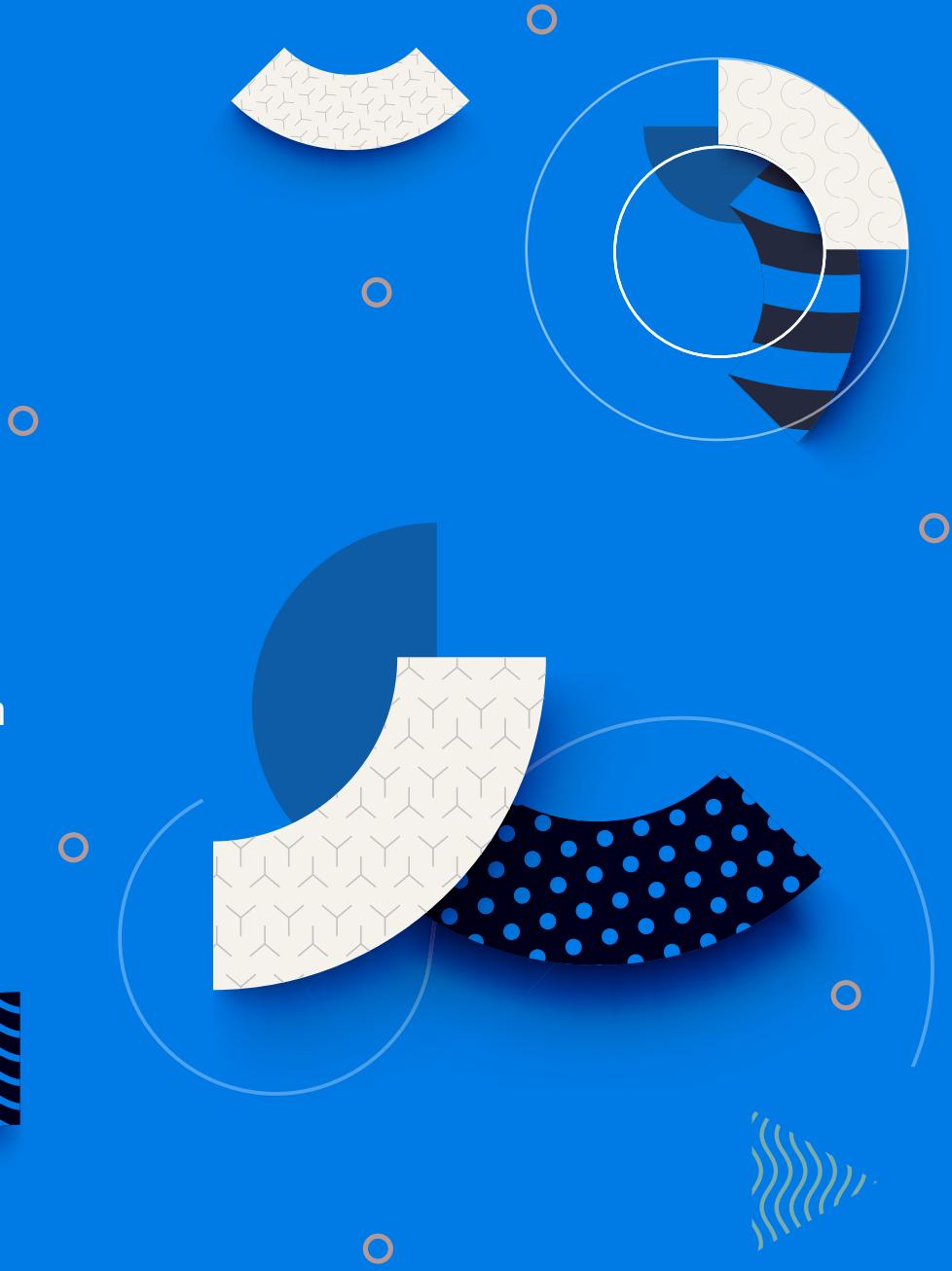


Building an Experimentation Program

Best practices for scaling
experimentation and driving innovation
across your organization



