MarketDial

White Paper Series
Generating Hypotheses

The surprising power of a testable hypothesis

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Introduction

Test-and-learn decisions rest on testable hypotheses. Defining a theory with precision will impact the precision of results, and the precision of the results will likewise drive precise action.

Let's face it, the retail industry is in a constant state of flux. That has always been the case, but those fluctuations have been even greater in the face of a viral outbreak, war, and inflation. Precise knowledge for decision-making is vital when challenges and opportunities arise that you cannot control, such as: Regional regulations that impact your ability to sell product; political, economic, pandemic, and demographic shifts that force a change to your business model; and competitors opening locations near you.

These pop-up situations demand a nimble way to consider solutions that will mitigate the bad and/or maximize the good. Generating hypotheses and conducting tests that are relevant to these causal factors can give you an early window into changing headwinds and an advantage over your competition.

Map your intent

Plot your journey from start to finish. This is the difference between a random road trip and being intentional about your destination: Before you start, you should know where you are going, the route you'll take, and what you'll do once you've arrived.

When generating a hypothesis, examine what your end goals are. Ask yourself:

- What do we need or expect the impact to be?
- Which groups most represent our target groups?
- Where do we hope to roll out the initiative if successful?
- What will we do if the results align with our prediction?
- What will we do if the results contradict our prediction?

After defining the overarching direction, it's time to peg down the hypothesis. A good hypothesis specifies:

1) exactly what change you want to make, and
2) the magnitude of the impact you hope to see.

Establish your independent variable (the change) and your dependent variable (the impact). Work to be as specific as possible. Then phrase the change and impact as an if/then question:

- If we change X, then will Y (fill in the blank)?
- If we increase the price of private-label whipping cream by $1.00, will dairy category sales increase by 2%?
- If we offer a two-for-one promo on t-shirts, will that increase t-shirt sales by 5% without impacting margin?
- If we invest in RFID technology, will that decrease labor hours by 10% without impacting overall sales?

Once you have this question focused and finalized, you are ready to create the hypothesis: "By increasing the price of private-label whipping cream by $1.00, dairy category sales will increase by 2%." In narrowing down a precise change and a precise impact, you have estalbished a foundation for keeping the testing process clean, thereby improving confidence.

A thoughtful and descriptive hypothesis is critical when it comes to designing your test. Identifying your expected impact is a key input into determing what size your test needs to be (number of test stores, number of test weeks). Likewise, identifying KPIs and products of interest is needed to find a good control match.

Build a ladder of knowledge

True or false: If testing one idea is good, testing multiple ideas all at once is great. Yeah, no. While it's tempting to test multiple changes at a time becasue you trust your intuition and you need the answer right now, it simply doesn't work well.

It takes actionable insights to drive higher sales or improve customer experience. Test more than one hypothesis at once and results get muddled. You're left with uncertainty: What worked? What didn't? Why? So how do you go from "I just know" to "This is how I know"?

Do this by testing one variable at a time. Again, it's tempting to try to test pricing, merchandising, and marketing campaigns as a holistic effort – and then try to back out each impact individually. It's just not reliably possible to generate trustworthy findings. Compare that unfocused effort with this clear one: Will a new visual design for our soda endcap generate positive lift for the soda category?

Minimize noise with clear direction

A restaurant wants to test a range of ideas: pricing, hours, signage, and uniforms. Test all the changes at once and the results get noisy. The more things tested together, the more difficult it is to pinpoint cause and effect. A clean hypothesis, in contrast, reduces noise in data by concentrating on a singular cause and the effectual results.

Guide the test process

Whether you are new to testing or have deep of experience, implementing a user-friendly system like MarketDial can function like a GPS system, guiding your team on its path to generating a strong, testable hypothesis. And that hypothesis, in turn, can guide the entirety of the testing process.

