Customer LifeTime Value Discussion

4/24/20

**Segmenting:** create segments using quintiles multiple times, e.g., segmenting based on annual frequency and spend for five years, and find hard cutoffs between segments using the average of these. (also include 0 segment for customers who spend under a given threshold for a year). We want hard cutoffs so that we have stable metrics for each segment, i.e., what it means to belong to a certain segment doesn’t change over time. CLV can be monitored at an aggregate level by analyzing the proportion of our customers in each segment over time.

**CLV:** Segment customers based on frequency and spend over a one-year period. Repeat this segmentation one year later, and develop a transition matrix by determining how customers transitioned from one segment to another. Use this transition matrix to determine the probability that a customer in a given segment will be in another segment in the future.

We get the probabilities by taking the transition matrix to the nth power, and then use those probabilities with the average spend for each segment. For example, let’s say Bob is in segment 2\_2, with the following probabilities of being in the given segments in the future:

|  |  |  |
| --- | --- | --- |
| Segment | Probability | Average Spend |
| 0 | .05 | $20 |
| 1\_1 | .1 | $151 |
| 1\_2 | .15 | $842 |
| 2\_1 | .2 | $376 |
| 2\_2 | .3 | $1187 |
| 3\_1 | .15 | $485 |
| 3\_2 | .05 | $2951 |

So for Bob, we get .05\*20 + .1\*151 + .15\*842 + .2\*376 + .3\*1187 + .15\*485 + .05 \*2951 = $794

**Question 1:** This seems to give us Bob’s value for one year. How do we get to lifetime value from this number?

**Question 2:** where does the customer annual spend come into this computation? The above would give the value of every customer in segment 2\_2