PERFORMANCE EVALUATION OF KSRTC WITH SPECIAL REFERENCE TO TUMKUR DIVISION

Dr. E. VANAJAKSHI & Dr. PRALHAD P. RATHOD

Assistant Professor in Commerce, University College of Arts, Tumkur University, Tumkur, Karnataka, India

Associate Professor, Department of P.G. studies in Business Administration, VTU, Belgavi, Karnataka, India

ABSTRACT

Transportation plays a vital role in the overall progress of a person and in the larger outlook of the country. There are a number of studies conducted to improve the transport system which has eventually led to the current status of the transport system. The present study is also focussed on the contributing to the improvement of public transport service. The study aims assess the quality of the service provided through KSRTC in Tumakuru district as the literature shows lacunae in this arena. A survey based study was conducted in the various depots of Tumakuru Districts which involved the commuters. Various parameters like operational logistics, safety and reliability, regularity and punctuality and maintenance and infrastructure. A questionnaire was given to the commuters and filled details were tabulated and subjected to statistical analysis. The results have shown that the overall performance of KSRTC in Tumakuru district is satisfactory.

KEYWORDS: Commuters, KSRTC, Operational Logistics

INTRODUCTION

Transportation is one of the inevitable parts of the human race as it plays an important role in the success of the mankind. Technological innovation facilitated developing specialization in social organization[1]. Transportation system in operation is reflections of the decisions and actions of individuals with optional means of movement[2]. There are extensive research work carried out in this field to assess the various transportation techniques available, and their flaws and strengths. And these researches have led extensive improvement in the modification and in invention of newer technologies regarding the same[3]. Out of the various reviews of literature narrated by the research scholar, most of the studies have focused on performance analysis of transport systems at National, State and Regional level particularly urban centric. Whereas rarely studies are made on performance analysis of transport systems in rural and at district levels.

REVIEW OF LITERATURE

- Centre for Public Policy Research (2016) conducted a research on to the subject of "Challenges to the role of Private participation in Public Transportation: A case of Kerala" studied the issue that, in 2012, Kerala state government ceased issuing new permits to the inter –district buses in Kerala, while exempting KSRTC. Here the author evaluates, how this issue make an impact to the public Transport System of the country. Government undertook this measure to curb the monopoly of private buses. This study also discusses the increased role of private buses in the public Transport System due to its improved performance, customer service, efficiency, especially on factors like bus utilisation and earnings per kilometre. This act as a yardstick to measure the efficiency of public Transport system. Author concludes by saying that restrictive rules regarding the banning of

private operators from inter –district operations need to be lifted. So that sound economic progress should be guaranteed.

- Vini M.S., Sreekrishnan P. (2017) conducted a study in "An Evaluation of the Performance of Kerala State Road Transport Corporation-A Case Study" here the researcher chocked out financial report of the corporation from the year 2012-2016 to analyse the performance. Variables for evaluating the performance are schedules operated, number of buses, average daily collection, average earnings per kilometre, and average earnings per bus. The performance of the KSRTC shows a declining trend due to its increasing operational cost.

- Lakshmi S. N (2017) carried out a research on the topic "Propensity to Turnover among Female Employees-A Study on Kerala State Road Transport Corporation" here the researcher point out that, as a provision to provide for women empowerment and gender equality, KSRTC introduces women participation in conductor cadre in 1990.Here the researcher trace out the variables, job satisfaction and organisational commitment, and its influence on women employees turnover intentions. The result revealed that age, employee's education, job satisfaction, continuance commitment and length of service had a crucial effect on their turnover intentions. In order to increase satisfaction and commitment the corporation should focus on rationality of disciplinary action, effectiveness of the communication system, salary & allowances, job promotion, technologies adopted by the organization, welfare facilities, grievance redressal procedures, condition of buses and industrial relations.

