Cause Identification and Analysis for Not Using Public Transport In Delhi NCR: Vision of Green India

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Abstract Recently cricket team of Sri Lanka denied playing in Delhi due to breathing problems. This incident put a dent in image of Delhi and India at global level. We all know that, Delhi is considered as one of the most polluted cities of the World. One of the major causes of air pollution is increasing vehicles on the roads. Data shows that nearly 1400 cars are added to Delhi roads every day. The picture in case of two wheelers is much scary. One of the most feasible remedy to curb pollution is to motivate people to use public transport. Government is working in this direction rigorously but the effort seems as cumin seeds in camel's mouth. The vision of greener India seems to fade away. In this paper, we attempt to identify why the people of Delhi avoid using public transport? The paper follows an exploratory and descriptive research design. The exploratory research design is backed by secondary data. Further descriptive research design is used to compare the identified causes and carried out on primary data. Paper addresses the research with several relevant and necessary demographics. We also analyze the invention taking place in public transport around the World to seek the attention of people towards public transport.

Primary data is collected through mail questionnaire and schedule information method. The data is coded in SPSS for further analysis and results are presented with suitable graphs and tables. Appropriate statistical tools are used for descriptive and inferential analysis of the data. The results can be of immense use for Delhi Transport Corporation. The research will give a clear insight to officials on the issues faced by people in using public transport. The future scope of research lies in comparing cross cultural public transportation arrangements.

Key Words; Green India, Public Transpiration, Organization Strategy

1. Introduction

Pollution is one of the major challnages of contemporary times and day by day increasing traffic eclipses clean air further. (Ajit Tyagi, 2017) mentioned that Delhi is one of the worst polluted cities in the world and conditions have worsened because of add-on of several factors. Smog in Delhi around Diwali festivities is not happening for the first time and as things stand, it will not be last either. (Harish, 2017) mentioned it's November, again, and the same headlines blanket news outlets in India and the world: air pollution in Delhi has hit dangerous levels. Since last winter, this problem had faded from public concern as had the smog itself — until now. Yet, particulate pollution isn't restricted to Delhi or to winters. (Gosh, 2017) said a graded response to worsening air pollution in the national capital has already been triggered and the Delhi government has announced another round of Odd-Even vehicle restriction. (Karan Deep Singh) quoted Delhi is the 11th most polluted city in the world, with an annual average PM2.5 measurement of 122. PM2.5 levels have been rising in the city over the past five years. In some areas such as Pitampura in North Delhi, PM2.5 levels increased from 60 in 2011 to 119 in 2015, yearly data from the country's Pollution Control Board shows. Average air-quality index reading for Delhi in October 2015 was considered "poor" according to the Central Pollution Control Board's air quality index bulletin. (Dhananjay Ghei, 2016) quoted One of the most important elements of public health is regulatory interventions that yield clean air. In late 2016, we await the air quality crisis of the Delhi winter with trepidation. A few attempts at solving the problem have begun. The Government of Delhi experimented with an odd-even policy to regulate traffic between 1 January 2016 to 15 January 2016, and then between 15 April 2016 to 22 April 2016. The results of these experiments have been mixed.

1.1 PROBLEMS OCCURING DUE TO AIR POLLUTION

People are increasingly becoming concerned about its ill effect on health, work and quality of life. Smog increases hospital admissions and sick days. Air pollution poses a major health risk and can cause stroke, heart disease, lung cancer, and chronic and acute respiratory diseases. According to the WHO, 92% of the world's population lives in areas where the air

quality is below the WHO standards. About 88% of premature deaths occur in the low- and middle-income countries, where air pollution is escalating at an alarming rate. Dr. Vikas Maurya, senior consultant & head of department from Fortis Hospital, Shalimar Bagh, New Delhi, talks about air pollution and how we can protect ourselves from its harmful effects and says it can lead to the onset of allergies or aggravate existing allergies and decrease lung immunity, it might be instrumental in causing premature birth. It can decrease lung function across age groups. It might aggravate pre-existing lung and cardiac functions along with uncontrollable or chronic coughing, wheezing and shortness of breath. India's environment ministry said that the burning of solid waste and crops, vehicular emissions and dust from construction sites are major contributors to the city's smog. Dr. Dipankar Saha, scientist and in-charge of the air laboratory at the Delhi-based pollution control board said that firecrackers and fireworks set off during the Diwali celebrations "may have added" to the city's pollution levels. "We need to make people aware that their activities should not release more emission when our air is already so polluted," he said. The United Nations Children's Fund in a report entitled "Clean the Air for Children," released, said that nearly 20% of the world's children who live in India risked developing life-long health complications due to air pollution and in some cases even death. "Children are uniquely vulnerable to air pollution – due both to their physiology as well as to the type and degree of their exposure," said the report. That is because they breathe twice as fast as adults, taking in more air and pollutants which can adversely affect their growth and immune system. The report said that outdoor air pollution in India exceeds nearly six times that of limits considered safe internationally, while more than half of the country's population still burns solid fuels for cooking and heating, often the causes of ill health and early death in children.