INTRO

How is it some organizations can consistently move faster than their peers and deliver breakthrough experiences? Why are some organizations able to innovate more quickly to deliver those experiences that will unlock business value and potential? What sets today's most innovative companies apart from the rest of the field isn't some kind of magic formula; instead, these companies have invested in creating a culture of experimentation and innovation, and made experimentation at scale a core business practice. Experimentation as a practice can help all companies innovate and iterate more rapidly. Leading organizations

like Amazon, Google, Netflix, and Microsoft have found a way to scale their experimentation efforts by removing silos and putting the people, processes, practices, and technology in place to enable them to continuously innovate at scale. This kind of scalable and flexible experimentation program can empower different teams and functions to contribute testable hypotheses and collaborate on the customer experience. For these leading companies this can result in a program that powers tens of thousands of experiments per year.¹

¹ <https://www.fastcompany.com/3063846/why-these-tech-companies-keep-running-thousands-of-failed>

Take Netflix, for example, which leverages continuous experimentation to constantly improve the streaming quality of experience (QoE) for nearly 118 million subscribers worldwide.² To consistently deliver the highest quality streaming experiences and delight customers across the globe, engineers and scientists at Netflix run a variety of tests, including controlled A/B tests, to make changes to algorithms, collect and analyze data, and create a constant feedback loop with members.³

Often, companies like Netflix will test several competing options simultaneously to find the most impactful experience.

With the right combination of organizational and cultural best practices, people, processes, and technology, you can bring this cycle of ongoing iteration, improvement, and innovation to your organization.

Read on to discover how your company can:

- **Promote an experimentation mindset**
- **Generate great, data-driven hypotheses**
- **Build an experimentation roadmap**
- **Evangelize experimentation and share learnings**
- **Set program goals and measure your progress**
- **Organize for success**

² <https://www.recode.net/2018/1/22/16920150/netflix-q4-2017-earnings-subscribers>

³ <https://medium.com/netflix-techblog/a-b-testing-and-beyond-improving-the-netflix-streaming-experience-with-experimentation-and-data-5b0ae9295bdf>

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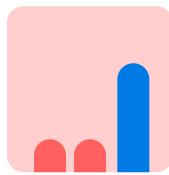
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PROMOTING AN EXPERIMENTATION MINDSET



Anyone who has embarked on a do-it-yourself construction project, no matter its scope, knows that the structural integrity and longevity of the finished product depends on a strong foundation and careful planning. Building a scalable and sustainable experimentation program is no different.

In today's digital-first world, many companies are more than capable of conducting focused experiments within individual teams and specific touchpoints of the customer experience. The biggest difference these companies and those that are able to experiment at scale is **culture and mindset**. Think of this as the cornerstone of a strong experimentation program foundation.

Before a successful experimentation program can be constructed, companies must first shift their approach to ongoing testing. For leading organizations, testing is not seen as a one-off practice that occurs in isolation. Instead it is something that is continuous, iterative, and

collaborative. The most innovative organizations take a “test and learn” approach to everything they do – across all channels and touchpoints. Even many established global organizations have implemented a “lean startup style” of experimentation, which enables them to quickly test ideas in a controlled environment, analyze outcomes, and evaluate business impact.⁴

To promote this kind of approach, you need to create an environment where you are basing all of your decisions on data. Every business, regardless of their industry, has key metrics that they use to measure performance. Aligning departments and employees on these key metrics empowers everyone to identify the best ideas, build the most promising experiences, test those experiences with customers at scale, and then iterate on the results. But it starts with asking the right questions – most importantly, it involves understanding the “why” behind your data.

