

PROFITABILITY ANALYSIS OF CHANDIGARH TRANSPORT UNDERTAKING (CTU)

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Abstract

Transport is like the motor of the economy which accelerates economic growth. It is a vital element of infrastructure. The development of an efficient transport system has transformed the whole world into one cohesive unit. Transport is the essential convenience with which people not just connect but progress. Road transport occupies a pertinent position in day to day world as it provides a reach unparalleled by any other contemporary mode of transport. Bus transport service is provided by State Road Transport Undertakings (STUs). Public bus service in Chandigarh is provided by Chandigarh Transport Undertaking (CTU) which came into existence on 1st November 1966. Chandigarh has well connectivity of roads and is served by its excellent network. This study is confined to the profitability analysis of Chandigarh Transport Undertaking concluded with findings and suggestions.

Key Words: Effective kilometer, operating cost, non-operating cost, revenue.

Introduction

Chandigarh is the best-planned city and is very well known for its design and marvelous world-class architecture. CTU has a total fleet of 534 buses in which 264 are CTU buses and 270 are JnNURM buses (as on 31st March 2017). They are being operated by two bus terminus (ISBT) situated in sector 17 and 43. Both the terminus provides local as well as interstate bus services.

There is always a difference in the objectives and working of private sector and public sector undertakings. Maximizing profits is the sole objective of private sector undertakings. But public sector undertakings such as SRTUs have to fulfill their social responsibility of serving the general public on business ethics. Hence, profit can't be considered as the only motive of running the business in case of state road transport undertakings. But growth can't be in isolation without profit, so profit cannot be disregarded entirely. In this context, State Road Transport Undertakings should be allowed to have certain amount of return as they are major income generators for the government.

Review of literature

There is no dearth of literature on various State Road Transport undertakings. Some of which are discussed here. **Gurkirpal (2006)** had made an attempt to study the overall performance of PRTC to analyze its managerial efficiency. He had used various parameters to evaluate the performance of PRTC like staff vehicle ratio, bus utilization per day, fleet utilization, effective kilometers, kilometer per liter, profit/loss

etc. In his observation, he found that PRTC had improved its performance as compared to other STUs under study, but still there was a lot of scope for improvement. The study suggested that government should make reimbursement against free/ concessional travel, write off its previous loan granted to PRTC and the old age buses should be replaced with the new fleet. The study of **Aggarwal and Bhargava (2010)** related two STUs i.e. Rajasthan State Road Transport Corporation (RSRTC) and Uttar Pradesh State Road Transport Corporation (UPSTC). The objective of the study was to assess and compare the profitability of both STUs. For the purpose of study financial and non financial data from the financial year 2003-04 till 2007-08 was collected. From the analysis it was observed that the profitability position of RSRTC was not satisfactory due to the fact that the increase in total revenue was subsidized by the increase in total cost. UPSRTC had surplus only in the year 2007-08 due to absence of passenger tax. The study suggested that both the corporations should adopt professionalism and should take proper steps to control costs. **Kaur (2012)** in the paper focused attention on growth and pattern of bus service in Punjab. The paper covered the period of ten years from 1999-2000 to 2009-2010. The main objectives of the study were to overview the kind of bus service in Punjab and growth in the number of buses. The various parameters covered in the study were number of buses held, effective kilometers, district wise number of buses, bus operators in buses, growth rate etc. Effective kilometers decreased in case of Punjab Roadways and PRTC but it showed an increasing trend in case of private operators. PRTC was running on losses although a large number of new buses were added. The paper concluded that there was a need to improve the public bus service in order to have more income potential. **Mahalungu and Mahegowda (2012)** reviewed the operating and non-operating costs of 19 corporations. The study covered the period of five years from 2004-05 to 2008-09. The parameters used for the study were fleet utilization, vehicle productivity, fuel productivity, manpower productivity, operating and non operating costs. It was analyzed that the corporations had improved their physical performance than their financial performance. All the corporations had failed to reduce the operating cost on a continuous basis year after year. The non operating costs showed the mixed trend i.e. the corporations were able to lower the ratio in one year but failed to maintain it consistently. **Trivedi Shilpa (2012)** discussed the main reasons behind the heavy losses suffered by Gujarat State Road Transport Corporation (GSRTC). The period of study taken was from the financial year 1996-97 till 2005-06. The main factors of heavy losses were that more than 80% of fleet was over aged and needs replacement. GSRTC had to operate buses on the routes which were not feasible. Also the corporation was not compensated for its service in remote areas and for concessional travel provided to different categories of people. The fares were also not increased as in accordance with the increase in costs which resulted into increased costs and reduced profits. **Vijayan Indu (2012)** in the paper examined the physical and financial performance of Kerala State Road Transport Corporation (KSRTC). The analysis covered ten years period from 1999-2000 to 2009-2010. The statistical techniques used for the analysis were ratio analysis and percentages. The physical parameters used were bus staff ratio, fleet utilization, vehicle utilization whereas financial parameters used were revenue per effective km,