1.2 REMEDIES INITIATED BY GOVERNMENT

The haze, which is the second-worst in nearly 10 years, is a deadly mixture of dust, car exhaust, soot from burning garbage and burning plant debris in neighboring states, made worse by meteorological conditions. Delhi's government recently announced remedial actions to combat Delhi's air pollution problem. Firstly, Government of India has already formed various committees to purpose and monitor solutions to air-pollution like Central Pollution Control Board (CPCB); Environmental Pollution (Prevention and control) Authority (EPCA). Secondly,

the Central Pollution Control Board (CPCB) will monitor air quality from various stations located across Delhi-NCR. Daily reports will be sent to the Environment Pollution Control Authority (EPCA), the implementing authority of the plan, which will take a decision on the future course of action. Also, Government of India and Government of NCT Delhi invested Rs. 10,571 Crores in Phase-1 of Delhi Metro, Rs. 18,783 Crores and Rs. 41,079 Crores in Phase-2 and Phase-3 respectively; to induct up to 1000 new buses under DTC. The number of buses in the DTC fleet is 4020 so that people can avoid using their personal vehicles and use public vehicles. The National Green Tribunal (NGT) has also issued directions to all authorities to strictly implement earlier orders regarding the ban on burning of waste and fine on the emission of construction dust. Delhi government departments have also been directed to start making preparations to reintroduce the odd-even program, a system last implemented in April to thin out traffic. According to the rules, cars with license plates with even numbers and those with odd numbers are allowed on the roads on alternate days. In a bid to discourage people from taking out their cars and reduce vehicular emissions, the Delhi authorities including Municipal Corporations of Delhi, Delhi Development Authority, Delhi Metro Rail Corporation hiked the parking fees by four times. A spokesperson from North Delhi Municipal Corporation said that the contractors have been asked to execute the order. “We really hope it would discourage people from using more private cars, one of the factors for environmental pollution.

Therefore, in this paper we are trying to find out that why people avoid using public transport in Delhi NCR? And violate the mission of Green India. Despite government spending huge amount on public transport, why people don’t opt for using public transport. There can be various reasons for the same which will be critically analyzed in this paper. The discussion of worst air quality has taken a totally different phase because of its extremely harmful effects on different sections of the society.

2 Research Methodology

In this paper we use exploratory and descriptive research designs. First the exploratory research is conducted to identify the parameters that play a significant role in avoiding public transport. Exploratory research is conducted with the help of secondary data and open ended interviews.

After identifying the parameters a descriptive research design is followed, under which a questionnaire for collection of data is prepared. The parameters are measured on a well-established five point adjusted Likert scale (annexure).

Reliability of questionnaire is checked by using Chronbach's alpha. The instrument is reliable as α= 0.78.

3 Data Analysis and Interpretation

In this section, we analyze the data with respect to Gender, Age, Profession and Income group. The analysis is presented in two dimensions. First the descriptive are presented and then the significance with respect to demographics is checked by using suitable statistical tools.

