

How to Think About Evolv AI

A new kind of platform, requiring a new mindset

PART 1: **TRADITIONAL TESTING VS. WHAT'S NEEDED NOW**

CONVENTIONAL APPROACHES: A/B AND MULTIVARIATE TESTING

Traditional testing commonly follows six sequential steps:

1. Define the full scope of the test
2. Reserve an amount of traffic for it
3. Do all the work that's needed to get it live
4. Push it out and wait until you get statistical significance
5. Close the test, draw conclusions
6. Start the process again for the next set of ideas to test

In an A/B testing world, that process can be frustrating for a number of reasons. First, you have to commit a minimum effect size that you want to be able to detect. Second, once you start the test, you aren't able to change anything because that would result in peaking—you have to patiently wait for the test to get to a level of statistical significance. In the interim you watch revenue drop and your boss pushing back on the lack of results. But there's nothing you can do, you have to see it through to the end and hope for a positive outcome.

Multivariate testing (MVT) operates similarly, but in a larger search space, either full factorial or partial factorial. It's only economical to run much smaller experiments, such as a 3x3 grid of options to reduce the complexity. It takes three to four weeks to reach statistical significance, but there's not a lot of interactions, and it's reasonably easy to set up and test.

The leading traditional testing tools can rapidly implement 30 variants and are able to handle an exponential growth in complexity. Unfortunately, while you might expect a generous amount of traffic to be able to analyze 30 variants in 30 days, you will often find that it takes two to three times longer.

Another downside to traditional MVT is that while the engine is churning away in a black box, it's not providing optimal uplift, or allowing for changes or improvements until the test has concluded. This is significant. While the experiment is running, you may notice some ideas that are performing really well. This may inspire new ideas that you'd like to add, but you can't... you have to just sit there and let it finish.

In these first two models, your performance is fixed and the results are averages rather than clarifying which ideas are performing best.

PART 2:

HOW EVOLV AI'S SOLUTION DELIVERS MORE VALUE, SOONER

Instead of testing, we think of projects as a long-lived optimization of a given customer experience. With this approach, your thinking shifts and it becomes easier to reason over what actions you might want to take.

The advancements that we've made to date at Evolv AI make it possible to operate with the low risk overhead of basic A/B testing, but with the full potential of a multivariate approach.

2.1. GET THROUGH INITIALIZATION FASTER

You're able to launch a project with a small set of variants. This means you're able to move more quickly through the initialization period where there's no positive action for the platform to take and you de-risk the lower-than-expected traffic.

Instead of trying to launch several multivariate experiments to drive up value, you're optimizing for a better customer experience in the entire customer journey. It enables you to quickly start making iterations towards a major KPI, such as a higher conversion rate. More importantly, this is achieved with a smaller number of initial ideas. The first A/B/n is launched with just five to ten ideas, and you're able to immediately learn from it, enabling you to iterate faster.

2.2. LEVERAGE THE OPTIMIZATION INVESTMENT FOR THE BEST RETURN

The difference with Evolv AI's solution comes from the ability to introduce ideas at will and allow the platform to find the right answers. Exploration is automated, and traffic is focused on the better-performing ideas, providing maximum KPI benefits early on.

The thinking behind this is that in the first kick-off, you don't want to bet the farm on a set of ideas. Instead, you want to get through the initialization reasonably quickly, with ideas that are low-risk, both from a technical perspective as well as from a revenue impact. The data collected allows the platform to learn the user behavior, and figure out how best to combine those ideas to produce the initial population.

During the initialization phase, the platform sits and watches. In the next optimization phase, the platform can start to trade towards the desired outcome - a higher performance rate. On a daily basis, if you have enough time and traffic, you can introduce more ideas and more concepts to explore. This is a major advantage only Evolv AI delivers.

2.3. TEST MORE WHILE WORKING TOWARDS FINDING WINNING IDEAS

The platform automatically suppresses/removes ideas and variations that don't work. You have a choice to disable or leave them. Any ideas that are delivering additional value will stay in the population. When you add more ideas, machine learning takes one of your good performers and adds the idea on top of it before measuring the delta.

This biases your population towards the best-performing combinations. It continues to develop your population towards that ideal experience while getting more ideas in. This is specifically designed to allow you to learn from each individual idea.

Back to the "betting the farm" analogy. Rather than initializing and then waiting until you get to the end of the experiment, you can put those ideas in and start to build up that effect size. The better a

combination performs compared to control, the less traffic it takes to determine which one will be better. This is significantly different than traditional testing methods, which focus the traffic on the best combination of ideas until it hits statistical significance.

2.4. UNDERSTAND WHY IDEAS WORK

With traditional tests, you're at the mercy of the initial ideas that you put in. In the end, you don't know which individual variants are worth implementing or why, all you know is which one will definitely beat control.

It's a little bit like playing poker where your opponents have the ability to draw, but you have to play whatever hand you're dealt. When you're optimizing for better customer experiences, that's not the position you want to be in. Evolv AI's optimization model allows you to continue to draw until you get the winning hand. When you believe you're there, you can then play your hand by turning off the optimization and implementing the best result.

