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THE DEFINITIVE GUIDE TO MULTIVARIATE AND AB TESTING

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CONTENT

INTRODUCTION

Most websites continue to struggle with increasing their online conversion rates.

On average, an e-commerce store converts around 3% of its traffic into customers. The remaining 97% of the visitors leave the website without ever placing an order.

Other types of websites struggle with conversion as well. On average, a lead generation or subscription websites convert around 15% of its traffic into customers. The remaining 85% leave the website without ever placing an order.

If you are looking to increase your website conversion rate, you will have to conduct AB and multivariate testing. The problem is that most testing programs start without any planning and thus fail with the first 6 months.

We know this first hand because we have been helping online companies conduct testing for over 12 years. Our goal from this guide to help you with a good introduction to multivariate and AB testing. We will continue updating the different chapters in the book on regular basis, so if you have comments or feedback, please let's know (@invesp).

CHAPTER 1

WHAT IS A/B TESTING (SPLIT TESTING)?

WRITTEN BY: **KHALID SALEH**

C H A P T E R 1

WHAT IS A/B TESTING (SPLIT TESTING)?

If visitors are not converting on your website, then obviously, there is a problem that is stopping them.

You can go ahead and ask your design team to create new designs, but the question remains: how do you know that the new designs will convert more visitors compared to the original design?

That is where AB testing comes in handy. A/B testing (sometimes referred to as split testing) is the process of testing multiple new designs of a webpage against the original design of that page with the goal of determining which design generates more conversions.

The original design of a page is usually referred to as the control. The new designs of the page are usually referred to as the "variations", "challengers" or "recipes." The process of testing which page design generates more conversions is typically referred to as a "test" or an "experiment."

A "conversion" will vary based on your website and the page you are testing. For an e-commerce website, a conversion could be a visitor placing an order. For a SaaS website, a conversion could be a visitor subscribing to the service. For a lead generation website, a conversion could be a visitor filling out a contact form.

1ST EXAMPLE

The homepage on an e-commerce website receives 100,000 visitors a month. To determine if there is a way to increase conversions, the design team creates one new design for the homepage.

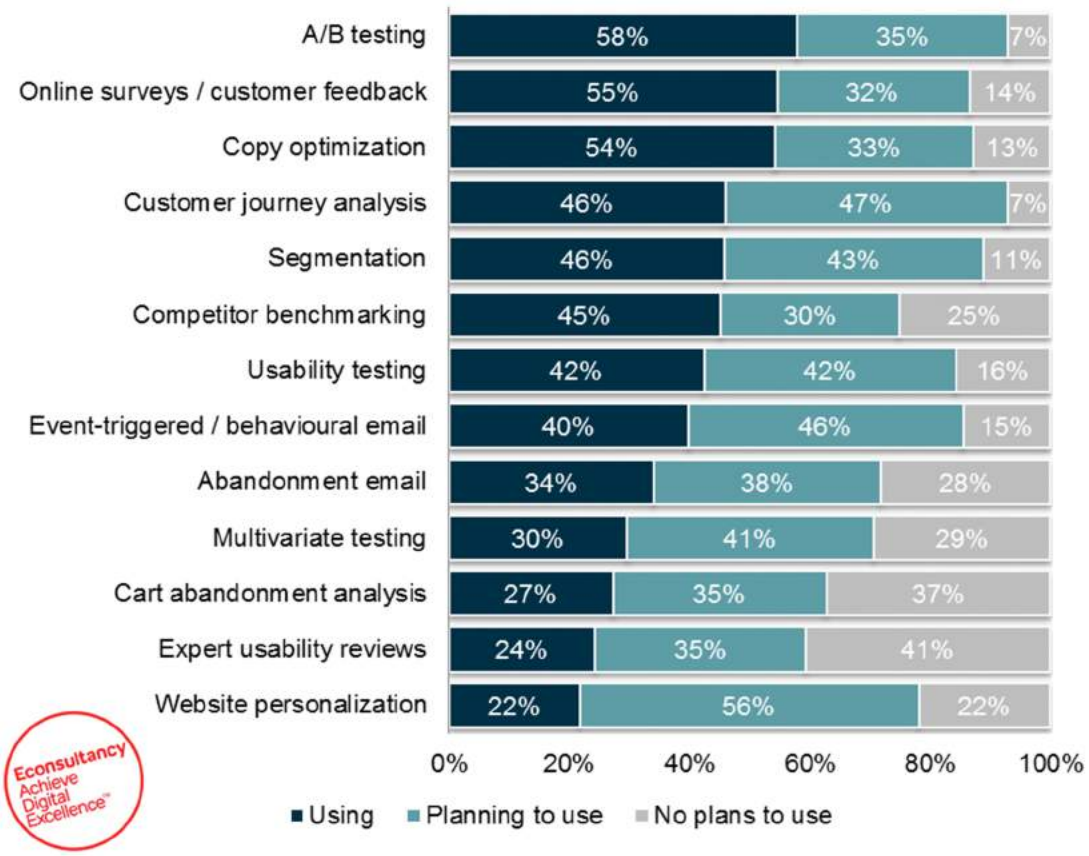
AB testing software is then used to randomly split the homepage visitors between the control and the new challenger. So, 50,000 visitors are directed to the control and 50,000 visitors are directed to the challenger. Since we are testing which design generates more orders (conversions), then we use the AB testing software to track the number of conversions each design generates. The A/B testing software will then determine the winning design based on the number of conversions.

2ND EXAMPLE

The homepage for a blog receives 3,000 visitors a month. The primary conversion goal for the homepage is to get a visitor to subscribe to the email list of the blog. The designer creates a new design for the blog homepage which highlights the subscription box.

The split testing software is used to send 1,500 visitors to the original page design (control), and the testing software sends 1,500 visitors to the new design (challenger). The testing software tracks the number of subscribers (conversions) each design generates.

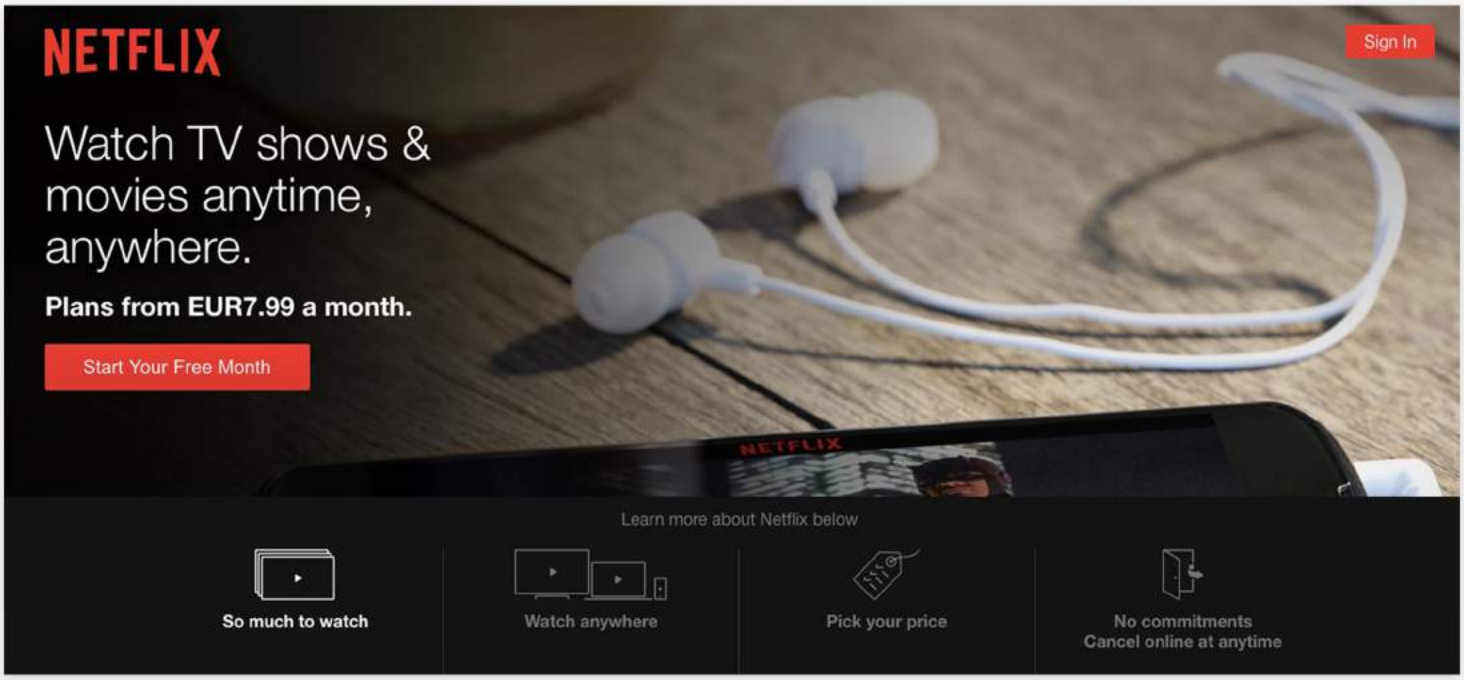
A 2015 survey by E-consultancy showed that 58% of its respondents are conducting A/B testing:



But how successful is AB testing in helping companies increase their conversion rates?

A 2017 survey by Optimizely shows that only 25% of all A/B tests produce significantly positive results. Visual Website Optimizer reports that only 12% of all A/B test produce significantly positive results. Finally, data from Google shows that only 10% of all A/B test produce significantly positive results.

Case Study: What Netflix learned from AB testing?



Background

46% of surveyed Netflix visitors complained that the website does not allow them to view movie titles before signing up for the service. So, Netflix decided to run an A/B test on their registration process to see if a redesigned registration process will help increase subscriptions.

Creating an AB test

The new design displayed movie titles to visitors prior to registration. The Netflix team wanted to find out if the new design with movie titles would generate more registrations compared to the original design without the titles. This was analyzed by running an A/B test between the new designs against the original design.

The test hypothesis was straightforward: Allowing visitors to view available movie titles before registering will increase the number of new signups.

In the split test, the team introduced five different challengers against the original design. The team then ran the test to see the impact. What were the results?

Results of the AB test and analysis

The original design consistently beat all challengers. The real analysis happens after you conclude an A/B test. Why did the original design beat all new designs although 46% of visitors said that seeing what titles Netflix carries will persuade them to sign up for the service?

The team at Netflix gave three different reasons of why the original design beat all the challengers:

1. **Netflix is all about the experience:** the more users interacted with the website, the more they love the experience. So, Netflix is more than just browsing.
2. **Simplify choice:** the original design (the control) showed users one option: sign up for the service. The new designs offered visitors multiple options (multiple movies). This complicated the choice which visitors had to make. More choices resulted in fewer conversions.
3. **Users do not always know what they want:** The Netflix team argued that test results point to the fact that users do not always know what they want.

While these might be valid explanations, especially the second point, we would argue that there is another reason altogether.

Could it be that visitors finally see all the movie options which Netflix offers and they do not find the movie selection convincing, so they decide to walk away? If that is the case, is the problem with the new designs or is it a problem in the movie selection which the site offers?

How does the A/B testing software determine the winning design?

Variation Name	Weight(%)	Page Views	Page Visitors	Conversions	Conversion Rate	Improvement	Confidence	Bounce Rate	Exit Rate	Avg Time on Page	Actions
Original Page	50%	132,352	39,560	280	0.71%	N/A	N/A	54%	72%	4.32 min	
Variation 1 (winner)	50%	131,624	39,681	313	0.79%	11.27%	90.71%	54%	71%	4.25 min	
Variation 2 (disabled)	0%	16,006	5,210	28	0.54%	-23.94%	6.02%	54%	75%	4.23 min	

At its core, AB testing software tracks the number of visitors coming to each design in an experiment and the number of conversions each design generates. Sophisticated A/B testing software tracks much more data for each variation. As an example, FigPii tracks:

Conversions **Visitors** **Bounce rate** **Exit** **Source of traffic**

Page views **Revenue per visit** **Revenue** **Medium of traffic**

The split testing software uses different statistical modes to determine a winner in a test. The two popular methods for determining a winner are Frequentist and Bayesian models.

The split testing software tracks conversion rates for each design. However, declaring a winner in a split test requires more than generating a small increase in conversion rates compared to the control.

The Frequentist model uses two main factors to determine the winning design:

- **The conversion rate for each design:** this number is determined by dividing the number of conversions for a design by the unique visitors for that design.
- **The confidence level for each design:** a statistical term indicating the certainty that your test that will produce the same result if the same experiment is conducted across many separate data sets in different experiments.

Think of confidence level as the probability of having a result. So, if a challenger produces a 20% increase in conversions with a 95% confidence, then you assume that you have an excellent probability of getting the same result when selecting that challenger as your default design. It also indicates that you have a 5% chance that your test results were due to random chance, and a 5% possibility that you found a wrong winner.

The Bayesian model uses two main factors to determine the winning design:

- **The conversion rate for each design:** as defined above.
- **Historical performance:** the success rate of previously ran A/B experiments ran on the webpage.

Leonid Pekelis, Optimizely's first in-house statistician, explains this by saying

> Bayesian statistics take a more bottom-up approach to data analysis. This means that past knowledge of similar experiments is encoded into a statistical device known as a prior, and this prior is combined with current experiment data to make a conclusion on the test at hand.

We typically rely on multiple metrics when determining a winning design for a test. Most of our e-commerce clients use a combination of conversion rates and revenue per visit to determine a final winner in an experiment.

Selecting which metrics will depend on your specific situation. However, it is crucial to choose metrics that have an impact on your bottom line. Optimizing for a lower bounce or exit rates will have little direct and measurable dollar value to most businesses.

The team at Bing was trying to find a way to increase the revenue which the site generates from ads. To do so, they introduced a new design that emphasized how search ads are displayed. The team tested the new design vs. the old design. The split test results showed a 30% increase in revenue per visit.

This, however, was due to a bug in their main search results algorithm in the new design. This bug showed visitors poor search results. And as a result, visitors were frustrated and were clicking on ads.

While the new design generated a higher revenue per visit, this was not a good long-term strategy. The team decided to stick to the old design instead.

Assigning weighted traffic to different variations

Most AB testing software automatically divides visitors equally between different variations.

There are however instances where you need to assign different weights to different variations.

For example, let's take an experiment that has an original design and two challengers in it. The testing team might want to assign 50% of the visitors to the original design and split the remaining 50% between variations one and two.

Should you run AB testing on 100% of your visitors?

Some Conversion optimization experts debate this question at great lengths.

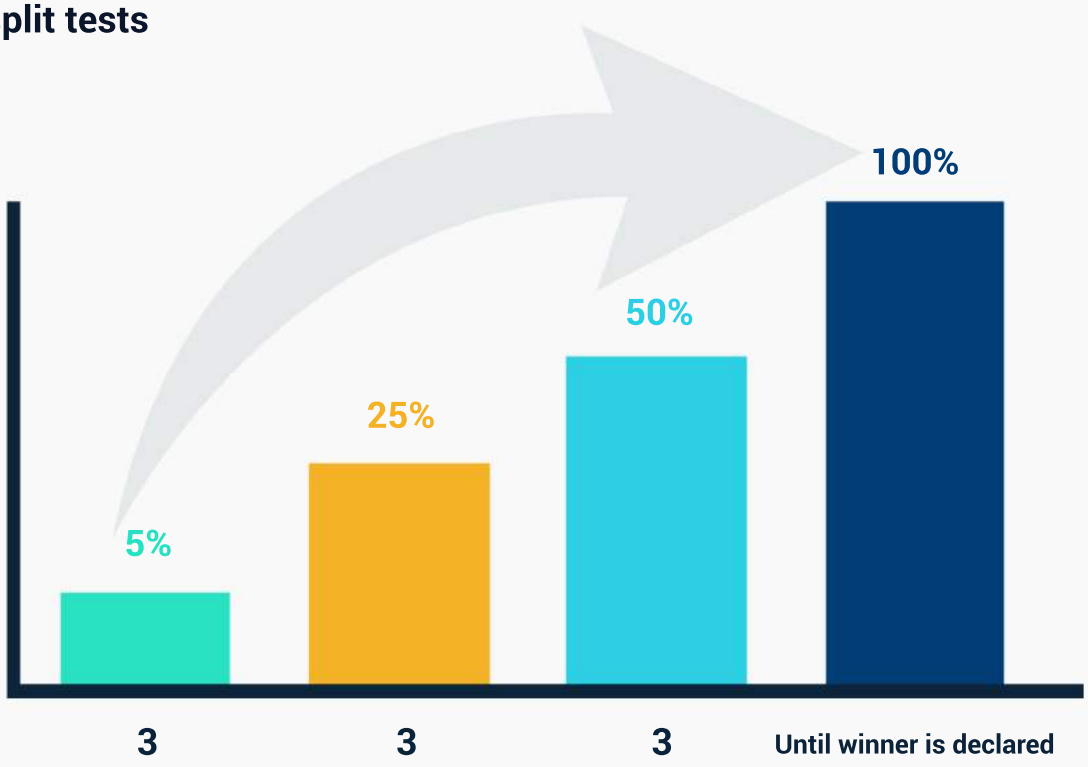
Looking at your analytics, you can typically notice that different visitor segments interact differently with your website. Returning visitors (those who visited site previously) generally are more engaged with the website compared to new visitors.

When launching a new AB test, you will notice that in many instances:

- New visitors react in a better way with your experiment challengers.
- Returning visitors, who are used to your current design, react negatively to your new designs.
  The fact that new visitors convert at higher rates with new designs compared to returning visitors is attributed to the theory of momentum behavior.

If you your website gets a large number of visitors, we recommend that you launch new tests for only new visitors and observing how they react to it. After that, you can start the test for returning visitors and compare their reactions to the new designs introduced in the experiment.

Holdback split tests



We typically recommend running holdback split tests for larger websites that receive thousands of conversions per month. In these types of tests, you launch the tests to a small percentage of your site visitors. For example, you start with launching the test to 10% of your visitors. If the results are encouraging, then you expand the test to 25%, 50%, and 100% of your website visitors.

There are several advantages to running hold back A/B tests:

- **Discover any testing bugs:** As you launch an AB test, your designs might have bugs in them. By running the test on a small percentage of your visitors, only that tiny segment of the visitors will see the errors in the new designs. That will give you the opportunity to fix these bugs before rolling out the test to 100% of your visitors.

- **Reduce revenue risk:** by running the test on a small percentage of visitors, you reduce the risk of having one of yours test variation causing a significant drop in revenue.

If you choose to run hold back A/B tests, make sure that you start a new test each time you change the traffic allocation going through the experiment to avoid any statistical problems with results.

How many variations should you include in a test?

There is a lot of math that goes into determining how many variations should be included in an A/B test. The following are general guidelines you can apply, however, more details will be covered in a later section:

Calculate the monthly number of conversions generated by the particular page you plan to test:

- on the conservative side, divide the total monthly conversions generated by the page by 500 and subtract one
- on the aggressive side, divide the total monthly conversions generated by the page by 200 and subtract one

If you have less than 200 conversions a month, your website is not ready for A/B testing. Focus on driving more visitors to your website.