3.1 Sample Distribution

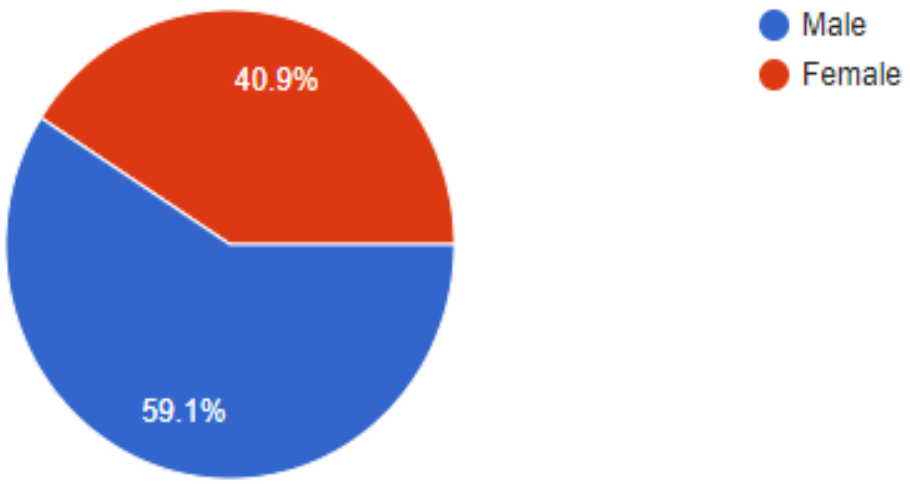

Figure -1

Figure -1, shows the number of males and females respondents in data collection. Number of male respondents are more than number of females.

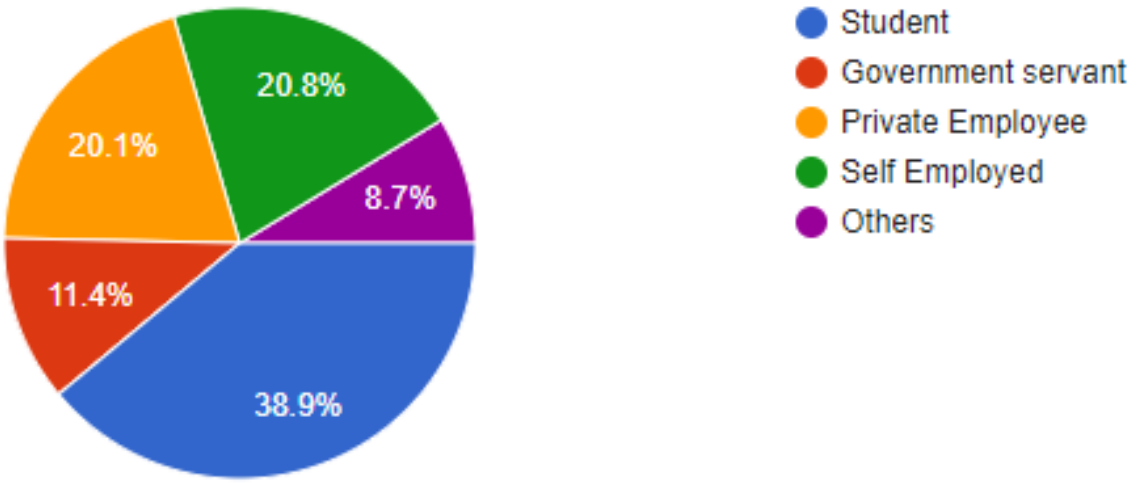

Figure -2

Figure -2, shows the number of respondents from different professions in data collection. Responses from students are more than other professions.

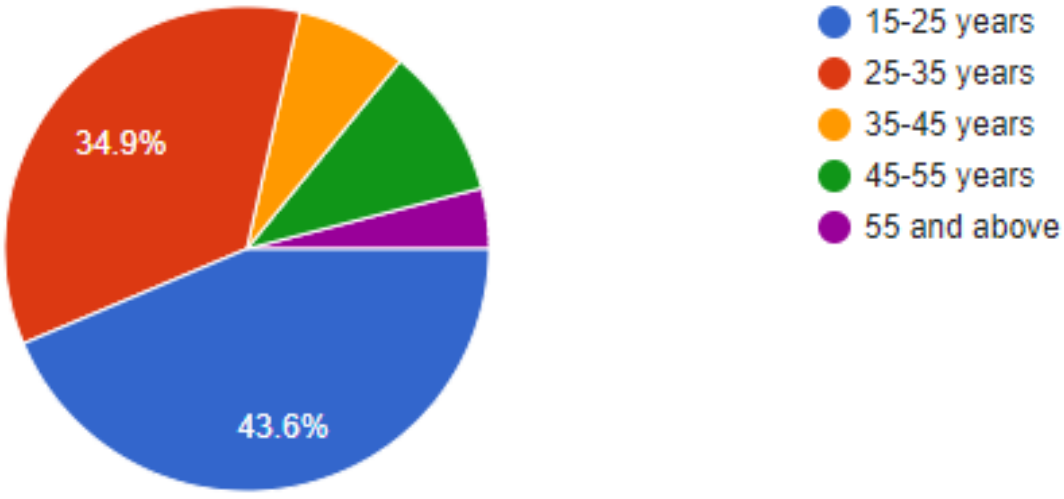

Figure -3

Figure -3, shows the number of respondents from different age group in data collection. Youth i.e. age group 15-25 years gives more responses than others age group.

