



# User Analytics in the Telecommunication Industry

Analyze opportunities for growth and make a recommendation on whether TellCo is worth buying or selling

Data User Overview Analysis User Engagement analysis User Experience analysis User Satisfaction Analysis

## Most Frequent values

### Most Freq. Tcp values

	total_tcp_retrans_vol_bytes_
0	1,767,164.8214

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### Most Freq. rtt values

	avg_rtt_ms
0	63.2346

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### Most Freq. Throughput values

	avg_bearer_tp_kbps
0	8,511.991

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## TOP 10 values

### Top 10 Tcp values

	total_tcp_retrans_vol_bytes_
0	2,337,381
1	2,337,275
2	2,337,055
3	2,336,913
4	2,336,907
5	2,336,865.0234
6	2,336,605
7	2,336,553
8	2,336,367.0234
9	2,336,229

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### Top 10 rtt values

	avg_rtt_ms
0	125
1	125
2	125
3	125
4	125
5	125
6	125
7	125
8	125
9	125

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### Top 10 throughput values

	avg_bearer_tp_kbps
0	37,540.4286
1	37,539.4286
2	37,538
3	37,537.4286
4	37,535
5	37,533
6	37,532.4286
7	37,531.4286
8	37,531.4286
9	37,531

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## Bottom 10 values

### Bottom 10 Tcp values

### Bottom 10 rtt values

### Bottom 10 Throughput values

	total_tcp_retrans_vol_bytes_
0	817,031
1	817,121
2	817,496
3	817,584
4	817,588
5	817,744
6	817,801
7	817,839
8	817,855
9	817,893

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	avg_rtt_ms
0	0
1	2
2	4
3	5
4	6
5	7
6	8
7	9
8	10
9	11

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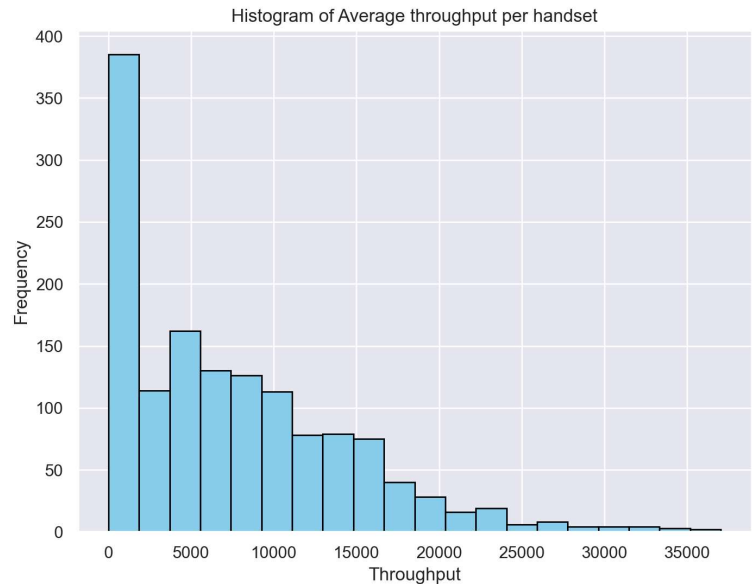
	avg_bearer_tp_kbps
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

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Distribution plot

Dist. of Avg. throughput per handset

Histogram

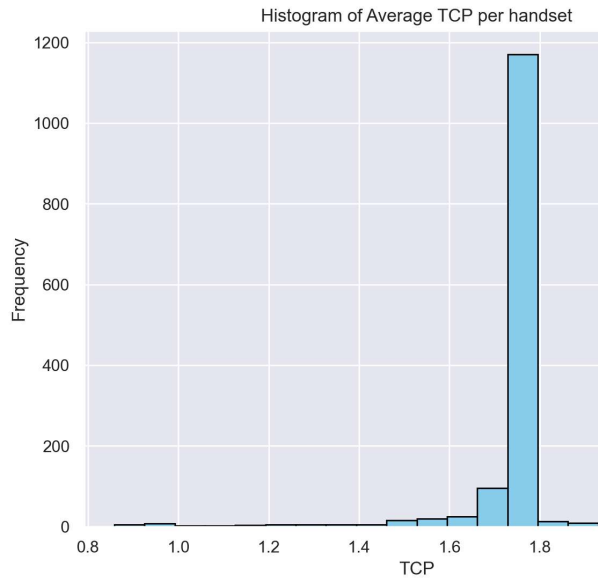


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**Observation**  
distribution is right skewed ,This means that there are more handset owners who have below average throughput. There are handset owners with no throughput