- Dr.InduVijayan (2018) conducted research regarding "Pricing policy of KSRTC-A Comparative Study with Karnataka State Road Transport Corporation", here the researcher found out two types of fares operating in KSRTC, basic fare and minimum fare. In Kerala the fare revision is done by a research agency named PISCO. In Kerala, along with PISCO, State government's approval is needed for the fare fixation, on the contrary Karnataka had a separate committee, exclusively for fare fixation. Managing Director of Karnataka RTC suggesting that, every Road transport Corporation should appoint an automatic fare revision Committee to prevent the loss and it is devoid of government approval. Researcher found out that among the 55road transport Corporation, only Karnataka, Bangalore and Maharashtra are making profit, other's case was very pathetic. Researcher also found out that in Kerala, bus fare is increasing irregularly this should compel the short distance passenger's to personal mode of transport and long distance passengers to train services, thus weakening the market share of the Corporation.

- Anjesh H L (2020) has conducted a study on financial performance of KSRTC with special reference to Bangalore by using ratio analysis. The study was conducted by obtaining the secondary data and it was found that there was significant difference between the current ratio, quick ratio and debt-equity ratio of KSRTC over time.

Research Gap

Out of the various reviews of literature narrated by the research scholar, most of the studies have focused on performance analysis of transport systems at National, State and Regional level particularly urban centric. Whereas rarely studies are made on performance analysis of transport systems in rural and at district levels. However, the research scholar has focused performance analysis of transport system exclusively at district level namely, Tumkur district of Karnataka State and has focused on the rural transportation system Tumkur rural district as well. By this, the research scholar has tried to fill up the gap in research made by earlier scholarly studies.

Scope of the Study

The scope of the study is limited to Tumkur Division of KSRTC. The study is restricted to general and physical performance in terms of commuters' satisfaction and no other divisions are considered because of larger scope.

Research Question

- As commuters travelling in KSRTC buses in Tumkur district are convinced with the punctuality and Regularity of KSRTC bus service

- UP to what extend you has commuters of KSRTC bus service in Tumkur district satisfied with safety and RELIABILITY?

- Are you convinced on the aspect of customer satisfaction in KSRTC bus service in Tumkur district?

- As commuters travelling KSRTC buses in Tumkur district feel about the maintenance and Infrastructure?

Objectives

- To examine the problems of the bus passengers that they encounter while travelling in the buses in KSRTC Tumakuru division

- To assess the level of satisfaction of the passenger over the bus services offered by the KSRTC Tumkur division.

- Toassessthe objectives through 4 parameters, namely; operational logistics, regularity & punctuality, maintenance & infrastructure and safety & reliability.

RESEARCH HYPOTHESES

Test of Hypotheses

Hypothesis 1

H_0: There is no significant difference in rating of performance score with respect to *'Operational Logistics'* dimension between Urban and Rural commuters travelling in KSRTC.

H_1: There is a significant difference in rating of performance score with respect to *'Operational Logistics'* dimension between Urban and Rural commuters travelling in KSRTC.

Hypothesis 2

H_0: There is no significant difference in rating of performance score with respect to *'Regularity and Punctuality'* dimension between Urban and Rural commuters travelling in KSRTC.

H_1: There is a significant difference in rating of performance score with respect to *'Regularity and Punctuality'* dimension between Urban and Rural commuters travelling in KSRTC.

Hypothesis 3

H_0: There is no significant difference in rating of performance score with respect to *'Maintenance & Infrastructure'* dimension between Urban and Rural commuters travelling in KSRTC.

H_1: There is a significant difference in rating of performance score with respect to *'Maintenance & Infrastructure'* dimension between Urban and Rural commuters travelling in KSRTC.

Hypothesis 4

H_0: There is no significant difference in rating of performance score with respect to *'Safety and Reliability'* dimension between Urban and Rural commuters travelling in KSRTC.

H_1: There is a significant difference in rating of performance score with respect to *'Safety and Reliability'* dimension between Urban and Rural commuters travelling in KSRTC.

METHODOLOGY

Simple Random sampling and convenient sampling was adapted for the study. The population of the study constitutes the total number of passengers using KSRTC buses in study area (Tumkur division). From the list of seven bus depots of KSRTC Tumkur division, around 10 routes will be selected from each depot operating bus transports service and around 50 passengers from each route were randomly selected for gathering the data on benefits providing to them. Therefore, around 528 sample passengers were selected convenient using random technique.