Your website generates 1,000 conversions per month:

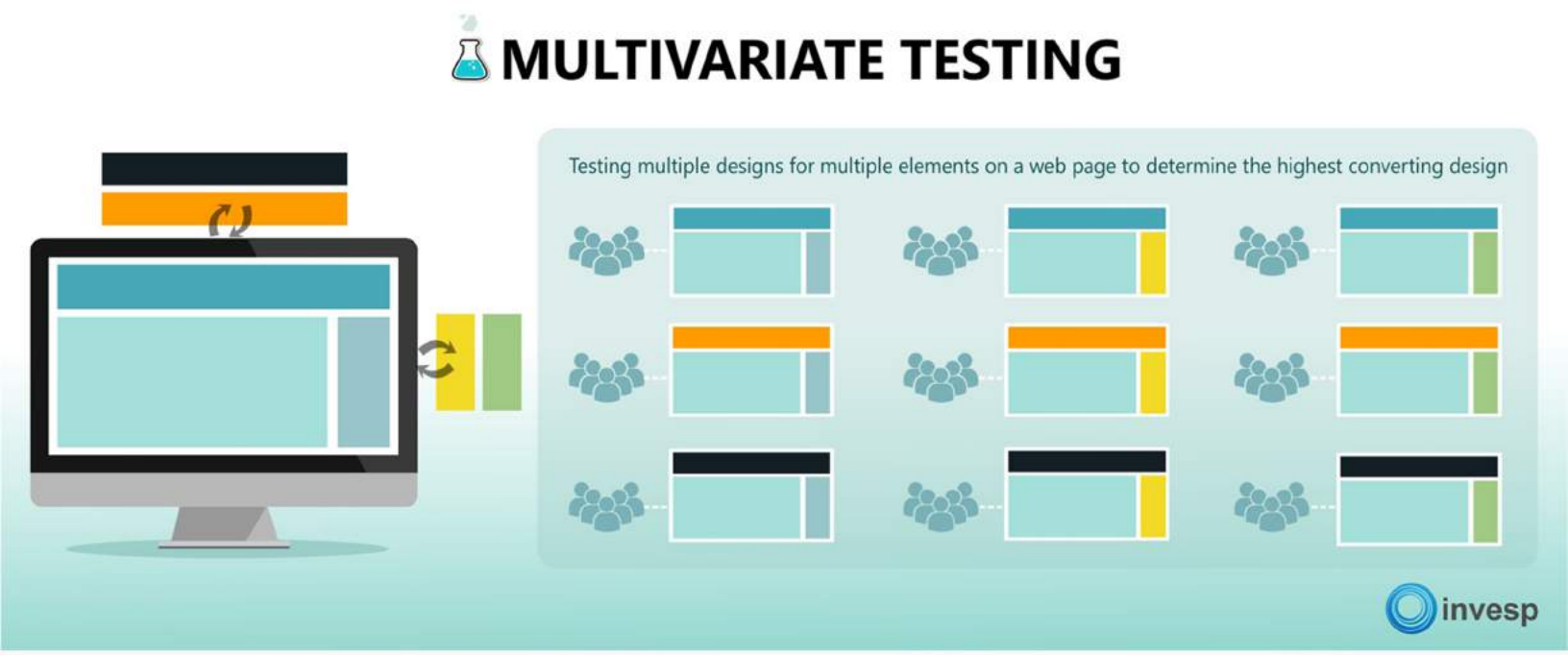
- On the conservative side, an A/B test can include one challenger against the original (1000/ 500 – 1)
- On the aggressive side, an A/B test can include four challengers against the original (1000/ 200 – 1)

Again, this is a simplification of the calculation, but it will give you a good starting point.

CHAPTER 2

WHAT IS MULTIVARIATE TESTING?

WRITTEN BY: **KHALID SALEH**



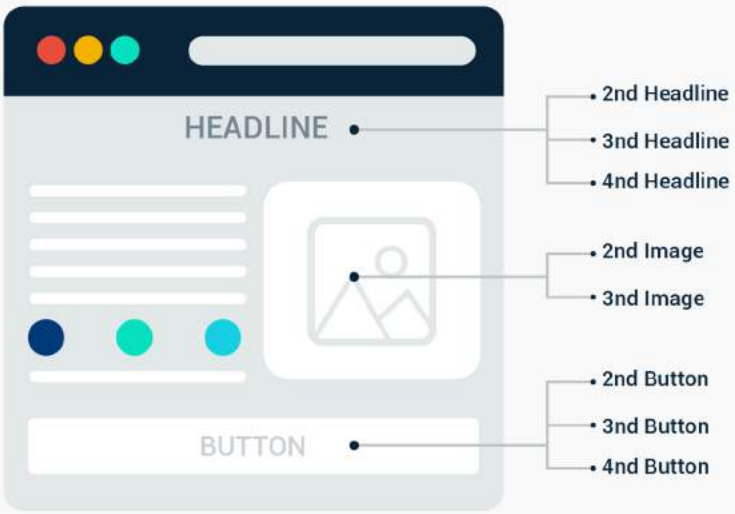
C H A P T E R 2

WHAT IS MULTIVARIATE TESTING?

Editor note:
Please note that we use button colors, fonts, headlines as a way to clarify the concept of testing. Succesful AB and multivariate tests will include more sophisticated changes to your page.

Multivariate Testing or MVT testing is the process of testing multiple variations of multiple elements on a webpage with the goal of determining the best combination of different elements on the page to increase conversions.

By using MVT testing software, you can test different variations of any element on your page (headlines, images, buttons, etc.) to measure their impact on your conversion rates. The following image displays an example of how MVT testing software works.

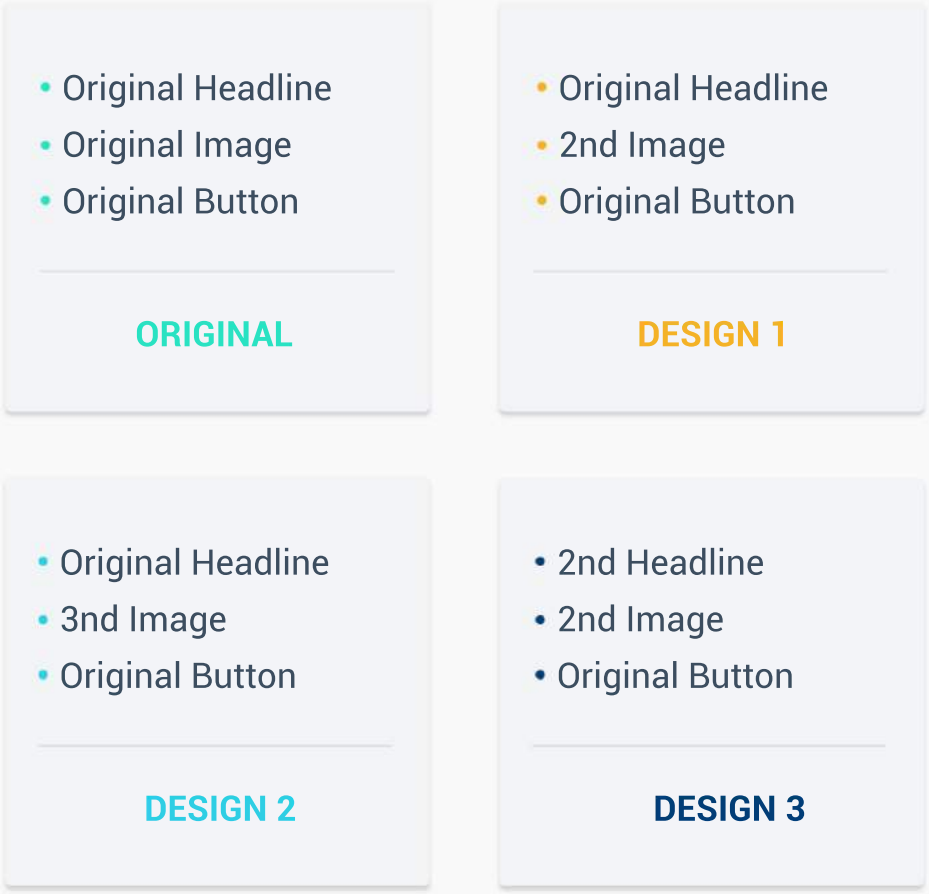


In this example, the software tests different variations of the page headline, image, and the "call to action" button:

- The original headline is tested against three other possible headlines, for a total of four possible headlines on the page
- The original image is tested against two other possible photos, for a total of three possible pictures on the page
- Three different buttons are tested against the original button on the page, for a total of four possible buttons on the page

As a visitor arrives at a page, the software picks one of the four headlines, one of the three images, and one of the four buttons to display.

Your team does not have to create all of the 48 designs; the software will swap the different variations and create the designs automatically and create all 48 possible variations. The following image shows four of the 48 possible designs the testing software can generate.



The total number of testing variations (also called challengers) depends on the number of elements you will test on a page (headline, image, buttons, etc.) and the number of variations you will be testing for each of these elements.

You can calculate the total number of challengers in a multivariate test multiplying the number of different variations of each of the elements.

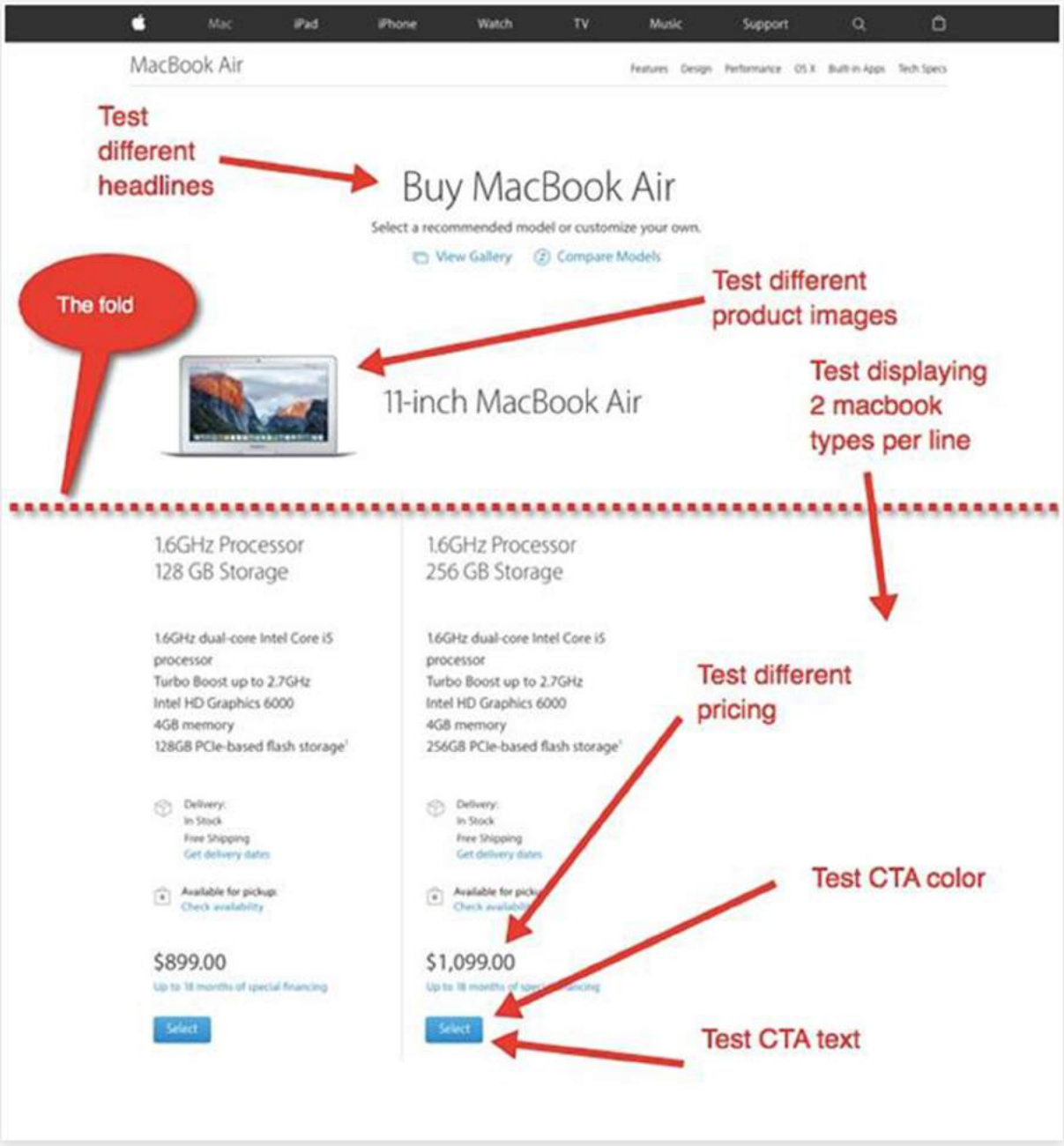
For a webpage in which we will be testing (N) number of elements, we calculate:

Total number of page variations = Number of variations of 1st element x Number of variations of the 2nd element x Number of variations of the 3rd element x ...x Number of variations of the Nth element

The number of page variations can grow very fast. Some testing software allows you to tens of thousands (sometimes millions) of variations of a single page.

MVT Test Examples

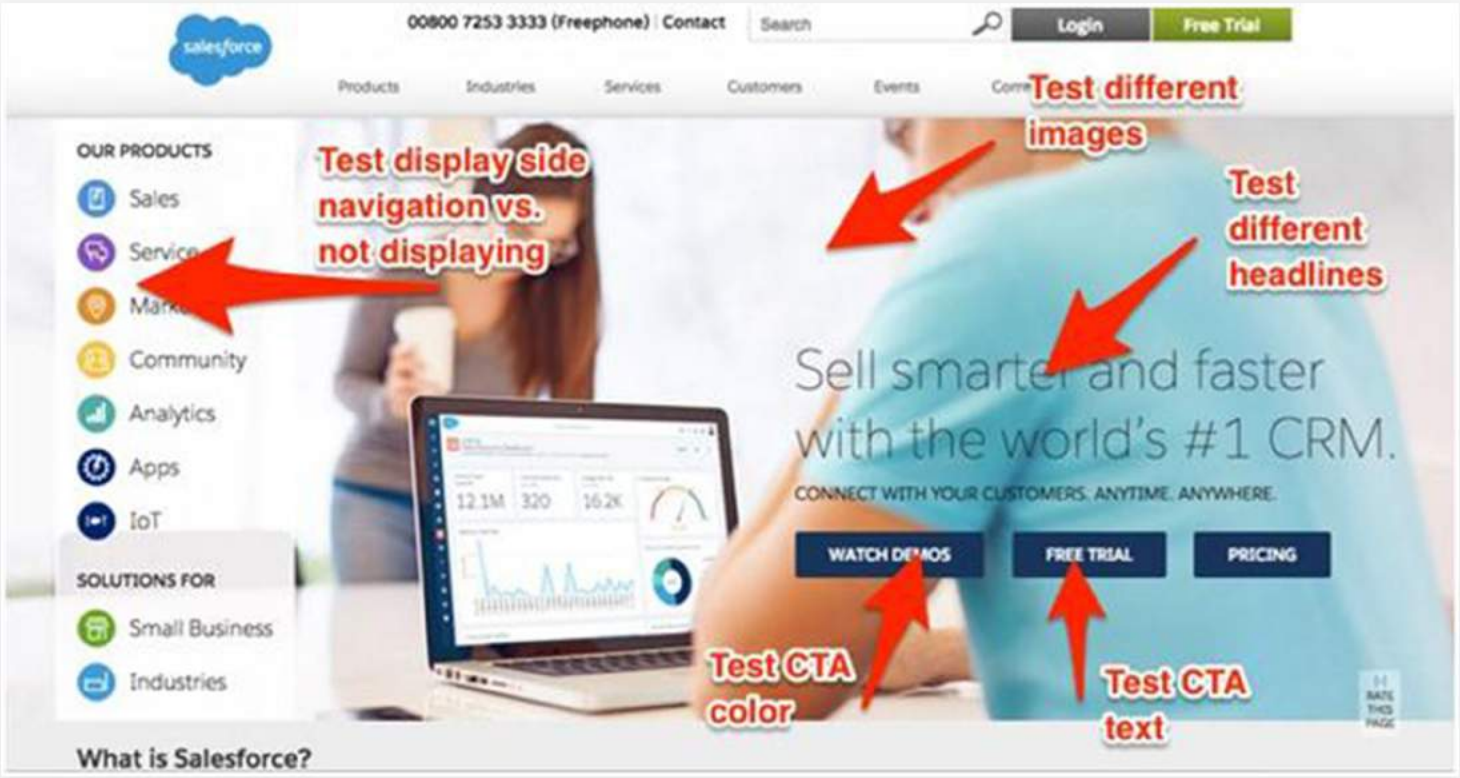
Let's take the product page from apple.com as an example:



On this page, you can test:

- **different variations of the headline**
- **displaying two MacBook models per line** *(currently, each model takes a line)*
- **different product images**
- **different pricing**
- **CTA colors**
- **CTA text**

Let's take an example from salesforce.com:



On this page, you can test:

- different variations of the headline
- displaying the side navigation or not showing it
- different hero images
- CTA colors
- CTA text

How do to create a successful multivariate test?

Multivariate testing software allows marketers to create and start simple tests in a few hours. But that is the easy part! Many companies ultimately fail when designing successful test scenarios, assessing results, and creating meaningful follow-up tests.

Poorly designed experiments can take years to conclude. Even worse, they might not provide accurate insights into what elements convert more visitors into customers.

Imagine a case where you plan to test different headlines on a page. You start by coming up with ten different possible variations to the headlines. Which of these ten possible headlines should you test against your original headline? Why not test all of them? Why not test variations of images, buttons, and layouts?

You will most likely find yourself relying on guesswork to determine which versions to include in the test. The same logic, of course, applies to all elements you want to test on a page.

Without being judicious with test scenarios, you might end up attempting to test millions of combinations.

Testing is an essential component of any conversion optimization project. However, it should not be the only component. Testing should only take place after the conclusion of other equally critical optimization stages, such as persona development, voice of customer research (including polls and surveys), heuristic evaluation, usability testing, site analysis, and design and copy creation. Each of these elements provides a building block towards a highly optimized website that converts visitors into customers.

To create a successful test, you must go through the following steps:

- Evaluate the page, looking for possible problems in it
- Prioritize the issues identified on the page in terms of their impact on your conversion rate
- Create a hypothesis of how to fix some of the top issues on the page and the effect your fix will have on your conversion rate
- Assert the validity of your hypothesis through multivariate or AB testing
- Analyze the results of the test to determine the correctness of the test hypothesis
- Create a new test based on the test result.

The results from running multivariate testing

While MVT testing is powerful in helping online business increase conversions rates, the results you will achieve from running a single test may vary.

You can choose different approaches to design and create your multivariate test:

1 **ELEMENT LEVEL TESTING:** In this type of testing, you test different variations of an element on the page. For example, you test different headline variations or several images. The goal of an "element level test" is to measure the impact of that element on your conversion rate.
Element level testing is considered the easiest type of testing. It requires the least amount of effort. And in most cases, element level testing has minimum impact on your website conversion rates.

2 **PAGE LEVEL TESTING:** in this type of testing, you test multiple page elements at the same time. As an example, you can test different page layouts, and/or a different combination of elements and so on. Page level testing requires more effort from the development team to implement and it generates a higher impact on your conversion rates compared to element level testing. Carefully designed page-level testing can produce anywhere from 10% to 20% increase in conversion rates.

