OfferFit

Make the Leap from A/B to AI

The End of A/B Testing

A/B Testing is a Dinosaur.
Self-Learning AI is the Asteroid.

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Foreword

According to Google Trends, searches for the term "Artificial Intelligence" have doubled over the past seven years. Over this time Artificial Intelligence (AI) and Machine Learning (ML) have quickly evolved from technical concepts, known to only a few advanced computer scientists and academics, into mainstream terms regularly used by business people, journalists, and government officials. Today, AI and ML (combined with Big Data) are critically important technologies with the power to drive significant transformation across every industry, function, and geography — if properly understood and applied.

In marketing, however, understanding, adoption, and implementation of AI have been relatively slow. Several recent surveys indicate that only around half of all marketers use AI to any significant degree, and half of all marketers classify themselves as "beginners" at using AI. Yet those marketers who have leaned into AI report topline revenue gains in the high single digits.

At this point, we should offer proper definitions of AI and ML and discuss why they matter to marketing. Artificial Intelligence is the broad field of study exploring how computer systems can perform in human-like ways. Machine Learning, a subset of AI, explores how computers can make predictions and continually "learn" to improve those predictions without being explicitly programmed using traditional "If – Then" language.

This is an important breakthrough for marketers, because marketers are in the "prediction business." What is the right best product to offer to which customer, at the right best time, place, medium, and price, and with what creative message? Making these predictions is the essence of marketing. For most of its existence, marketing required practitioners to make these predictions using intuition, past experience, trial and error, and/or a set of "digestible" data like a spreadsheet, applied to a group of individuals (a "target audience.") Today, however, marketers are able to use Machine Learning and Big Data to make these predictions much more accurately and apply them to much smaller groups — even to individuals — actually bringing the promise of true "1:1 personalized marketing" to life.

Some examples of how marketers today use Machine Learning and Big Data predictions, include New Product Development (what is the right best set of product features for this group/individual?); Creative Development (what should this ad or website landing page look like for this group/individual?); Media Placement (where and when should this ad run for this group/ individual?) and Customer Service (what issues or concerns is this group/individual likely to have, and how can we prevent/resolve it?)

There are three types of computer science models and techniques used to make these predictions for marketing purposes: Supervised, Unsupervised, and Reinforcement Learning. Supervised learning is used to make predictions when you know the outcome or "right answer" (e.g. who is likely to become a top customer); Unsupervised learning is used when you don't know the outcome or "right answer" (e.g. not knowing how many customer segments are needed); and Reinforcement or self-learning, most recent in reaching its full maturity, is used to learn the best actions to take in order to maximize rewards. This technique can be particularly useful to marketers looking to increase customer retention, loyalty program engagement, contract/subscription renewals, and more by accelerating the traditional "A/B testing" that marketers do, which is tedious, laborious, and not scalable.

If you are a marketer already using AI and ML, this paper will help you improve and advance what you are doing; if you are newer to this area, you'll find that this paper offers you some foundational knowledge, as well as ideas for how you can begin to take advantage of ML in your marketing strategies. The good news is it's "not too late to still be early." Think about what in your marketing program you'd like to be able to better predict, and then start running some experiments to experience the power of AI and ML for yourself. Good luck on your journey!

Jim Lecinski
Professor of Marketing at Northwestern University
Co-Author of The AI Marketing Canvas: A Five-Stage Road Map to Implementing Artificial Intelligence in Marketing

Executive Summary

Marketers recognize that personalization **increases campaign** performance; they are rapidly adopting personalization products.

Today, the most common method for personalization is to run **A/B tests** to find the best marketing approach for each customer segment or microsegment.

However, A/B testing **does not scale** — the more dimensions and choices you want to test, the longer it takes; testing by microsegment further increases the time needed. Additionally, segment-based personalization does not offer specific personalization — individual customers are more than just their segments.

Self-learning AI will transform how marketers personalize. It will allow better personalization and be much easier to use than the old methods of manual testing.

