Editor's Note: AB testing was first used in the U.S. Internet market, and it has only been 6 or 7 years since it entered the domestic market. 2000 or so, Internet companies, led by Google, began to use AB testing methods to help companies make decisions and manage them, After 2010, AB testing started to be productized and became an important tool for enterprise decision making.

Today, we share with you the basic knowledge about AB testing.

I. What is AB testing

The Internet industry is changing rapidly, and the iteration rate of many products is by week or even by day. Whether it's the direction of product optimization or decision making, you need to have data to speak.

Currently, most products iterate in such a way that a version is released directly to all users. Once they encounter online bugs or poor data results, they have to urgently fix or optimize the features, and sometimes even need to roll back to the previous version.

This has a great impact on user experience and project schedule, how can we solve this problem?

AB testing is a good way to avoid this problem. The so-called AB testing is to divide the user traffic into several groups before the official release is put on line, so that users can see different program designs separately and check the data effect according to the real data feedback from several groups of users.

If the new version of the data presented no problem, then consider releasing the new version to the full volume, so that it can effectively reduce the probability of accidents occurring on line for all users and improve the user experience. Simply understood, it is actually a controlled trial in junior high school. One group is the control group and one group is the experimental group.

Which scenarios are more suitable for AB testing?

Second, the application scenarios of AB testing

AB testing is usually used in the following scenarios.

1. UI optimization

This is a relatively common scenario.

Unlike functional design, where there are many logical ideas and it is often possible to determine which solution is good and which is not, UI optimization is often very "artistic" in nature. It is often difficult to explain which design will bring better data results until you see the real data. The following chart.

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The above diagram is a color change, this case is more suitable to complete the final solution through AB testing.

2. Copywriting changes

This is actually very similar to the optimization at the UI level. The same button, called [Apply Now] or [Apply Now]?

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Let's leave the decision to AB testing.

3. page layout

Page layout mainly refers to the arrangement of different elements in the same page.

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4. Algorithm Optimization

Algorithm optimization should also be an important scenario for AB testing.

The algorithm before going online is basically based on historical data for training and building the algorithm model. In the local model effect is good, online may not have good performance. Only online is the decisive criterion to test the effectiveness of the algorithm.

But no one can guarantee the effect after the launch, right? It is a very good and general choice to do some AB testing with small traffic first.

Third, traffic distribution

The basic concept of AB testing has also talked about some, one of the very important concept is the user traffic grouping. The actual landing is in accordance with certain rules, allowing users to randomly access a certain version, that specific how to allocate the traffic?

About traffic distribution, there are two main points: same-tier mutually exclusive distribution and hierarchical traffic orthogonal.

1. Same tier mutually exclusive allocation

Each stratum owns all the traffic. In the same stratum, multiple trials share 100% of the traffic, and the traffic is mutually exclusive between trials. For example, if trial 1 occupies 40% of the traffic in the same tier, trial 2 can only use up to 60% of the traffic, and so on.

The following schematic diagram is available.

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When running multiple trials at the same time, if you want the results to be as accurate as possible and need to ensure that the trials do not interfere with each other, it is recommended that the trials be built in the same tier and that the same user will only access one trial in that tier.

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2. Layered traffic orthogonalization

If test 1 and test 2 use different tiers, both test 1 and test 2 can be assigned up to 100% of the traffic. In this case, the same user will enter both test 1 and test 2 at the same time.

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When two trials are on different layers, you need to make sure that the trials are not related to each other, otherwise they will interfere with the trial data.

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Each experiment in the current platform is independently a layer of experiments, and when a traffic crosses each layer of experiments, it will be randomly broken up and reorganized to ensure the same amount of traffic in each layer.

For example, suppose I have 2 experiments, experiment A (experiment group marked as version A1, control group marked as version A2) is distributed in experiment layer 1, taking 100% of the traffic of this layer; experiment B (experiment group marked as B1, control group marked as B2) is distributed in experiment layer 2, also taking 100% of the traffic of this layer (note that experiment layer 1 and experiment layer 2 are actually the same group of users, experiment Layer 2 only reuses the traffic of Experiment Layer 1).

If the traffic of group A1 is divided into two halves, one into group B1 and one into group B2; then the traffic of group A2 is also divided into two halves, one into group B1 and one into group B2. Then the two experiments for the flow of calls will be as shown in the figure below. At this point between experiment A and experiment B, the formation of traffic "orthogonal".

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About AB testing, we will share these today. The next article will share the research of AB testing systems in the industry and see how major vendors have productized AB testing.