cost per effective km, net profit/loss. The physical analysis showed that the number of passengers carried by KSRTC had increased but the income realized was not sufficient to meet the expenses. The number of over aged buses, buses in reserve and repair were more which decreased the efficiency of the concern. The financial analysis showed that the corporation was able to make profits only during the first two years of its functioning but after that it turned into continuous losses and the major factors responsible for increase in cost was personnel, fuel, lubricant and material cost.

Research Methodology

The data was collected from the secondary source. For this purpose, annual reports of CTU were gathered from the registered head office of Chandigarh Transport Undertaking situated at Phase 1, Industrial Area Chandigarh. Additionally, the website of CTU, published and unpublished reports of CTU were also referred. The period of the study was five consecutive years i.e. from financial year 2012-2013 to 2016-2017.

Objectives of the Study

1. To analyze the total cost structure in CTU.
2. To analyze the total revenue structure in CTU.
3. To analyze the profitability position in CTU.
4. To provide suggestions to improve the effectiveness of the undertaking based on findings of the study.

Profitability Analysis in CTU

Profitability is the index of efficiency and it is an important parameter to measure the operating efficiency of the undertaking. Owners, management as well as short term and long term creditors are interested in the financial soundness of the firm which can be assessed by the profitability ratios. Profitability performance of CTU is studied through the analysis of profit and loss accounts which consists of expenditures and revenue of the concern.

Expenditures in CTU comprise of operating cost (staff cost/ personnel cost, material cost, depreciation and other expenses) and non-operating cost.

Revenues in CTU comprise of Traffic Revenue (income from routes, parking fees, monthly passes, income from police vouchers, special booking) and Non-Traffic Revenue(rent from shops, cloak room fee, advertisement, auctioning of old spare parts, duplicate identity card, advertisement etc)

For the measurement of profitability performance of CTU, following parameters were used:

Analysis of Total Cost structure in CTU (Rs Lacs)

A comprehensible knowledge about the cost structure of an organization is very imperative, as it affects the overall survival of the firm. For the smooth and efficient running, CTU had to spent large amounts on various inputs. It is clear from the **table 1.1 and chart 1.1** that during the study period among total cost the major share

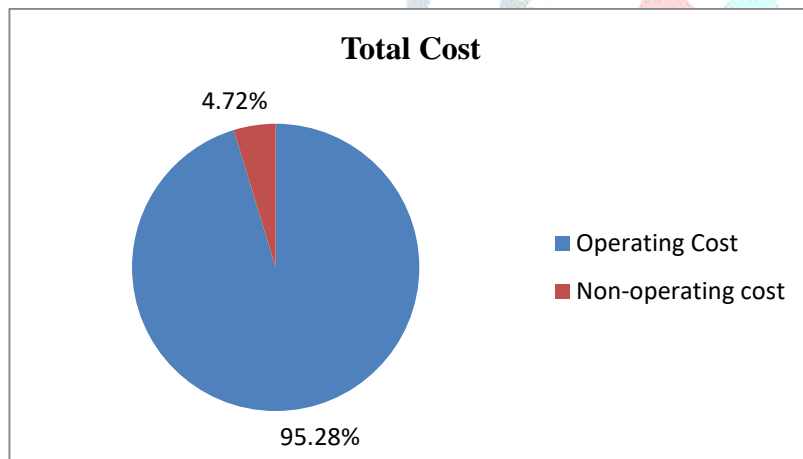
was from operating cost around 95.28% and non-operating cost contributed just around 4.72%. Total cost during the financial year 2012-13 was Rs 17240.30 lacs which increased to Rs 20497.61 lacs at the end of financial year 2016-17, recording an increment of 118.89% as compared to base year.