3 **VISITOR FLOW TESTING:** in this type of testing, you test several navigation paths for visitors within your website. As an example, an e-commerce website might test single step vs. multi-step checkout. Another example is to test different ways visitors can navigate from category pages to product pages.
Visitor flow testing can get complicated quickly. It typically requires a higher level of effort from your development team to implement. Done correctly, this type of testing will have a higher impact on your conversion rates compared to page level testing.

The dangers of multivariate testing

If you are not careful with planning your multivariate tests, you will end up with weak quality tests that take too long to implement and produce neither results nor insights.

You must always remember that testing (AB or multivariate) is only one component of a conversion rate optimization work.

We have seen many companies that entirely relied on testing software without doing an in-depth analysis of what they were testing. Our 2007 article on the case against multivariate testing points out this example:

> **Let's do some simple math.**
>
> Say you want to test six different elements on a page (headers, benefits list, hero shots, call to action, etc).
>
> For each element, you will choose four different options. This means you will have a total of 4^6 = 4,096 possible scenarios that you will have to test.
>
> As a general rule of thumb [being more aggressive], you will need around 200 conversions per scenario to ensure the data you are collecting is statistically significant. This translates into 4,096 * 200= 819,200 conversions.
>
> If your website converts around 1%, you will need 819,200 * 100=81,920,000 visitors before you start gaining some confidence in your test results.
>
> If testing 4,096 variations sound difficult, imagine how complicated matters will get by adding variation in campaigns, offers, products, and keywords. Yes, running that many test variatins is not unheard of for many larger websites.

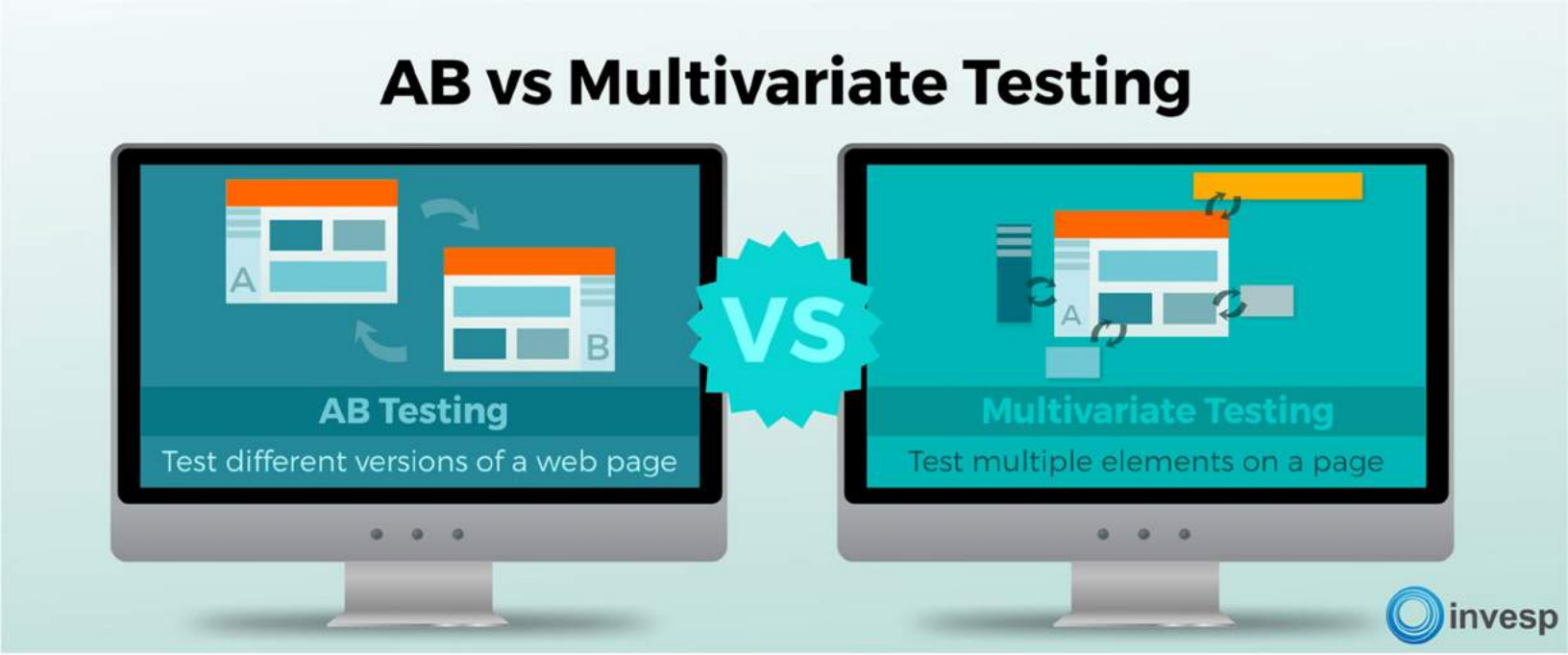
When creating an MVT test, keep these possible problems in mind:

- Be aware of creating the test without paying close attention to the hypothesis behind it
- Be mindful of the number of variables you are testing and their dependency on one another
- Be aware of the length of time it will take to complete the test to a statistical significance

CHAPTER 3

THE DIFFERENCE BETWEEN A/B TESTING AND MULTIVARIATE TESTING

WRITTEN BY: **KHALID SALEH**



CHAPTER 3

THE DIFFERENCE BETWEEN A/B TESTING AND MULTIVARIATE TESTING

Both A/B testing and multivariate testing share the same concept: splitting visitors between several designs of your website or webpage to determine which of these designs generates more conversions.

So, which of these two methods is best suited to help you increase your website conversion rate?

AB Testing

AB Testing (or Split testing) allows you to test one or more variations for each page on your website against each other.

Let's take few examples:

- On an e-commerce website, you can create a new design of your product page to test whether the product image should be placed on the left or the right side of the page.
- On a lead generation website, you can use A/B testing to create multiple designs of a landing page where each design uses different headlines or different images.
- On a blog subscription page, you can test different designs displaying assorted colors and text on the subscribe button.

Editor note:
Please note that we use button colors, fonts, headlines as a way to clarify the concept of testing. Succesful AB and multivariate tests should include more sophisticated changes to your page.

There are two general approaches to creating AB tests:

1. Testing new, radical designs of an entire page or process. As an example, testing three entirely different and distinct designs of a homepage

2. Testing small changes on a page: each design makes a slight shift in the same element. For example, each variation will test different hero images and so on

In our experience, we recommend using AB testing to measure the performance of two to five new designs compared to the original design. We typically do not run more than seven designs against an original page. It is also important to remember that the more designs you introduce in a split test:

The test will require more time to reach statistical significance (conclude)
Your results are more likely to suffer from statistical errors

In an ideal world, each challenger to the control will include one change. However, this approach does not work in reality. Doing so will require both a long time and a significant budget. Testing more radical changes in each variation is a better approach. At the same time, it is important to remember that:

- A single and coherent hypothesis drives every change you make on a page. The hypothesis can drive several changes to several elements on a page

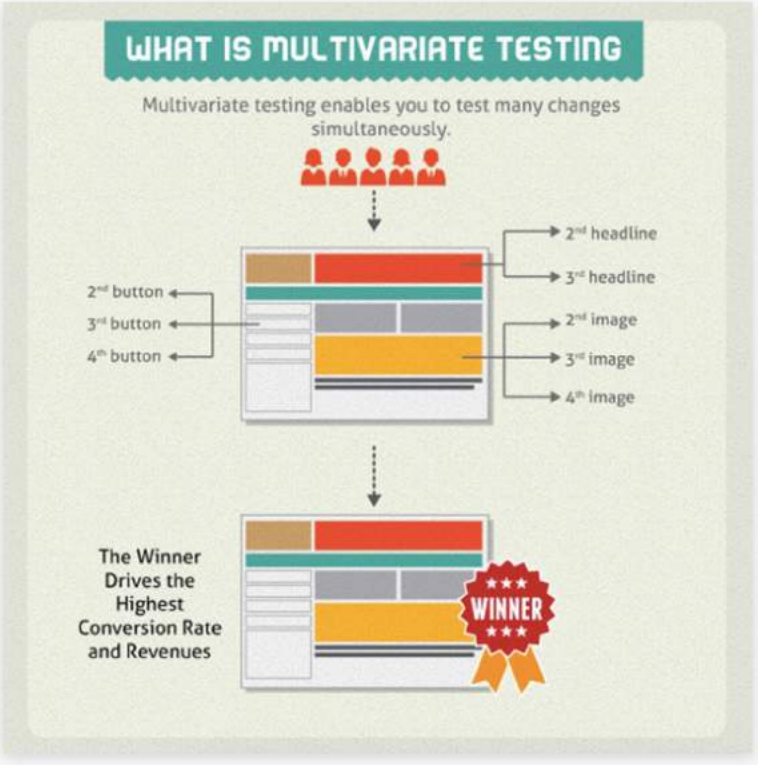
- Radical change to a page does NOT mean that you are randomly changing elements on the page. You should always tie any change to your test hypothesis

Multivariate testing allows you to test several variations of multiple elements on a webpage all at once.

For example, you can test multiple options of the product name on an e-commerce product page, along with various alternatives of the product image and different types and colors of add-to-cart buttons.

You can also use multivariate testing to evaluate various headlines and several designs of the CTA on a lead generation landing page.

MVT testing allows you to zoom in and focus on the changes you are making at an element level.



While multivariate testing is great in theory to analyze element level impact on conversion rates, it has three drawbacks:

- It requires significant levels of traffic or conversions to conclude a test
- If you are not careful when designing your multivariate test, you can end up testing thousands of designs against the original
- A single multivariate test includes several simultaneous changes to multiple elements; thus it is hard to isolate the exact reason a particular design performs a certain way. It is also difficult to assess the impact of elements interaction on your original design

MVT testing is very powerful. However, you must be careful when using it to optimize your conversion rates. Most companies forget about the large volume of visitors and conversions required to conclude a test. As a result, they find themselves running tests for several weeks without bringing them to a conclusion.

Additionally, since testing software allows them to do so, many companies tend to alternate elements randomly without thinking about the rationale behind the change. This mistake alone is enough to reduce the impact (or even kill) the benefits of any testing program.

Multivariate test vs. an A/B test: what type of test should you use?

Should you start with an A/B or multivariate test for a particular page?

There is no correct answer to this question. A/B tests are useful for testing alternate designs of an entire page or a process. We usually recommend using them while deciding high-level or radical changes to the optimized page (or area). MVT testing, on the other hand, allows for fine-grained testing on a particular page. They are helpful in determining the most impactful elements on visitors.

We highly recommend using AB testing in the following scenarios:

We highly recommend using AB testing in the following scenarios:	**We highly recommend using multivariate testing in the following scenarios:**
• If you are starting out with the testing process • If you have limited number of website visitors • If you have limited number of conversions • If you are looking for a radical departure from your existing designs	• If you have been conducting AB tests for at least 8-12 months • If you have a large number of monthly visitors • If you have a large number of monthly conversions (more than 10,000 conversions per month) • If you are looking to fine-tune existing designs

For most companies, we recommend starting with an A/B experiment to assess significant design changes to the website.

However, if you already have an existing page, you can start with a small multivariate test (less than 12 or so different scenarios). The goal of this initial test is to determine which of the elements (headline, image, benefit list, etc.) resonates most with visitors. Analysis of the first test results will help guide the need for further MVT or A/B tests.

Five steps when testing your website

1. Determine which of your website pages are good candidates for optimization by finding which of your pages are leaking the most visitors. Calculate the potential revenue impact you can gain from fixing the leak.

2. Check the number of visitors to your webpage. The number of visitors who will go through the actual web page or process impacts your testing velocity. Although your site may have 500,000 visitors a month, a particular page that you want to test may receive fewer visitors in a single month

3. Do not run your tests for less than two weeks nor longer than four weeks

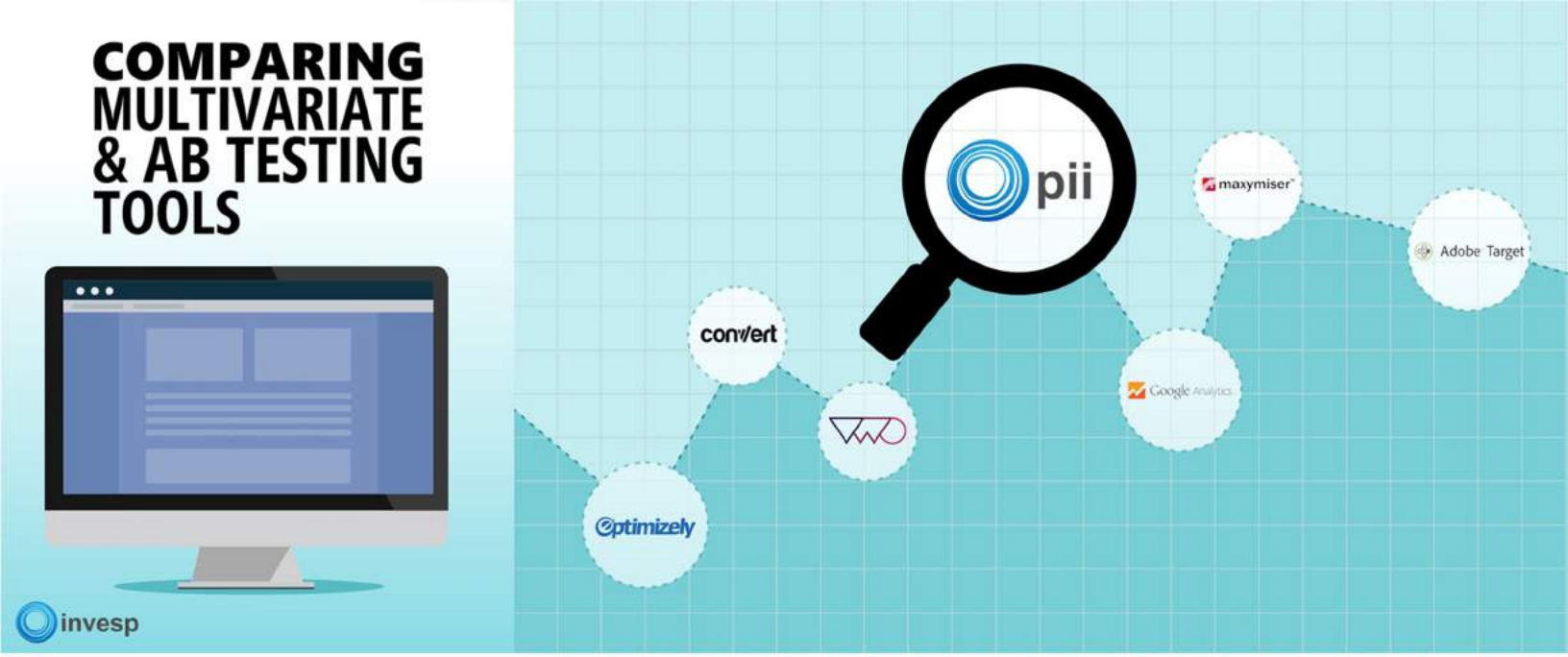
4. Pick the right conversion goal. Not every test should have the goal of increasing the macro conversions. Many successful tests help in increasing micro-conversion rates. This is particularly important if your website or landing page does not receive enough conversions. Starting out with micro conversion tests allows you to conduct experiments on a smaller scale.

5. Examine what elements you should test. Not all elements on a page will have the same impact on your conversion rate. Determine which elements will have the most impact on your bottom line based on the voice of customer data, persona development, and analytics analysis.

CHAPTER 4

COMPARING MULTIVARIATE & AB TESTING TOOLS (UPDATED FOR 2018)

WRITTEN BY: **KHALID SALEH**



CHAPTER 4

COMPARING MULTIVARIATE & AB TESTING TOOLS (UPDATED FOR 2018)

It is time now to select an AB or multivariate testing platform to start running your tests. There are over thirty different tools available in the marketplace for you to choose from. So, you might ask:

- What is the right split testing tool for my website?
- Will I affect the success of my conversion optimization program by choosing one particular tool?

The market is full of testing tools that range from simple free tools to sophisticated enterprise split testing software. This article will walk you through the pros and cons of different split testing tools available.

We will also suggest criteria to help you select the software that best fits your needs, considering ease of use, the agility of results, cost of running, testing support, operational issues, and testing analytics.

The different types of AB or multivariate testing tools available

2018 data from datanyze shows the following top AB testing tools:

We classify A/B testing tools based on different criteria:

- Based on tool price
- Based on how the split tests are implemented on a website
- Based on the scale of software (enterprise vs. smaller scale software)

Before we discuss different ways to classify different split testing software, let's start with a brief discussion on in-house AB testing tools.

In-house AB testing tools

Few companies build their in-house testing tools to conduct AB or multivariate testing. There are two main reasons for using an in-house AB testing tool:

- legacy built testing tools;
- the complexity of website architecture

There is one more reason to consider for developing an internal testing tool. Many AB tests that generate significant results require considerable technical implementation. And while A/B testing tools are great in randomly splitting website visitors between the different variations, they are not that great in doing a post-test analysis to determine which visitor segments react positively to a particular design within the test. This is another reason that some large e-commerce and SaaS companies opted to build their own testing tools that integrate directly with their platform.

In-house testing tools account for less than 2% of the overall market. We expect this segment to remain at the same level.

Classifying A/B testing tools based on price

Split testing tools vary in price from the free of charge to tools that can cost tens of thousands of dollars.

1

TOOLS PRICED BASED ON SITE METRICS

These tools are priced based specific website metric. Different tools use different metrics to set the price including:

1. The number of tested visitors in a time period (typically a month)
2. Number of the website monthly visitors
3. Number of monthly page views
4. The number of calls to the testing tool.

These tools will vary in price and range anywhere from $50/month to tens of thousands of dollars.

2

FREE AB TESTING TOOLS

These tools provide the customer the ability to conduct split testing free of charge, but they offer limited sets of features, including a smaller set of segmentation, targeting and reporting functions. The leading player in this space is Google Optimize which continues to add more features on a regular basis.

Classifying AB testing tools based on testing technology (client side vs. server side)

There are two different types of ways testing tools are used on a website:

1

CLIENT-SIDE TESTING TOOLS

In these tools, the testing scripts are executed by the browser of the website visitor. When a visitor comes to a webpage, the testing software javascript is executed, and the particulars of the test are loaded on the page.

Client-side testing tools typically come with a point and click visual editor that allows users to manipulate a web page.

In theory, these tools require limited involvement from the user's technical team. Creating new designs in these tools is much faster compared to their counterparts.

Client-side testing tools are great for creating new designs for one page, but they are less suited to conduct more complex testing such as visitor flow tests. The cornerstone "visual editor" of these platforms breaks when modifying websites that rely heavily on javascript or dynamic content.

These tools come with a low-cost monthly subscription, starting at $50 per month. The subscription cost will vary based on the number of visitors a website receives in a month.

Amongst client-side testing tools, you can find:

- **Optimizely**
- **Visual Website Optimizer**
- **Convert**
- **Omni convert**

2

SERVER-SIDE TESTING TOOL

In these tools, the testing script runs on the testing platform as opposed to the visitors' browser. The visitor's browser gets the final version to be displayed.

There are several ways testing is implemented using server-side tools. Adobe test and targe, for example, relies on the marking made by users on specific areas of the tested webpage. Variations of the marked areas are then created in the testing software by the optimization or development team. Each new test will require involvement from the development team.

