

Taming the Data Flood:

A Step-by-Step Guide to Converting Digital Behavior into Consumable Information

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Taming the Data Flood

Sailors can die of thirst while floating on the ocean because salt water is undrinkable. This is why well-equipped lifeboats carry a desalination kit. Marketers today face a similar problem: they must distill a sea of data into useful information.

Today's marketing systems capture a flood of behavioral data from email, Web visits, downloads, social media, events, chat sessions, and other digital sources. Converting this flood into a steady flow of consumable information is difficult, but the methods are well known. This paper will teach you how to extract value from the sea of digital chaos.

First: Learn to Listen

Digital behavior is often referred to as digital body language, and for good reason. Marketers and sales people in the not-so-distant past had many direct interactions with buyers at trade shows, on the telephone, and during sales calls. This gave perceptive observers ample opportunity to pick up clues to each buyer's intentions through physical body language and speech. Today, most marketing interactions are digital. This means there's no human observer to notice the subtle hints revealed by buyer behaviors. To make up for this loss, marketers must train their systems to capture unspoken information about buyer intentions and interpret them correctly.

The first step in this process is capturing the data. This is already done by the systems that manage the interactions. Email, Web, social media, and other systems record the messages they deliver to each person, track their responses, and store the results. Unfortunately, each interaction system usually has its own database, so consolidating the information to view of behaviors across all systems can be difficult. Marketing automation systems greatly simplify the task by capturing behaviors in different interaction systems, linking them to a shared contact identifier, and placing them in a single database.

But even a central behavior database is too confusing to deal with directly. The massive collection of messages and responses must be classified into a set of categories that is small enough to analyze effectively. Ideally, this would be based on the data itself: statistical methods could identify behaviors that correlate with targeted outcomes or text analysis could identify pieces of similar content. In practice, though, few marketers have enough data or analytical resources to make this work. A common shortcut is to define stages in the buying process and assign behaviors to the stage

The Process: Quick Summary

Four simple steps to understanding digital behavior:

- load behaviors and outcomes to a central database
- correlate behaviors with significant outcomes
- test contents that may yield more accurate predictions
- add steps to your marketing programs to create new, more informative behaviors

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where the marketer believes they are most likely to occur. For example, you might decide that attending an introductory Webinar indicates a buyer is just starting to explore a topic, while visiting a pricing page shows a buyer is considering a purchase. This approach relies heavily on the marketer's intuition but it's a more than adequate place to start. It also has the practical advantage of immediately classifying new or unusual contents. A correlation-based approach cannot include those contents it has enough observations to generate a statistically reliable result.

Marketers can also look beyond content to categorize patterns of behavior. Typical patterns include the number of Web visits in the past week and the amount of data provided on forms. Again, most marketers find themselves making arbitrary judgments about the significance of those patterns, rather than relying on statistical evidence. And, again, this is usually good enough to get started.

Understand What You Hear

Even though marketers may use subjective judgment to classify behaviors, they can objectively measure their choices by testing how well they correlate with actual results. That is, behaviors assigned to the same category should correlate with the same outcomes. This ties directly to the ultimate purpose of behavior analysis: to predict outcomes accurately.

Comparing behaviors with outcomes requires measuring outcomes for specific individuals. The outcomes are usually defined in terms of buying process stages. Since contacts belong to different stages at different times, the system needs to store the date of each stage change. It can then compare the stage assigned to each behavior with the contact's actual stage when the behavior took place. High correlation means the behaviors were classified correctly.

The process stages are best assigned independently from the behavior analysis. This happens when process stages are assigned by sales people and imported from the CRM system. But this isn't always possible, especially for leads in early stages of the buying process. In those situations, marketers may manually classify a sample of leads to provide a set of reference cases. Or they can assign stages based on existing classification schemes such as lead scoring formulas.

Tip: Avoid Circular Logic

When assigning stages for validation, it's important to avoid using the behavior you are measuring to define the stage you are measuring the behavior against. This can easily happen when stages are based on lead scoring formulas or segmentation rules with many components. But it's also easy to fix: remove the measured behavior from your standard formulas and use the adjusted formulas instead. This won't work if the stage definition relies depends primarily on the behavior in question -- but in that case, you should probably expand the definition to include more than one factor.

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Once you've validated your original behavior classifications and have been using them successfully for some time, you'll want to revisit them to search for improvements. One question to explore is whether the same behavior means different things in different buyer segments. For example, a download by a Chief Marketing Officer is probably more important than a download of the same document by a junior business analyst. You'll also want to revise your behaviors and stages over time to keep up with changes in the contents and structures of your programs. This will ensure that your listening systems continue to alert you to the right behaviors as they occur.

Test Your Interpretations

Carefully observing the correlations between behaviors and results is just a start towards taking full advantage of today's data flows. The next step is to move beyond watching behaviors to actively testing which treatments provide the most powerful information.

These are fundamentally similar to other marketing tests: they divide contacts into test and control groups, apply different treatments to each group, and measure the results. As with any test, you need a clear hypothesis, statistically valid quantities, properly matched samples (i.e., no differences between them that might affect results), and a way to read the outcome. If your marketing automation system has adequate features to support other types of testing, it can probably support behavior tests as well.

But there's an important difference between behavior tests and other marketing tests. Most marketing tests are designed to improve business results: to find treatments that generate more leads or reduce costs or create more sales. Behavior analysis tests are not intended to improve results. Their only goal is to improve predictions.