Table 1.1: Analysis of Total Cost (in lacs)

Years	Operating Cost	Non-Operating Cost	Total Cost	% change over preceding year (Total Cost)	Trend (%) Total Cost
2012-13	16215.76	1024.54	17240.30	-----	100
2013-14	17897.74	836	18733.74	8.66	108.66
2014-15	17776.18	906.59	18682.77	-0.27	108.36
2015-16	19756.31	925.82	20682.13	10.70	119.96
2016-17	19674.76	822.84	20497.61	-0.89	118.89
Average	18264.15	903.158	19167.31	4.54	111.17
CAGR	-----	-----	4.42%	-----	-----

Source: annual audited reports of CTU from 2012-13 to 2016-17.

Chart 1.1: Analysis of Total Cost



Source: annual audited reports of CTU from 2012-13 to 2016-17.

Analysis of Staff Cost and Fuel Cost (Rs Lacs)

The two major components of operating cost of CTU that contributes to the maximum were staff cost and material cost. The **table 1.2** depicts that during the financial year 2012-13 staff cost was Rs 9388.68 lacs which incremented by 121.34% and recorded at Rs 11392.54 lacs at the end of financial year 2016-17 whereas, material cost was Rs 5205.02 lacs (2012-13) which incremented by 118.66% and reached Rs 6176.67 lacs during the end of the financial year. During the study period staff cost contributed to the highest around 55.80% of the total cost followed by material cost (30.18%).

Table 1.2: Analysis of Staff Cost and Material Cost (Rs Lacs)

Years	Staff Cost	Trend (%)	Material/Supply/ Fuel Cost	Trend (%)
2012-13	9388.68	100	5205.02	100
2013-14	9980.14	106.29	6361.26	122.21
2014-15	10602.67	112.93	5733.94	110.16
2015-16	12115.26	129.04	5454.74	104.79
2016-17	11392.54	121.34	6176.67	118.66
Average	10695.86	113.92	5786.32	111.16
CAGR	4.96%	-----	4.37%	-----

Source: annual audited reports of CTU from 2012-13 to 2016-17

There was a high incidence of salaries in all the years. This was mainly due to annual increment of 3% and increase in dearness allowance two times in a year i.e. in January and in July. Material cost had followed mostly an upward trend due to increase in diesel prices every year. Moreover, the total buses in CTU had increased from 472 during the financial year 2012-13 to 534 buses in 2016-17.

Analysis of Total Revenue Structure in CTU (Rs Lacs)

For the persistent growth of undertaking revenue is highly important factor. In case of road transport undertaking, revenue depends on many factors like total kilometers, effective kilometers, dead kilometers, breakdowns, revenue, cost etc. One of the vital determinants affecting the amount of revenue is the fare charged. Fares should be in line with diesel prices and other operating costs but this flexibility is not possible in case of public concern.

In CTU total revenue is classified into two parts i.e. traffic revenue (fares charged from passengers, , special booking, monthly passes, income from police vouchers etc) and non-traffic revenue (rent, water charges, interview form charges, receipts from advertisement sale of old uniform, auction of old spare parts etc).

Table 1.3: Revenue Classification in CTU (Rs Lacs)