⁴ <https://www.giminstitute.org/lean-startup-style-innovation/>

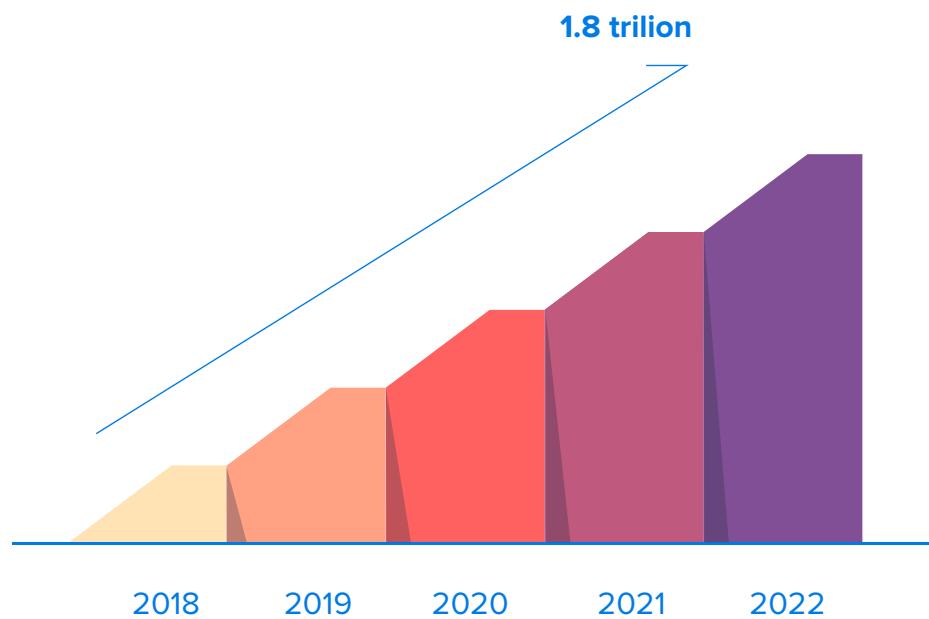
PROMOTING AN EXPERIMENTATION MINDSET

Getting to the “why” means encouraging departments and teams to routinely evaluate a wide range of direct and indirect data sources and reports. This evaluative approach can help uncover new insights, identify trends, and lead to more paths for investigation. Forrester refers to organizations that are able to systematically gain actionable insights from their data and use them to continuously refine the customer experience as insights-driven businesses – and according to Forrester they are setting the pace for global growth.⁵

An excellent example of an insights-driven business implementing a systematic and flexible experimentation mindset is Amazon. CEO Jeff Bezos has long been a proponent of using continuous iteration as a way to avoid complacency and relentlessly pursue customer-centric innovation. He has been quoted as saying, “Our success at Amazon is a function of how many experiments we do per year, per month, per week, per day.”⁶ When this approach becomes the norm across all of your channels, touchpoints, and experiences, you will change the very nature of how your organization operates.

⁵ <https://go.forrester.com/blogs/insights-driven-business-es-have-different-dna/>

⁶ <https://www.fastcompany.com/3063846/why-these-tech-companies-keep-running-thousands-of-failed>



Insights-driven
businesses are growing by
more than 30% annually
and are on track to earn
\$1.8 trillion by 2021. ⁷

⁷ https://www.forrester.com/report/InsightsDriven+Businesses+Set+The+Pace+For+Global+Growth/-/E-RES130848?utm_source=blog&utm_campaign=research_social&utm_content=blog_hopkins

GENERATING GREAT IDEAS



Once you've laid a strong cultural foundation for an experimentation program, the next step is creating a pipeline of compelling hypotheses for testing. At this stage, knowing where to begin may seem like a daunting task and relying on instincts alone can cause you to focus on the wrong touchpoints and miss the greatest impact opportunities.

The best hypotheses are rooted in data and deep insights into your business. Data and analytics, such as funnel reporting, product engagement metrics, heatmapting, and cohort analysis, can serve as powerful tools as you develop hypotheses. They can help you focus your testing and radically improve your chances of finding breakthrough winners. Funnel reports, for example, may help you identify improvement opportunities based on where you see the biggest drop-offs in conversion rates. A critical evaluation of your metrics, their changes over time, and their performance against established industry benchmarks can illuminate opportunities for further investigation.

Visa is a great example of a company that is using data-driven decisions to generate testable ideas and prioritize them based on greatest potential impact. To help ensure the long-term success of this “test and learn” system, Visa has implemented a dedicated testing team that consists of technologists, analysts, designers, and other employees; they've also opened five physical Innovation Centers across the globe that provide immersive experiences and promote real-time experimentation.^{8,9} A firm grasp of key metrics and a systematic approach to ideation allows Visa to eliminate the guesswork from digital product development and maximize the impact of every feature rollout.¹⁰

⁸ <https://blog.optimizely.com/2017/11/16/culture-of-experimentation-visa-strava-tripping/>

⁹ <https://usa.visa.com/about-visa/global-innovation-centers.html>

¹⁰ <https://www.optimizely.com/customers/#case-study>

GENERATING GREAT IDEAS

After you've considered your most critical metrics, it's time to start thinking about how you might move them. There are many ways to generate and capture ideas. Some organizations choose to review specific pain points in a group setting and collectively brainstorm innovative ways to solve them. Generally speaking, a brainstorming best practice is to start with a specific set of problems or desired outcomes.