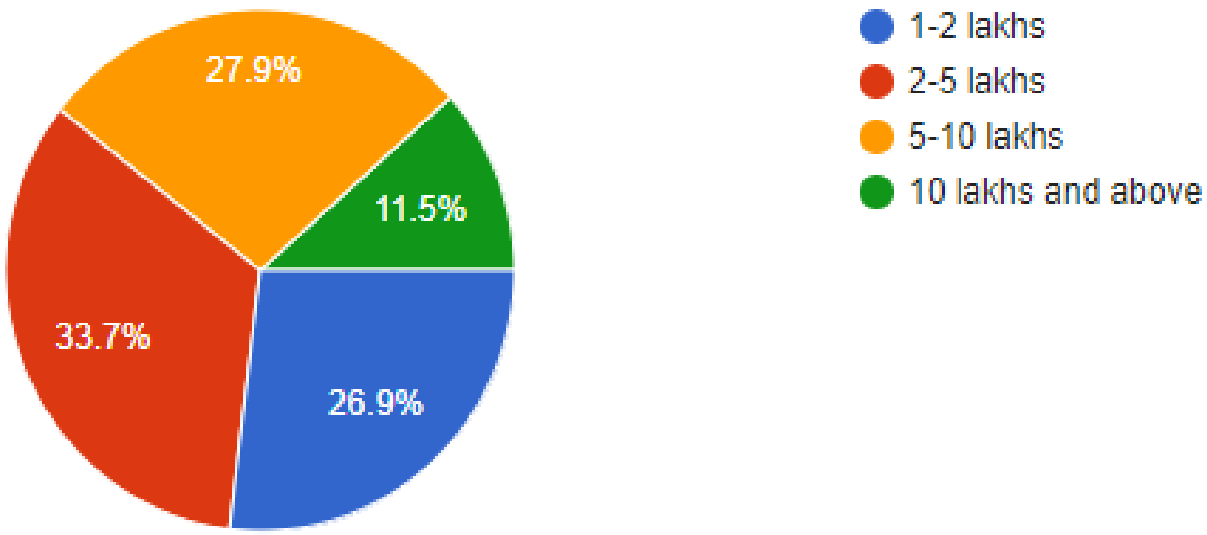

Figure -4

Figure -4, shows the number of respondents from different level of income in data collection. Income level 5-10 lakhs gives more responses than any other level of income.

3.2 Data Inference

In this section we apply suitable statistical tools to interpret data. First we compile descriptive statistics with respect to gender in table -1.

Table -1

(Descriptive statistics with respect to Gender)

Q1-11 (Appendix 1.0)

Report

Q1-11 (Appendix 1.0) **Report**		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
Male	Mean	2.80	**3.58**	2.91	2.52	2.83	2.61	2.68	2.85	2.88	3.47	2.97
	N	88	88	88	88	88	88	88	88	88	88	88
	Std. Deviation	1.297	.562	1.100	1.184	.985	1.308	1.291	1.150	1.230	.694	.976
Female	Mean	2.89	**3.46**	2.92	2.79	2.72	2.85	2.56	2.97	2.84	3.23	2.79
	N	61	61	61	61	61	61	61	61	61	61	61
	Std. Deviation	1.185	.621	1.100	1.156	.985	1.289	1.409	1.238	1.200	.864	.985
Total	Mean	2.83	**3.53**	2.91	**2.63**	2.79	2.71	**2.63**	2.90	2.86	3.37	2.89
	N	149	149	149	149	149	149	149	149	149	149	149
	Std. Deviation	1.249	.588	1.096	1.176	.983	1.301	1.337	1.184	1.214	.774	.980

From table -1 it is observed that overall people show highest agreement on the statement, that the surroundings are congested and the least agreement on the statements that seats are not comfortable and due to pickpockets. Out of the overall, both male and female shows the highest agreement on the statement that the surroundings are congested.

In table two we see whether the difference of opinion between genders is significant or not. Hence we formulate following alternate hypothesis and test it with independent sample t-test.