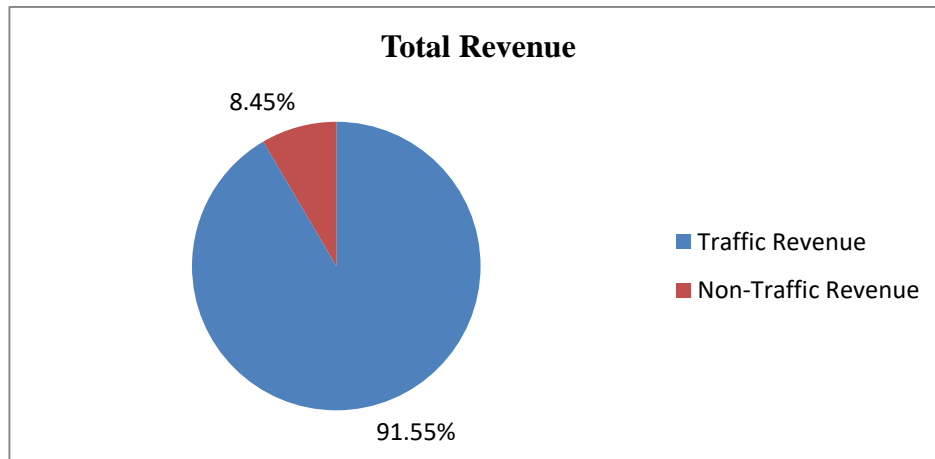
Years	Traffic Revenue	Non-Traffic Revenue	Total Revenue	% change over preceding year Total Revenue	Trend (%) Total Revenue
2012-13	9863.94	942.69	10806.63	-----	100
2013-14	9290.08	995.47	10285.55	-4.82	95.17
2014-15	10982.35	916.31	11898.66	15.68	110.10
2015-16	12148.81	1054.12	13202.93	10.96	122.17
2016-17	12311.67	1125.15	13436.82	1.77	124.33
Average	10919.37	1006.748	11926.12	5.89	110.35
CAGR	5.7%	4.52%	5.6%	-----	-----

Source: annual audited reports of CTU from 2012-13 to 2016-17

Table 1.3 depicts that the major source of earnings was from traffic revenue around 91.55% of total revenue and the share from non-traffic revenue was meager being 8.45%. It was also found that the traffic earnings were very

noteworthy as it had increased in all the years. Total revenue was Rs 10806.63 lacs in the year 2012-13 which increased and recorded at Rs 13436.82 lacs at the end of the study period showing an increment of 124.33% as compared to base year. This was mainly due to increase in the fare received from the passengers. In the last two years of study total cost was more than the average trend.

Chart 1.2: Traffic Revenue/ Non-Traffic Revenue



Source: annual audited reports of CTU from 2012-13 to 2016-17.

Analysis of profitability position in CTU

Operating Ratio

The relationship between operating cost and revenue from operations is established through operating ratio. Operating cost is associated with the operating activities of the firm and depicts the operational efficiency of the undertaking. Lower the operating ratio, the more efficient is the firm. Since CTU is a public sector undertaking so profit cannot be taken as the sole criteria for determining its effectiveness but still, it cannot be overlooked entirely. Operating ratio is calculated by the following formula:

$$\text{Operating cost ratio} = \frac{\text{Operating Cost}}{\text{Revenue from Operations}} * 100$$