In addition to conducting focused sessions on idea generation, you'll also want to draw from a diverse set of stakeholders, including marketers, product managers, experience owners, analysts, and senior leaders. Creating an easy way for anyone in your organization to submit ideas can help encourage company-wide participation. Hotwire, for example, recently orchestrated a company-wide contest that offered gift cards and other incentives to employees who submitted creative ideas for testing. The contest, combined with a

system that grouped ideas into different defined optimization areas based on conversion rates and customer experience touchpoints, enabled Hotwire to identify high-value experiment ideas.¹¹

Whatever ideation format you choose, taking steps to ensure seamless idea submission, routinely communicating with employees across departments, and celebrating the ideas that lead to success, will generate a wide range of options for further testing, development, and iteration.

¹¹ <https://blog.optimizely.com/2017/10/18/program-management/>

Implementing a program management solution can help your organization democratize and scale ideation, collaboration, reporting, and oversight. Consider a solution that includes an integrated hub for capturing ideas and managing experiments across teams. ¹²

¹² <https://blog.optimizely.com/2015/04/28/organized-ideation-hotwire-travel-experiments/>



Ideas

4.0

New global navigation experiment

ACTIVE



Koray Ekremoglu
Started Feb 22, 2018

Analysis

✓ ✓ ✓ ✓ ✓ ✓ ○

3.5

Personalized homepage banner experiment

ACTIVE



Yeeland Chen
Started Mar 6, 2018

Setup & QA

✓ ✓ ✓ ✓ ○ ○ ○

3.0

Product algorithm experiment

ACTIVE



Claire Vo
Started Mar 16, 2018

Creative

✓ ✓ ○ ○ ○ ○ ○

BUILDING A ROADMAP



At this stage, the “test and learn” mindset is firmly in place and you’ve amassed a sizable pool of potential experimentation ideas from contributors across your organization. Now the challenge becomes deciding what to optimize first – and which type of test to run. The next building block of a successful experimentation program is an organized roadmap for prioritizing, planning, and designing individual experiments.

A well-structured roadmap begins with a **basic prioritization framework**. There are many ways to evaluate experimentation ideas, but a good place to start is by assessing and defining your product and business goals. Are you trying to increase engagement and page views on your website homepage? Are you looking to increase engagement with key areas of your experiences? Do you want to increase the number of cross-sell opportunities? Are you looking to roll out new features and measure the impact of

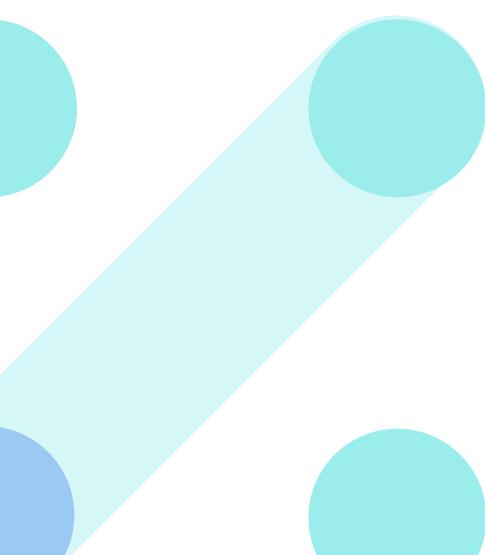
those efforts? Asking these questions and evaluating relevant data in brainstorm or focus groups can help you identify areas of greatest need.

After agreeing on defined business and product goals, evaluate testing ideas based on three factors: **potential, impact, and effort**.¹³ Potential is an evaluation of the potential of your experiment to improve your key metric. This is an estimate of how likely an experiment would be to improve conversion rates, product engagement, revenue, or whatever your key metric might be for a given experiment.

Impact refers to the business impact an experiment would have if it were to win. An experiment that could potentially increase performance on your core user sign-up flow, for example, would have a high rating for impact vs. something less critical to your product or business.