For example, a behavior analysis test might offer two different white papers at a given stage in a marketing campaign, with the goal of determining which paper does a better job of identifying future buyers. The winner of this test might actually have the lower response rate, so long as the responders were more likely to purchase in the future. Of course, this knowledge might guide future treatments in ways that do improve business results, such as investing more in the responders because they have a higher future value. But the test itself would only prove that a particular behavior is more predictive than some other behavior. Exploiting that information would require changes in a different treatment.

This difference has important practical implications. Because behavior analysis tests have different objectives from other marketing tests, the outcomes may conflict. To put it bluntly: a treatment that yields a better prediction might create a worse business result. In the previous example, the paper that more accurately identifies future buyers might also reduce the number of buyers by annoying some people who would

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otherwise have purchased. This might be a profitable trade-off: a treatment that saved the sales department from pursuing many non-buyers along with a few potential buyers could reduce sales costs by more than the value of the lost revenue.

Behavior analysis tests also conflict with other tests because most companies have limited quantities and staff time available for tests. Test volume can sometimes be increased by using multivariate designs that assign the same contacts to more than one test. But the gain is limited, since multiple tests quickly start to interfere with each other. In practice, each behavior analysis test probably prevents marketers from testing something else. So marketers must weigh the likely value of information from the behavior analysis test against the likely value of improvements from some other test. As a result, that most marketers will run only a handful of behavior analysis tests. This makes it very important to identify the tests with the highest potential value.

Multi-Variate Testing

Traditional tests change just one variable at a time: so a company might run separate tests comparing two headlines and two offers. If each test cell required 10,000 names, the tests would take 20,000 each or 40,000 total.

A multi-variate test changes multiple variables and then aggregates results by variable. So the company might create four cells of 5,000 names: offer A with headline A, offer B with headline A, offer A with headline B, and offer B with headline B. This would still test 10,000 names for each item, yielding valid results with half the total quantity.

Calculating the value of a behavior analysis test is harder than calculating the value of a traditional test. A behavior analysis test requires two estimates: the likely improvement in prediction accuracy and the improvement in business results from treatment changes the greater accuracy would make possible. A traditional test requires only estimating the improvement in business results from a treatment change. Few marketers will be able to make formal calculations of these values, so they'll probably limit themselves to a small number of behavior analysis tests that address self-evidently critical limits in their predictive abilities.

Expand Your Vocabulary

The final stage in behavior analysis is changing the structure of marketing programs to collect more information. This goes beyond testing alternative content to actively creating new opportunities for significant behaviors. These behaviors might clarify a contact's purchase stage, user role, or market segment.

One common approach to behavior expansion is to offer content choices instead of a single item. This could be done in an email message, on a Web page, or through social media. Conventional marketing wisdom says that multiple choices depress response – but gaining more precise information may add enough value to overcome this loss. A similar approach is to send a survey rather than offering a download:

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again, this may trade fewer replies for richer information. As with testing, marketers must carefully weigh the benefits of expanded data collection against the costs.

Another possible change is to offer unrestricted access to content rather than “gating” it by requiring user registration. Unlike the previous options, this will typically increase response rather than reduce it. The disadvantage is that registration provides a way to gather contact information and build a detailed behavior profile of specific individuals. But cookies and other tracking techniques continue to make it easier to build profiles and send messages to individuals who have not explicitly identified themselves, and buyers are increasingly reluctant to part with contact information. As a result, marketers need to frequently reassess the trade-off between broader distribution and visitor-provided information.

Expanded data collection may also mean adding new data sources such as social media. These can be derived from activities linked to the company’s own social media accounts or from external vendors who scan public forums for targeted behaviors such as keywords or sharing. Social behaviors will become increasingly important as social media play a larger role in information exchanges between buyers and the company, and among buyers talking with each other.

As marketers gain experience with behavior analysis, they will be able to apply increasingly advanced analytics to manufacture more powerful behavior information. Manufactured data may include more complex behavior patterns, richer content classifications, and deeper connections across channels. Marketers will also be able to apply more powerful techniques to automatically discover relationships, create predictions, identify behavior changes, and properly assign contacts to buyer stages.

Better analytics can also help marketers to identify the most important gaps in their behavior analysis capabilities. In general, these will be the areas where better predictions would be most helpful in making critical treatment decisions. Specific indicators might be points in the marketing program where there is sharp drop-off from one stage to the next; points where the investment per contact rises sharply; or points where future contacts are limited. The full value of improvement is based on the potential gain per contact and the number of contacts affected.

Summary

As digital interactions become the main way that buyers interact with companies, marketers must become more skilled at using digital behavior to predict buyer intentions. This requires a systematic approach to gathering the behavior data, correlating it with outcomes, and actively seeking to create new behaviors that provide more effective information. Marketers who fail to master the flood of digital data will drown in it. Those who succeed will ride it to ever greater success.

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About Raab Associates Inc.

Raab Associates Inc. is a consultancy specializing in marketing technology and analytics. Typical engagements include business needs assessment, technology audits, vendor selection, results analysis, and dashboard development. The company also consults with industry vendors on products and marketing strategy. It publishes the B2B Marketing Automation Vendor Selection Tool (VEST), the industry's most comprehensive independent guide to B2B marketing automation systems.

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