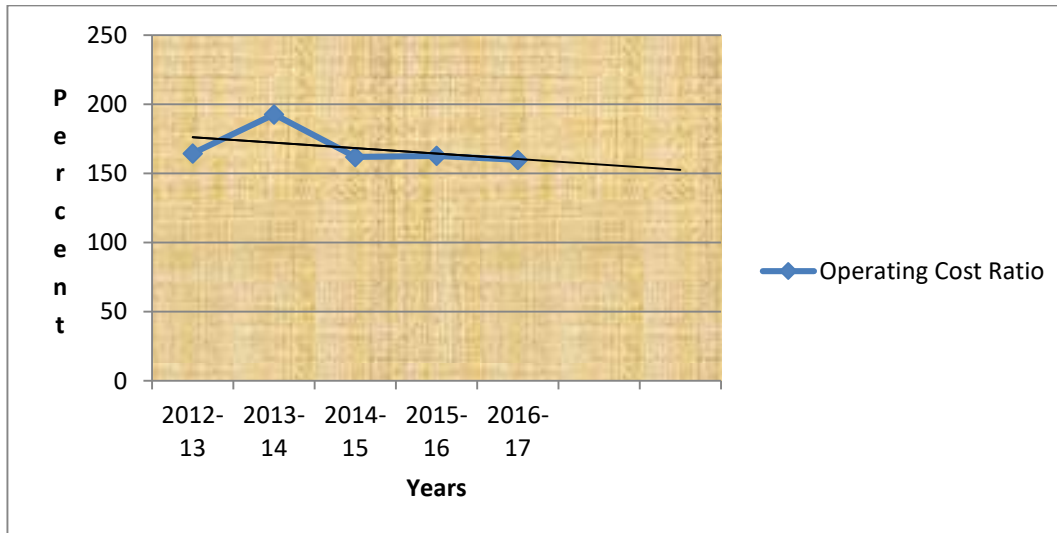
Table 1.4: Operating cost in CTU

Years	Operating Cos	Traffic revenue	Operating Cost Ratio (%)	Trend (%)
2012-13	16215.76	9863.94	164.39	100
2013-14	17897.74	9290.08	192.65	117.19
2014-15	17776.18	10982.35	161.86	98.46
2015-16	19756.31	12148.81	162.61	98.91
2016-17	19674.76	12311.67	159.80	97.20
Average	18264.15	10919.37	168.26	102.35

Source: annual audited reports of CTU from 2012-13 to 2016-17

It is clear from the figures revealed in the **table 1.4** that in all the years under study operating expenses had absorbed all the revenue from operations which registered negative profits and increase in operating costs. The operating cost ratio is high in almost in all the years. From the financial year 2014-15 it started diminishing a little, but still there was no permanent sign of decline in the components causing increase in operating cost. It was due to the reason that the undertaking was unable to manage the major operating costs. Operating cost ratio incremented to 117.19% (192.65%) in the year 2013-14 and decremented slightly to 97.20% (159.80%) at the end of financial year 2016-17.

Chart 1.3: Operating Ratio (%)



Source: annual audited reports of CTU from 2012-13 to 2016-17

Operating Profit Ratio

Operating profit is calculated by deducting operating cost from revenue from operations. It is the percentage of profit earned by the undertaking through its operations before the payment of taxes and interest. This ratio is very important for CTU as operating cost contributed around 95.28% of the total cost. The formula for its calculation is:

$$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from Operations}} * 100$$

$$\text{Operating Profit} = \text{Revenue from Operations} - \text{Operating Cost}$$

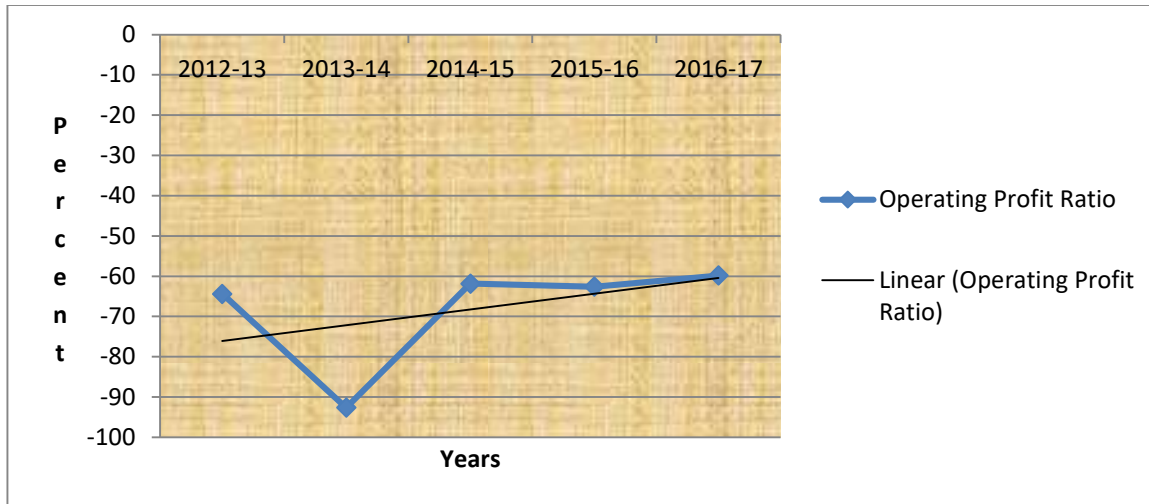
Table 1.5: Operating Profit Ratio in CTU