¹³ https://help.optimizely.com/Ideate_and_Hypothesize/Build_a_basic_prioritization_framework

BUILDING A ROADMAP



Effort refers to how difficult an experiment will be to conduct in terms of the time and resources required. Effort factors are also broken down into two subgroups: technical and teams. The first subgroup, technical, covers a range of backend factors and audience segmentation requirements to consider. Factors in the teams subgroup include the people and departments that will be required to conduct an experiment (i.e. designers, developers, IT staff, and SEO team members). When determining effort, make sure to consult the right team members and factor in their estimates and expertise. Then assign effort scores and impact scores to every optimization idea and use these scores to prioritize tests.

Additionally, some companies like to include more abstract scoring criterion that can help you determine whether ideas align with personal preferences, strategic importance, and company mission and priorities. Implementing a program management

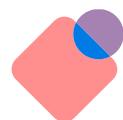
solution that has scoring capabilities built in can make it easy for you to make informed decisions about which experiments to run next and maintain a rigorous testing velocity.

For Atlassian, building and curating multiple experiments simultaneously is part of the daily process. Democratizing ideation enables Atlassian to recruit ideas from employees and teams across the company and makes prioritization critical to the quality and velocity of experimentation.¹⁴ A prioritization framework and strong program management allow Atlassian to easily determine the power of an idea and the potential it has to impact metrics.

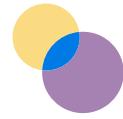
¹⁴ <https://www.optimizely.com/customers/#case-study>

BUILDING A ROADMAP

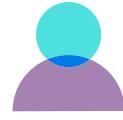
After you have a prioritized list of ideas and features to test, the next component of a roadmap is an **experiment plan** that helps scope and launch individual experiments.¹⁵ An effective experimentation plan will help manage the project and set expectations by providing answers to the following questions:



WHY
are we running this experiment?



WHEN and WHERE
will our variations run?



WHO
needs to see this experiment?



HOW
are we measuring success?

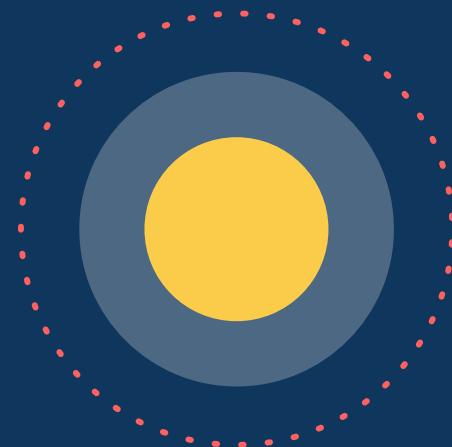
These questions will help you define primary, secondary, and monitoring goals – and decide what type of experiment to run. Another metric to consider at this stage is minimum detectable effect (MDE).¹⁶ Calculating MDE enables you to connect cost to your potential experiment design and determine whether the potential results are valuable enough to justify the effort required to design and run the test.

¹⁵ https://help.optimizely.com/Ideate_and_Hypothesize/Create_a_basic_experiment_plan

¹⁶ [https://help.optimizely.com/Ideate_and_Hypothesize/Use_minimum_detectable_effect_\(MDE\)_when_designing_a_test](https://help.optimizely.com/Ideate_and_Hypothesize/Use_minimum_detectable_effect_(MDE)_when_designing_a_test)

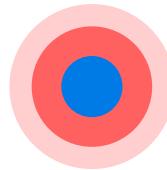
“Experimentation is a core component to every part of our organization from marketing, to our product organization, to engineering.” ¹⁷

– Cameron Deatsch, VP of Growth, Atlassian



¹⁷<https://www.optimizely.com>

EVANGELIZING EXPERIMENTS AND SHARING LEARNINGS



Developing sound data-driven hypotheses and conducting experiments can uncover surprising findings filled with useful insights. The potential business impact of these insights hinges on your ability to identify and interpret them. Whether your results are good, bad, or inconclusive, they are still results, and there is always something to learn.



INVESTIGATION AND ANALYSIS

Before you can take action you'll need to evaluate the results of your experiment to determine whether tests were winning, losing, or inconclusive. During the investigation phase, start by comparing results to your original business goals and your hypotheses to bring the tests full circle.

Use overall results to get an idea of the average visitor's or user's behavior, then segment your results to focus on specific audience subsets or behaviors. This deep dive into audience segments can help you gain actionable insights about your customers and even uncover surprising conclusions. For example, adding a new feature into your core experience may have a much greater

effect on mobile visitors than desktop visitors.

