Drill-BC-1.4.1

Research proposal for A/B testing:

Q1. Does a new supplement help people sleep better?

**Two versions**

For a group of people two treatments should be administered.

1. Placebo supplement i.e. the control version where no drug or supplement is given inside the capsule. The test subjects are blind folded. i.e. they do not know if they are given a placebo or a real supplement.
2. New supplement i.e the test version where the drug/supplement is given inside the capsule. The test subjects here too are blind folded.

A **sample**,

The group of test subjects for the sample should be selected so that all the people are similar in most ways possible..i.e. equal number of people with gender, age, income, geographic location, offsprings, race, stress levels are there in both the control and test versions. The way they take the treatment also should be similar. i.e. they need to take at same time and same amount in both the groups. The only difference between the two groups should be the treatment.

A **hypothesis**.

The new supplement will help sleep better than the people who did not take the supplement.

**Outcome(s)** of interest.

The outcome of interest which here is the ‘better sleep’ can be measured by multiple ways and directly depends on what the treatment aims at improving what aspect of ‘better sleep’ i.e. REM sleep or deep sleep etc.

One can measure these by using a tracking device which directly measures these parameters. i.e. number of hours spent in REM sleep or deep sleep.

**Other measured variables**.

The other measured variables one can use is also measure the overall the effect of ‘better sleep’ and by doing so one can measure the outcome of interest indirectly.

It is known from various medical research publications that sleep promotes memory and concentration and a sleep deprived person loses memory and ability to concentrate eventually.

One can take a Memory/Concentration test of individuals before taking the supplement and after taking the supplements in both the groups and compare the results.

Q2. Will new uniforms help a gym's business?

**Two versions**

Here we have two groups, i.e. old uniforms and new uniforms.

1. Old unifroms i.e. the control version where the employees are all wearing old uniforms
2. New Uniforms i.e the test version where employees are all wearing old uniforms

A **sample**,

To minimize the effect of other variables between the test and control versions/groups the employees can wear uniform on alternate days over a long period of time like two to three months thus nullifying the effects of weekends and high business days. The only difference between the two groups should be the uniform.

A **hypothesis**.

The new uniform will help increase gym’s business.

**Outcome(s)** of interest.

The outcome of interest which here is the gyms business can be measured by multiple ways. One way to measure is the number of sign-ups for monthly subscriptions to gym.

**Other measured variables**.

A direct outcome of business is the profit made and one can also measure the profit with old uniforms and profit with new uniforms.

Q3. Will a new homepage improve my online exotic pet rental business?

**Two versions**

Here we have two groups, i.e. old hompage and new homepage.

1. Old homepage i.e. the control version where the business (number of rentals) measured with old homepage online.
2. New homepage i.e the test version where the business (number of rentals) measured with new homepage online.

A **sample**,

To minimize the effect of other variables between the test and control versions one can deploy old and new homepages on alternate days over a long period of time like two to three months thus nullifying the effects of weekends and high business days. The only difference between the two groups should be the uniform.

A **hypothesis**.

Will a new homepage improve my online exotic pet rental business

**Outcome(s)** of interest.

The outcome of interest which here is the increase in rentals can be measured by directly knowing number of rentals made from old webpage and that from new webpage.

**Other measured variables**.

A direct outcome of business is the profit made and one can also measure the total profit made with old webpage and profit with new webpage.

* Q4. If I put 'please read' in the email subject will more people read my emails?

**Two versions**

Here we have two groups, i.e. without and with ‘please read’ in email subject.

1. Without ‘please read’ i.e. the control version where ‘please read’ is not included in the email subject.
2. With ‘please read’ i.e. the test version where the ‘please read’ is included in the email subject.

A **sample**,

To minimize the effect of other variables between the test and control versions one can send the two types of emails with all the other content same on to two groups of people who are similar in most ways at the **same time**. to nullifying the effects of weekends or special days. The only difference between the two groups should be the email subject.

A **hypothesis**.

If we put 'please read' in the email subject more people will read the emails?

**Outcome(s)** of interest.

The outcome of interest which here is the read emails can be measured by directly counting the read receipts if the email has been read from either group.

**Other measured variables**.

One can incorporate a website which will get visited as soon as the email is opened thus measuring if email has opened or not. A different website can be given for the other version of the email subject.