2.5. HAVE THE FLEXIBILITY TO FIND THE BEST IDEAS FASTER

With Evolv AI, there are options. You can choose to keep driving up performance, learning and optimizing indefinitely. Or you can implement parts of it. You can sort through the ideas for the best ones, and then just turn off that variable and go implement that idea. That's when it becomes part of your control.

Another benefit of Evolv AI's optimization model is that you're able to find the best performers faster. Different ideas have different effects within the population. One variant may give you a 2% uplift, another variant will give you a 1% uplift, but a third variant gives you a 5% uplift. Through the variant performance information, you're going to

be able to find that 5% uplift far earlier than the 1% uplift and be able to make better decisions based on that information and real results.

With traditional testing models, you wouldn't ever want to drive enough traffic to differentiate a 1% uplift, because you'd have to block everything else to find that 1%. With Evolv AI's platform, we're able to continue to trade up.

2.6. SIMULTANEOUS OPERATIONS DELIVER VALUE FASTER

Evolv AI's strength comes from effectively running multiple A/B tests between control and each of the combinations. This allows for three simultaneous operations where performance can trade off each operation to squeeze out the most impact where it's most valuable. There are three separate goals:

1. Drive up the performance of the funnel in real time through the algorithm as well as automatically refining the population.
2. Find the optimal combination and get to the single best answer.
3. Understand what specifically is contributing to the best answer—i.e., why it is the best answer. Also understand if part of the best answer is good while a couple of the variants may actually be bad or neutral.

As you add more ideas, the population tests to see if they are good. If they are, it adds them to a combination and runs a fresh A/B test on them. Each of those A/B tests is going to require less traffic to reach statistical significance. As you add more ideas that have more effect, they're combined into more impactful combinations with higher effect sizes that require less traffic to detect. You're able to test more ideas and combinations with less traffic, which is much better than pushing all of your chips in on the hand you were dealt.

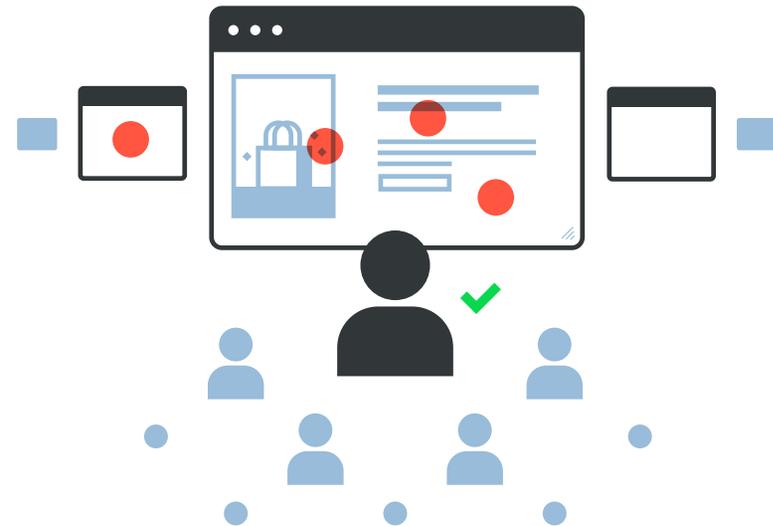
PART 3:

WHY IT'S IMPORTANT TO GET ACCESS TO CLIENT DATA

There are a lot of best practices and heuristics that are industry standard. You can Google around and find a list of ideas that will usually work. Traditionally, when companies have applied these best practices, they get some outcomes and sell some product, but then they get stuck. Because once you get past that low-hanging fruit, it's increasingly challenging to optimize the customer experience. It takes a lot of data, and finding the right data is difficult.

This is why companies build significant analytics platforms and focus so much energy on understanding their end users. Whole organizations of customer experience experts are focused on getting the data necessary to truly understand customer needs and then use that to inform their design.

At Evolv AI, we start working with a client by applying those best practices. We simultaneously set up to collect the data necessary that will enable us to go beyond this initial best practices in the future. Today's reality is that the market is ever-changing, seasons change, and the needs of visitors and customers are also changing. A digital experience optimization is never really completed in any significantly complex system. This is why it's so important to have the data necessary to be able to keep customer experience optimization going. It requires building the right relationships within the customer's organization to do that.



ABOUT EVOLV AI

Digital experiences are formed from hundreds of design choices in millions of combinations. Serving the experiences that drive growth is like finding a needle in a haystack. Evolv AI finds the needle using an AI-driven solution for digital growth optimization that serves the best experience to each audience, every time.

Our clients include enterprises and innovators in communications and media, retail and e-commerce, consumer financial services, and travel. We proudly work with companies such as AT&T, Bouygues Telecom, Rakuten and SAP plus partner with Accenture, Cognizant, and Tata Consultancy Services.

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