Years	Operating Profit	Operating Profit Ratio (%)	Trend (%)
2012-13	-6351.82	-64.39	100

2013-14	-8607.66	-92.65	143.88
2014-15	-6793.83	-61.86	96.07
2015-16	-7607.5	-62.61	97.23
2016-17	-7363.09	-59.80	92.87
Average	-7344.78	-68.26	106.01

Source: annual audited reports of CTU from 2012-13 to 2016-17

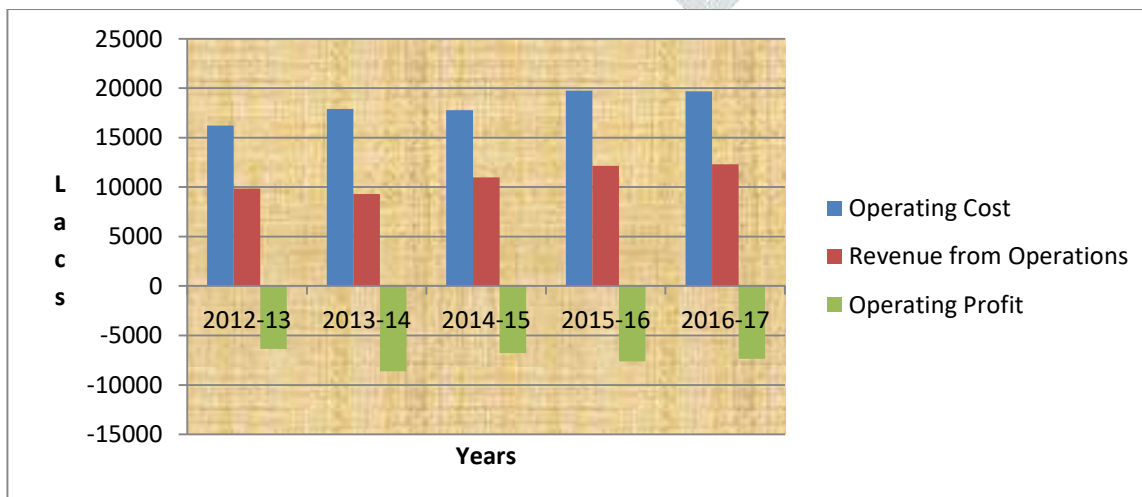
Chart 1.4: Operating Profit Ratio (%)



Source: annual audited reports of CTU from 2012-13 to 2016-17

From the **table 1.5** and the **chart 1.4** it is clear that operating profit ratio is very poor in CTU. Negative operating profits were highest in the year 2013-14 (92.65%) recording an increment of 143.88% as compared to base year. After the financial year 2013-14 it started diminishing and reached to -59.80% in the year 2016-17. No doubts that revenue has increased in all the years but the increase in operating costs were much more than the increase in revenue which has resulted into negative profits to the undertaking (**Chart 1.5**)

Chart 1.5: Operating cost/ Revenue from Operations/ Operating Profit



Source: annual audited reports of CTU from 2012-13 to 2016-17

Net Profit Ratio

Net profit is the resultant profit after all production costs, administration and financing costs are deducted from the sales. It is the association between net profit earned and sales. A higher net profit is healthier for the firm as it depicts adequate return to the owners and also the sign of overall effectiveness of the organization. Its formula is:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Revenue from Operations}} * 100$$