The researcher has applied both questionnaire and interview tools for purpose of carrying out research. Appropriate question were farmed for purpose of administering the same to the managers of bus transport of KSRTC Tumkur division. According to question were administered to the passengers for the purpose of mode of travel, daily trip, travelling expenses, travelling comfort, reasons for shifting to PT, behaviour of bus crew, bus arrival and departure time. The data were analysed by using appropriate statistical tools such as five-point Likert scale, Cronbach's alpha analysis, regression analysis (attempts to determine the strength of the relationship between one dependent variable and a series of independent variable), percentage, average, standard deviation and relative importance index methods.

Analysis & Interpretation

With the present background, Fig 1 shows a diverging stacked bar chart pertaining *"Operational Logistics"*. Similarly, the diverging stacked bar chart pertaining to other dimensions of Performance Evaluation of KSRTC Such as **Regularity and Punctuality**, **Maintenance & Infrastructure**, **Safety and Reliability, are** depicted in Fig 2 to Fig 5.
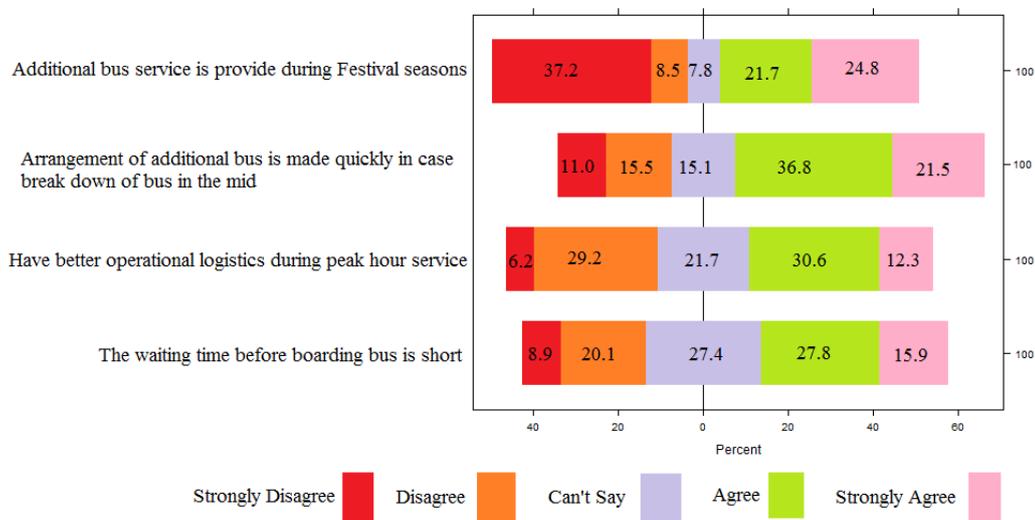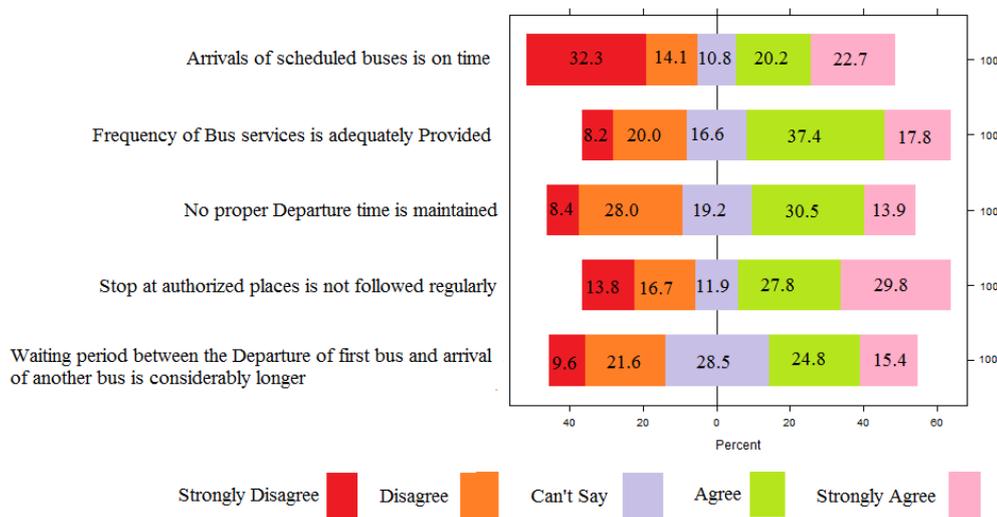

