In this week’s class, we discuss business insight and decision processes at a deeper level. There are some points we should remember:

Sometimes, the revenue of target (V\_T) and not target (V\_NT) may be different, such as they may offer more expensive sets to people who have the discount. And in the business decision process, if the person has a higher expected value when targeting them compared to not, then we should access them.

We can only know the probability of people who stay. While revenue can be estimated using past messages, the probability should use several experiments. For example, P(S|NT) can not only be estimated by past data but also can be generated using machine learning techniques. And there are several methods to count P(S|T): first is to use other’s proxy data; second is to do the research and focus group; also can collect data in a random small group; the last and the most common one is simply assuming that P(S|T)=1 and V\_T = V\_NT.

We also discussed Simpson’s paradox, which says that the trend shown in several groups may be reversed when groups are combined. It may be due to an unbiased dataset, or the separation index is uncorrelated with the trend, and other undetected indexes exist.

As we will never know whether groups are comparable, thus truly apple-to-apple comparison can be defined using the A/B test by picking random people. Trying to separate unbiased and making assumptions can also help. And using machine learning to make a causal inference is a new phase in the business decision-making process.