Companies increasingly understand the importance of personalization

There is a wealth of evidence that personalized marketing drives business results.

McKinsey & Company reports that "personalization can reduce acquisition costs by as much as 50 percent, lift revenues by 5 to 15 percent, and increase the efficiency of marketing spend by 10 to 30 percent."[1]

"Personalized marketing drives business results."

Gartner finds that growing companies are significantly more likely to be collecting customer experience data than declining ones.[2]

Accenture says that 91% of consumers are more likely to shop with brands providing offers and recommendations relevant to them.[3]

Marketers have heard this evidence and are acting fast. We interviewed over 50 marketing leaders to understand their goals; the importance of personalizing marketing programs was a recurring theme.

For some companies, it is about **growth**. In many mature industries, personalized outreach is the best way to win customers from competitors. In those cases, finding the most compelling message for each customer is the key to increased revenue.

- For other companies, personalization is essential to **protect margins**. A brand leader at a leading consumer goods company said, "Brands are spending enormous amounts of money on promotions, with totally unclear benefits. Everyone understands that personalization is the only solution."

- Still others are feeling **pressure from important stakeholders** to demonstrate that they are optimizing their business. For example, one CEO told us that his board has been asking whether they are using AI to optimize their marketing, since the competition surely was.

Given this, it is no surprise 46% of marketers are already using personalization products. Another 30% plan to start within the next 12 months.[4]

How do today's products support personalization? Marketers use the tools to divide customers into segments — often as many as ten or fifteen. Then they conduct A/B tests on each segment to identify the revenue- or profit-maximizing approach to each.

1 Brian Gregg, Hussein Kalaoui, Joel Maynes, and Gustavo Schuler, *Marketing's Holy Grail: Digital personalization at scale*

2 Gartner press release, *Gartner Says Growth Companies Are More Actively Collecting Customer Experience Data Than Nongrowth Companies*

3 Accenture, *Making it personal: Why brands must move from communication to conversation for greater conversion*

4 BDO and University of Bristol, *Martech: 2020 and Beyond, BDO and University of Bristol*

PROBLEM 1:
Personalization via A/B testing… is just not that personalized

"Segmentation is all about groups,
but customers are individuals."

So why is A/B testing by segment ripe for extinction? The first problem is that it does not actually personalize very well.

Effective personalization should consider everything we know about each customer, but segments do not even come close to accounting for all customers. When a company divides customers into segments or even microsegments, it reduces them to one or two dimensions: two customers in Segment D will get the same offer, no matter what. But what about everything else we know about them? Why are we throwing away all that data? Maybe one has been a customer for ten years, while the other is brand new. One buys often, the other only occasionally. One buys highpriced items, the other looks for bargains. One calls customer service often, the other prefers to find answers to questions on the website. Segmentation is all about groups, but customers are individuals.

Even if a marketer is happy with a group-based approach, there is another challenge: how can you be sure your segments are the right ones? Companies can segment on dozens of different attributes, such as buying frequency, purpose (e.g., business vs. leisure travelers), or types of products purchased. How do you know which segmentations best predict customer responses to offers?

Sophisticated marketers are acutely aware of these issues; instead of personalizing to groups, they seek true one-to-one personalization. This means considering all the relevant information companies have about their customers.

PROBLEM 2:
Who has time for A/B testing?