***H_1*:** The difference of opinion amongst male and female is significant

Table -2

t-test for testing H_1

Q1-11 (Appendix 1.0)

Report

	Levene's Test for Equality of Variances		t-test for Equality of Means				
	F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference

Q1	Equal variances assumed	2.774	.098	-.430	147	.668	-.090	.209
	Equal variances not assumed			-.438	136.250	.662	-.090	.205
Q2	Equal variances assumed	1.349	.247	1.233	147	.219	.121	.098
	Equal variances not assumed			1.211	120.575	.228	.121	.100
Q3	Equal variances assumed	.021	.885	-.049	147	.961	-.009	.183
	Equal variances not assumed			-.049	129.205	.961	-.009	.183
Q4	Equal variances assumed	.535	.466	-1.352	147	.178	-.264	.195
	Equal variances not assumed			-1.358	131.130	.177	-.264	.195
Q5	Equal variances assumed	.360	.549	.659	147	.511	.108	.164
	Equal variances not assumed			.659	129.180	.511	.108	.164
Q6	Equal variances assumed	.552	.459	-1.102	147	.272	-.239	.217
	Equal variances not assumed			-1.105	130.415	.271	-.239	.216
Q7	Equal variances assumed	3.002	.085	.557	147	.578	.124	.223
	Equal variances not assumed			.548	121.775	.584	.124	.227
Q8	Equal variances assumed	.082	.775	-.581	147	.562	-.115	.198
	Equal variances not assumed			-.574	122.935	.567	-.115	.200
Q9	Equal variances assumed	.225	.636	.192	147	.848	.039	.203
	Equal variances not assumed			.193	131.238	.847	.039	.202
Q10	Equal variances assumed	1.169	.281	1.848	147	.067	.236	.128
	Equal variances not assumed			1.776	110.434	.078	.236	.133

Q11	Equal variances assumed	.413	.521	1.097	147	.275	.179	.163
	Equal variances not assumed			1.095	128.434	.276	.179	.164

Since in all the items the significant value is less than level of significance i.e. α=0.05 hence we can conclude that there is no significant difference amongst the opinion of males and females.

Now we observe the descriptive statistics with respect to age group.

Table -3

(Descriptive with respect to age)

Q1-11 (Appendix 1.0)

Report

Age		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
15-25	Mean	3.14	**3.62**	3.14	2.78	2.80	2.85	2.77	3.09	2.94	3.29	2.97
	N	65	65	65	65	65	65	65	65	65	65	65
	Std. Deviation	1.029	.604	.827	1.125	.887	1.240	1.296	1.259	1.171	.765	.935
25-35	Mean	2.38	**3.38**	2.58	2.65	2.73	2.58	2.63	2.77	2.81	3.33	2.88
	N	52	52	52	52	52	52	52	52	52	52	52
	Std. Deviation	1.402	.565	1.289	1.186	1.012	1.348	1.284	1.041	1.253	.810	1.041
35-45	Mean	2.73	3.55	3.18	2.73	3.09	2.73	2.82	2.91	3.18	**3.64**	2.27
	N	11	11	11	11	11	11	11	11	11	11	11
	Std. Deviation	1.191	.522	1.168	1.272	1.044	1.421	1.537	1.514	1.401	1.027	1.009
45-55	Mean	3.07	**3.60**	3.07	2.00	2.67	2.67	2.53	2.53	2.53	3.53	3.13
	N	15	15	15	15	15	15	15	15	15	15	15
	Std. Deviation	1.163	.632	1.100	1.195	1.113	1.291	1.506	.915	1.125	.516	.640
55 and above	Mean	3.00	**3.67**	2.50	2.17	2.83	2.50	1.00	2.83	2.67	**3.67**	2.67
	N	6	6	6	6	6	6	6	6	6	6	6
	Std. Deviation	1.549	.516	1.225	1.169	1.472	1.643	.000	1.472	1.366	.516	1.366
Total	Mean	2.83	**3.53**	2.91	**2.63**	2.79	2.71	**2.63**	2.90	2.86	3.37	2.89
	N	149	149	149	149	149	149	149	149	149	149	149

	Std. Deviation	1.249	.588	1.096	1.176	.983	1.301	1.337	1.184	1.214	.774	.980

From table -3 it is observed that overall people from different age groups show highest agreement on the statement, that the surroundings are congested and the least agreement on the statements that seats are not comfortable and due to pickpockets. Out of the overall population of different age groups, the age groups between 15-25, 25-35 & 45-55 shows the highest agreement on the statement that the surroundings are congested, while age group 35-45 shows the highest agreement on the statement that it is unhygienic and age group 55 & above shows the highest agreement on the statements that surroundings are congested and it is unhygienic.

