Clinic Sales Experiment Memo – ID 9082675019

A. Brief Introduction of Clinic Sales Experiment

Einfach Medical Supplies (EMS) sells a disposable testing device to clinics and is trying to expand their business in a new region. They want to find a better way to pitch the product when visiting a clinic. A Clinic Sales Experiment was designed to test whether different opening pitches have different effects on conversion of clinics by using a randomized controlled design. So in this new region the company took the clinics and randomized them into three groups:

a) Control (value 0) that received the original "cost-focused" pitch;
b) Treatment 1 (value 1) that received the "easier to use" pitch;
c) Treatment 2 (value 2) that received the "fewer errors" pitch.

When the sales team went out to visit a clinic, they saw the pitch that was randomly selected for that clinic on their work iPad.

To simplify, the three main parts of the experiment were as follows:

a) Target population: clinics in this new region
b) Treatment: received the "easier to use" pitch (1) or the "fewer errors" pitch (2)
c) Outcome metrics: conversion rate (percentage of clinics that did purchase test kits from EMS)

B. Results of the Experiment

Table 1: **Average Conversion Rate (Percentage of Purchased)**

treatment	n	avgpercpurchased	error	lowerCI	upperCI
0	106	0.123	0.032	0.060	0.186
1	105	0.333	0.046	0.243	0.423
2	110	0.291	0.044	0.205	0.377

Plot 1: **Average Conversion Rate with 95% Confidence Intervals**

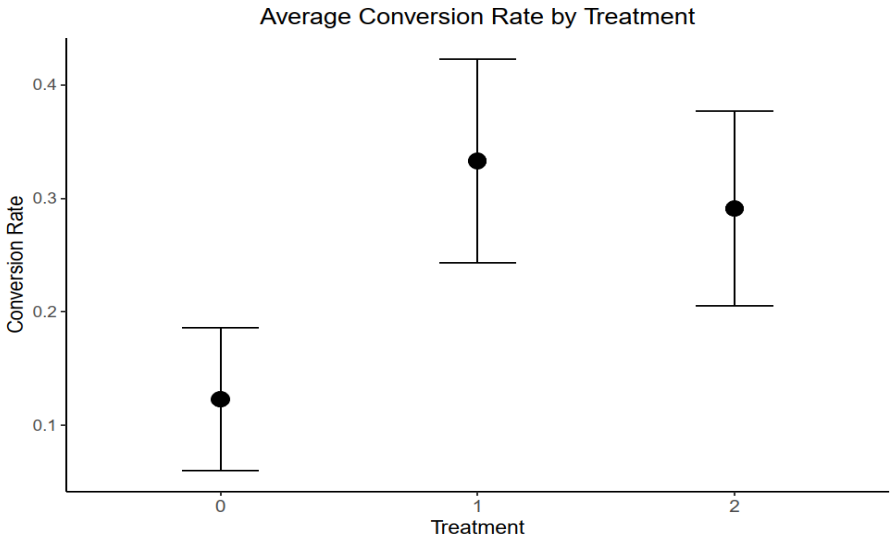

Table 2: **Average Treatment Effect on Conversion Rate**

	Treatment Effect	Lower 95% CI	Upper 95% CI
Easier to use	0.210	0.100	0.320
Fewer errors	0.168	0.061	0.275
Control Mean	0.123	NA	NA

The goal of the experiment is to get an estimate of how the percentage of clinics that did purchase test kits from EMS (conversion rate) varies with different pitch methods. From the Table 1 and Plot 1, it is clear to see that the average percentage of clinics that did purchase test kits rises with both the "easier to use" (33.3%) and the "fewer errors" (29.1%) treatment groups, compared to the original "cost-focused" (12.3%) control group. Also, the confidence intervals on the averages of the treatment groups do not overlap with those of the control group. It indicates that using "easier to use" or "fewer errors" pitch method would likely lead to higher conversion rate. However, the averages of these two treatment groups are close, and the confidence intervals on the averages of them are wide and overlap, so we are unsure about which treatment is better even though the average of the "easier to use" group is a little bit higher.

The Table 2 shows the estimates of the Average Treatment Effect (ATE), which is the difference between the average for each treatment group and the average for the control group. Relative to the original "cost-focused" pitch, the "easier to use" treatment increases conversion rate by 0.21, and the "fewer errors" treatment increases conversion rate by 0.168. For the "easier to use" treatment group, the interval on the ATE (0.1, 0.32) has 95% chance of containing the true difference in the expected conversion rate. On the other hand, for the "fewer errors" treatment group, the interval on the ATE (0.061, 0.275) has 95% chance of containing the true difference in the expected conversion rate. Besides, both treatments have a statistically positive significant effect on conversion of clinics at the 95% confidence level.

In conclusion, the experiment results imply that we are 95% sure that leading first with either the "easier to use" pitch (treatment 1) or the "fewer errors" pitch (treatment 2) would have higher conversion of clinics than the original "cost-focused" pitch (control) even though we are still uncertain about which treatment is better than the other. We can also estimate that the expected conversion rate of the "easier to use" pitch is around 33.3% and the expected conversion rate of the "fewer errors" pitch is around 29.1%, while the expected conversion rate of the original "cost-focused" pitch is just around 12.3%.

C. Notes for Caveats and Limitations

For a successful randomized experiment, the pre-treatment variables should be balanced across treatment and control groups. However, in this experiment, the distributions of the pre-treatment variable “avgpanelsize” and “distance” are not quite similar among the control and treatment groups. As the randomly selected groups did not have good balance of each variable, the differences in their conversion rate (percentage of purchased) might be due to the other confounders including the average panel size and distance, which would bias the conclusions from the experiment. If we could get larger sample size, both the averages and the distributions might have looked more similar and balanced. In this experiment, we assume that the experiment was completely randomized and their outcome differences will be due to the "treatment".

	Mean Cost-focused (Control)	Mean Easier to use	Mean Fewer errors
numdoctors	3.75	3.98	4.05
avgpanelsize	2291.79	2282.62	2334.04
distance	38.03	35.16	33.05