Revenue from Operations

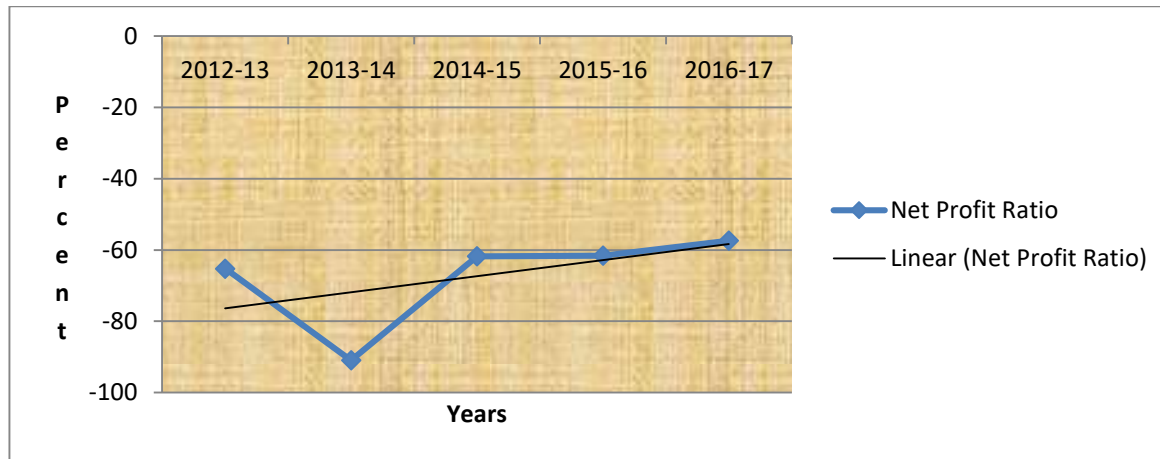
The **table 1.6 and the chart 1.6** noticeably reveal that the net-profit had shown high negative returns in all the years. Negative net profit was exceptionally high in the year 2013-14. The average net profit ratio was -67.67. Such high negative return is not at all appreciating and it had resulted into an alarming situation for CTU.

Operating profit ratio and net profit ratio were exceptionally high during the financial year 2013-14 due to less income from route. This was due to the fact that the Governor of Punjab and UT administrator Shivraj Patil instructed CTU to stop its service to all long routes and all buses will provide service to local and sub urban routes. Due to this decision which was taken as a part of administrative matter, maximum long routes buses were stopped and very less buses served long routes. As this step affected the revenue earned by CTU.

Table 1.6: Net Profit Ratio in CTU

Years	Net Profit	Net Profit Ratio (%)	Trend (%)
2012-13	-6433.67	-65.22	100
2013-14	-8448.19	-90.93	139.42
2014-15	-6784.10	-61.77	94.71
2015-16	-7481.85	-61.58	94.41
2016-17	-7060.78	-57.35	87.93
Average	-7241.72	-67.37	103.29

Source: annual audited reports of CTU from 2012-13 to 2016-17

Chart 1.6: Net Profit Ratio (%)

Source: annual audited reports of CTU from 2012-13 to 2016-17

Findings and Suggestions

1. The major source of earnings was from traffic revenue around 91.55% of total revenue, while contribution from non-traffic revenue was meager being 8.45%. Traffic earnings were very significant and as it had increased in all the years.
2. The major share among total cost was of operating cost (staff cost, material cost, depreciation and other expenses) around 95.28% whereas, non-operating cost contributed just around 4.72%.
3. The two major components of operating costs in CTU that contributed to the maximum were staff cost and material cost. Staff cost contributed to the highest around 55.80% of the total cost. Staff cost increased in all the years mainly due to an annual increment of 3% on basic pay to regular employees and an increase in Dearness Allowance two times in a year i.e.: in January and in July. Material cost subsequently contributed around 30.18% of total cost. It had followed generally a rising trend due to an increase in diesel prices.
4. CTU is an obtrusive paradigm of operating inefficiency, since in all the years under study revenue from operations had increased but increase in revenue was superseded by rapid increase in major costs like staff cost and material costs. This resulted in high operating costs and negative operating and net profits.
5. It was found that operating inefficiencies due to increased operating costs is the major ailing element and a cause of distress performance in CTU. Revenues were not enough to keep pace with the increasing amount of expenditure, so there is a prompt need that the operating costs must be reduced and immediate steps must be taken to increase the overall revenue.
6. A policy framework should be made for revising the fares in line with hike in diesel prices and previous years cost.
7. Appropriate steps should be taken to reduce the staff cost in CTU. The undertaking should try to make use of more technology. The depots and workshops should be linked with divisional offices and head office via networking. This will help in curtail down the staff cost, file work and duplication of data.

8. To save diesel and have better fuel mileage drivers should be instructed to shut off the engine at the place where there is a stoppage rather than keeping it started.

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