Server-side testing tools frequently involve custom configuration to retrieve meaningful visitor tracking data. They also require organizations to have a full-time dedicated resource(s) to manage the software and to analyze the results.

While many of these tools do not come with an easy to use "visual editor" to make quick changes on a webpage, they do provide detailed reporting and targeting features.

Monthly plans for these tools start around $1,000 and vary based on the number of page views a customer uses in a month. In addition to the software cost, we estimate a $100,000 annual in-house cost of running tests on enterprise testing packages.

Server-side testing platforms are useful in conducting sophisticated testing such as multi-page testing, mobile application testing or visitor flow testing. However, they are an overkill when doing quick A/B testing for a webpage design due to the substantial cost associated with the deployment of each test. The leading player in this field is Adobe Test and Target.

Selecting the right testing tool for your website

With many tools available, the following criteria can help you choose the best split testing software to meet your requirements.

1

EASE OF USE: HOW FAST CAN YOU DEPLOY A TEST?

We evaluate the ability of a testing tool to deploy tests quickly as a way of measuring its ease of use.

When you are conducting a conversion optimization program, your goal is to implement tests efficiently and not to have technology as a barrier to your efforts of increasing conversion rates.

Testing tools vary tremendously when it comes to ease of use. Some of the more sophisticated tools require complicated test setup, which can take days. Client-side testing tools outperform any of their counterparts in this area.

2 WHAT IS THE COST OF RUNNING THE AB TESTING SOFTWARE?

The cost of running testing software varies from zero (Google Optimize) to thousands of dollars per month.

In addition to the cost of running the software itself, there might be additional required investments. Some split testing software is too complicated and will require having full-time staff to manage in addition to involvement from your development team. That, of course, will increase the cost of running your testing program.

TOOL	INITIAL SETUP COST	MONTHLY COST
Google Optimize	Free	Free
Optimizely	Not published	Not published
VWO	Free up to 5,000 page views	Starts at $49/month.
Convert	Free 15 days trial up to 10,000 monthly views	Starts from $125/month

3 TESTING SUPPORT

Sooner or later you will need some help from the testing software company. Many smaller companies ignore this one area when they are doing the initial assessment of the testing packages. We highly recommend evaluating the different alternatives available.

4 OPERATIONAL ISSUES (SCALE, PERFORMANCE, AND HIGH AVAILABILITY)

How long does it take the testing software to load up a particular design? Does the testing software use CDN (content delivery network) to deliver designs to visitors who live in different parts of the world?

We highly recommend evaluating the response time for each of the different software packages. Avoid any testing package that takes longer than 500 milliseconds to deliver a design.

5 TESTING ANALYTICS

In addition to reporting the conversion rate for each variation, some split testing platforms will also report the following metrics for each of the variations:

- **Revenue per visit**
- **Bounce rate**
- **Exit rate**
- **Visitor type (new vs. repeat)**
- **Traffic source**
- **Traffic medium**

This data is essential to understand the impact of the new designs on all aspects of the visitor experience on your website. We recommend evaluating what metrics the testing software reports in a test as that can impact your final analysis.

6 WHAT MULTIVARIATE APPROACH DOES THE SOFTWARE USE?

This point is particular in evaluating multivariate testing software. When launching a multivariate test, the software will display the original and new variations to different visitors to determine the winning design. To select the winning design, the software will use either full factorial or fractional factorial testing:

Full Factorial Testing

The testing software will test all of the different combinations of elements and their alternatives. So, if a test has four elements and each element has three different combinations in it, the testing software will test all possible 3^4= 81 designs.

Fractional Factorial testing (Taguchi method)

The testing software will select a subset of all possible combinations of the different elements and their alternatives. So, in our example above, the testing software will fully test a smaller set (less than 30) to determine the winner. Fractional factorial testing allows tests to run faster since they do not fully test all possible combinations. Critics of this method point out that it is less accurate compared to full factorial testing.

The debate between full factorial vs. fractional factorial has been going on for years.

Most MVT testing software uses full factorial in determining the winner of an experiment or a mix between the two different methods. While this might be a sticking point for some conversion experts, for 90% of online businesses, it is not a critical point in selecting which software to use.

CHAPTER 5

THE PROCESS OF CREATING A SUCCESSFUL A/B TEST

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THE PROCESS OF CREATING A SUCCESSFUL A/B TEST

You need people who can design proper test scenarios, analyze results accurately, and create meaningful follow-up experiments.

Poorly designed experiments might not provide concrete insights into why visitors behave a particular way on your website. You need criteria to determine, for example, which elements on a page you should test, which external and internal factors could affect the results, and in which ways to create the designs for new phases of your testing program.

As much as testing is essential to any conversion optimization project, it should only be conducted after the completion of equally essential stages of optimization work such as persona development, site analysis, design and copy creation. Each of these elements provides a building block towards a highly optimized website that converts visitors into clients.

Find below four steps to follow in creating a successful split test. Please refer to this article to get a more detailed guide on how we come up and conduct our conversion optimization projects.

Problem identification

Before thinking about elements on the page to test, start by analyzing different problem areas on your website.

How do you do that? Several conversion optimization methodologies can help you. Invesp uses the Conversion Framework for page analysis.

The Conversion Framework analyzes seven different areas on the page:

- **Personas development**
- **FUDs**
- **Engagement**
- **Sales complexity**
- **Trust and confidence**
- **Incentives**
- **Buying stage**

Elements of these seven areas affect whether visitors stay on your website or leave. You must keep in mind that different elements have diverse impacts based on the type of page you are evaluating.

Using the Conversion Framework, a conversion optimization expert can easily pinpoint 50 to 150 problems on a webpage.

We do NOT believe you should attempt to fix all of these at once. Prioritize and focus on the top three to seven problems to get started.

Test hypothesis

A hypothesis is a predictive statement about the impact of removing or fixing one of the problems identified on a webpage.

The image below shows the original design of a shopping cart for one of our clients which sells nursing uniforms. When our team examined the analytics data for the client, we noticed the high checkout abandonment rates:

Abandonment rates for un-optimized checkout usually range from 65% to 75%.

This client reported checkout abandonment rates close to 82%. Nothing in the checkout page explained this high rate.

Our team, then, conducted a usability test. Nurses were invited to place an order on the site while the optimization team observed and conducted exit interviews to gather information from participants. The nurses revealed that the biggest problem was the fear of paying too much for a product. As nurses are price conscious, they are aware that they can buy the same item from other competing website or brick and mortar stores.

Our client was aware of the price sensitivity issue, and that price played a significant role in deciding where visitors purchased a uniform or not. The client's website already offered money-back guarantees and 100% price match. The problem is that these assurances were only displayed on the main homepage of the site, while most of the visitors landed on category and product pages. Visitors did not know about these assurances.

The hypothesis for this particular test: usability study revealed that visitors are sensitive to price, thus adding assurances can reduce the visitor price concerns and will reduce the cart abandonment by 20%.

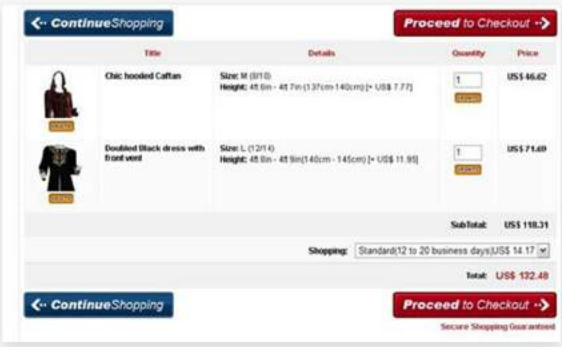
The image below shows the new design of the shopping cart.

The team added an "assurance center" on the left-hand navigation of the cart page reminding visitors of the 100% price match, and the money back guarantee.

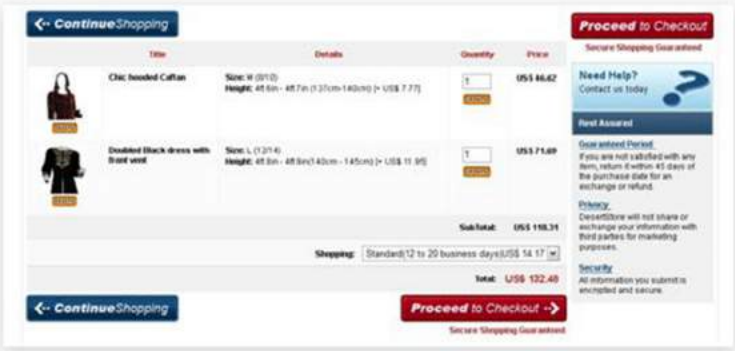
The new version of the page resulted in a 30% reduction in shopping cart abandonment.

A hypothesis that works for one website may not succeed or, even worse, deliver negative results, for another site.

After the results of the previous client's test were published in the Internet Retailer magazine, another client approached us to test an assurance center on their site. This client was also looking for a way to reduce their cart abandonment rate.



The original design of the cart page



The new design of the cart page with the assurance center added to the left navigation

This test had the same hypothesis as the last one, that most online visitors did not convert on the site due to the price FUD and that adding assurances on the cart page would ease the shoppers' concerns.

When we tested the new version with the assurance center against the control, the results pointed out to an entirely different outcome. The new assurance center caused the website conversion rate to drop by 4%. So, while the assurance helped one client, it produced a negative impact with another.

Can we say with absolute certainty that adding an assurance center for the second client would always produce negative results? No.

Several elements could have influenced this particular design and caused the drop in conversion rates. The assurance center design, copy or location could have been the real reason for the drop in conversions.

Validating the hypothesis through testing and creating a follow-up hypothesis is at the heart of conversion optimization. In this case, we needed to test many different elements around the assurance center before we can decide its impact on conversions.

Tests that produce increases in conversion rates are excellent in validating initial assumptions about visitors and our hypothesis.

We do not mind tests that result in reducing conversion rates because we can learn something about our hypothesis from these tests.

We do worry about tests that do not produce any increases or decreases in conversion rates.

Create variation based on test hypothesis

Once you have the hypothesis, the next step is to start creating new page designs that will validate it.

You must be careful when you are creating new designs. Do not go overboard with creating new variations. Most split testing software allows you to create thousands if not millions of variations for a single page. You must keep in mind that validating each new variation requires a certain number of conversions.

For high converting websites, we like to limit page variations to less than seven. For smaller sites, we limit page variations to two or three new variations.

Let visitors be the judge: test the new designs

How do you judge the quality of the new designs you introduced to test your hypothesis? You let your visitors be the judge through AB or multivariate testing.

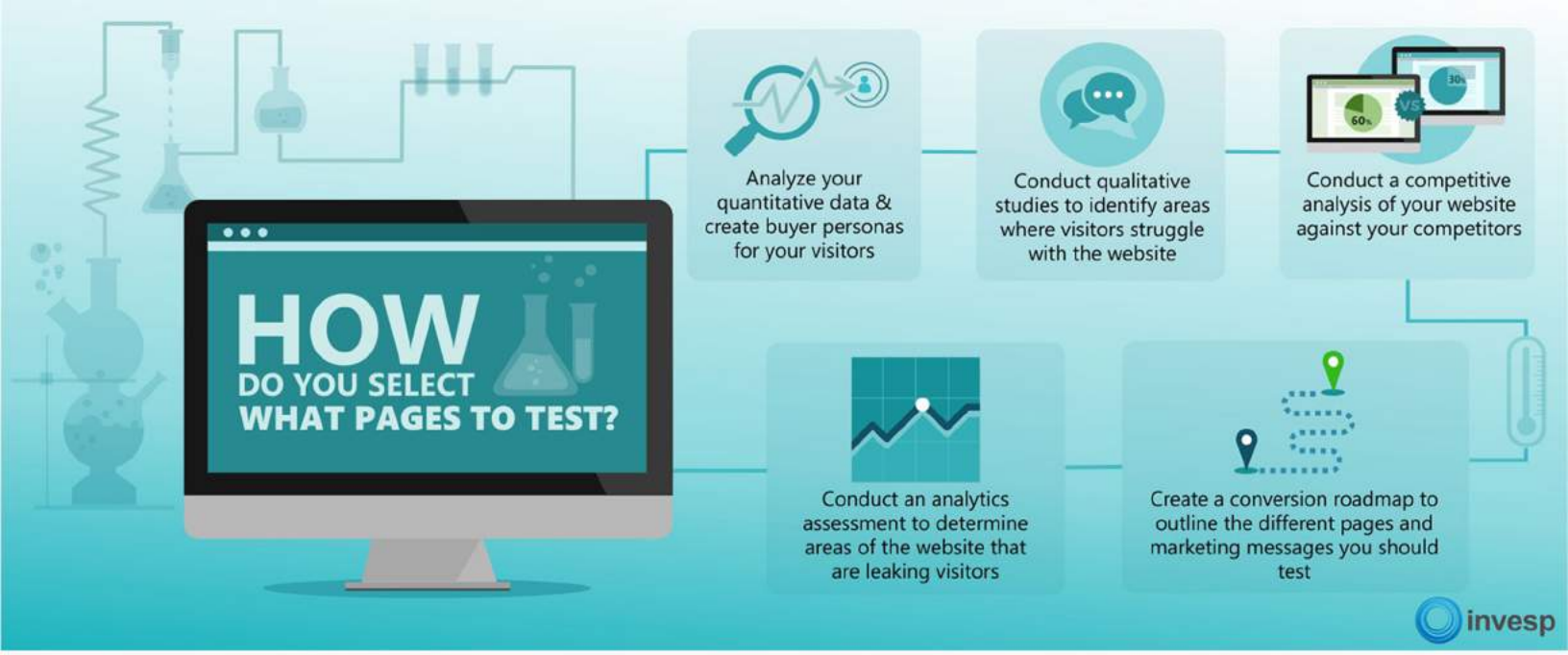
Remember the following procedures when conducting your tests:

- Select the right AB testing software to speed up the process of implementing the test. Technology should help you implement the test faster and should NOT slow you down
- Do not run your test for less than two weeks. Several factors could affect your test results, so allow the testing software to collect data long enough before concluding the test
- Do not run your test for longer than four weeks. Several external factors could pollute your test results, so try to limit the impact of these factors by limiting the test length.

CHAPTER 6

WHAT ELEMENTS SHOULD YOU INCLUDE IN AN A/B TEST?

WRITTEN BY: **KHALID SALEH**



C H A P T E R 6

WHAT ELEMENTS SHOULD YOU INCLUDE IN AN A/B TEST?

Editor note:
We highly recommend that you implement the different ideas in this blog post through AB testing. Use the guide to conduct AB testing and figure out which of these ideas in the article works for your website visitors and which don't. Download Invesp's "The Essentials of Multivariate & AB Testing" now to start your testing program on the right foot.

As you start the process of multivariate or AB testing, one of the critical questions you will face is: What elements of the page should change and test?

This article will suggest many elements that you should consider when creating a test. However, before you jump into selecting elements and creating variations for them, ask yourself: Why are you picking a particular item to test?

The process of selecting elements to test on a page is where real conversion optimization happens.

If you are looking for a long-term strategy, something that will produce a meaningful impact on your bottom line, then you must follow a structured conversion optimization process.

> A good conversion specialist should be able to suggest many different elements to test on a particular webpage. The real challenge, though, lies in creating a long-term strategy; creating a testing program that quadruples your online sales; creating a conversion optimization program that spans three, four or five years.

The truth about conversion optimization

We understand that you might be looking for shortcuts. You might be looking for ways to capture the low-hanging fruits first. Most of the quick wins will be a result of fixing usability problems on your website.

But fixing usability problems merely makes your website "usable." What you should aim for is a high converting website. There is a significant difference between a usable website and a highly converting website. The mindset of visitors and how they interact with each of these websites is different:

- With a usable website: visitors can easily shop on your site
- With a highly converting website: visitors want to shop on your website

The following sections will provide you with different suggestions on elements you should consider when creating your test.

Value proposition

We have seen many companies that think of the value proposition as a single statement on a website (such as the tagline). A value proposition is beyond that. It must be conveyed in the copy, the images, the different elements of the web page, the overall design of the website, landing pages, and campaign.

How should you test the value proposition?

1. Test different statements that express the value proposition
2. Test location/placement of the value proposition statement on a web page
3. Test how different elements on the page can convey your business value proposition

Trust elements

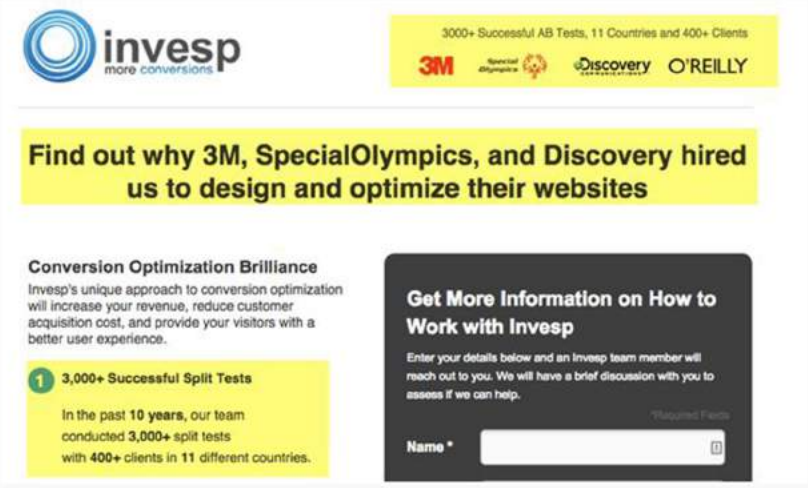
We covered trust in a chapter of our book, Conversion Optimization: The Art and Science of Converting Prospects to Customers.