Marketers have too much to do. Many feel overwhelmed: brand building and lead generation still matter, but now marketing departments are also responsible for e-commerce, lead nurturing, loyalty programs, social media campaigns, and affinity partnerships. Their time is precious.
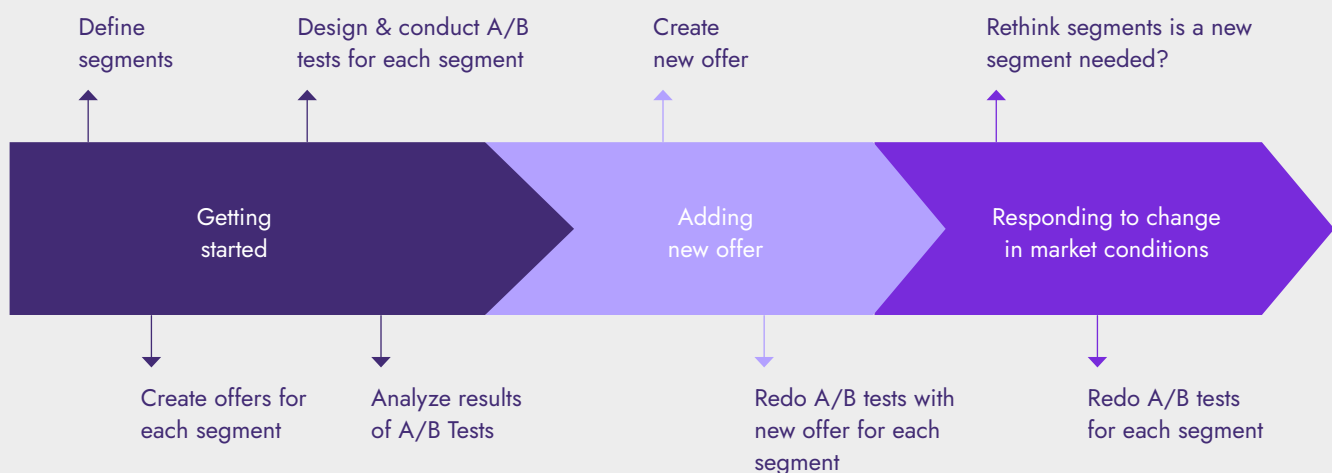
For this reason, **marketers value convenience above all else**. In our research, we found that 73% of marketers identified "ease of use" as a critical factor when considering marketing technology products. This was by far the top choice, with nearly twice as many votes as any other.

But A/B testing for each segment takes time. It is tedious even with specialized software. First, marketers must define the segments. Next, they must create the promotional offers themselves (e.g., email templates). Then, they must design and conduct A/B tests for each segment. Finally, they must analyze the results and draw conclusions. If the analysis is inconclusive, additional rounds of testing may be needed. Testing becomes even more complex when you test along different dimensions, such as message, product, channel, timing, and so forth. Testing each combination of these things for each segment creates a "combinatorial explosion" of tests — there are just too many to ever realistically carry out.

And this is only the beginning: if a marketer wants to add a new offer, sending time, or channel, they must repeat the whole process of A/B testing for each segment. The same is true if market conditions change, as happened during the COVID-19 pandemic.

Many companies have entire teams doing this work; many others do not personalize their marketing campaigns at all — they see the value, but they simply do not have the time.

Steps marketers take today to personalize campaigns with segments

Define segments

Design & conduct A/B tests for each segment

Create new offer

Rethink segments is a new segment needed?

Getting started

Adding new offer

Responding to change in market conditions

Create offers for each segment

Analyze results of A/B Tests

Redo A/B tests with new offer for each segment

Redo A/B tests for each segment

Self-learning AI is making A/B testing obsolete

In the next few years, the way marketers personalize their campaigns will change completely. The reason is self-learning AI.

What is self-learning AI? It is different from traditional machine learning. A self-learning AI bot actively experiments, deciding what steps to take and learning from each one.

Self-learning AI can be incredibly effective. In 2017, a self-learning AI bot called AlphaGo beat Ke Jie, the world champion in the game Go. This feat had been considered impossible by most AI experts. How did the AI bot get so good? It learned by playing against itself 4.9 million times. That took it just three days.[1]