Graph 1: Diverging stacked Bar Graph for Operational logistics component

Accordingly, from Fig 1 it was observed that 24.8 per cent of them strongly agree and 21.7 per cent of them agree

that the *Additional bus service is provided during the festival seasons*. Cumulatively, about 47 per cent of respondents have ranked positively with respect to above statement of *operational logistics*. 7.8 per cent of respondents did not give any comments to the above statement. On the other, 8.5 per cent of them disagree and another 37.2 per cent strongly disagree to the statement that *Additional bus service is provided during the festival seasons*. Thus, it was observed that cumulatively about 45 per cent of the respondents seem to be not satisfied with the provision of additional buses being provided during the festive season. Similarly, with respect to it was also observed that 21.5 per cent of them strongly agree and 36.8 per cent of them agree that *"Arrangement of additional bus is made quickly in case break down of bus in the middle of the journey"*. Cumulatively, about 58 per cent of respondents have ranked positively with respect to above statement of operational logistics. 15.1 per cent of respondents did not give any comments to the above statement. On the other, 15.5 per cent of them disagree and another 11.0 per cent strongly disagree to the statement that *Arrangement of additional bus is made quickly in case break down of bus in the middle of the journey*.

Furthermore, it was observed from Fig -1 that 12.3 per cent of them strongly agree and 30.6 per cent of them agree that the *KSRTC have better operational logistics during the peak hour service*. Cumulatively, about 43 per cent of respondents have ranked positively with respect to above statement of operational logistics. 21.7 per cent of respondents did not give any comments to the above statement. On the other, 29.2 per cent of them disagree and another 6.2 per cent strongly disagree to the statement that *KSRTC have better operational logistics during the peak hour service*. Similarly, it was observed from Fig -1 that 15.9 per cent of them strongly agree and 27.8 per cent of them agree that the *Waiting time before boarding bus is short*. Cumulatively, about 44 per cent of respondents have ranked positively with respect to above statement of operational logistics. However, 27.4 per cent of respondents did not give any comments to the above statement. On the other, 20.1 per cent of them disagree and another 8.9 per cent strongly disagree to the statement *"waiting time before boarding bus is short* pertaining *of operational logistics"*.

From Fig 2 it was observed that 22.7 per cent of them strongly agree and 20.2 per cent of them agree that *"Arrival of KSRTC buses is on time"*. Cumulatively, about 42 per cent of respondents have ranked positively with respect to above statement of **Regularity and Punctuality**. However, 10.8 per cent of respondents did not give any comments to the above statement. On the other, 14.1 per cent of them disagree and another 32.3 per cent strongly disagree to the statement that *Arrival of KSRTC buses is on time*.
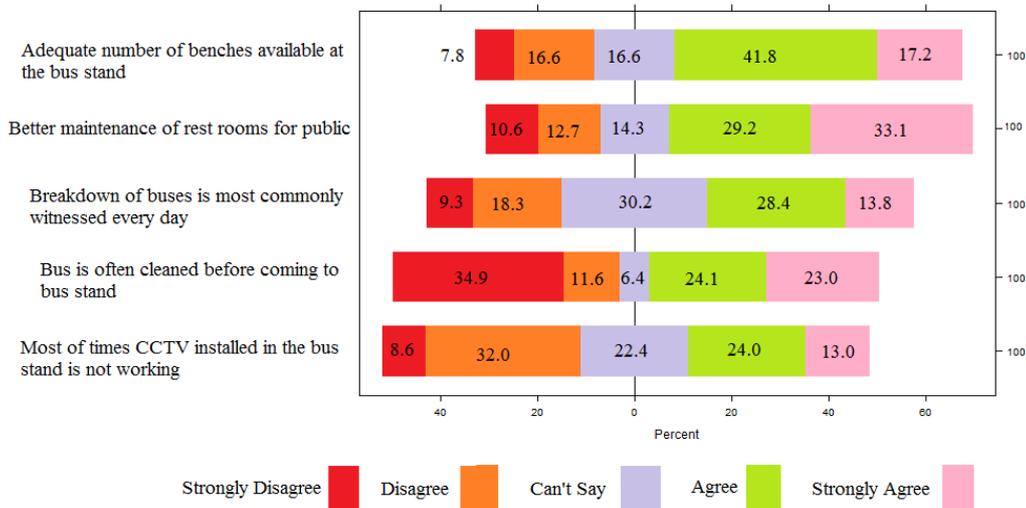

