



Data Analytics: A Matrix for Better Decision Making

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Today's marketers have access to more data than ever, and the pressure's on to turn those data points into something meaningful. Google's Analytics Advocate Daniel Waisberg shares his new framework, TITE, for helping marketers gain context and get actionable insights from their data.

A single data point isn't all that useful for understanding how something works, but neither is a big pile of stats. Context is the key to [making metrics actionable](#). But given all of the data and dashboards we're dealing with, that process can be daunting. So how can you turn those numbers into something more—in an organized and thoughtful way?

I recently came up with a framework to help guide the process. The matrix, called TITE (**t**ime, **i**nteractions, **t**rends, and **e**vents), takes both internal and external factors into consideration as well as influences and the need for comparison. I'll explain each of these elements and, using a hypothetical example throughout the article, share how they can be used to transform data into a [meaningful story](#).

Quantify and qualify your data

Before I get into the data matrix, let's briefly talk about accessibility. It's crucial that organizations not only know how to access data, but that they make it available and digestible to those who need it. DataShaka CTO Phil Harvey says the process of identifying and evaluating data sources, which he calls [data landscaping](#), is an important step companies need to take before they can even begin analyzing data.

Once you've got your data in hand, it's time to think about extracting meaning. Most marketers have, at some point, heard about the SWOT matrix, a structure for evaluating the **s**trengths, **w**eaknesses, **o**pportunities, and **t**hreats involved in a new project or enterprise. It helps you understand how ideas relate to the world around you. In other words, it provides **context**.

Here, I'll show how the TITE matrix (shown below) can be used to look at atomic data, or the lower level of data, such as the individual items sold on a daily sales report. The matrix is divided into two main categories: source (where the data can be found, either internally or externally) and

technique (how the data is being compared or what's influencing it).

These intersect to give us four key elements:

- **Time:** How is the data behaving week over week, month over month, or year over year (YoY)? Tracking the dips and spikes is an important first step in planning improvement.
- **Interactions:** How are potential customers interacting with your company's properties, both online and offline? This is composed mainly of first-party data collection through platforms such as [Google Analytics](#).
- **Trends:** How does your company compare to competitors and industry trends in general? This comparison gives perspective to fluctuations in the data.
- **Events:** How are external events influencing your customers' perceptions of and attitudes toward the company? This is mostly third-party data from tools like [Google Finance](#) and [Google Trends](#).

The TITE Matrix

		TECHNIQUE	
		COMPARISON	INFLUENCE
SOURCE	INTERNAL	Time	Interactions
	EXTERNAL	Trends	Events

—
A framework for
assigning context to data

Breaking down the data matrix

To better understand how the TITE matrix works, I'll walk you through a hypothetical example to show how each of the elements can transform a data point into a more meaningful insight:

Meet Mark, the marketing director at WTMD, a retail company that specializes in computing devices for all categories: desktops, laptops, tablets, and smartphones. At the start of the year, he was asked to present 2014's results to Anne, WTMD's vice president of marketing. Mark began his prep work by asking an analyst for the website's sales revenue for each device category. While the numbers looked good initially, he couldn't be sure without adding a frame of reference, or context. That's where the TITE matrix comes in.

Time

Mark looked at WTMD's internal data over a period of 36 months. This allowed him to see if the company's performance was improving and if there were specific months that consistently decreased or increased YoY.

As a general rule, a data point on its own is not a useful piece of information. It only shows a limited view of something that's happened. Comparing current data to data from previous time ranges is essential to understanding where a business stands and whether it's growing or not.

If Mark, for example, learned that last year's revenue was \$1,750,000, would that be good? Well, that depends on several factors. The first question he should be asking is: How much was the revenue for the past three years in a row? That would show if WTMD's revenue is rising or falling and if it's within the business average.

Also, keep in mind that when looking at comparisons over time, it's critical to account for seasonality, or patterns that repeat over time. For instance, January and February are slow months for consumer technology

purchases. If Mark is analyzing his sales data during those months by looking at the previous eight weeks, he might think the company's sales are in a sudden free fall. (November and December are big months for the company.) By comparing the same period YoY, he's able to identify repeated behavior, as shown below in the comparison between the first eight weeks of 2014 and the first eight weeks of 2013.