Following hypothesis is tested in table -4.

***H_{11}*:** The difference of opinion amongst different age groups is significant

Table -4

(Analysis of Variance for testing H_{11})

Q1-11 (Appendix 1.0)

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Q1	Between Groups	17.629	4	4.407	2.977	**.021**
	Within Groups	213.177	144	1.480		
	Total	230.805	148			
Q2	Between Groups	1.761	4	.440	1.285	.279
	Within Groups	49.353	144	.343		
	Total	51.114	148			
Q3	Between Groups	11.350	4	2.837	2.454	**.049**
	Within Groups	166.516	144	1.156		
	Total	177.866	148			
Q4	Between Groups	8.929	4	2.232	1.642	.167
	Within Groups	195.769	144	1.360		
	Total	204.698	148			
Q5	Between Groups	1.421	4	.355	.361	.836
	Within Groups	141.707	144	.984		
	Total	143.128	148			
Q6	Between Groups	2.422	4	.605	.351	.843
	Within Groups	248.169	144	1.723		
	Total	250.591	148			
Q7	Between Groups	17.732	4	4.433	2.585	.040

	Within Groups	246.966	144	1.715		
	Total	264.698	148			
	Between Groups	5.337	4	1.334	.950	.437
Q8	Within Groups	202.153	144	1.404		
	Total	207.490	148			
	Between Groups	3.506	4	.877	.588	.672
Q9	Within Groups	214.534	144	1.490		
	Total	218.040	148			
	Between Groups	2.197	4	.549	.915	.457
Q10	Within Groups	86.501	144	.601		
	Total	88.698	148			
	Between Groups	5.787	4	1.447	1.526	.198
Q11	Within Groups	136.495	144	.948		
	Total	142.282	148			

From table -4 we can observe that when it comes to the statement that the public transports are time consuming, the difference of opinion amongst various age groups is significant.

We also observe that when it comes to the statement that the public transports services are not frequent, the difference of opinion amongst various age groups is significant.

Now we compile descriptive statistics with respect to profession.

Table -5

(Descriptive with respect to profession)

Q1-11 (Appendix 1.0)

Report

Profession		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
Student	Mean	3.10	**3.64**	3.17	2.84	2.84	2.86	2.72	2.98	3.02	3.26	3.03
	N	58	58	58	58	58	58	58	58	58	58	58
	Std. Deviation	1.021	.583	.798	1.121	.854	1.235	1.295	1.162	1.192	.785	.917
Government Servant	Mean	2.71	3.41	3.00	3.06	3.00	2.53	2.00	2.88	2.88	**3.47**	3.18
	N	17	17	17	17	17	17	17	17	17	17	17
	Std. Deviation	1.404	.618	1.118	1.029	1.118	1.281	1.323	.857	1.054	.514	.809
Private Employee	Mean	2.97	3.40	2.87	2.17	2.70	2.77	2.57	2.93	2.33	**3.57**	2.63
	N	30	30	30	30	30	30	30	30	30	30	30

Self Employed	Std. Deviation	1.351	.563	1.137	1.117	1.088	1.305	1.382	1.530	1.348	.817	1.159
	Mean	2.42	**3.48**	2.55	2.61	2.71	2.35	2.71	2.74	2.94	3.39	2.90
	N	31	31	31	31	31	31	31	31	31	31	31
Others	Std. Deviation	1.385	.626	1.387	1.308	1.039	1.450	1.442	.893	1.153	.844	1.044
	Mean	2.46	**3.62**	2.62	2.23	2.62	3.00	3.00	2.85	3.15	3.23	2.46
	N	13	13	13	13	13	13	13	13	13	13	13
Total	Std. Deviation	1.198	.506	1.193	1.092	1.044	1.225	1.080	1.463	1.144	.725	.660
	Mean	2.83	**3.53**	2.91	**2.63**	2.79	2.71	**2.63**	2.90	2.86	3.37	2.89
	N	149	149	149	149	149	149	149	149	149	149	149
	Std. Deviation	1.249	.588	1.096	1.176	.983	1.301	1.337	1.184	1.214	.774	.980

From table -5 it is observed that overall population from different professions show highest agreement on the statement, that the surroundings are congested and the least agreement on the statements that seats are not comfortable and due to pickpockets. Out of the overall, students, self employed and others shows the highest agreement on the statement that the surroundings are congested, on the other hand government servant and private employee shows the highest agreement on the statement that it is unhygienic.