Graph 2 : Diverging Stacked Bar Graph for Regularity and Punctuality

Thus, it was observed that cumulatively about 46 per cent of the respondents seem to be not satisfied with the timing of arrival of buses on time. Similarly, it was also observed that 17.8 per cent of them strongly agree and 37.4 per cent of them agree that "*Frequency of bus services is adequately provided*". Cumulatively, about 55 per cent of respondents have ranked positively with respect to above statement of *Regularity and Punctuality*. 16.6 per cent of respondents did not give any comments to the above statement. On the other, 20.0 per cent of them disagree and another 8.2 per cent strongly disagree to the statement that *Frequency of bus services is adequately provided **as far as Regularity and Punctuality*** factor was concerned.

Furthermore, it was observed from Fig -2 that 13.9 per cent of them strongly agree and 30.5 per cent of them agree that *No proper departure timings is maintained by the KSRTC management*. Cumulatively, about 45 per cent of respondents have ranked positively with respect to above statement of *Regularity and Punctuality*. 19.2 per cent of respondents did not give any comments to the above statement. On the other, 28.0 per cent of them disagree and another 8.4 per cent strongly disagree to the statement that *No proper departure timings is maintained by the KSRTC management*. Similarly, it was observed from Fig -2 that 29.8 per cent of them strongly agree and 27.8 per cent of them agree that the provided *stops only at authorized places are not followed regularly*. Cumulatively, about 48 per cent of respondents have ranked pessimistically with respect to above statement of *Regularity and Punctuality* factor. However, 11.9 per cent of respondents did not give any comments to the above statement. On the other, 16.7 per cent of them disagree and another 13.8 per cent strongly disagree to the statement "*stops only at authorized places are not followed regularly*" with a cumulative percentage of 31 per cent disagree to the above statement.

In continuation, it was observed from Fig -2 that 15.4 per cent of them strongly agree and 24.8 per cent of them agree that *Waiting period between the Departure of first bus and the arrival of another bus is considerably longer*. Cumulatively, about 40 per cent of respondents have ranked pessimistically with respect to above statement of *Regularity and Punctuality*. Yet, 28.5 per cent of respondents did not give any comments to the above statement. On the other, 21.6 per cent of them disagree and another 9.6 per cent strongly disagree to the statement that *Waiting period between the Departure of first bus and arrival of next bus is considerably longer*.

Graph 3: Diverging Stacked Bar Graph For Maintenance & Infrastructure

Now with respect to third factor labelled 'Maintenance and Infrastructure', it was observed from Fig 3 that 17.2

per cent of them strongly agree and 41.8 per cent of them agree that a*dequate number of benches or seats available at the bus stand.* Cumulatively, about 59 per cent of respondents have asserted positively for providing this infrastructure to the public by the KSRTC management. However, 16.6 per cent of respondents remained neutral, while another 16.6 per cent of them disagree and another 7.8 per cent strongly disagree to this statement. Further, when asked their views regarding the *maintenance of rest rooms for the public*, it was observed from fig-3 that 33.1 per cent of them strongly agree and 29.2 per cent of them agree that the *better maintenance of rest rooms to the public has been taken by the KSRTC management.* Cumulatively, about 62 per cent of respondents have ranked positively with respect to the above statement. However, 14.3 per cent of respondents remained neutral, while another 12.7 per cent of them disagree and another 10.6 per cent strongly disagree to this statement.