Distribution for Average TCP per handset

Histogram



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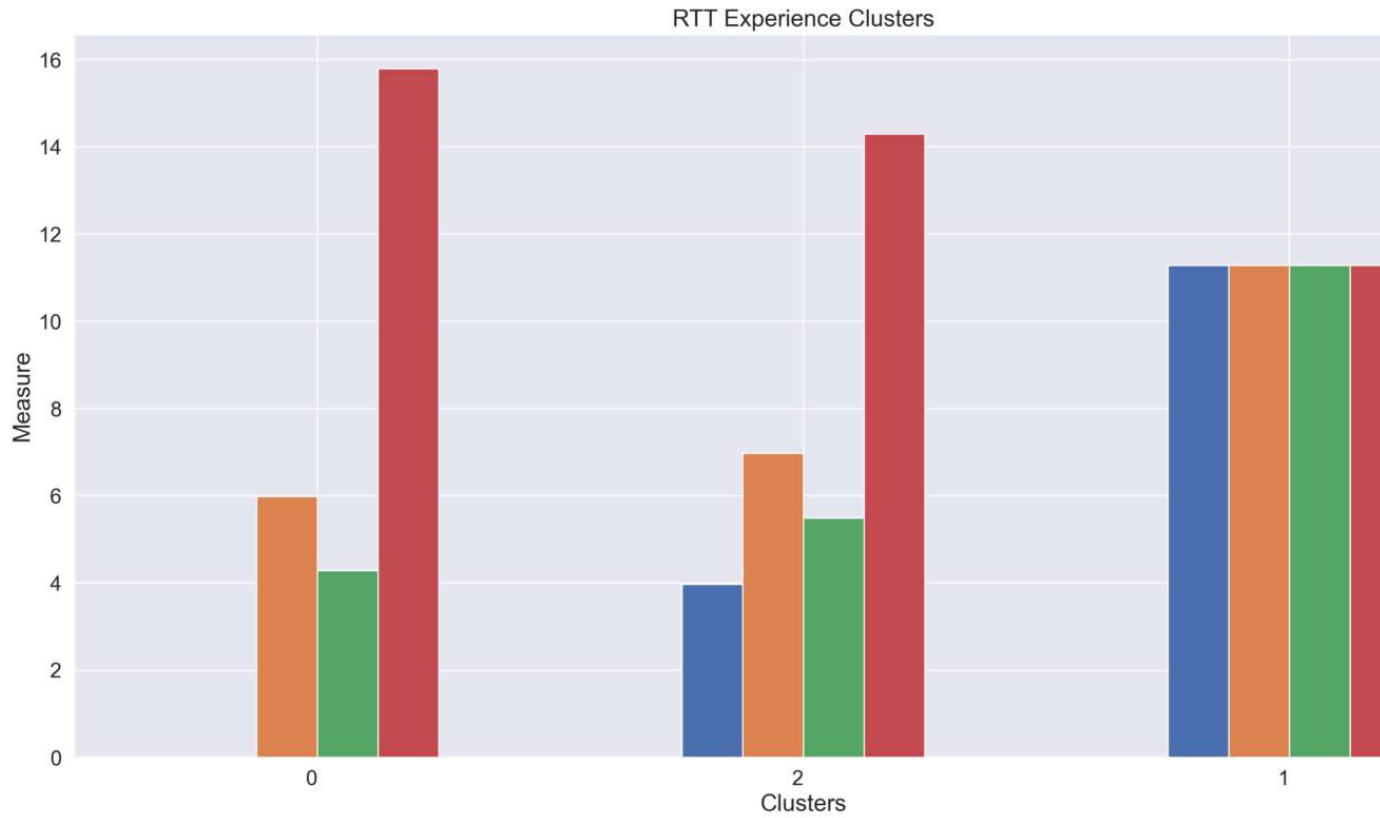
**Observation**  
distribution is left skewed ,This means that there are handset owners who have above average TCP. There are owners with no throughput

