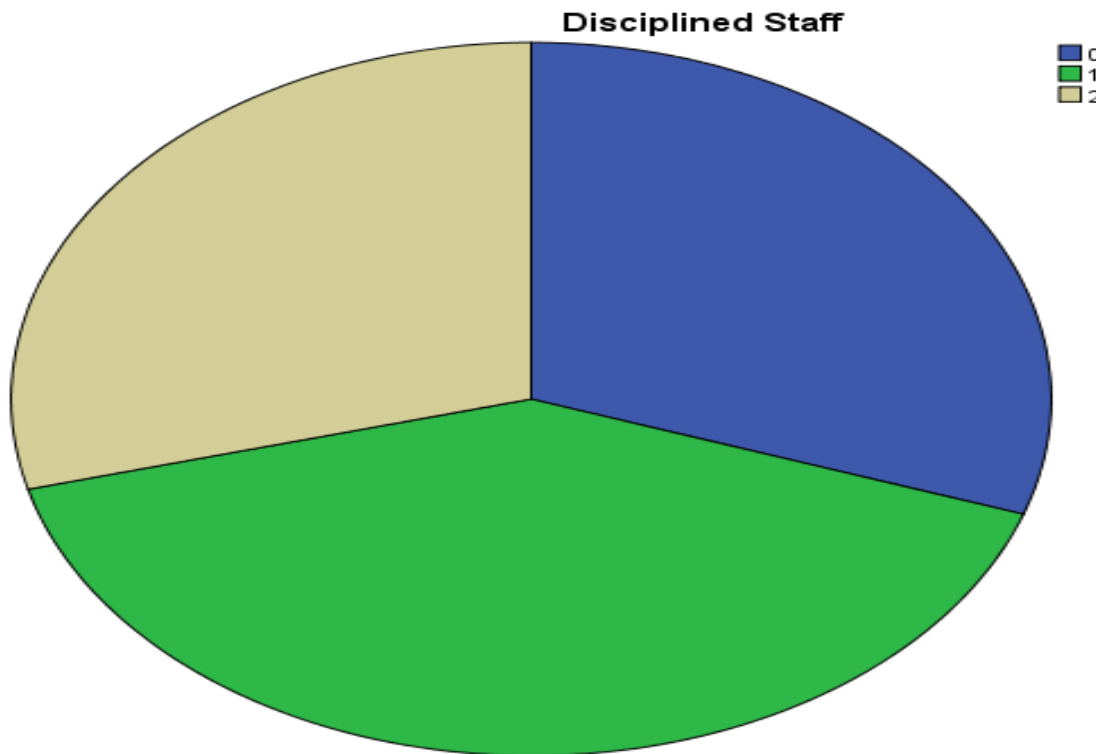


Figure: 7.4.2.12

Disciplined Staff

	Frequency	Percent	Valid Percent	Cumulative Percent
0	26	30.2	30.2	30.2
1	35	40.7	40.7	70.9
2	25	29.1	29.1	100.0
Total	86	100.0	100.0	

Disciplined Staff here covers the time discipline of staff with Rajasthan Roadways, Proper follow of Rules and Regulations by drivers and conductors etc. The scale taken is '0' for not satisfied, '1' for satisfied and '2' for highly satisfied. Here, average of discipline of staff of Rajasthan Roadways is 0.99 that is on an average people are satisfied with discipline of staff of Rajasthan Roadways and there is scope to improve. Another variable that confirm this is only 40.7% of sample has given 1 where as 30.2% of sample has given 0 with respect of 29.1% of sample has given 2 which means more part of sample is satisfied but there can be high satisfaction that can be gained in terms of discipline of staff so necessary actions are required.

Comparative analysis between Haryana Roadways and Rajasthan Roadways:

Variables	Haryana Roadways	Rajasthan Roadways
Access to Services	1.38	1.31
Availability of Busses	1.33	0.87
Cleanliness	0.85	0.95
Comfortable Seating	0.98	0.52
Management of Busses	1.105	1.28
En-Route Facilities	1.07	0.67
Speed	1.72	0.57
Time Management	1.012	0.88
Safety and Services	0.849	1.13
First Aid	0.14	0.86
Staff's Behaviour	0.56	1.08
Disciplined Staff	1.05	0.99

These are the average satisfaction level of consumers in both Rajasthan Roadways as well as Haryana Roadways. Here we can see that Haryana Roadways is more satisfactory in 7 variables than of 5 variables of

Rajasthan Roadways. Rajasthan Roadways is more satisfactory in that 5 variables which do not affect every consumers directly. In terms of services Haryana Roadways is more satisfactory.

Relation between Variable and their effect on demand:

To find relation between different variable and their effect on demand, Correlation is used. Correlation provides the intensity of relation between two variables.

	Demand Effect											
Access to Services	.645											
Availability of Busses		.557										
Cleanliness			.574									
Comfortable Seating				.578								
Management of Busses					.520							
En-Route Facilities						.565						
Speed							0.756					
Time Management								.530				
Safety and Services									.623			
First Aid										.569		
Staffs Behaviour											.590	
Discipline of Staff												.248

Here, we can see correlation. In this we can see that 10 out of 12 variables are moderate correlated with creation of demand but speed is highly correlated with demand which means that speed affects a great loss to Rajasthan Roadways. Staff’s Discipline is the less concerned variable as it is less correlated.

Testing of Hypothesis:

H₀ : There is no relation between these variables and demand for State Road Transport Service.

H₁: There is relation between these variables and demand for State Road Transport Service.