In continuation, it was observed from Fig 3 that 13.8 per cent of them strongly agree and 28.4 per cent of them agree that *Breakdown of buses is most commonly witnessed every day.* Cumulatively, about 42 per cent of respondents have asserted positively to the above statement. However, nearly one third (30.2 per cent) of respondents remained neutral, while 18.3 per cent of them disagree and another 9.3 per cent strongly disagree to the statement that *Breakdown of buses is most commonly witnessed every day.* Commenting on the cleanliness of the *buses before arriving at the bus stand*, it was observed from Fig 3 that 23.0 per cent of them strongly agree and 24.1 per cent of them agree that *Buses would be cleaned before coming to the bus stand.* Cumulatively, about 47 per cent of respondents have asserted positively to the above statement. 6.4 per cent of respondents remained neutral. On the Contrary, 11.6 per cent of them disagree and another 34.9 per cent strongly disagree with a cumulative percentage of 52 per cent of respondents asserting negatively to the statement that *Buses would be cleaned before coming to the bus stand.*

Finally, it was observed it is observed from Fig 3 that 8.6 per cent of them strongly agree and 32.0 per cent of them agree that *Most of the time CCTV installed in the bus stand is not working.* Cumulatively, about 41 per cent of respondents have asserted negatively to the above statement. 22.4 per cent of respondents remained neutral. On the Contrary, 24.0 per cent of them disagree and another 13.0 per cent strongly disagree to the above statement that *Most of the time CCTV installed in the bus stand is not working.*

Now with respect to fourth factor labelled '***Safety and Reliability'***, it was observed from Fig 4 that 15.9 per cent of them strongly agree and 35.2 per cent of them agree that *Bus crew always follow the traffic rules.* Cumulatively, about 51 per cent of respondents have asserted positively for providing the safety measures by the KSRTC drivers. However, 18.5 per cent of respondents remained neutral, while 23.0 per cent of them disagree and another 7.3 per cent strongly disagree to the statement. Further, when asked about their views with regard to safety *of travelling in KSRTC buses as compared to private buses*, it was observed from fig-4 that 18.5 per cent of them strongly agree and 36.7 per cent of them agree that it was indeed *safe totravel in KSRTC buses as compared to private buses.* Cumulatively, about 57 per cent of respondents have ranked positively with respect to the above statement. However, 14.3 per cent of respondents remained neutral, while another 14.5 per cent of them disagree and another 9.2 per cent strongly disagree to this statement.

Further, it was observed from Fig 4 that 21.7 per cent of them strongly agree and 22.5 per cent of them agree that *It is not crowded whenever they broad a* bus. Cumulatively, about 45 per cent of respondents have asserted positively for providing this safety and reliability factor. However, 14.3 per cent of respondents remained neutral, while 12.3 per cent of them disagree and another 29.2 per cent strongly disagree to this statement thereby cumulatively about 41 per cent disagree that buses are not crowded during their journey. Further, when asked their views with regard to reliability of *KSRTC buses*

as compared to private buses,

it was observed from fig-4 that 31.2 per cent of them strongly agree and 33.2 per cent of them agree that it was indeed reliable to *KSRTC buses as compared to private buses*. Cumulatively, about 64 per cent of respondents have ranked positively with respect to the above statement. However, 10.5 per cent of respondents remained neutral, while another 14.4 percent of them disagree and another 10.7 per cent strongly disagree to this statement.

Hypothesis Testing

Table 1: Results of T-Test Between Location and Rating Score for Operational Logistics Performance Dimension

Variable	Location	N	Mean	SD	T-Value	P-Value
Operational Logistics	Rural	347	4.60	1.72	1.518	0.130
	Urban	171	4.36	1.71		

It was observed from the independent t-test result depicted in Table 1 that there was no significant difference in mean rating scores performance score with respect to 'Operational Logistics' between Rural (mean = 4.60) and Urban (4.36) commuters of KSRTC buses (t= 1.518, p=0.130, p>0.05) dimension at 5% level of significance. Hence, the null hypothesis was accepted and alternative hypothesis was rejected. In essence, both Rural and Urban commuters have given a rating score close to 7.0 for operations Logistics dimension.