Group by Clusters

Find minimum, maximum, average and total non-normalized metrics for each clusters

RTT Experience

	min	max	mean	sum
0		5.9784	4.2785	15.793
2	3.9703	6.9679	5.487	14.2971
1	11.2753	11.2753	11.2753	11.2753

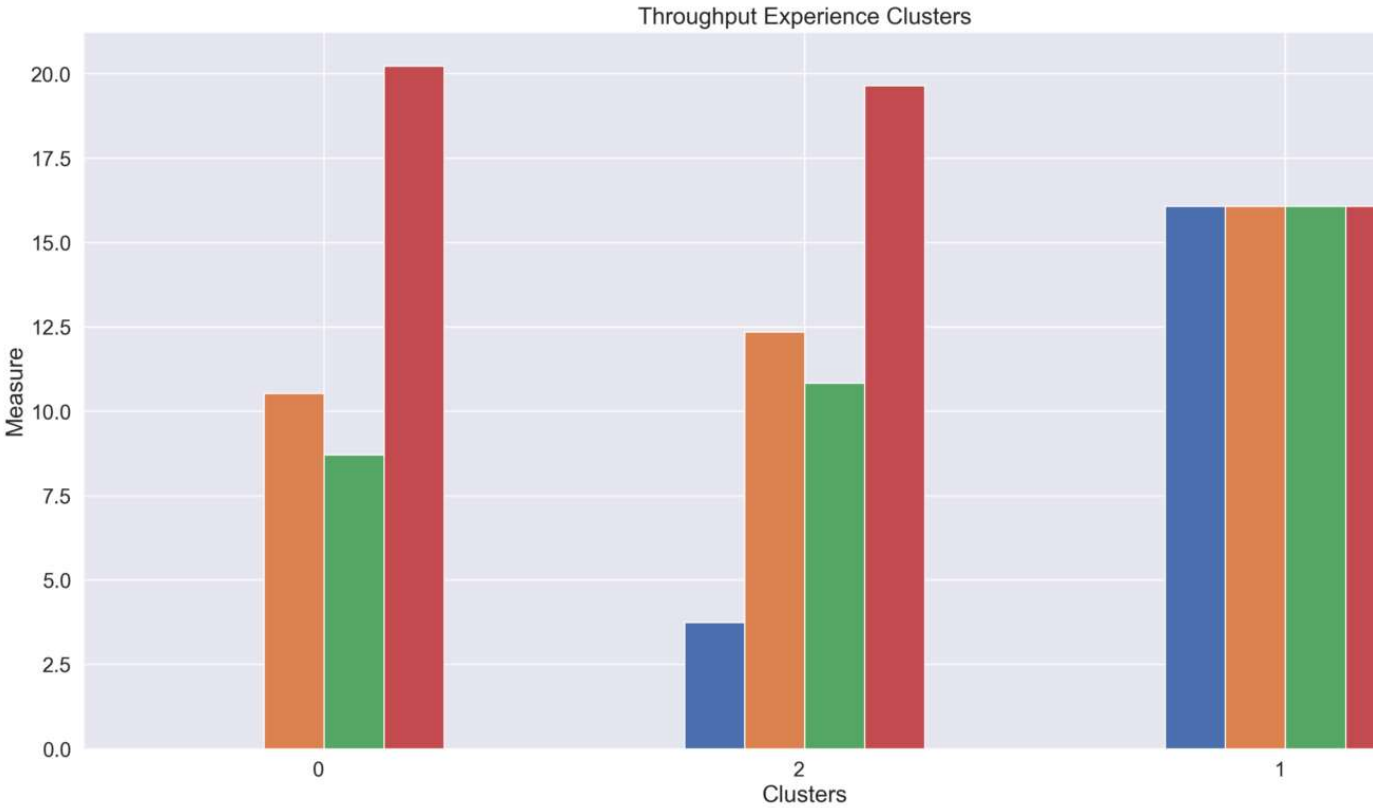


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**Observation**  
average customers in clusters 0 have better RTT expereince than other clusters,Customers in cluster 1 on average have the experience

Throughput Experience

	min	max	mean	sum
0		10.5332	8.7133	20.2278
2	3.7377	12.3525	10.8322	19.6422
1	16.0704	16.0704	16.0704	16.0704