What is the connection to marketing? Self-learning AI will replace the tedious process of A/B testing.
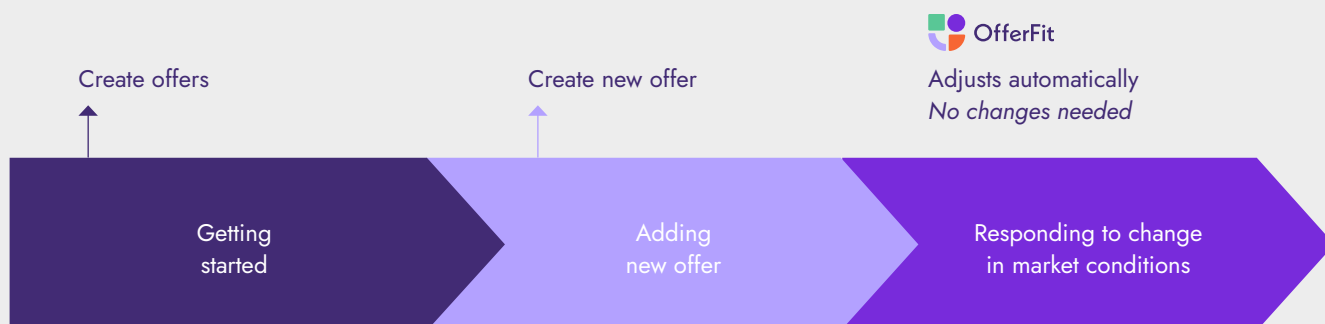
The new products will be "self-driving." Marketers will design offers and author creative (e.g., email templates). Then, the AI bots will automatically experiment, selecting actions to take for each customer and continuously learning from the outcomes.

The result? A drastically easier, better experience for marketers.

But this new generation of products will not just be easier to use — the products will also be more effective in driving revenue and profit. Instead of using one-dimensional segments, the AI bots will use all the relevant information on each customer — in other words, they will deliver true one-toone personalization.

1 Nature, Silver et al, *Mastering the game of Go without human knowledge*

Steps marketers will take to personalize campaigns with self-learning AI

Create offers

Create new offer

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Adjusts automatically
No changes needed

Getting started

Adding new offer

Responding to change in market conditions

What does this mean for marketers?

01   **Self-learning AI tools will start emerging from labs and entering marketers' toolkits.** The technology is ready; now companies are starting to build products that apply it. Leading marketing departments will be the first to adopt these new tools, gaining a head start on the competition.

02   **Many marketers who do not personalize campaigns will start.** Many midsize companies lacked the resources to personalize campaigns. Now, they will have a convenient, affordable way to start.

03   **The marketing departments of large companies will use the new tools to save time.** Large marketing departments will be able to "outsource" experimentation to self-learning AI bots. This will allow them to redeploy team members to other critical marketing needs.

04   **While A/B tests will go extinct, test & learn programs will stick around … in fact, they'll be stronger than ever.** The new AI-driven campaigns will replace A/B testing and allow marketers to take their test & learn programs to the next level with the help of AI-generated insights. The resulting collaboration between marketers and AI models will allow for much more rapid iteration than ever before, yielding much stronger cultures of agile marketing.

This transition is just starting, but it is moving fast. Dozens of companies are already implementing robust AI personalization programs, and by the end of the decade these programs will have become an essential element of any modern marketing operation. This will entail a significant shift in how many companies think about their test & learn programs, but the resulting reward is great: major time savings and significant acceleration in the incremental revenue generated by marketing campaigns.

Want to learn more?
Visit us at **offerfit.ai** or email us at **hello@offerfit.ai**!

About OfferFit

OfferFit accelerates the creation of knowledge. Trial and error has always been the core of human progress. At OfferFit, we automate experimentation using reinforcement learning, a type of self-learning AI, to make knowledge creation faster than ever before.

A/B testing can be effective for lifecycle marketing, but it's slow and doesn't scale. Lifecycle marketers use OfferFit to radically accelerate experimentation. Marketers choose options for multiple dimensions such as messaging, creative, incentive, channel, and timing. Then OfferFit experiments to discover the best-performing recommendations for each customer.

OfferFit's Automated Experimentation Platform lets marketers unlock the value in their first-party data and maximize whichever KPIs are most important to their business.

Accelerated experimentation

1:1 decisioning

Actionable insights

OfferFit

Make the Leap from A/B to AI

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