To test the hypothesis Correlation t-test is used. Correlation t-test is Hypothesis test for population correlation coefficient. This test was applied with use of MINITAB software. By applying this test we got p-value is equals to zero which means that Null Hypothesis is rejected and Alternate Hypothesis is accepted. This means that there is relation between these variables and demand for State Road Transport Service.

CHAPTER : V

DISCUSSION:

- a) Working of Haryana Roadways in the boundaries of Rajasthan helps Haryana Roadways to earn more profit and it also leads to loss of Rajasthan Roadways. This is because Haryana is a small state as compared to Rajasthan and also more developed which leads to more beneficial management of Haryana Roadways than Rajasthan.
- b) Another main problem that affects Rajasthan Roadways is its limit to speed. As per special comments by samples, Rajasthan Roadways took almost double time as compared to Haryana Roadways having same travel distance. Rajasthan Government have blocked speed of its busses to decrease fuel consumption.
- c) Haryana Roadways basically lacks in Staff's behaviour which is not a big issue but another variable in which Haryana lacks is Safety and Security. Safety and Services is a big concern for women and minor aged population of these states and Haryana Roadways lacks in this as per Rajasthan Roadways. Rajasthan Roadways has CCTV cameras in its all busses.
- d) Rajasthan Roadways is bearing a great loss which is not only due to lack of demand it is also because of non- viable distribution of busses between routes. The reason behind this is management.

CHAPTER : VI

RECOMMENDATIONS:

- As per my whole research work I would like to recommend some points to respective authorities:
- As speed is the most important variable and Rajasthan Roadways is lacking in that, the authorities should take action to make this point profitable
- Staff behaviour of Haryana Roadways is non-satisfactory so a proper should be taken to resolve this.
- Rajasthan Roadways authorities should make more bus available at proper routes as per demand.
- State bus stand should not allow busses of another state bus service to enter into bus stand so that competition will decrease and a state's transport service will be able to serve more part of their state's population.
- Both States' bus service has to take care of comfortability during journey like seats, cleanliness, Bus management and en-route facilities.
- Haryana Roadways should focus on safety and services.
- Time Management in both bus services has to be rectified.

LIMITATIONS:

Every research or study has some limitations. Without limitations a study cannot be preceded because a work cannot be done without assumptions and all assumptions are limitations for the research. Some of limitations in mine research are:

- **Sample Size is Limited:** Sample Size of mine research work is limited to 86. In four locations and at four different time spans this sample size seems to be less. If sample size can be increased, the study can be said to more viable.
- **Time Limitation:** We got limited time so we have to restrict to limited exploration. If we get more time than research paper can be more explored.
- **Restricted Bus Services:** We are restricted to only two state bus services but some other state bus services are also operating in this survey location. For example: Punjab Roadways in Ganganagar etc.
- **Not able to cover whole locations:** We are unable to cover all important locations that affect the bus services. For example: Gurugram etc. In every half hour a bus travels between Gurugram and Jaipur.

FUTURE SCOPE:

Future Scope of this research is that according to recommendations if actions are taken then there can be improvement into balance sheet of roadways services. A giant research can be taken forward to improve conditions of Roadways services. Future research may cover comparison of variables with income generation. It may also cover finding out reasons for preferring private bus service. It can also cover government schemes and E-Ticketing service.

REFERENCES:

- [1]. A. Pragya Gupta B. Babita Tanwar. (2015). AN INVESTIGATION OF SERVICE QUALITY PARAMETERS IN HARYANA ROADWAYS. Apeejay Journal of Management and Technology , 22-33.
- [2]. A. Rabiul Islam B. Mohammed S. Chowdhury. (2014). MEASURING CUSTOMER’S SATISFACTION ON BUS TRANSPORTATION. American Journal of Economics and Business Administration , 34-41.
- [3]. A. Ravi Prakash B. Maheshvari Parveen Berwal C. Ravi Kant Pareek. (2016). SERVICE QUALITY ANALYSIS OF PUBLIC ROAD TRANSPORT SERVICE: RAPID GROWTH OF PRIVATE VEHICLES IN THE BORDER ZONE AREA OF RAJASTHAN. International Journal of Theoretical & Applied Sciences , 17-23.
- [4]. A. Sanjay K. Singh B. Amit P. Jha. (2017). Efficiency and Effectiveness of State Transport Undertakings in India. Scientific Research Publishing , 1646-1659.
- [5]. Arora, R. (2015). The Level of Job Satisfaction for Drivers in Haryana Roadways: A Factor Analysis. Research Gate , 94-113.
- [6]. Government, R. (2017, October 15). RSRTC. Retrieved October 25, 2017, from RSRTC: <http://transport.rajasthan.gov.in/rsrtc/>
- [7]. Jha, R. (2000). SMALL IS EFFICIENT: A FRONTIER APPROACH TO COST INEFFICIENCIES IN INDIAN STATE ROAD TRANSPORT UNDERTAKINGS. The Social Science Research Network .
- [8]. Khan, R. (1980). Transport Management. Himalaya Publishing House .
- [9]. Sharma, S. (2012). A Study of Customer Satisfaction.
- [10]. Tiwari, D. S. (2011). FINANCIAL PERFORMANCE OF HARYANA ROADWAYS : A COMPARATIVE STUDY. ZENITH , 102-129.
- [11]. Transport in India. (2017, November 14). Retrieved November 18, 2017, from Wikipedia: https://en.wikipedia.org/wiki/Transport_in_India