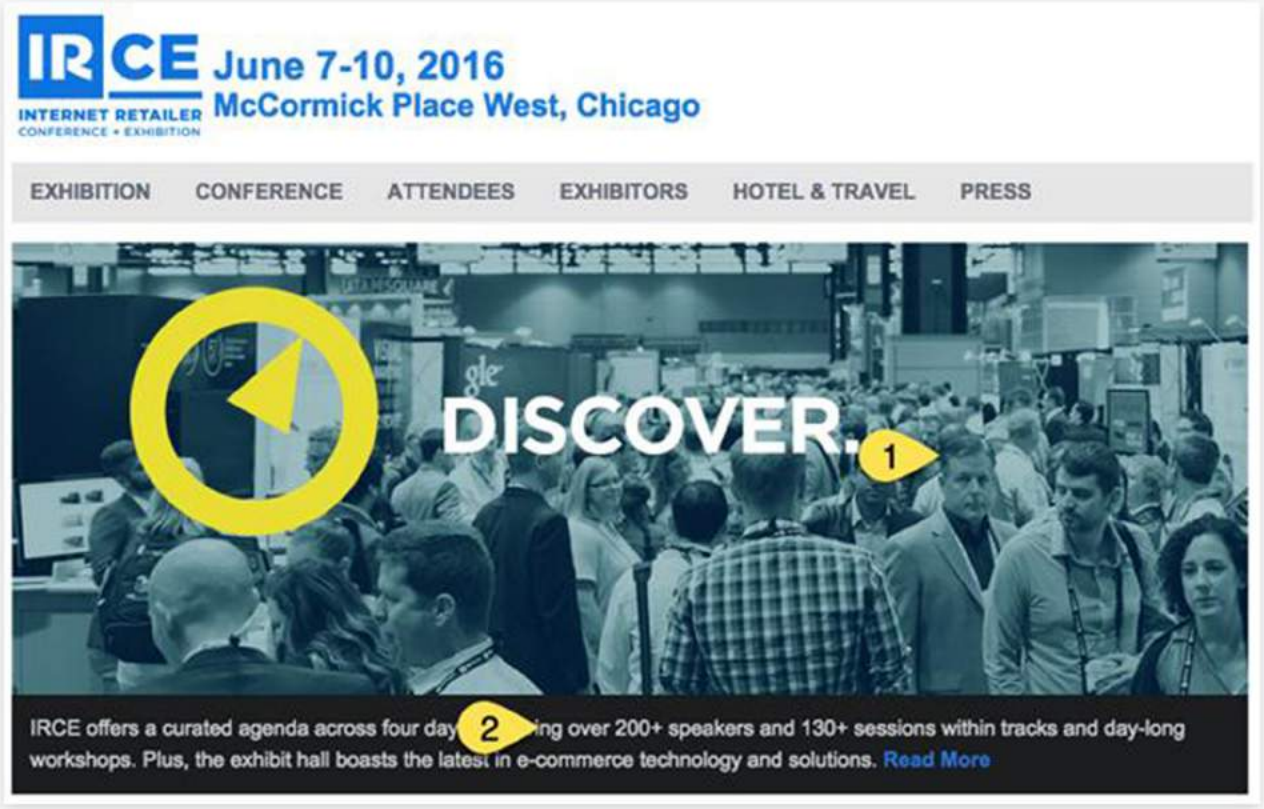
What symbols, designs, copy do you have to support trust? You should start by:

- Listing all elements that increase the confidence of visitors in your business
- The sequence of items regarding their perceived value to visitors

Notice how we use three different areas on our "contact us" page to increase visitor trust:

Since our goal is to give visitors the confidence that we are a trustworthy business that delivers results, we use our clients' names and logos, as well as the number of successful A/B tests we have conducted.





- The image increases visitor trust by showing a large number of attendees.
- The text below the image focuses on the number of speakers and sessions (trust indicator and an offer feature).

Here is a 2018 image from the IRCE website:

Again notice the following trust elements:

- The image increases visitor trust by showing a large number of attendees.
- The text below the image focuses on the number of speakers and sessions (trust indicator and an offer feature).

How should you test trust factors?

1. Test different statements and elements that increase visitor trust
2. Test location and placement of trust elements
3. Test copy vs. images of trust elements

Trust elements

It takes visitors less than 100 milliseconds to decide if they know what your website is about and if they trust it or not.

The headline is one of the first elements visitors will notice on your landing page. It is your opportunity to express your value proposition and appeal to different visitor personas.

Trigger & benefit

A "trigger" in your headline gives readers a reason to continue reading your landing page. Simple trigger words include "Learn," "Get," "Save," or just about anything else that lets visitors know they are going to get something from continuing to navigate on your website.

The "benefit" outlines what visitors will get. For example: Save on Fashions (trigger) and Look Fabulous Too (benefit).

Power words

Try powerful, compelling words. Something like this:

- **Write Killer Headlines**
- **Headlines that Boost Your Sales**
- **A Fast, Powerful Way to Get Brilliant Results**

Keywords

Keywords are the internet's great gift to marketers. They let you know the language of your customer. There is no denying the value of keywords in your headline – not just in attracting customers, but in helping your SEO too. Try different words in assorted combinations of the other options in this list.

Length

Do any research, and you will find excellent, contrasting advice supporting short, long and about just every length of a headline on a webpage. It should be as long as it needs to be – and no more.

- Short headlines tend to be punchier and may help your landing page stand out better on a SERP.
- Longer headlines can help you better qualify the visitors to your page.

It has been said that shorter headlines can get you more traffic while longer ones can get you traffic that is more likely to convert.

Sub-headlines – Make sure you try combining headlines with sub-headlines to help get more information across and improve the chances that your visitors will stay.

Questions, commands & other headline techniques

Here are some samples to illustrate these options:

Want to Have More Effective Headlines?

When you pose a question that your readers want to see answered, they are compelled to read on.

Start Writing Better Headlines Today

Your readers sometimes need to be told what to do.

5 Tips for Writing Irresistible Headlines

Tell your readers exactly what they will get from your landing page.

How to Write Headlines That Hook Your Readers

Another trigger – benefit formula: "How to _____ (trigger) that will _____ (benefit).

Just Released: The 5 Most Effective Ways to Write Better Headlines

This headline makes your landing page sound newsworthy like it's an event.

Benefits and features

Features are the facts about a given product or service. Features of an outdoor grill might include

- **Electric**
- **Grease tray**
- **Non-stick cooking surface**
- **Temperature control**
- **300 square inches of cooking space**
- **Temperature control**
- **Attached working surface**

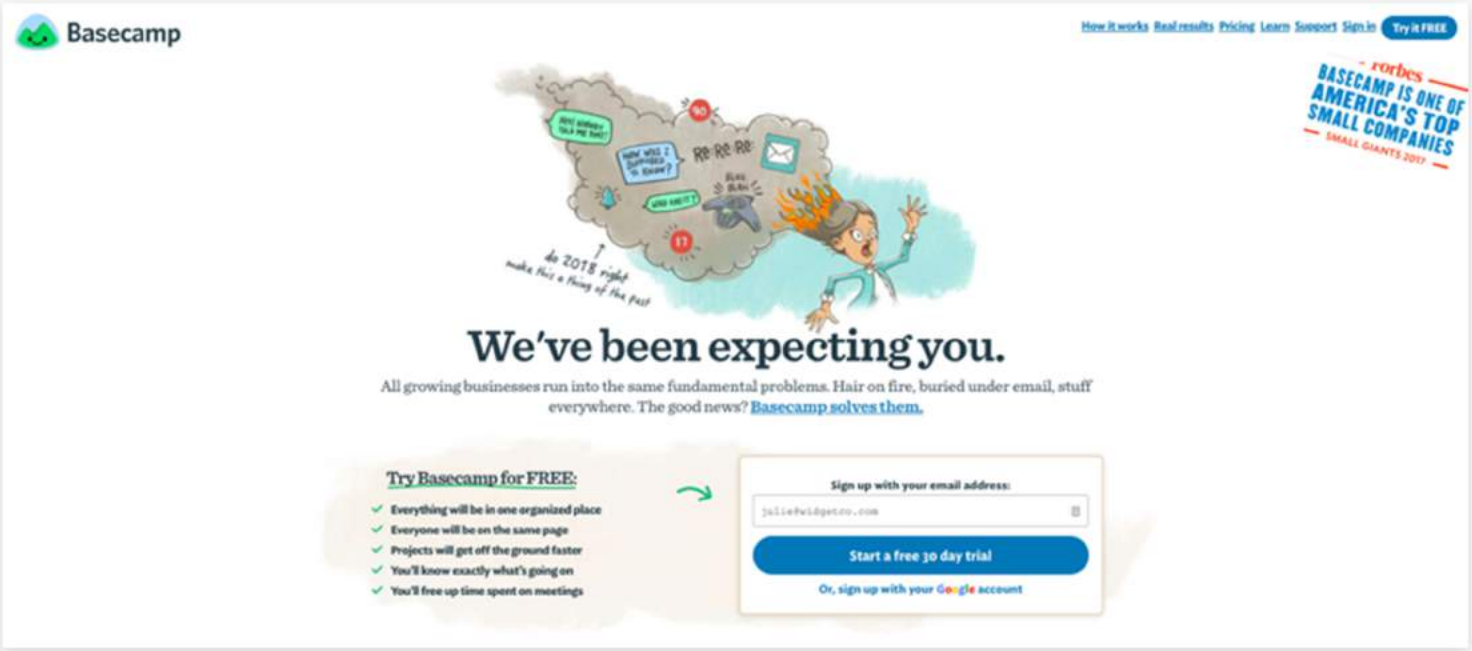
Features do not sell a product by themselves. They do not give the "what is in this for me?" answers, although they do give useful information about your product or service.

Benefits start you on the road to getting a conversion. The benefits of the above outdoor grill include:

:

CONVENIENCE (FEATURE)	EASY TO USE (FEATURE)	SAVES MONEY (FEATURE)
Electric	Electric	Electric
Non-stick cooking surface	Non-stick cooking surface	Temperature control
Attached working surface	Temperature control	
	Attached working surface	

Let's take another example, this time we will use the features of Basecamp using their own copy.



We are not listing all of the product features here:

- **Pings: Personal backchannels**
- **Unlimited for everyone**
- **Work Can Wait**
- **Campfires: Gather 'round and talk**
- **To-dos: Assign multiple people + date ranges**
- **All New Search**
- **Applause**
- **Reports**

Notice how each of the above items lists a product feature in Basecamp. How do you translate that into actual benefits for the end user? Basecamp explains the benefit to the end user for each of the above features with a paragraph.

PINGS: PERSONAL BACKCHANNELS (FEATURE)

Pings are like instant messages or direct messages. Want to get someone's take on something before sharing it with everyone else? Ping them!

UNLIMITED FOR EVERYONE (FEATURE)

For the past 12 years, Basecamp has limited the number of projects you could create based on which plan you were on. Maybe you had the ten project plan or the 40 project plan. The only way to get unlimited was to reach deep into your pockets and upgrade to the highest plan. No longer! Now every plan – even the entry-level plan, is unlimited!

How should you test benefits and features?

1. Should your primary copy rely on benefits, features, or both?
2. How do you list benefits or features (paragraph or bullet points)?
3. The order of the benefits list
4. The order of the features list
5. Should you use images to support benefits list?
6. Should you use pictures to support your list of features?
7. What language should you use to express/convey benefits and features (direct, hip, classic, etc.)?

Results

We discussed using benefits and features to persuade your visitors to convert. Results are even better. Results state the value customers get from using your product or service.

Going back to our grill example: what results do your customers want from your barbecue?

They want a grill that offers:

Tasty, Healthy Food Everytime

- **Temperature control**
- **Grease tray**

Perfect for Easy Entertaining

- **300 square inches of cooking space**
- **Attached working area**
- **Easy to clean**

A Double Bonus: Environmentally Friendly While Saving You Money!

- **Electric versus charcoal emissions**
- **Do not have to buy charcoal for the life of the grill**

How can you determine the results that your customers want? By knowing your customers and the reasons they buy your products. Also, you need to understand why other people prefer your competitors' products. Then, go back to the question "what is in it for me?"

Tell your potential customers the exact results of your product or service. Don't be shy. This is a case where tooting your own horn is the right thing to do.

How should you test different "results" of using your product or service?

- Style of listing results (paragraphs or bullet points)
- Placement of results
- Order of the results (which result resonates first with customers and which is more important)
- The language used for expressing results

Web copy

Many experts wrote about the impact of web copy on persuading visitors to convert. Your text as much as your design plays a vital role in conveying a concept to your website visitors.

While many companies invest a lot in creating professionally designed websites, they pay little attention to copy. However, over the years, we have seen the impact of well-written persuasive copy on convincing a visitor to convert.

If you are looking to start testing, then we can only assume that you created personas for your website. Persuasive web copy must appeal to each of your personas with the different traits within the same web page.

Let us assume the following two personas are amongst the ones you created for your website:

- Joe, a 36-year-old college graduates who is an impulsive buyer always looking out for dealsShelley, a
- 44-year-old stay-at-home mom who is cautious about spending her money

How do you create copy that appeals to both personas?
Joe is looking for a quick synopsis of what your product has to offer. He doesn't need nor like to read long copy. He wants to get on your website, check out your product, place an order and leave the site within five minutes.

Shelley, on the other hand, will spend longer time, compared to Joe, reading every little word in your copy. She wants to know that the product will indeed help her and she will get her money's worth. She would like to see product comparison charts, product features, the complaints customers had with the product, and any warranty information that you can offer.

Creating persuasive copy that appeals to both personas is challenging. It is also what makes the difference between a great copywriter and an average one.

Persuasive copy helps potential customers understand their current state and encourages them to envision how your product and service will transform their state for better, gently guiding them through the conversion process.

> Remember that, in most cases, your biggest competitors are not other vendors who offer the same solution or products, but rather the current tools your visitors are using or needing.

Bryan Eisenberg, the leading conversion expert, reminds us of a critical element for a successful copy:

> People rationalize buying decisions based on facts, but they make buying decisions based on feelings

Persuasive copy appeals first to the visitors' emotions. It creates powerful imagery in the mind of the visitor about their state of being when they start using your product or service. In his book, Persuasive Online Copywriting,

Joseph Sugarman proposed the following structure:

- Open strongly by eliciting interest and excitement.
- Develop the drama; explain why the product or service is different.
- Explain how to use the product or service.
- Elaborate on the unique benefits.
- Justify the purchase; identify the lasting value.
- Address service concerns.
- Ask for order.

How should you test web copy?

1. Focus on money vs.time (or both)
2. Focus on intellect vs. emotions (or both)
3. Focus on pain vs. gains (or both)
4. Focus on style vs. substance (or both)
5. Style of writing (modern, classic, etc.)

Long copy vs. short Copy

We all have seen both long and short copy web pages. The debate online continues which is better. There will be no right answer ever because it ultimately depends on your product, target market and the role of each page of your site. There isn't a "one size fits all" rule about anything within the realm of conversion optimization, and that applies to the length of copy as well.

The length of your web copy depends on:

- The type of offer you have
- Your target market

A good rule of thumb is that the more investment your product or service requires from customers, the longer the copy needs to be. You must also remember that your copy must be persuasive regardless of its length.

How should you test the length of copy?

1. Long vs. short copy format
2. Different lengths of copy

The hero image

The right image can persuade your visitor to convert. While few people will disagree on the importance of pictures in supporting the online sales process, figuring out the right image to use can be challenging.

Invesp testing reveals that the right image can increase conversions by upwards of 10%.

As you select images for your landing page, consider the following:

Value proposition:
your image should convey and support the value proposition of your business, your service or your product. Your visitors should easily connect your value proposition with the image you are using.

Continuity:
Make sure that there is continuity in the images (color, placement, etc.) from the first touch point a person has with your business on the landing page to other areas of your website.

Quality:
There is no good excuse for using low-quality images. Remember that your pictures say a lot about your business. Low-quality photos leave the visitor with a negative connotation of your business.

Uniqueness:
When companies moved online 20 years ago, it was enough to get a high-quality stock photo and use it on the website. Visitors expect more nowadays. If you have the budget, hiring a professional photographer and designer to create unique images for your site is a huge plus.

How should you test images used on your website?

1. Should you use symbolic or literal images?
2. Should you use images of people or objects?
3. Should you include people the image, then how many?
4. Should you include people the image, where are they looking?
5. Should you include people the image, what is the state of mind (happy, serious, sad, etc.)?
6. What is the mix of people appearing in an image?
7. In what location should you place the image?
8. Image size
9. Image color

Video and images

We discussed above the importance of images on increasing conversions, but, in many cases, well-produced videos outperform images in improving conversions. The video or images impact on conversion varies from one industry to the next.

Blumenthal conducted a study on the impact of having author pictures appear in search results vs. author videos when users searched for lawyers.

They concluded:

> Authorship snippets have a greater positive impact on CTR's for specialty lawyer searches than video snippets. Video snippets have a greater positive impact on CTR's for specialty lawyer searches than having no media snippet, but less of a positive impact than authorship snippets.

Invesp's research indicates that video had the most significant impact on e-commerce stores when retailers included videos of their staff demonstrating the use of products. The conversion uplift from such videos averaged 17%.

How should you test the use of images and videos on your website?

1. The user of product videos vs. images
2. The type of videos used (product demonstration, features, customer reviews, etc.)
3. Length of video

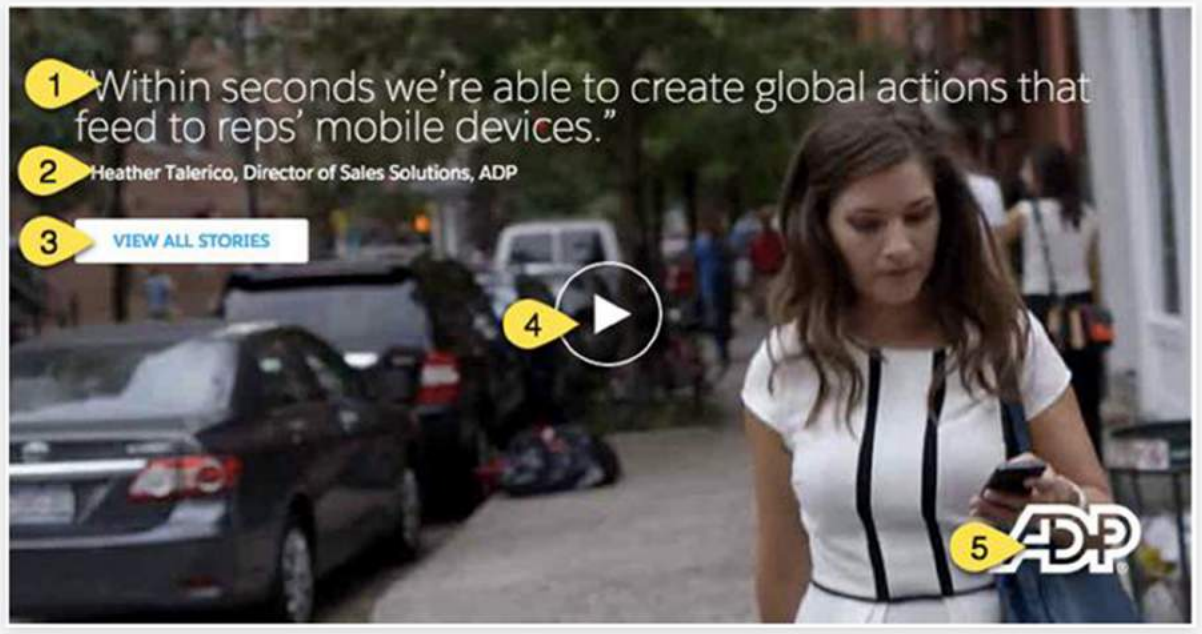
Testimonials

Testimonials are powerful in persuading visitors that you are a credible and trustworthy business. The more testimonials you have, the better your conversion will be. Keep in mind that anonymous testimonials or testimonials with a first name only don't increase visitor trust in your business and might actually reduce it.

Testimonials should tell the visitor that you are a credible business and that doing business with you was an excellent experience to the point that a previous customer is willing to put his name publicly to thank you. If you have video testimonials, that will be even better.