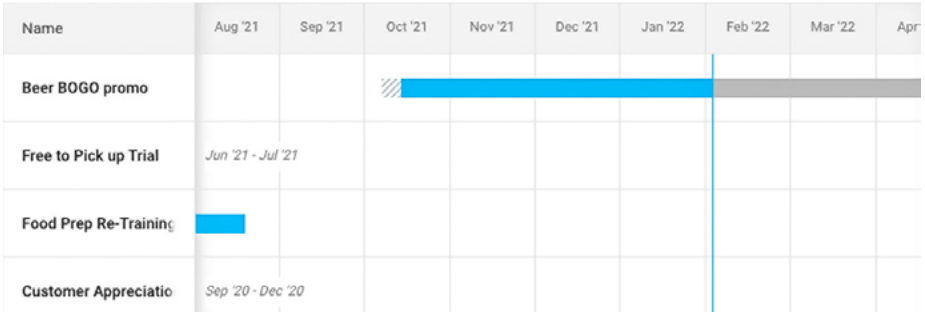
Calendar view

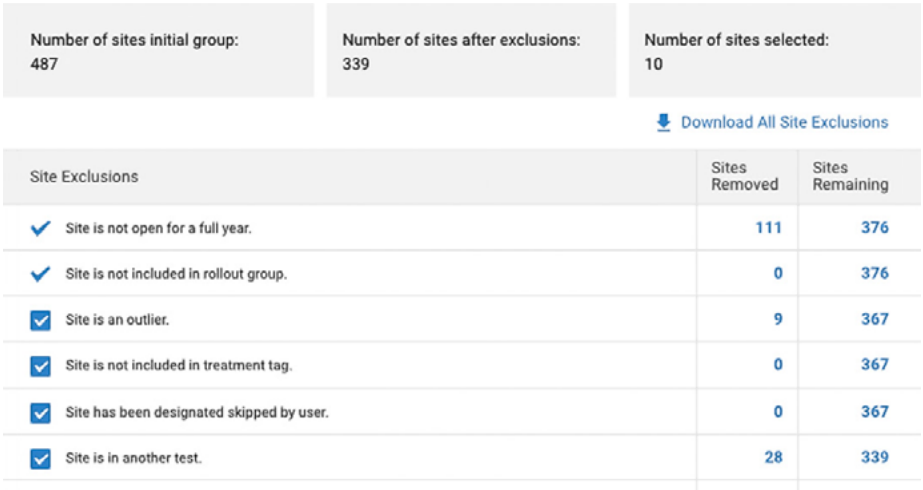
MarketDial includes a calendar that makes it easy to plan where tests are taking place to avoid overlapping initiatives. Clients use the calendar to manage their overall testing flow, enabling them to prioritize and then execute the strategy per the plan.

Filtering logic

The software also includes an automatic filtering feature to ensure that previous sites are not included in new tests – if that's what you prefer.

By verifying that there is no test overlap and filtering out sites that could jumble results, you improve confidence and reduce noise. With a clean hypothesis comes a clean process and clean outcomes.





Inform action

Enable success across your rollout footprint. Are your findings actionable generally in all locations or do they only apply to a subset? If your hypothesis and test structure have been succinct, you will be able to see what factors in what locations are impacting the results.

Take, for example, a test evaluating the effect of seasonal coffee flavors on revenue. Findings might show that one demographic preferred pumpkin spice while another demographic did not. With that clarity, you are then equipped to determine what demographics to target and how much flavoring to stock in which locations.

A testable hypothesis has therefore provided you with the data and insights requisite to make the most informed, lucrative decisions.

Testable hypothesis: The strength of NO

Can you increase revenue by replacing sale items with non-sale items in a high traffic location? Turns out you can't – at least that's what a client discovered by testing it. This specific actionable insight enabled the client to fail fast and move to an initiative that did create the desired revenue lift.

Why MarketDial?

MarketDial provides retailers with the tools they need to validate initiatives quickly and confidently. Our mission is to maximize our clients' potential by offering accurate testing solutions and actionable insights. With our automated analytics and in-store testing tools, businesses can trust they are making data-driven decisions that drive success.

Lynn Zhang
Manager of Data Science

Lynn is an accomplished Data scientist with a product focus. Passionate about working closely with clients, she is adept at translating their feedback into features that advance the MarketDial app. Lynn has Economics and Mathematics degrees from the University of Chicago and a background in economic consulting. An eager learner, she revels in trying new recipes from different cultures, mastering the nuances of gardening, and challenging herself with adventurous hiking.

Hypothesis idea generator

If X is changed (independent variable)

Pricing

- Increases or decreases
- Discounts and markdowns
- Private label pricing
- Bundling offers (e.g., 2fers)

Promotions and Marketing

- Signage
- Targeted marketing by demography or geography
- Google Search spend
- Loyalty programs
- Referral incentives
- Ad spend

Merchandising

- Product placement
- Shelf optimization and facings
- Store remodeling
- Brand blocking
- Endcap displays
- Digital headers

Product

- Retail media network
- Premium brands
- Rebrand
- Packaging
- New product offerings
- Assortment
- Cannibalization

the Y (dependent variable)

- Sales
- Margin
- Transaction count
- Return on ad spend
- Transaction size
- Foot traffic
- Conversions
- Customer satisfaction
- NPS score
- Labor hours
- Cost of goods
- Labor costs
- Stockloss

will

- Increase by X%
- Decrease by X%
- Not be impacted

Hypothesis idea generator

If X is changed (independent variable)

Smart Tech

- Packaging
- Distribution vehicles
- Store upgrades
- Electric vehicles charging stations
- Recycling programs
- RFID

- Donations
- Second-hand resale
- Waste reduction

Competition

- Goes out of business
- Store openings or closings
- Strategies

Operations

- Wages
- Training
- Hours of operation
- Labor models
- Assortment
- Cannibalization

- Inventory management
- Stocking procedures
- Stock loss and theft reduction protocols
- Parking options

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