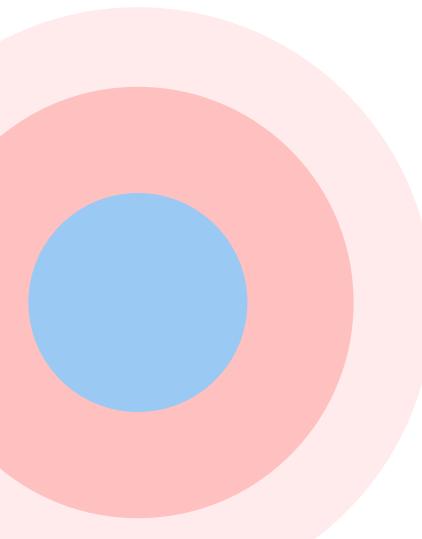
Asking the following audience-related questions can help you analyze your results across experiments more effectively:

- Do any specific audience segments behave differently from the overall audience?
- If so, what are the characteristics and goals of this particular segment?
- Why do you think they responded to the test or campaign the way they did?
- Which variation did your most valuable visitors prefer?

Use the answers to these questions to make data-driven business decisions based on your results.

EVANGELIZING EXPERIMENTS AND SHARING LEARNINGS

TAKING ACTION



Every variation and experiment, whether it's successful, unsuccessful, or inconclusive, is a learning opportunity. Having a planned course of action for each of these scenarios can help you fast track innovation and promote continuous iteration.

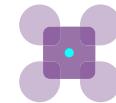
If your results show a single clear winning variation, and that variation helps your business goals, roll that variation out to a greater percentage of users and continue to receive feedback from your customers. Keeping a constant feedback loop surrounding winning variations can help you identify a trend and present an opportunity for continuous optimization.

It's easy to dismiss losing tests, but these results are equally as important as positive statistically significant results. An absolutely critical part of developing an experimentation culture and mindset is learning how to

embrace failure and turn it into a learning experience. The beauty of an experimentation program is it allows you to make bold bets (rooted in data, of course) and test them in a controlled environment. When you learn to view losing variations as valuable educational opportunities, rather than simply failure, you are well on your way to unleashing innovation across your organization.

For each losing variation, try to pinpoint why visitors responded negatively. Use your audience segmentation techniques to determine whether certain visitors converted better or worse than others and use your findings to brainstorm new hypotheses. Either try the test again with some tweaks, or plan another experiment based on your findings and move on.

EVANGELIZING EXPERIMENTS AND SHARING LEARNINGS



SHARING RESULTS AND EVANGELIZING EXPERIMENTATION

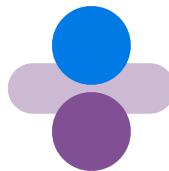
Promoting company-wide transparency is just as critical to a successful experimentation program. It widens the impact of your testing, promotes the culture you've worked so hard to develop, and evangelizes the importance of continuous iteration.

Start by sharing results with your testing team, relevant stakeholders, and anyone involved in the ideation process. These individuals took the time to share their ideas and are invested in the outcomes. Make sure you include the purpose of each test, clearly define the details and hypothesis, provide details about the impact on revenue, and share lessons learned –

regardless of the outcome. We recommend getting in the habit of conducting regular meetings with these individuals to share updates.

Don't be afraid to get creative with your sharing routine. Distributing something as simple as a "Which Variation Won" poll that highlights the hypotheses and key learnings can increase engagement and get more employees invested in your experimentation program.

SETTING GOALS AND MEASURING PERFORMANCE



The best-performing experimentation programs and teams set goals for experimentation and then measure their performance for those goals over time. To be successful, it's important to track both the volume and velocity of experiments you are running to understand if you are improving over time. Measuring the time it takes an experiment to go from an idea to deployment, and how many experiments that you have at each stage of the process - from ideation and development, to testing and analysis - can also yield valuable insights.