Table 2: Results of T-Test Between Location and Rating Score for Regularity and Punctuality Dimension

Variable	Location	N	Mean	SD	t-value	p-value
Regularity and Punctuality	Rural	347	4.89	1.83	1.766	0.102
	Urban	171	4.69	1.83		

It was observed from the independent t-test result depicted in Table 2 that there was no significant difference in mean rating scores performance score with respect to '*Regularity and Punctuality*' between Rural (mean = 4.89) and Urban (4.69) commuters of KSRTC buses (t= 1.766, p=0.102, p>0.05) dimension at 5% level of significance. Hence, the null hypothesis was accepted and alternative hypothesis was rejected. In essence, both Rural and Urban commuters have given a rating score close to 5.0 for *Regularity and Punctuality* dimension.

Table 3: Results of T-Test Between Location and Rating Score for Maintenance & Infrastructure Performance Dimension

Variable	Location	N	Mean	SD	t-value	p-value
Maintenance & Infrastructure	Rural	347	5.32	1.89	2.761	0.006*
	Urban	171	4.84	1.80		

* Significant at 5 % level.

It was observed from the independent t-test result depicted in Table 3 that there is a significant difference in mean rating scores performance score with respect to '*Maintenance & Infrastructure*' between Rural (mean = 5.32) and Urban (4.84) commuters of KSRTC buses (t= 2.761, p=0.006, p<0.05) dimension at 5% level of significance. Hence, the null hypothesis was rejected and alternative hypothesis was accepted. As the mean rating score of Rural commuters (mean = 5.32) was higher than the Urban commuters (mean = 4.84), it could be concluded that Rural commuters feel that Maintenance and Infrastructure was better as compared to the Urban counterpart.

**Table 4: Results of T-Test Between Location and Rating Score for Safety
and Reliability Performance Dimension**

Variable	Location	N	Mean	SD	t-value	p-value
Safety and Reliability	Rural	347	5.76	2.22	1.722	0.086
	Urban	171	5.40	2.06		

It was observed from the independent t-test result depicted in Table 4 that there was no significant difference in mean rating scores performance score with respect to '*Safety and Reliability*' between Rural (mean = 5.76) and Urban (5.46) commuters of KSRTC buses (t= 1.722, p=0.086, p>0.05) dimension at 5% level of significance. Hence, the null hypothesis was accepted and alternative hypothesis was rejected. In essence, both Rural and Urban commuters have given a rating score close to 6.0 for *Regularity and Punctuality* dimension.

CONCLUSIONS

- 12.3% of them strongly agree and 30.6% of them agree that the KSRTC have better operational logistics during peak hour service.

- 17.2% and 41.8% of them strongly agree that adequate number of benches or seats available at the bus stand. However 16.6% and 7.8% disagree and disagree strongly to this statement.

- It is observed from the study that KSRTC bus is more reliable as compared to private buses. And highest rating of agreement has emerged among the respondents.

- 60.2% of the respondents have rated as "Good" about the overall performance of KSRTC belonging to Tumkur division.

From the study it can be concluded with the remarks that KSRTC is making it's to generating traffic revenue. The employees should prepare themselves to cope up with changing environment. They should be prepared to change in terms of adopting new technologies, developing new skills, adopting a set of new performance measures, developing professional orientations to work, and innovating ways of conducting business, flexible working hours, variable compensation, customer focused actions, qualitative services etc.

REFERENCES

1. Submitted to Keller Independent School District. Student paper

2. Submitted to National Institute for policy and strategic studies, Kuru. Student paper

3. Core.ac.uk

4. Centre for Policy Research (2016) ―Challenges to the role of Private participation in Public Transportation: A case of Kerala‖.

5. Vini M. S., Sreekrishnan (2017), ―An Evaluation of the performance of Kerala State Road Transport Corporation-A Case Study,3(8):293-294.

6. Lekshmi. S. N (2017), ―Propensity to Turnover among Female Employees A Study on Kerala State Road Transport Corporation‖, (vol.no.3, Issue no.4).

7. Dr. Indu Vijayan (2018), ―Pricing policy of KSRTC: A Comparative Study with Karnataka State Road

Transport Corporation‖, (vol.no.5, Issue no.1).

8. Mr.Anjesh H L (2020), - A study on performance evaluation of KSRTC – With special reference to Bangalore. Studies in Indian place names (UGC Care Journal); Vol 40; issue 60: Pg. No. 791-805.