Notice how we use a testimonial from one of our long-time customers to increase conversions on our website. Not only are we publishing what the client says, but also adding the use of his business logo, 3M, to improve the buyer confidence and trust:

Notice how Salesforce uses testimonials to persuade visitors to sign up for its product:



Salesforce uses five different elements in designing a great testimony:

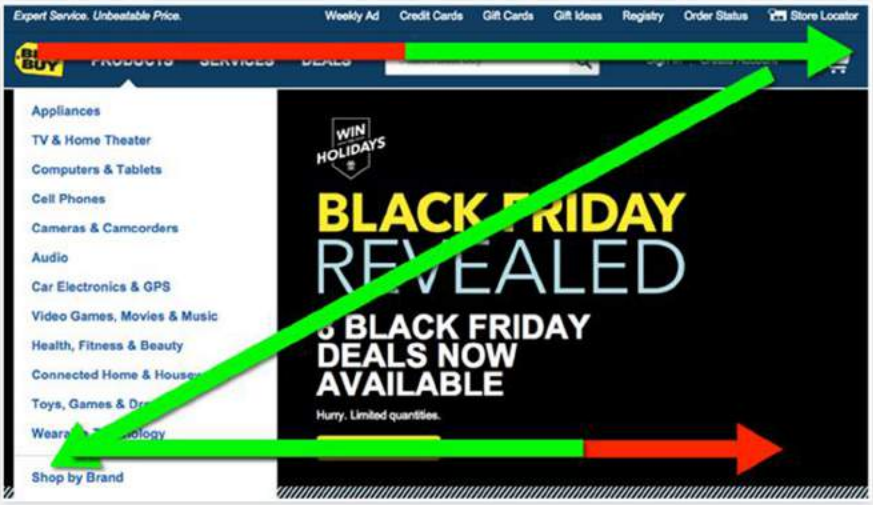
1. Written testimonial from the customer
2. Title of the person who gave the testimonial
3. Video testimonial from the customer
4. Ability to view other testimonials from other customers
5. Emphasis on the company of the customer who provided the testimonial

How should test testimonials on your website?

1. Written testimonials vs. video testimonials
2. Location of the testimonials
3. Design of the testimonials
4. Frequency of testimonials
5. One page testimonials vs. incorporating them into the web page copy

Eye path

People view or scan pages in a "Z pattern." There are two important areas on a web page above the fold (highlighted in red in the image below):



The upper left corner of the page The lower right corner of the page

Alternatively, when reading pages, people use an "F pattern." Usability expert, Jacob Nielsen, published a study showing the "F pattern":

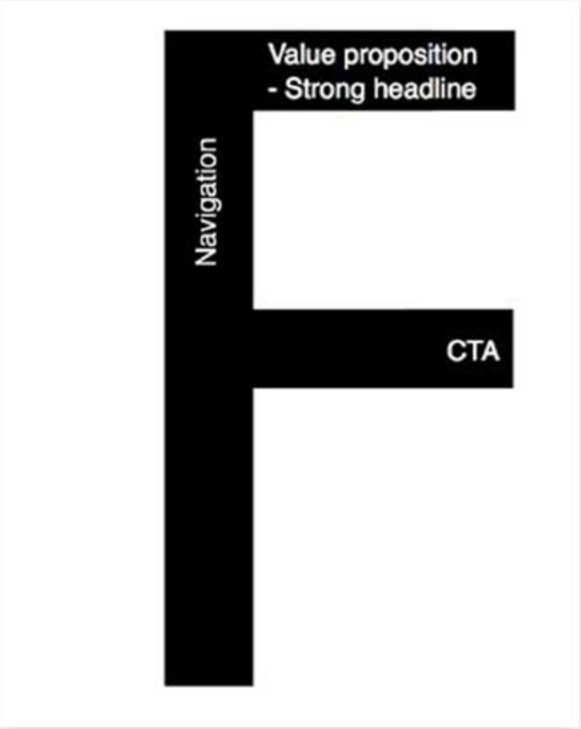
image credit: Nngroup

How does that impact you?

- Use the top section of the page for your value proposition using a strong headline. Use the left side of the page for navigation.
- Use bottom portion of the F pattern for the CTA.

How should you test the visitors' eye path?

1. The appearance of different page elements
2. Vertical vs. horizontal page and offer layout
3. Placement of the CTA on the page



Live Chat

Many website visitors prefer to conduct business online in complete anonymity. However, having a live chat feature available to visitors to interact with you is a better option than forcing them to call your business. Several A/B tests reveal that adding live chat on some websites increases conversions by close to 12%.

The team at Monetate posted the following results of one of their clients:

> In the end, live chat was a winner. Version B, which included the chat widget, increased Average Order Value by 3 percent, earning our client over $20,000 during the duration of the test, and over $130,000 in projected annual revenue. Not bad for a little live chat widget.

Remember that only a small percentage of your visitors will use the live chat feature (typically less than 3%). However, visitors who use the live chat are more likely to convert if you can adequately answer their questions. These visitors show a high level of motivation by clicking on the live chat and putting the effort to talk to your team.

To ensure live chat's success:

- Ensure live chat it is staffed with the right person who can adequately answer visitor's questions. Keep in mind the challenge of international visitors who do not have full command of English.
- If you have enough resources, we recommend starting with live chat for 24 hours/day, seven days a week. After collecting enough data, you can reduce live chat hours to specific times when there is high volume.
- Limit the fields you ask visitors to fill out before starting the live chat feature.

How should test live chat on your website?

1. The use of live chat vs. not using live chat
2. The design of the live chat widget
3. How fast does the live chat widget appear?
4. The location of the live chat widget
5. The text that appears on top of the live chat
6. Time availability of the live chat widget
7. The fields you require from visitors before starting the live chat

Form fields

Reducing the number of form fields a visitor must fill out increases the number of times the form is filled. On the balance of that, your staff would be better equipped if the visitor fills out more information.

We recommend starting with the list of fields that you must have from every contact. These will probably include a name and the best way to contact them. If you need additional information from the visitor, then cover it on a second step form which the visitor can fill after submitting the initial request.

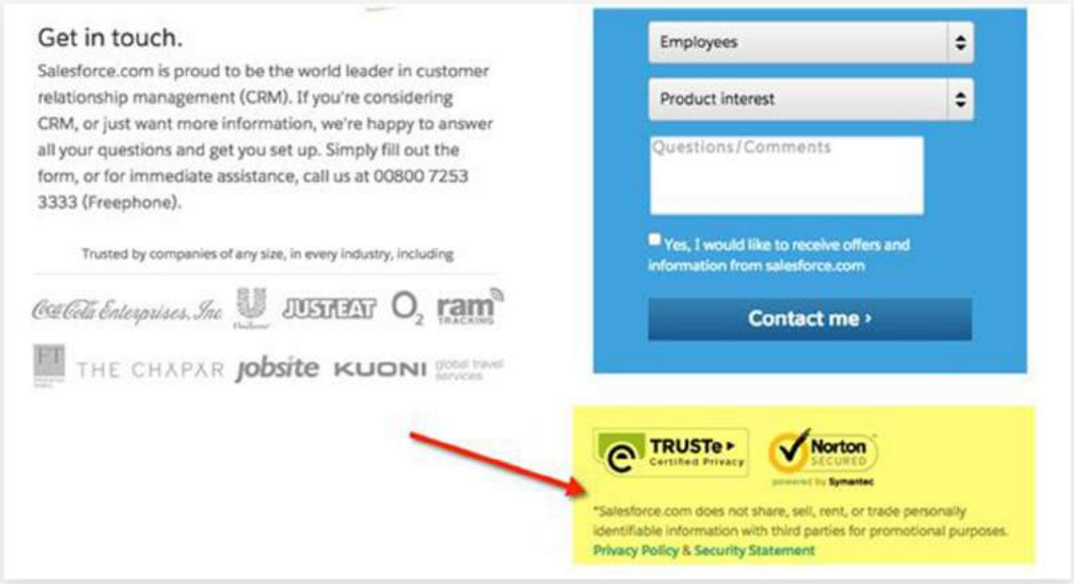
How should you test web forms?

1. Location of the form
2. Design of the form
3. Form headline
4. Form sub-headline
5. Number of fields in the form
6. The design of the form CTA
7. Privacy statement

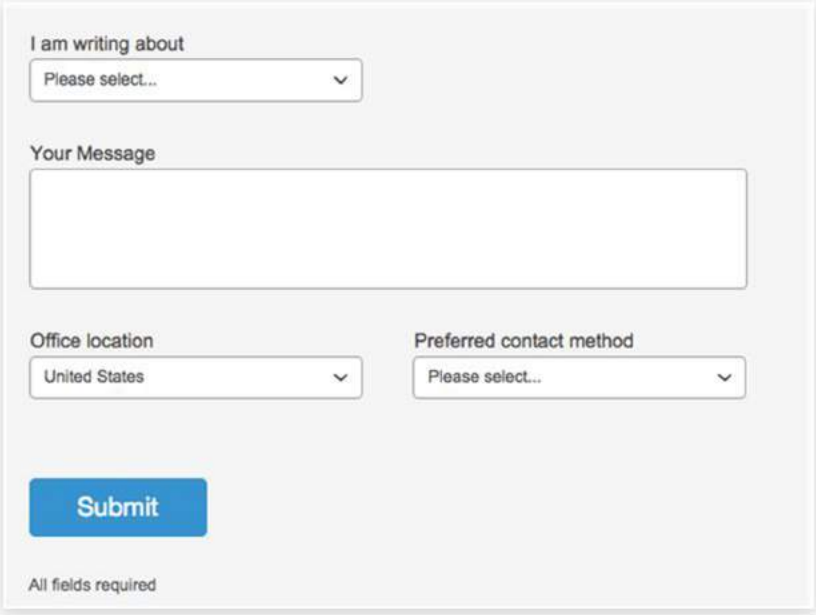
Privacy and security

We expect a certain level of privacy and security as we navigate different websites and as we provide our information to them. However, emphasizing that you "value your customer privacy" and that you "will not share or sell their contact information" helps you increase visitor's trust. The right place to do that is in close proximity to where you are asking the visitor for information (contact information, credit card, etc.). Emphasizing the protection of customer data is critical, especially when there is news about data theft.

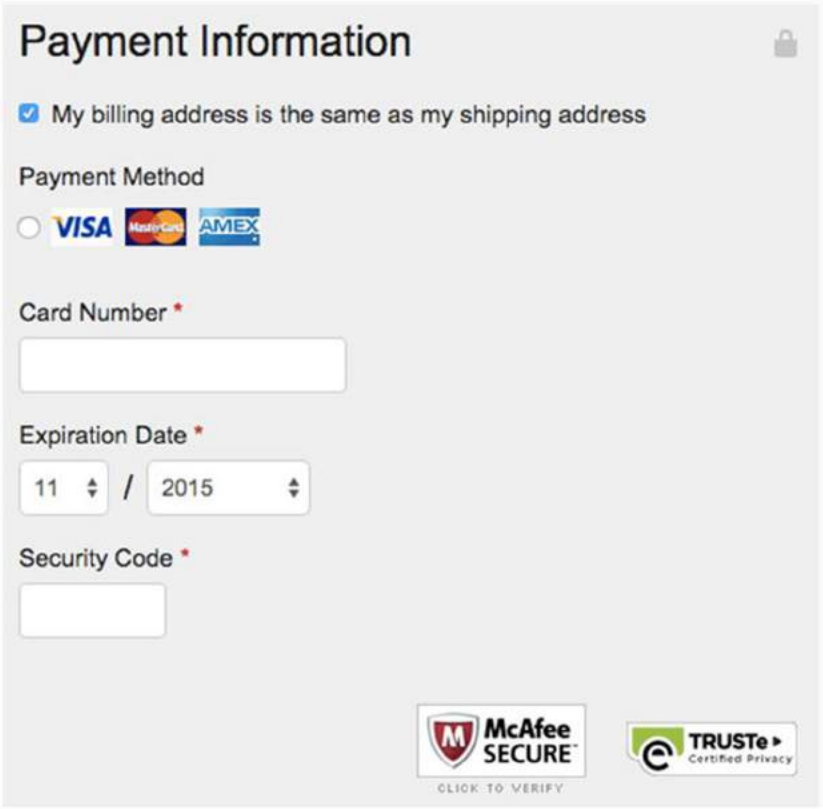
Notice how Salesforce understands the importance of privacy, but improperly places the privacy statement and security icons outside the contact form:



As bad as the Salesforce contact form might be, it is still light years better than the SAP contact form that leaves the visitor confused. It is almost as if SAP does not want you to contact them and they leave the visitor with the feeling that no one will respond to your contact request:



Notice how Macy's places security icons in the payment section of the checkout. They are merely thrown there with little consideration for the visitor eye path:



How should you test elements of privacy and security?

1. Placement of the security icons
2. Placement of the privacy statement
3. Design of the security icons
4. Design of the privacy statement

Price-based incentives

Incentives are designed to encourage your visitors to act right away. As the headline suggests, price-based incentives encourage visitors to take action by offering a discount, freebie, or some bundling.

The challenge is figuring out how much sales you will gain by offering an incentive. If providing a 10% discount increases conversions by 20%, then this is a no-brainer. However, if giving the 10% discount increases sales by 5%, then you are getting more sales transactions but less revenue.

Notice how the category page from newegg.com uses price-based incentives to encourage visitors to act.

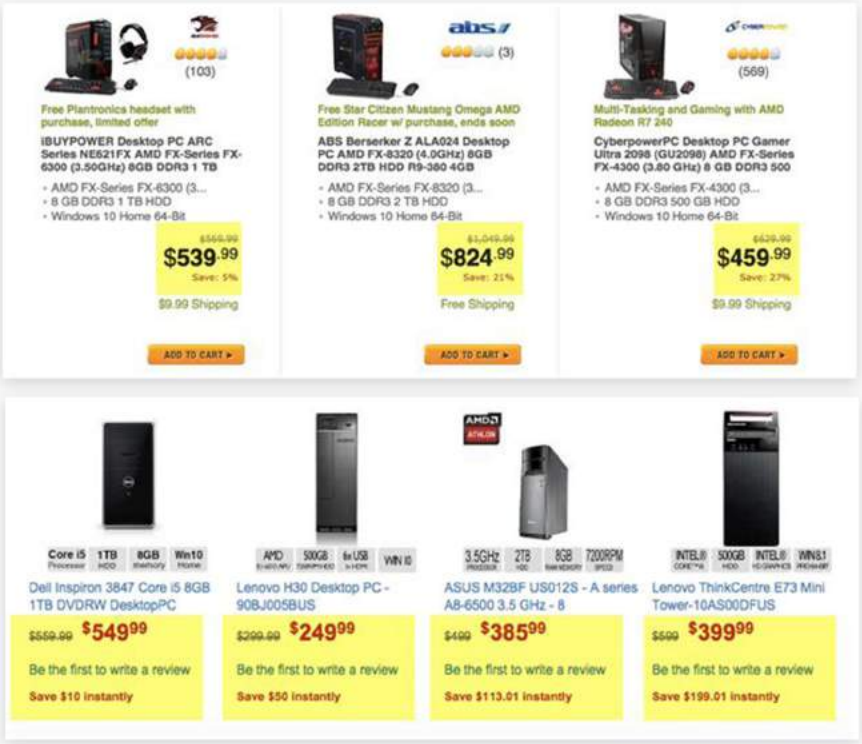
Newegg' approach, however, presents two main problems:

- The design does not emphasize the lower pricing
- No copy asks visitors for immediate action

The category page from Tigerdirect.com, a competitor of Newegg, does a better job:

- The discounted pricing is apparent with the use of the red color.
- The copy of "save xxx instantly" emphasizes the price incentive.

Could you think of ways to improve the copy of TigerDirect?



How should you test price-based incentives?

1. The amount of discount you should offer
2. The design of the discount
3. The copy used for the discount

Urgency-based incentives

Urgency-based incentives rely on time limitations to encourage visitors' action right away. In this case, you set a deadline, and you offer an incentive to visitors to act before the deadline.

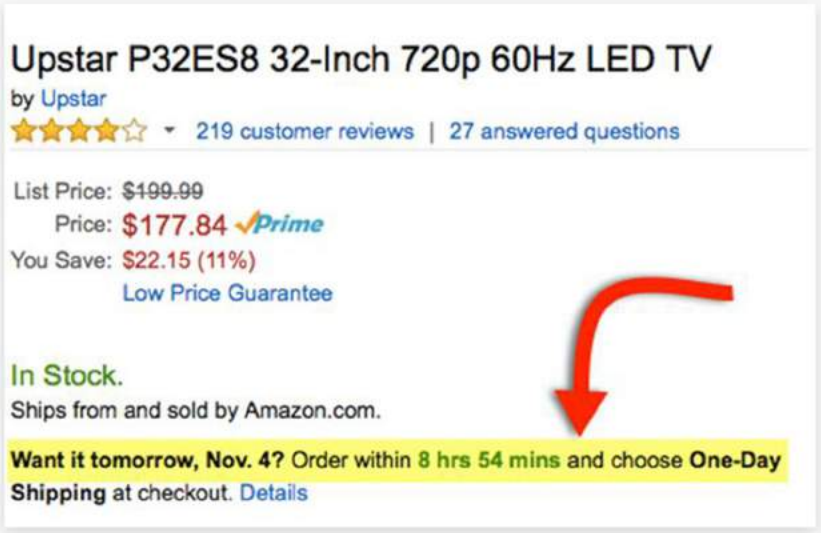
PubCon is a must-attend conference for online marketing professionals. Just like other conferences, there is an early bird discount for early registration. Unfortunately, the registration page does not emphasize the discount and the time limitation:

Conference Registration	Nov 1 - Dec 31	Jan 1- Jan 31	Feb 1 - Feb 25
Platinum Pass : Training + Full Access Gold Pass SFIMA Summit Conference - Includes Pubcon Masters Group Training Workshop and a full access pass to SFIMA Summit.	$499	$549	$599
Full All Access Conference Pass All SFIMA Summit sessions and Networking Events - Includes Thursday Breakfast, Lunch, and Breaks. Includes SFIMA Summit cocktail reception.	$299	$349	$399
Masters Group Training Workshops Wednesday Feb 24 Masters Group Training - A one day SEO/SEM/Social Pubcon Masters Group Training Wednesday Feb. 24th. (Open to first 300 attendees. Not valid with coupons.)	$350	$399	$449

Amazon uses urgency-based incentives to increase buyer conversion:

What can you test with urgency based incentives?

1. The incentive expiration date
2. Urgency design
3. Urgency incentive copy
4. Placement of urgency incentive on different pages



Scarcity-based incentives

Scarcity-based incentives rely on quantity limitations to encourage visitors to act right away.

Let's take a couple of examples:

- If the visitor knows that the website has only two items left in stock, then he is more likely to act
- If the visitor knows that a consulting firm can take one more client, then he is more likely to respond right away

Quantity limitations could be created/managed, by ordering lower quantities from suppliers, or naturally occurring, by visitors buying so many items that the product runs out. In either case, emphasizing the scarcity of an offer through copy and design can have a positive impact on conversions.

What should you test with scarcity based incentives?

1. The design of the scarcity incentive
2. The copy to express the scarcity incentive
3. The placement of the of the scarcity incentive

Freemium vs. a free trial subscription model

Can you offer potential customers a free trial, a demo or an evaluation version of your product?

The goal is to have a low-barrier entry for customers. In the fermium model, you offer your product for free with no time limit. Additional features of the products are available at a price. Free trial model, on the other hand, offers the customer a free version of the software for a limited period.

How should you test the subscription model for your website?

- Free trials vs. fermium model
- Length of free trial (14 days, 30 days, 60 days, etc.)

Guarantees

You can use different guarantees to assure visitors that doing business with you is safe and that they will not regret it. The goal of using guarantees is to reduce the customers' risk. Of course, every transaction in business has some risk involved in it, so by reducing the customer' risk, you will have to carry that burden.

> A good guarantee requires both parties to invest in the transaction. The customer pays a certain amount (customer investment), and in retu,rn the business promises a 100% satisfaction guarantee.

There are different types of guarantees: satisfaction guarantees, performance guarantees, money back guarantees, etc.

What should you test with scarcity based incentives?