$\boldsymbol{H_{12}}$: The difference of opinion amongst different professions is significant

Table -6

Q1-11 (Appendix 1.0)

Report

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Q1	Between Groups	12.151	4	3.038	2.001	.098
	Within Groups	218.655	144	1.518		
	Total	230.805	148			
Q2	Between Groups	1.581	4	.395	1.149	.336
	Within Groups	49.533	144	.344		
	Total	51.114	148			

	Between Groups	9.369	4	2.342	2.002	.097
Q3	Within Groups	168.497	144	1.170		
	Total	177.866	148			
	Between Groups	14.324	4	3.581	2.709	**.033**
Q4	Within Groups	190.374	144	1.322		
	Total	204.698	148			
	Between Groups	1.760	4	.440	.448	.774
Q5	Within Groups	141.367	144	.982		
	Total	143.128	148			
	Between Groups	6.995	4	1.749	1.034	.392
Q6	Within Groups	243.595	144	1.692		
	Total	250.591	148			
	Between Groups	9.358	4	2.340	1.319	.266
Q7	Within Groups	255.340	144	1.773		
	Total	264.698	148			
	Between Groups	1.248	4	.312	.218	.928
Q8	Within Groups	206.242	144	1.432		
	Total	207.490	148			
	Between Groups	11.063	4	2.766	1.924	.110
Q9	Within Groups	206.977	144	1.437		
	Total	218.040	148			
	Between Groups	2.313	4	.578	.964	.429
Q10	Within Groups	86.385	144	.600		
	Total	88.698	148			
	Between Groups	6.973	4	1.743	1.855	.122
Q11	Within Groups	135.309	144	.940		
	Total	142.282	148			

From table-6 we can observe that when it comes to the statement that the public transport seats are not comfortable, the difference of opinion amongst various professions is significant.

Now we compile descriptive statistics with respect to income group.

Table -7

(Descriptive with respect to Income Group)

Q1-11 (Appendix 1.0)

Report

Income		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11
0-1Lakh	Mean	3.04	**3.64**	3.09	2.80	2.73	2.78	2.71	2.96	3.09	3.38	3.00
	N	45	45	45	45	45	45	45	45	45	45	45
	Std. Deviation	1.065	.529	.848	1.079	.986	1.277	1.325	1.186	1.221	.806	.879
1-2Lakhs	Mean	2.96	**3.57**	2.75	2.61	2.89	2.86	2.46	3.18	3.04	3.04	2.79
	N	28	28	28	28	28	28	28	28	28	28	28
	Std. Deviation	1.201	.573	1.206	1.257	.956	1.239	1.232	1.056	1.201	.838	1.134
2-5Lakhs	Mean	2.80	3.40	2.94	2.80	2.86	2.74	2.69	2.94	2.83	**3.43**	2.97
	N	35	35	35	35	35	35	35	35	35	35	35
	Std. Deviation	1.346	.651	1.136	1.183	.912	1.442	1.471	1.162	1.098	.778	.954
5-10Lakhs	Mean	2.48	3.45	2.76	2.48	2.69	2.59	2.48	2.59	2.31	**3.52**	2.83
	N	29	29	29	29	29	29	29	29	29	29	29
	Std. Deviation	1.326	.632	1.244	1.214	1.039	1.211	1.271	1.181	1.105	.634	1.002
10Lakhs and above	Mean	2.67	**3.58**	2.92	1.92	2.75	2.33	2.92	2.67	3.00	**3.58**	2.67
	N	12	12	12	12	12	12	12	12	12	12	12
	Std. Deviation	1.497	.515	1.240	1.084	1.215	1.435	1.505	1.497	1.537	.669	1.073
Total	Mean	2.83	**3.53**	2.91	**2.63**	2.79	2.71	**2.63**	2.90	2.86	3.37	2.89
	N	149	149	149	149	149	149	149	149	149	149	149
	Std. Deviation	1.249	.588	1.096	1.176	.983	1.301	1.337	1.184	1.214	.774	.980

From table -7 it is observed that overall population from different level income show highest agreement on the statement, that the surroundings are congested and the least agreement on the statements that seats are not comfortable and due to pickpockets. Out of the overall, people from income level 0-1 Lakhs & 1-2 Lakhs shows the highest agreement on the statement that the surroundings are congested, while age people from income level 2-5Lakhs & 5-10Lakhs shows the highest agreement on the statement that it is unhygienic and people from income level 10Lakhs & above shows the highest agreement on the statements that surroundings are congested and it is unhygienic.