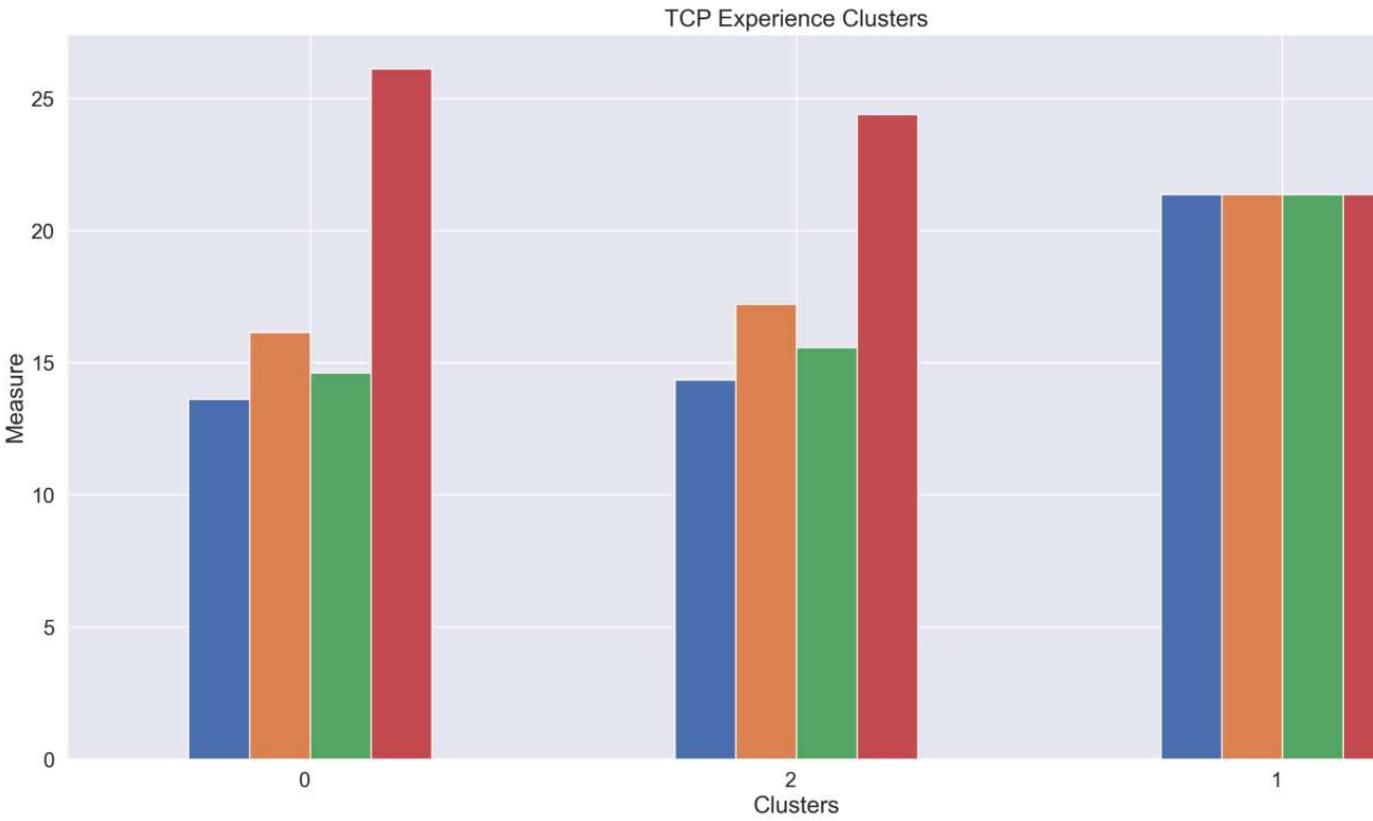


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**Observation**  
average customers in cluster 0 have better Throughput experience than other clusters ,Customers in cluster 1 on average lowest Throughput experience

TCP Experience

	min	max	mean	sum
0	13.6134	16.1408	14.6079	26.1224
2	14.348	17.2181	15.5829	24.3929
1	21.3584	21.3584	21.3584	21.3584