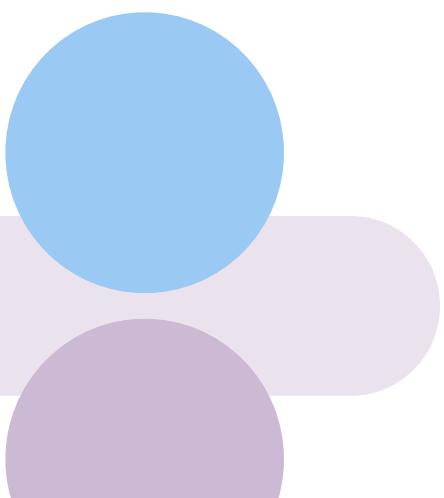
In order to understand how well ideas and experiments are performing across a program, it is important to also measure and analyze win rate, the rate at which your experiments yield a positive statistically significant result. By understanding win rate, and win rate over time, you can gain powerful insights that can help improve future ideation and prioritization.

If you are finding that you are getting higher impact from experiments on certain parts of your experience, then you may want to continue investing there to see if you can further improve your key metrics.

Alternatively, if new enhancements to parts of your product are yielding an inconclusive or a negative impact across a series of experiments, you may choose to shift your efforts elsewhere moving forward.

Again, the key to successful experimentation at scale is transparency about the program's performance as a whole. Bring in your broader organization to increase program visibility and champion data-driven decision making. Cover topics such as overall experimentation velocity and win rate, identify areas for improvement, and improve oversight across projects and teams.