$\boldsymbol{H_{13}}$: The difference of opinion amongst different income group is significant

Table -8

Q1-11 (Appendix 1.0)

ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Q1	Between Groups	6.422	4	1.605	1.030	.394
	Within Groups	224.383	144	1.558		
	Total	230.805	148			
Q2	Between Groups	1.457	4	.364	1.056	.381
	Within Groups	49.657	144	.345		
	Total	51.114	148			
Q3	Between Groups	2.859	4	.715	.588	.672
	Within Groups	175.007	144	1.215		
	Total	177.866	148			
Q4	Between Groups	9.061	4	2.265	1.667	.161
	Within Groups	195.637	144	1.359		
	Total	204.698	148			
Q5	Between Groups	.906	4	.227	.229	.922
	Within Groups	142.221	144	.988		
	Total	143.128	148			
Q6	Between Groups	2.997	4	.749	.436	.783
	Within Groups	247.593	144	1.719		
	Total	250.591	148			
Q7	Between Groups	2.788	4	.697	.383	.820
	Within Groups	261.910	144	1.819		
	Total	264.698	148			
Q8	Between Groups	5.885	4	1.471	1.051	.383
	Within Groups	201.605	144	1.400		
	Total	207.490	148			
Q9	Between Groups	12.253	4	3.063	2.144	.078
	Within Groups	205.787	144	1.429		
	Total	218.040	148			
Q10	Between Groups	4.426	4	1.107	1.891	.115
	Within Groups	84.272	144	.585		
	Total	88.698	148			
Q11	Between Groups	1.792	4	.448	.459	.766

Within Groups	140.490	144	.976		
Total	142.282	148			

Since in all the items the significant value is less than level of significance i.e. α=0.05 hence we can conclude that there is no significant difference amongst the opinion of different income group.

4 Conclusion and Recommendations

In this paper we identified the causes due to which people do not use public transport. The findings can be extremely useful for government in identifying the root cause of the problem. People have biggest problem with congested surroundings.

Government may work on species transportation arrangement i.e. by having buses with better space.

The age group 35-45 shows the highest agreement on the statement that it is unhygienic.

This age group must be the target customers for government as this is office going age group. These people find public transports unhygienic. *Hence government shall work on maintaining hygiene in public transports.*

Further we observed that when it comes to the statement that the public transports are time consuming, the difference of opinion amongst various age groups is significant. We also observe that when it comes to the statement that the public transports services are not frequent, the difference of opinion amongst various age groups is significant. *Hence government may start identifying the corporate houses and the hubs where people go to work and can start much frequent service on the routes.*

Two biggest problems that emerge from the research are of conjusted surrounding and unhygienic. While a delayed service is another concern.

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Annexure - I

Why do people avoid using public transport in Delhi?

1. What is your gender?
   - Male
   - Female
2. What is your age group?
   - 15-25 years
   - 25-35 years
   - 35-45 years
   - 45-55 years

- 55 years and above

3. What is your profession?
   - Student
   - Government servant
   - Private employee
   - Self employed
   - Others.
4. What is your income level (per annum)?
   - 1-2 lakhs
   - 2-5 lakhs
   - 5-10 lakhs
   - 10 lakhs and above

S.No.	Questions	Strongly Agree	Agree	Moderately Agree	Disagree	Strongly Disagree
Q 1	It is time consuming					
Q 2	Due to congested surroundings					
Q 3	The service is not frequent					
Q 4	Seats are not comfortable					
Q 5	More breakdown issues					
Q 6	I cannot carry luggage					
Q7	Due to pickpockets					
Q8	It does not suit my status					
Q9	It does not give me personal space					
Q10	It is unhygienic					
Q11	The fares are foul					
Q12	Due to fear of eve teasing (to be answered only by females)					