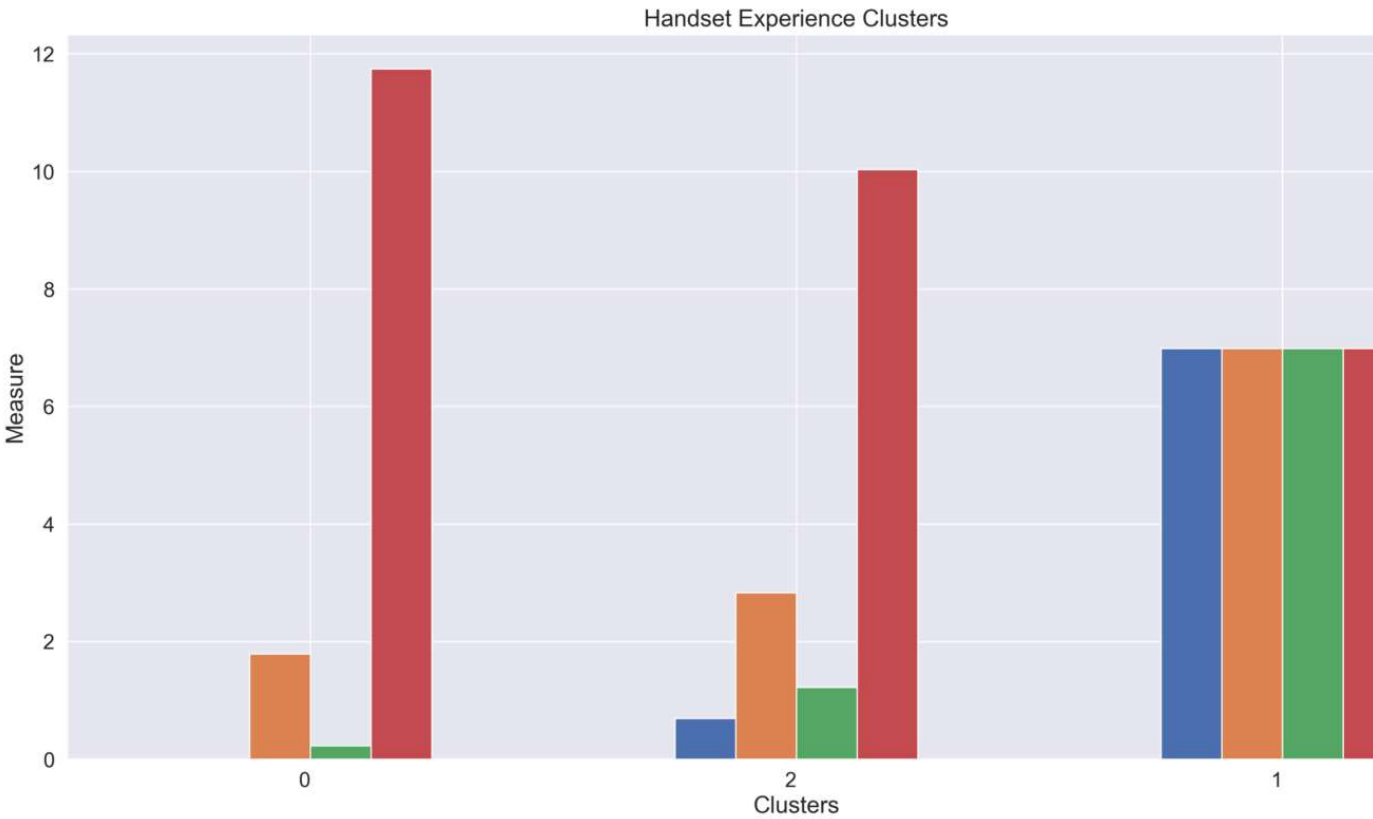


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**Observation**  
average customers in clusters 0 have better TCP Transmission experience than other clusters, Customers in cluster 1 on average have the lowest TCP Transmission experience

Handset Experience

	min	max	mean	sum
0	0	1.7918	0.2314	11.7459
2	0.6931	2.8332	1.2194	10.0294
1	6.9884	6.9884	6.9884	6.9884



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**Observation**  
average customers in clusters 0 have better Handset expereince than other clusters,There is a uniform distributionCustorr  
1 on average have the lowest Handset experience