

Five-Minute-Rule Analysis

Purpose:

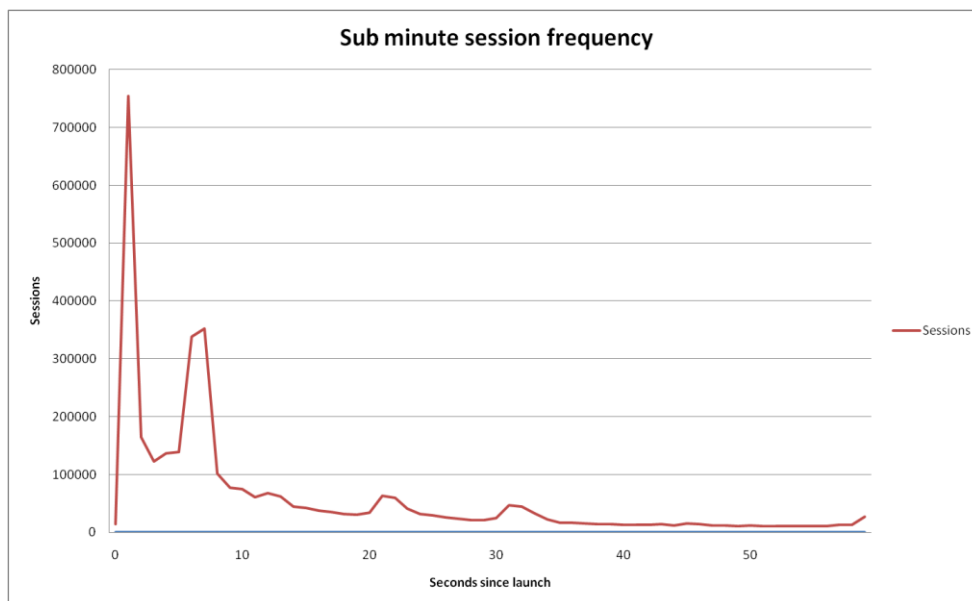
Current Arbitron style definitions of AQH (Average Quarter Hour) and TLH (Total Listening Hours) require that a streaming session has been active for five consecutive minutes in any given quarter hour in order to be counted. This artificial constraint is not valid in the Internet world, where CDN (Content Delivery Network) provided log data and/or beacon type technologies can provide more granular data in regards to streaming behavior. Is there a better definition to denote an “engaged listener” that Ando should utilize in its measurements? The information below is based on a sample size of > IMM sessions collected over two days across the entire Ando network.

Methodology:

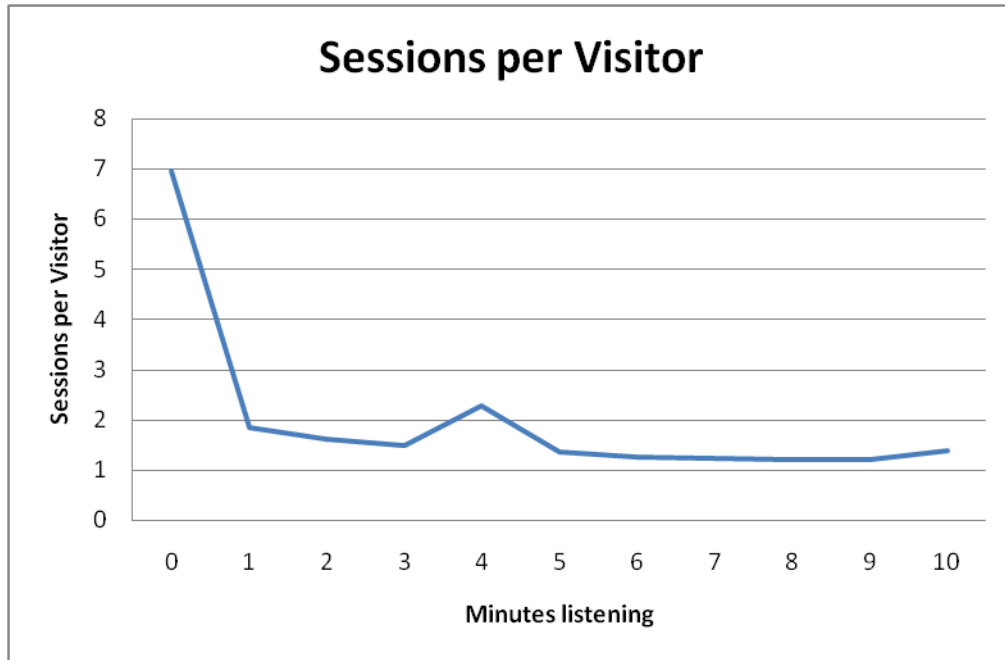
Using raw log data provided by the CDN, count the number of sessions across the entire Ando Media universe, which has session durations less than five minutes, to determine the optimal point of calculating an engaged listener. Since there is no exact way of calculating engagement, we will use the metrics TLH, Sessions, CUME (as defined by unique IP addresses) and the Coefficient of Variation to determine the optimal point.

Data – 0-5 Minute Data:

From the graph below, we see that the 0-1 minute time block has an interesting distribution, where the first 0-10 seconds accounts for 62% of all sessions in the given time period. In addition to this, the number of sessions per unique IP address is approximately six. This indicates either connection issues or quick browsing through a variety of sessions.



During minutes 1-5, we see that both sessions per visitor decrease significantly, and the total amount of sessions per visitor decreases and flattens.



Finally, from the chart below, we see that the 0-1 minute listeners make up a significant portion of Total Sessions, but make up less than 0.1% of Total Listening Hours. This drastic increase in sessions and reduction in listening hours offsets many of the metrics, and increases the Coefficient of Variation in our data.

Minutes	% of Total Sessions	% of Total Listening Hours	% of Sessions/% of Hours
0	23.16%	0.09%	245.51
1	4.89%	0.12%	39.81
2	3.29%	0.15%	21.82
3	2.70%	0.18%	14.88
4	3.92%	0.33%	11.83
5	1.70%	0.18%	9.41
6	1.41%	0.18%	7.90
7	1.28%	0.19%	6.82
8	1.18%	0.20%	5.99
9	1.17%	0.22%	5.31
10	4.65%	1.14%	4.07
20	7.07%	2.79%	2.53
30	5.49%	3.30%	1.66
40	4.33%	3.48%	1.24
50	3.65%	3.68%	0.99
60	5.30%	6.52%	0.81
70	3.12%	4.41%	0.71
80	2.45%	3.97%	0.62
90	2.06%	3.76%	0.55
100	7.66%	18.59%	0.41
200	6.49%	26.08%	0.25
300	1.90%	11.12%	0.17
400	1.15%	9.30%	0.12





Recommendation:

From the data above, we see a significant difference in the behavior of 0-1 minute listeners as compared to everyone else. This behavior has significant implications on all raw metrics due to the number of sessions and visitors that are impacted, and therefore it's recommended that we remove them from our dataset. Additionally, the 1-5 minute listeners have similar listening habits as their 5+ minute counterparts, and therefore serve as valuable points in our data.

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