1. Ask your current and potential customers to list the top five concerns or obstacles they have about doing business with you or with your competitors
2. Assess what your competitors are offering regarding guarantees
3. Determine your ability to offer a guarantee to reduce one of your customers' risk
4. Determine the business risk of offering the guarantee
5. Test different guarantees to see what resonates better with customers

You can fill this table to help you assess your guarantee:

BUSINESS RISK	IMPACT ON POTENTIAL CUSTOMERS	POSSIBLE GUARANTEE TO DEAL WITH THE RISK	GUARANTEES OFFERED BY COMPETITORS TO DEAL WITH THIS RISK	BUSINESS RISK IN PROVIDING THE GUARANTEE
Poor product quality				
Long delivery time				

A strong guarantee has the following four elements in it:

- It is relevant to the customer's highest risk
- It considerably reduces the customer's risk
- It is specific
- It has a long period

The stronger each of these four elements is, the stronger the guarantee will be. Strong guarantees provide a more significant change in converting visitors to customers.

Which do you think is more powerful:

- "30-days" vs. "60-days" vs. "one year guarantee."
- "Satisfaction guaranteed" vs. "100% Satisfaction guarantee."
- "100% Satisfaction guarantee" vs. "unconditional, no questions satisfaction guarantee for one year.

How should you test guarantees?

- Different types of guarantee
- Design of the warranty
- Time used with the guarantee
- The copy used to present the guarantee
- Placement of guarantee

Call To Action (CTA) Buttons

Calls to actions prompt visitors to take immediate action. Supported by persuasive copy, visitors respond to your offer by clicking on the call to action, which might be either buttons or lines of text.

As you create CTAs for your page, keep in mind the following guidelines:

- Including a no-obligation statement increases the chances of visitors clicking on your CTA.
- Simple, straightforward CTA text beats smart/complicated CTA.
- Tell visitors what to expect after they click on your CTA.
- Ask visitors to take action immediately.

How should test the “call to action” on your page?

1. Using Button vs. text as call to action
2. The text used in the CTA
3. The color of the CTA
4. The size of the CTA
5. The design of the CTA
6. The placement of CTA

It is important to note that as long as CTAs are clear on the page, their impact on your overall conversion is minimal.

Placement of business logo

Most companies do not pay close attention to where they place their logo. Over 80% of major e-commerce websites set their logo in the upper left-hand corner of the site. However, in some instances, the location of the logo impacts the overall conversion rate.

The placement of the business logo is a quick test to implement using point and click AB testing software. While different placements might impact your conversion rate, the average uplift is minimal.

How should you test the placement of the logo on your website?

You should testing three different locations for the logo on your website:

1. The upper left corner of your site
2. The upper middle section of your website
3. The top right part of your website

CHAPTER 7

MULTIVARIATE AND A/B TESTING BEST PRACTICES

WRITTEN BY: **KHALID SALEH**

CHAPTER 7

MULTIVARIATE AND A/B TESTING BEST PRACTICES

Conducting a multivariate test is exciting.

By using the right tool, you can quickly develop different designs for your webpage, split visitors between these designs and observe the conversion rates for each variation.

Done incorrectly, AB testing can result in a waste of money, misuse of staff-hours, and, even worse, a decrease in your conversion rates.

Here are ten best practices you must follow when conducting a multivariate test.

A/B testing best practices during the planning stage

1

SET EXPECTATIONS CORRECTLY

Wrong expectations lead to disappointment and lost investment.

Many marketers start split testing because they read or watched a case study where a company achieved an incredible increase in conversion rates. They jump into conversion optimizations and testing looking for significant uplifts, but their excitement slowly disappears, as they are not able to achieve the results they were hoping for.

Setting reasonable goals to increase conversion rates will save you a lot of heartburn.

Here are two approaches you can take to set the right expectations:

1ST APPROACH

Think of a reasonable annual goal for your CRO program. A conversion program should achieve between 20% to 30% annual increase in conversions. Is that increase in conversions enough to cover all the costs related to running the program for your company?

2ND APPROACH

Calculate the total investment for the conversion optimization program. This total should include time for both marketing and development teams. It should also include testing software investment. What is a reasonable return on investment do you expect? Are you looking to make $3 or $5 for every dollar you invest?

Let's say your total investment in CRO adds up to $80,000 and that you are expecting to get a 3X return on your investment.

That means you will have to increase your sales by $240,000 to justify your program. What is the percentage increase in online sales that will generate $240,000?

- If you are currently doing $1,000,000 in annual online sales, that means you will have to increase your conversion rate by 24%.
- If you are currently doing $10,000,000 in annual online sales, that means you will have to increase your conversion rate by merely a 2.4%.

2 UNDERSTAND YOUR TECHNICAL LIMITATIONS

Since 2006, our team has worked with hundreds of organizations across the globe in many different industries. We observed that many CRO programs fail because the project owners do not assign the proper technical resources to ensure quick and efficient implementation.

If you are running an in-house conversion program, then you must allocate enough technical resources to implement two to four tests per month. If you are hiring an outside firm to handle your CRO program, then make sure that they will manage the full implementation of all the tests they will deliver.

3 CREATE A "RESEARCH OPPORTUNITIES" LIST: HOW DO YOU SELECT WHICH PAGE AND WHAT ELEMENTS TO TEST?

Your first task is to identify potential conversion problems on your website. To do so, you should do the following:

- Create buyer personas for your site visitors
- Analyze your quantitative data (analytics, heat maps, and session videos)
- Conduct qualitative studies to identify areas where visitors struggle with the website (one on one interviews, focus groups,
- online polls and surveys)
- Conduct a competitive analysis of your site against your competitors
- Conduct a heuristic assessment of your website
- Conduct several usability tests on your website

By following these six steps, you will end up with an extensive list of items that you can test on your platform. We refer to this list as the "research opportunities" list.

Each line item on our research opportunities list includes:

1. A problem statement describing it
2. How the issue was identified
3. An initial hypothesis of how we can fix the problem

We will use each of these three points to prioritize items on the research opportunities list. Each item on the list includes additional data such as the page it was identified on and the device type.

On quantitative and qualitative analysis

Before optimizing any page on your website, you should consult your analytics to determine thee percentage of your overall website visitors who make it to that page. If a particular page(s) gets 20% of your visitors then are only optimizing 20% of the overall website traffic. The remaining 80% remains a goldmine.

For detailed quantitative analysis, you should create several analytics goals for your website. Your objective is to measure the percentage of traffic that flows from one section of the website to the next.

For an e-commerce website, set up the following funnels/goals:

- Visitors flow from homepage to order confirmation
- Visitors flow from category pages to order confirmation
- Visitors flow from product pages to cart page
- Visitors flow from product pages to order confirmation
- Visitors flow from product pages to category pages
- Checkout abandonment rate
- Cart abandonment rate

For a lead generation website, set up the following funnels/goals:

1. Visitors flow from homepage to contact confirmation page
2. Visitors flow from landing pages to contact confirmation page
3. Visitors flow from different services pages to contact form page
4. Visitors flow from different services pages to contact confirmation page

This quantitative research gives you half of the picture.

You will also need to conduct qualitative usability analysis where you perform one-on-one meetings with customers/visitors, focus groups, online polls, and email surveys asking for feedback on your website.

You should ask participants what worked well for them on your website and what did not. What persuaded them to convert or what made them leave the site.

4

PRIORITIZE ITEMS ON THE RESEARCH OPPORTUNITIES LIST

By prioritizing the research opportunities list, you will decide which item to tackle first. We use 18 different factors to prioritize the research opportunities list (click here to download our prioritization sheet). Our evaluation criterion includes:

- The potential impact of the item on the conversion rate
- How the item was identified (qualitative, quantitative, expert review, etc.)
- The elements which the proposed hypothesis addresses
- The percentage of traffic the page receives
- The type of change
- Ease of implementation

Prioritizing items on "research opportunities" list creates a six to eight-month conversion roadmap for the project. That does not mean that you are done with conversion optimization after six or eight months. It means that you will have to go through the exercise of creating the list periodically.

Here is a partial screen capture for a conversion roadmap on one of our CRO projects:

SPLIT TESTING BEST PRACTICES DURING THE IMPLEMENTATION PHASE

5 CREATE YOUR TESTING HYPOTHESIS

A hypothesis is a predictive statement about a possible change on the page and its impact on your conversion rate.

Every item on the prioritized research opportunities list includes an initial hypothesis of how to fix the conversion problem. As we start tackling issues on our list, we develop that initial hypothesis into a concrete hypothesis that we can use in our testing.

An initial hypothesis is the first stab our team takes on how we should address a potential problem on the website/webpage.

Example of initial hypothesis

> Adding social proof will enhance the visitor trust in the website and increase conversions.

Example of concrete hypothesis

> Based on qualitative data collected from online polling, we observed that website users do not trust the brand and are unaware of how many users are using it. Adding social proof on the homepage will increase visitors trust and improve conversion rates by 10%.

What do you notice about the concrete hypothesis?

- It states how we identified the issue
- It indicates the problem identified on the page
- It states the potential impact of making the fix

A coherent, concrete hypothesis must drive every test you create. The hypothesis might impact multiple elements on a web page. Resist the temptation to change elements that do not relate to the hypothesis.

6 DETERMINE THE SAMPLE SIZE TO ACHIEVE STATISTICAL SIGNIFICANCE

There are two steps that you must take:

A

Determine how many unique visitors go through the page(s) you intend to test

The fact that your website gets 1,000,000 visitors does not mean that all of these visitors will go through a particular test. Examine your analytics to determine the total number of unique visitors that will go through the particular page(s) you plan to test in a month.

B

Determine how many visitors you will need to include in your test

Before launching any split test, you must determine the total number of visitors that must be tested before concluding your test. The goal is to determine when a decision will be reached at a specific moment in time after a certain number of visitors have gone through the test. This is referred to as fixed horizon testing. To do this calculation, you will need to have the following numbers:

- The current conversion rate of the control
- Number of visitors who will view each variation
- Number of variations
- Expected conversion uplift from running the test (referred to as MDE: minimum desirable effect)

7 CREATE DESIGN VARIATIONS BASED ON TEST HYPOTHESIS

Once you have the hypothesis, the next step is to create new page designs that will validate it.

You must be careful when you are creating new designs. Yes, your webpage might have several problems with it, but your test must be driven by the hypothesis you created. Before creating the final designs for a test, we like to use pen and paper to mockup these designs and evaluate them. Doing so forces everyone to focus on the changes involved in the test. Our team focuses on the elements we are trying testing and forgets other details such colors, fonts and other items that do not relate to the test. After these mockups are approved, we then use software to create them.

8 LIMIT THE NUMBER OF VARIATIONS

Do not go overboard with creating variations. The split testing software allows you to create millions of variations for a single page. You must keep in mind that validating each new variation requires a certain number of conversions. This approach of throwing things at the wall rarely works. If it works in one test, it fails in the end.

You should avoid letting the split testing software think for you. What you are looking for are sustainable and repeatable results. The more variations you introduce in a test, the less you can link the impact of these variations on each other.

For most websites, we like to limit the number of variations to less than seven. Adding more variations will only muddy up the analysis required. It will also increase the possibility of running into statistical errors.

A/B testing best practices during the post-test analysis

9

RE-TEST WINNING DESIGNS AGAINST CONTROL

You are not done when you determine a winning design in a split test. A best practice is to run your original page against the winning design in head-to-head (one on one) test.

This will help you ensure and solidify your conclusion of the winning page and confirm that any external factors did not pollute testing data.

10

LOOK FOR LESSONS LEARNED

The real power of conversion optimization happens when you discover marketing insights from your testing to apply across verticals and channels.

Always be on the lookout for actionable marketing insights from your test. These are an excellent way to move forward with your next test.

CHAPTER 8

16 MISTAKES THAT WILL KILL YOUR A/B TESTING (AND WHAT YOU CAN DO ABOUT THEM)

WRITTEN BY: **KHALID SALEH**

C H A P T E R 8

16 MISTAKES THAT WILL KILL YOUR A/B TESTING (AND WHAT YOU CAN DO ABOUT THEM)

The scene has changed a lot since we first started doing conversion optimization back in 2006.

At that time, many marketers and C-suite executive were not convinced that there is a lot they can do about their website conversion rate. Things are much different nowadays with many companies attempting to deploy AB tests on their websites.

However, the majority of companies continue to primarily invest in visitor-driving activities and set lower budgets for converting visitors into customers.

Invesp's 2017 state of the conversion rate optimization survey showed that majority of companies are allocating less than 8% of their digital marketing budgets to conversion rate optimization.

If your company is starting with A/B or multivariate testing, the following guide will help you avoid 16 common mistakes we have seen companies fall into during their first years of testing.

1 TESTING THE WRONG PAGE

If you have a website with a large number of pages, a large number of visitors and a large number of conversions, then the possibilities are endless.

For an e-commerce website, you can start your conversion program by focusing at the top of the funnel pages, such as the homepage or category pages. You can also start at the bottom of the funnel pages, such as the cart or checkout pages.

If you are a lead generation website, you can start by optimizing your homepage, landing pages, or contact pages.

When you choose the wrong page, you invest time and money in a page that might not have a real impact on your bottom line. Surprisingly, many companies continue to pay little attention to the importance of selecting the right page to perform a split test on.

We covered creating a prioritized research opportunities list in a previous chapter.

Our research opportunities list for different CRO projects contains on average anywhere from 150 to 250 items on it. This list is very powerful in guiding your CRO work. You will no longer pick random pages and random items to test. Every test you create is packed up by research.

2 TESTING WITHOUT CREATING VISITOR PERSONAS

Testing gives your visitors a voice in your website design process. It validates what works on your site and what does not. But, before you start testing, you must understand your visitors at an intimate level to create split tests that appeal to them.

We discussed the process of creating personas in several of our webinars and wrote about it in our book Conversion Optimization: The Art and Science of Converting Prospects to Customers.

Most companies have a decent knowledge of their target market. The challenge is how to convey that knowledge into actionable marketing insights on your website.

Personas play a crucial role in this process.

Let's say you are an e-commerce website that sells gift baskets online. You have worked with your marketing team to define two different segments of your target market:

B2C SEGMENT

white females, age 38 to 48, college educated, with annual income above $75,000. Your average order value for this segment is $125.

B2B SEGMENT

corporate clients, with the purchase decision made by an executive. These companies are generating between 10 to 50 million dollars in annual revenue. Your average order value for this segment is $930.

These two segments provide a typical format of market segmentation and raise the central question of marketing design.

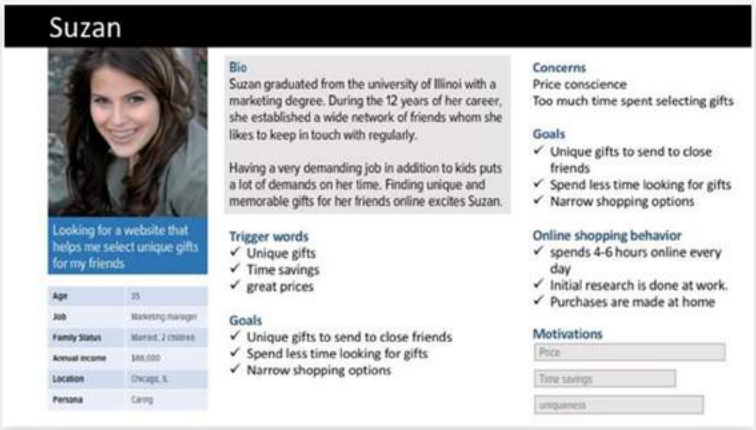
How can you design your website to appeal to these two distinctly different segments?

Creating personas will help you identify with each of the segments at more detailed level. At the end of the persona creation process for this website, you could end up with eight different personas. Let's take one of them as an example:

As you can see, Suzan resembles your target market. However, she removes the abstract nature of the marketing data. As you start designing different sections of the website, you will be thinking of Suzan and how she would react to them.

You might be thinking to yourself, "this is all great, but how does that impact my testing?"

Proper and successful testing uses personas in creating design variations that challenge your existing baseline (control).



How would you create a homepage test when you are thinking of Suzan?

- She is a caring persona, so you can test different headlines that appeal to her
- She is looking for unique gifts, so you can test different designs that emphasize the uniqueness of the products you offer
- Price is an essential motivation for Suzan, so you can test different designs that emphasize pricing

3 TESTING WITHOUT A HYPOTHESIS

A testing hypothesis is a predictive statement about possible problems on a webpage, and the impact that fixing them may have on your KPI.

In our experience, there are two different types of issues companies run into when it comes to creating hypotheses for different tests:

onas. Let's take one of them as an example:

1. Many testers dismiss hypothesis as a luxury. So, they create a test that generates results (positive or negative), but when you ask them about the rationale behind the test, they cannot explain it.
2. Others understand the importance of hypothesis but they create meaningless statements that do not have a real impact on testing.

Getting disciplined about creating test hypotheses will magnify the impact of your test results.

How do you come up with a test hypothesis in the first place?

Each conversion problems on your website should include three different elements in it:

1. A problem statement
2. How the problem was identified
3. An initial hypothesis on how to fix the problem

As discussed previously, you will have to solidify your initial hypothesis and create a concrete hypothesis.

Of course, you can always ignore the process, throw things at the wall, and pray that one of your new designs will beat the control. And yes, it might work some of the time. But it will not work most of the time. And it will indeed never work if you are looking for repeatable and sustainable results.

4 NOT CONSIDERING MOBILE TRAFFIC

Many websites are getting a higher percentage of their website traffic on mobile devices. Most of our European clients are reporting anywhere that 50 to 70% of their traffic arriving at the site using a mobile device.

You can only expect these numbers to grow over the next few years.

So, what should you do?

Each conversion problems on your website should include three different elements in it:

1. Determine the percentage of your website traffic that uses mobile devices for browsing
2. Determine the top ten devices visitors are using to browse your website
3. websiteEvaluate the behavior of mobile traffic compared to desktop traffic for all of the website funnels

These three steps should give you a lot of action points to take on your website.

Let's see an example:

	SOURCE	MEDIUM	DEVICE	CATEGORY TO PRODUCT	PRODUCT TO CART	CART TO CHECKOUT
1	Google	Organic	Desktop	40%	18%	40%
		Organic	Mobile	43%	18%	22%
2	Google	Paid	Desktop	31%	15%	33%
		Paid	Mobile	35%	13%	18%
3	Bing	Paid	Desktop	48%	22%	44%
		Paid	Mobile	52%	22%	25%
4	Facebook	Paid	Desktop	32%	14%	37%
		Paid	Mobile	36%	13%	18%
5	Email	Internal	Desktop	50%	35%	30%
		Internal	Mobile	55%	33%	18%

For a CRO expert, the data above provides a wealth of information. When examining the flow from category to product pages, you will notice that Bing paid traffic outperforms all other types of paid traffic. It only comes second to the email campaigns. On the other hand, Facebook paid traffic underperforms compared to other channels.

If you consider the category to product flow, mobile traffic outperforms desktop for all traffic sources and mediums. This indicates that category page design for mobile is acceptable to users. However, notice the drop in mobile performance when visitors get to product pages.

Things get even worse when we start evaluating mobile checkout. The numbers are telling us that the mobile checkout has much higher abandonment rates compared to desktop.

The real investigation begins here. Why is it that mobile checkout underperforms?

Is it a problem with the website design or usability? Or is it the case that visitors use their mobile devices to browse the website and then when they are ready to place an order, they use their desktops?