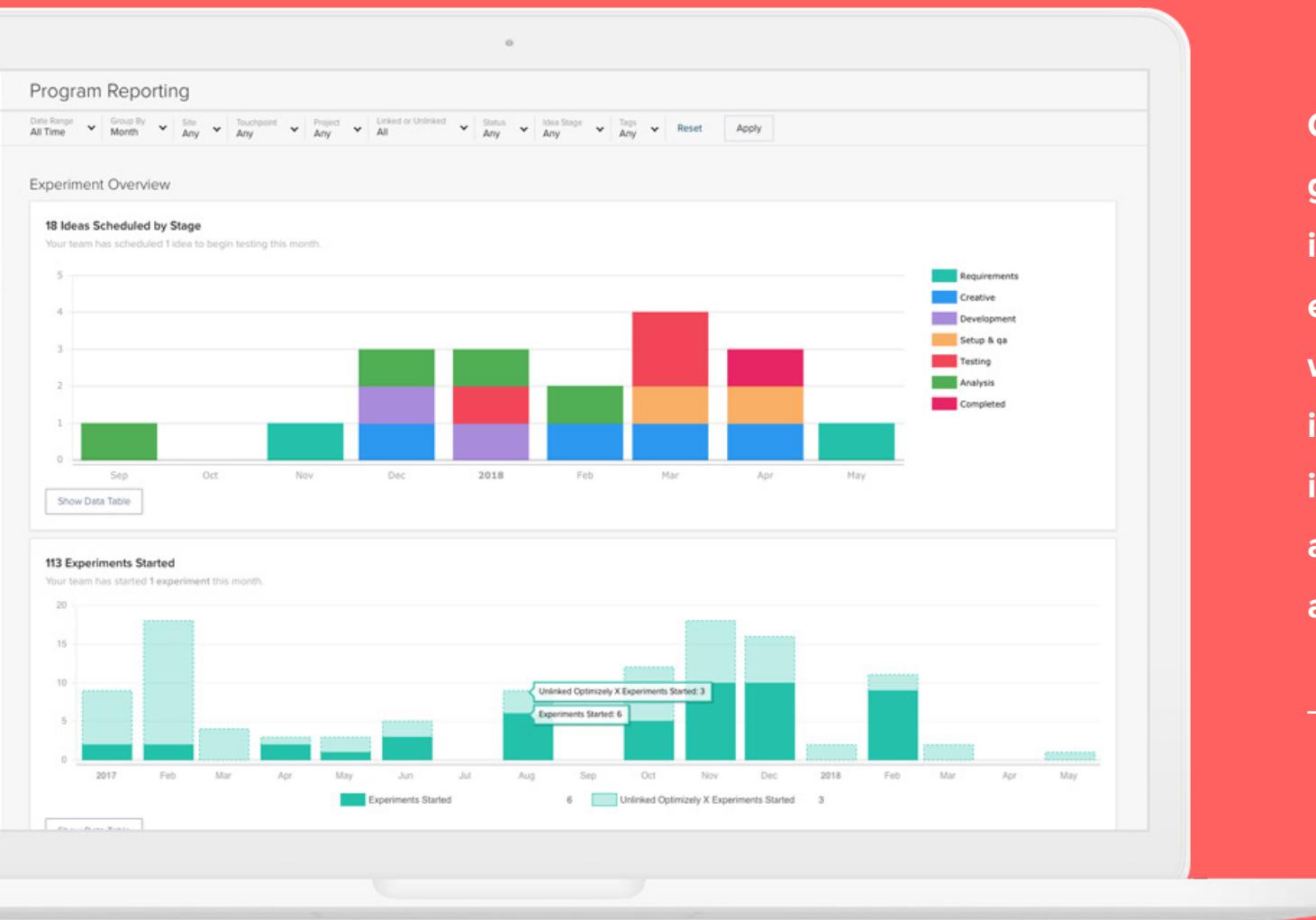
SETTING GOALS AND MEASURING PERFORMANCE



The level of transparency is also important for giving executives and other important stakeholders more visibility into the performance of your efforts. Make sure that everyone in your organization is aware of key learnings so everyone can benefit from those insights. By setting tangible goals, measuring your performance, and sharing insights into the performance of your program you'll drive more visibility, engagement, and knowledge across your organization.

By measuring and evaluating factors such as ideas scheduled, experiments started by site or touchpoint, and the number of variations tested over time, you can create more detailed and targeted account-level and team-level reports. These reports can contribute to more effective collaboration and promote continuous iteration on your most successful ideas.¹⁸

¹⁸ <https://blog.optimizely.com/2017/10/18/program-management/>



Optimizely Program Reporting gives you powerful insights into the performance of your experimentation program as a whole and allows you to improve oversight across individual projects, accounts, and teams with detailed filters and data dashboards.

ORGANIZING FOR SUCCESS



The importance of building strong, efficient teams is not a new concept. Teamwork is about creating a clear vision, aligning on objectives, and working as a unit to achieve success. As enterprises seek to grow and optimize their experimentation efforts, building teams dedicated to testing ideas and concepts is the key to unlocking the path to innovation. So, what do experimentation teams look like at the enterprise level?

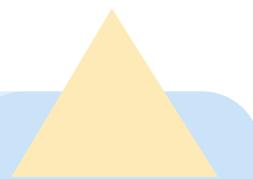
HP is one example of a company who is inspiring a culture of experimentation across their organization. They have been able to drive learnings and best practices across its network of 49,000 employees by developing an experimentation center of excellence. They have created a dedicated team that seeks to increase the volume and velocity of their experimentation program and drive innovation by testing new ideas and concepts. HP's team of experimenters has established a process to democratize testing while

centralizing business initiatives. With experimentation as the main objective, HP is empowering other departments throughout the company to use data to answer and address critical business questions.¹⁹

HP's commitment to experimentation has resulted in nearly 500 campaigns and an incremental revenue of \$21 million – and counting.

¹⁹ <https://blog.optimizely.com/2018/02/05/hp-experimentation-coe/>

ORGANIZING FOR SUCCESS



For HP, the center of excellence is an ideal model for driving innovation through experimentation. When considering how your company can organize most effectively to drive experimentation, take into account the number of employees, testing maturity, and the existing skillsets of your individual teams. Whether you choose to build your own center of excellence or drive coordination across a set of distributed testing teams, it's important to include members from varying backgrounds, departments and skillsets, and this gives your experimentation team the capacity to draw insights from different fields of expertise. A diversified team allows you to achieve true optimization through experimentation by building cross-skilled collaboration into the experimentation process. This can also allow you to broaden your team's focus to identify opportunities that would otherwise be missed.

CONCLUSION



Already, insights-driven businesses across a wide range of industries are driving innovation through experimentation programs that combine the right mindset, people, processes, and technology.

Whether you're completely new to experimentation, or you're looking to expand existing efforts across departments and touchpoints, discover how the right program management solution can help you relentlessly pursue meaningful change and unlock business growth.

With **Optimizely Program Management**, you can set yourself for success as you build your own experimentation program. As part of the Optimizely X Experimentation Platform, Program Management can help you promote an experimentation mindset, democratize ideation, run more impactful campaigns and share results more effectively. As a result, you'll be able to increase your experimentation velocity as you scale your efforts across your entire organization.

To get started in building your own experimentation program, visit <https://www.optimizely.com/program-management/>.