5 MOBILE VS DESKTOP EXPERIENCE: THE AFTERMATH OF TESTING

What brings visitors to your website on a mobile device is vastly different from what brings them to your website on a desktop. And that is the reason you should run separate mobile and desktop tests on different pages of your website. That is a no-brainer.

But, how do you handle instances where a winning design for a mobile test on a particular page is very different from the winning design for a desktop expierement for that same page?

If you are lucky, your technical team is able to serve two completely different experiences to website visitors based on the type of device they are using to navigate. Having two different designs (mobile and desktop) for the same page can cause major development problems. And as a result, we have seen companies use a single layout for both desktop and mobile.

That does not solve the issue, it ignores it. So, do not do that. Discuss your options with your technical team and figure out a way to handle this issue.

6 NOT RUNNING SEPARATE TEST FOR NEW VS. RETURNING VISITORS

Returning visitors are loyal to your site. They are used to it with all of its conversion problems!

Humans are creatures of habit. In many instances, we find that returning visitors convert at a lower rate when we introduce new and better designs. This has been explained in the theory of momentum behavior.

For this reason, we always recommend testing new website designs with new visitors.

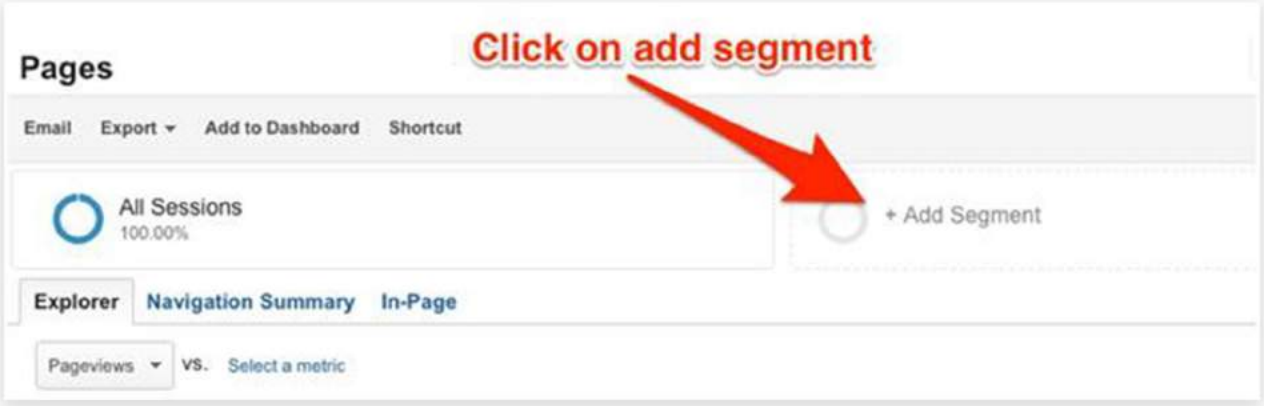
Before you test new designs, you need to assess how returning visitors interact with your website compared to new visitors. If you run Google Analytics, you can view visitor behavior by adding a visitor segment to most reports.

Let's examine how visitors view different pages on your website.

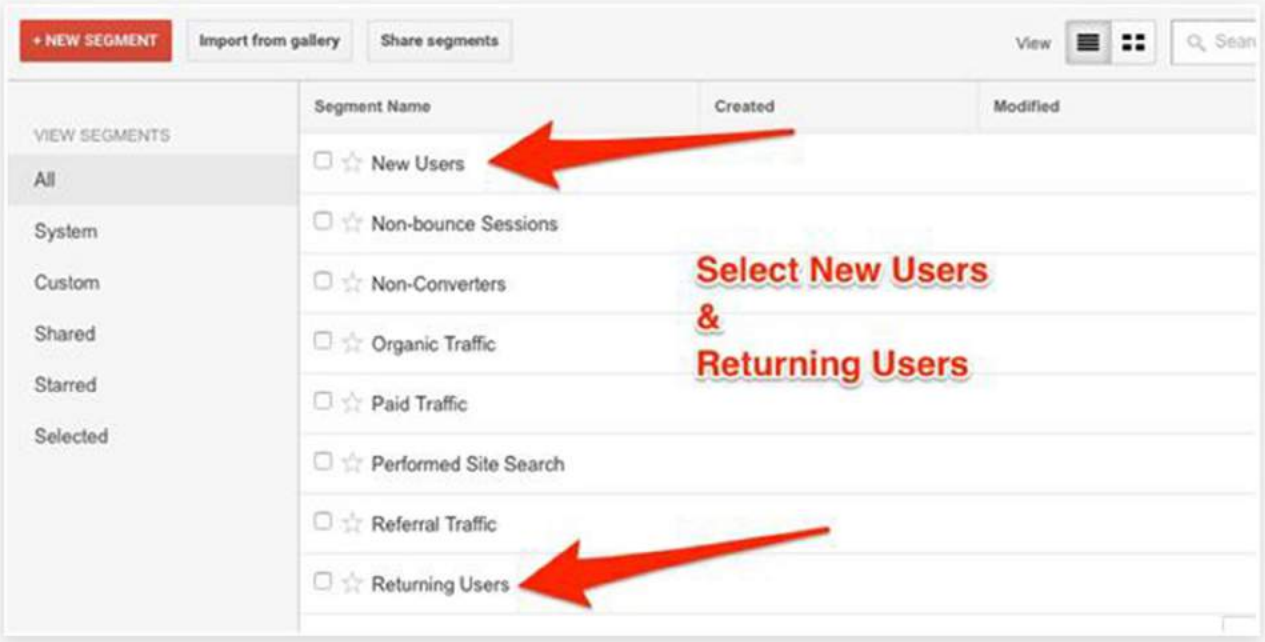
After you log in to Google Analytics, navigate to Behavior > Site Content > All Pages

Google will display the page report showing different metrics for your website.

To view how returning vs. new visitors interact with your website, apply segmentation to the report:



Select “New Users” and “Returning Users”



Google will now display the same report segmented by the type of user:

Notice the difference for this particular website in terms of bounce and exit rates for returning visitors compared to new visitors.

Most websites show anywhere from 15% to 30% difference in metrics between the two visitor segments.

If the difference in metrics between new and returning visitors is less than 10%, then you should scrutinize your design to understand why returning visitors react the same way as new visitors.

Next, create a test specifically for new visitors. Most split testing platforms will allow you to segment visitors.

If your testing software does not support this feature, then switch to something else!

7 IGNORING DIFFERENT TRAFFIC SOURCES

Visitors land on your website from diverse traffic sources and mediums. You will notice that visitors from different sources interact with your site in different ways.

Trust is one of the first and most significant influences to whether a visitor is persuaded to convert on your website or not. One of the subelements of trust is continuity.

Continuity means you must maintain a consistent messaging and design from the traffic source/medium to the landing page.

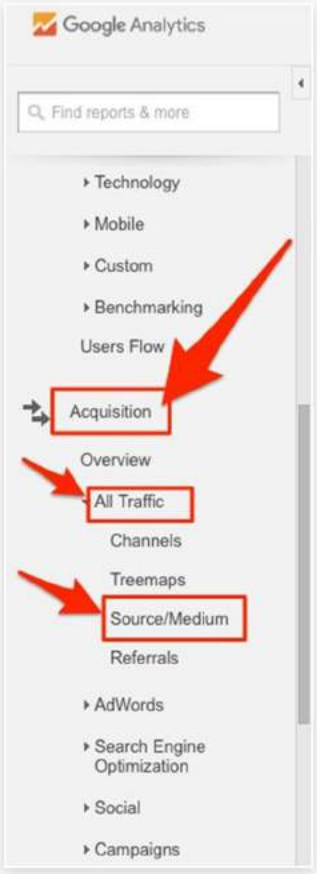
Creating the same test for different traffic sources ignores that visitors might see different messaging or designs before landing on your website.

To assess how traffic sources can impact your website, follow these three steps:
1. Understand how different traffic sources/mediums interact with your site
2. Analyze reasons for different visitor interaction (if any)
3. Create separate tests based on the traffic sources/mediums

Let's see how this is done in Google Analytics.

First, generate the traffic sources/mediums report. To do this, navigate to Acquisition > All Traffic > Sources/Mediums

Google will generate the report for you. Now, it is difficult to assess all your traffic sources. We recommend evaluating either your top ten or the traffic sources that drive more than 50,000 visitors to your website.



As you analyze the report, examine the following metrics:

- **Bounce rate**
- **Exit rate**
- **Pages/Session**
- **The conversion rate for different goals**

Ask questions such as:
- Which traffic sources are driving the highest conversions?
- Do you see high bounce rates for paid traffic?
- Which traffic sources are driving the lowest bounce and exit rates?

These steps help in determining if there is a difference in visitor behavior for different traffic sources.

Next, you need to determine the causes of such different behavior.

This will require examining each traffic source:
- What are visitors seeing before landing on your website?
- Do you have control over the display/messaging that visitors see before landing on the website?
- Can you change your landing page to maintain continuity in the experience?

8 TRYING TO DO TOO MUCH IN ONE TEST

This is one of the mistakes we fell in during the first year we conducted A/B and MVT testing. Our clients wanted to see large-scale experiments. Small tests did not convince them. And instead of explaining to them what we were trying to accomplish, we created extensive tests where we changed too many elements at the same time.

Most of our testing produced excellent results.

As a matter of fact, in 2007, 82% of our testing generated an uplift in conversions and 78% of our test produced more than 12% increase in conversion rates.

These are amazing results. So, what was the problem?
Since we were making too many changes on a page for every test, we could not isolate what exactly was generating the uplift. So, our team could only make assumptions. Every test generated an increase in conversions due to seven to nine different factors.

This approach might be okay if you are looking to do two to three tests and get done with testing (we do not recommend it).

But if you are looking for a long-term testing program that takes a company from 2% to 9% conversion rate, that approach will undoubtedly fail.

Our approach twelve years later looks tremendously different. Our testing programs are laser sharp focused.

Every test we perform relies on a hypothesis. The hypothesis can introduce several changes at the same time to the page, but research backs all changes. A single hypothesis about enhancing social proof could be implemented by deploying a new headline, new image, and a new layout. Yes, there are several elements but they all support the overall hypothesis.

Let's take a recent evaluation we did for a top IRCE 500 retailer. Their product pages suffered from high bounce rates. Visitors were clicking on PPC ads, getting to the product pages, checking out prices for different products, and then leaving. Visitors were price shopping.

What were the results of running these tests?
The website increased revenue (not conversions!) by over 18%.

9 RUNNING A/B TESTS WHEN YOU ARE NOT READY

Everyone is talking about A/B and multivariate testing. The idea of being able to increase your website revenue without having to drive more visitors to the website is fantastic.

But A/B testing might not work for every website. Certainly, multivariate testing is not for every site.
Testing might not work for you in two instances:

- when you do not have enough conversions
- when you do not have the mindset required to run a successful CRO program.

1. You do not have enough conversions
If you do not have enough traffic coming to your website or enough conversions, then split testing will not work for you.

A small A/B test that has one challenger to an original design requires that the particular page you plan to test to generate a minimum of 500 conversions per month. If that particular page is getting less than 500 conversions, then your tests might run for too long without concluding.

We typically do not start A/B testing with a client unless the website has 500 conversions per month. Our standard program requires that clients cross the 800 conversions per platform (desktop or mobile).

Multivariate testing requires more conversions and more traffic compared to AB testing. Do not consider MVT testing unless your website has 10,000 conversions per month.

2. You do not have the mindset needed to run a successful conversion program
While the first reason why a conversion program fails is straightforward to figure out (you look at your monthly conversions), the second problem is more difficult to assess.

The truth is that not every organization or business is ready for testing.

Testing requires you to admit that visitors may hate your existing website design.

Testing requires you to admit that some designs which you hate will generate more conversions/sales for you.

Testing requires surrendering the final design decision to your visitors.

> At the surface, every business owner or top executive will say that they are focused on their revenue. But after running over 500+ conversion optimization projects with over 10,000+ spit tests in them, we can simply state that this is not the case.

We have seen business owners reject the results of testing that generated 32% uplift in conversions with 99% confidence because they liked the original design and could not bear the idea of changing it.

We have seen executives reject the results of testing that generated 25% uplift in conversions with 95% confidence because they hated the winning design.

We have also seen testing programs fail because, while the CEO of the company was committed to testing, the team was not sold on the idea.

For many companies, split testing requires a complete culture shift. To make sure its results will have a direct and significant impact on your bottom line, everyone – and we do mean everyone – must be completely committed to it.

10 CALLING THE TEST TOO SOON

You run the test and, a few days later, your testing software declares a winning design. Everyone is excited about the uplift. You stop the test and make the winning challenger your default design.

You expect to see your conversion rate increase. But it does not.

Why?

Because the test was concluded too quickly. Most testing software declares winners after achieving a 95% confidence level regardless of the number of visitors and conversions reported for different variations.

Many split testing platforms do not take into account the number of conversions the original design and the variations recorded. If the test is allowed to run long enough, you will notice that the observed uplift slowly disappears.

So, how do you deal with this?

1. Regardless of the setup in the split testing platform, make sure you adjust it to require a minimum of 500 conversions for the original design and the winning challenger.
2. Run your tests for a minimum of seven days so that your test will run on every day of the week to account for fluctuations might happen between different days (We typically run tests for a minimum of two weeks depending on the business cycle for the particular business).

11 CALLING THE TEST TOO LATE

You have no control over external factors when you run a split test. These factors can pollute the results of your testing program.

There are three different categories of external factors that could impact your experiments:

- General market trends: a sudden downturn in the economy, for example
- Competitive factors: a competitor running a massive marketing campaign
- Traffic factors: change in the quality of organic or paid traffic

All of these factors could impact the results of your testing at no-fault of the testing program itself. For this reason, we highly recommend limiting the time span of any split test for no longer than 30 days.

We have seen companies require tests to run for two to three months trying to achieve confidence on a test. In the process, they pollute their testing data.

In fixed horizon testing, you should calculate the number of visitors required to go through the test before launching any experiment. In this approach, you will use your current conversion rate, significance level, and the expected uplift to determine required sample size.

A final note on significance levels: Remember that achieving 95%significance is not a goal set in stone. Significance levels provide a general trend line that the test results are positive and consistent.

12 WHEN TECHNOLOGY BECOMES A PROBLEM

The purpose of testing is to increase your conversion rates and your revenue. Developers sometimes struggle to focus on this fact, especially when they get fascinated by a particular piece of software that complicates test implementation.

As a goal, most split tests should not take longer than three to five days to implement.

Smaller tests, with few changes to a page, might take a few hours to implement.

You must keep in mind that the first two split tests you deploy on your website will take a little longer to implement as your development team gets used to the split testing platform you selected.

However, if you notice that, over a six-month period, all of your tests are taking over a week to ten days to implement, then you MUST assess the cause for the delay:

- Is the testing platform too complicated and an overkill for the type of testing you are doing?
- Is your website or application code not developed with proper standards which are causing the delays?
- Does your development team have a good handle on implementing tests or are they struggling with every test?
- Are you creating and deploying complicated tests that require significant time to develop?

Golden rule: A testing program should deploy two to six tests per month.

13 RUNNING SUCCESSFUL SIMULTANEOUS SPLIT TESTS

Launching simultaneous split tests expedites your testing program. Instead of waiting for each test to conclude, you run several tests at the same time.

If you are running simultaneous split tests in separate swimlanes, then this will not cause you an issue.

However, if the same visitors are navigating through your website and seeing different tests, you could be cannibalizing your testing data.

Imagine the scenario of running a test on the homepage, with three challengers to the original design. A visitor might view any of the following configurations:

H0	Original homepage design
H1	Challenger 1
H2	Challenger 2
H3	Challenger 3

At the same time, you run a test on the product pages, with two challengers to the original design. A visitor might view any of the following configurations:

P0	Original product design
P1	Challenger 1
P2	Challenger 2

In this scenario, as the visitor navigates from the homepage to the product pages, he can see any of the following combinations of designs:

1	H0, P0	Original homepage, original product page
2	H0, P1	Original home page, product page challenger 1
3	H0, P2	Original home page, product page challenger 2
4	H1, P0	Homepage challenger 1, original product page
5	H1, P1	Homepage challenger 1, product page challenger 1
6	H1, P2	Homepage challenger 1, product page challenger 2
7	H2, P0	Homepage challenger 2, original product page
8	H2, P1	Homepage challenger 2, product page challenger 1
9	H2, P2	Homepage challenger 2, product page challenger 2
10	H3, P0	Homepage challenger 3, original product page
11	H3, P1	Homepage challenger 3, product page challenger 1
12	H3, P2	Homepage challenger 3, product page challenger 2

Your two separate and straightforward tests end up impacting each other.

So, does that mean that you should never run simultaneous split tests?

No, we run split tests simultaneously on projects with the following guidelines:

1. We target different traffic and device types to split the traffic.
2. After we declare a winner for a test, we run the winner against the control in a head-to-head match in a period where no other tests are running.

14 MISSING THE INSIGHTS

The real impact of conversion optimization takes place after you conclude each of your split tests. This impact is by no means limited to an increase in conversion rates.

Yes, seeing an increase in conversion rates is fantastic!

But there is a secret to amplifying the results of any test by deploying the marketing lessons you learned across different channels and verticals.

Let's put this in perspective.

We worked with the largest satellite provider in North America helping them tests different landing pages for their PPC campaign. The testing program was very successful, generating significant increases in conversion rates.

As we implemented the testing program, their digital marketing director asked if we could use the same lessons we learned from split testing in their newspaper advertising.

This was a new challenge.

Would offline buyers react the same way to advertising as online buyers?

There was only one way to find out. We had to test it.

Each test was built using a hypothesis. We applied that hypothesis to both online tests as well as the newspaper advertising. We ran three different tests both online and offline.

Each test generated an uplift in conversions in both online and offline.

But things did not stop there.

We then applied the same lessons to mailers which the company sent to residential addresses.

Again, we saw uplifts in conversions.

If you follow a conversion optimization methodology, then you will be able to take lessons from your testing and apply them again and again.

15 YOUR FOLLOW UP TESTS

Not every test will generate an increase in conversions. As you conclude your experiments, you will have to decide on the next steps for each test. I have seen clients and teams get frustrated because they are not able to increase conversions on a particular page. So, they move on to other sections on the website.

The post-test analysis should determine one of four possible next steps:

1. **Iterate on the test:** conduct further tests on the page, fine-tuning the test design or trying different implementation to the original hypothesis.
2. **Test new research opportunities:** test results point to a new hypothesis that should be tested on the page.
3. **Investigate further.** test results show that you need to dig for deeper insights before you determine next steps.
4. **Pivot:** Your testing data and analysis clearly indicate that you had the wrong hypothesis to start with. Time to look for other issues on the page.

16 NOT DOCUMENTING EVERYTHING

A conversion optimization program is documentation intensive. You should record every little detail.

You must document:

- Your qualitative analysis research and findings
- Your quantitative analysis and conclusions
- Every page analysis you conduct
- Every hypothesis you make
- Screen captures of every design you deploy
- Testing data
- Post-test analysis

Many companies do not pay close attention to the importance of documentation. They discover its importance when they come back to the testing results a few months later. When there is no documentation or when it is scattered in across multiple emails, they struggle to remember why they made a particular change. But it is too late.

From the very start of any CRO project, decide on the method you will use to document everything and use it thoroughly.

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