WTMD's Consumer Tech Sales

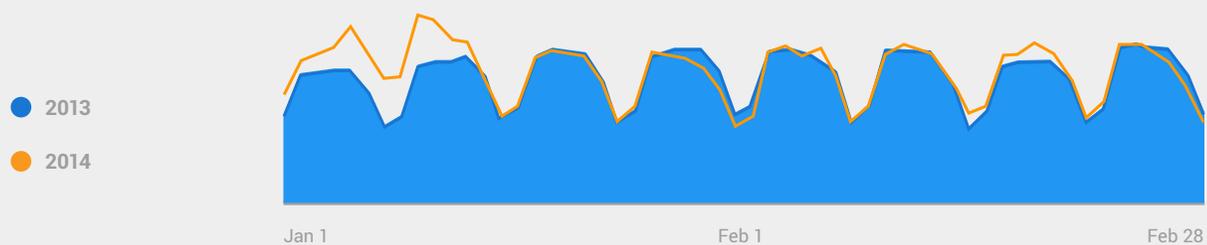


Chart showing seasonal sales data for the first eight weeks of 2013 and 2014.

Interactions

When Mark began looking at WTMD's internal data, he also asked his team for all data related to interactions with the company's channels. He learned that while the website represented the majority of company sales, deals were also being closed via other channels.

Today, companies understand the power of connecting interactions on the customer journey regardless of where they happen. Some are doing so through loyalty cards. So, for example, when WTMD customers use their loyalty card to purchase a consumer tech product, their behavior is logged into a central database, no matter if the purchases were made online, via an app, or in-store.

This first-party data can be collected, analyzed, and optimized easily and accurately.

“Context is critical when analyzing data. It helps marketers make better decisions by drawing conclusions that are more meaningful and accurate.”

Trends

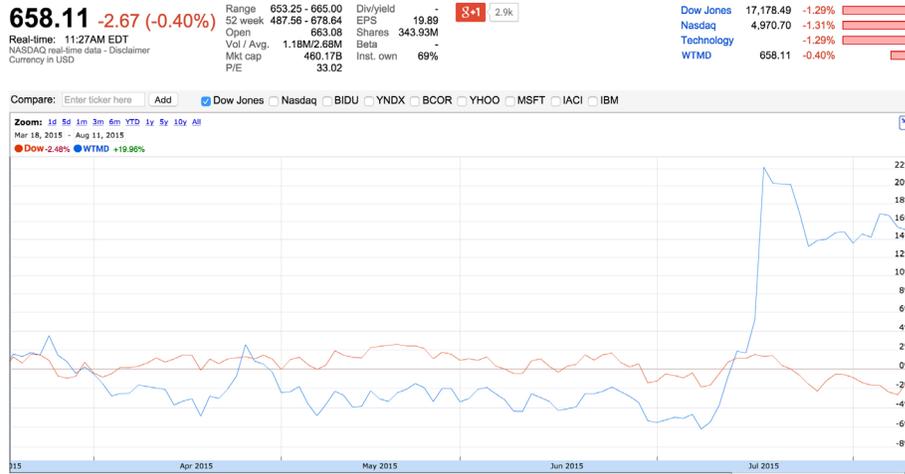
Next, Mark used external data to learn how WTMD's results compared to his competitors and the industry in general. He determined that while WTMD's revenues were increasing an average of 9% YoY, the industry was growing at a slower rate of only 4% YoY.

When analyzing changes in metrics, put them into perspective. If Mark saw that sales grew by 25% month over month, he might initially think this was cause for celebration. Before he asks his boss for a raise, though, he'd want to look at the market to see what's going on in the industry. If his competitors saw an increase of 10%, his company is likely doing something right. But if the competition grew by 50%, he might not be so quick to crow about the results.

There are many approaches to analyzing trends data. We can use Google Analytics [Benchmarking](#) to see if increases (and decreases) are the result of our actions and how they align with larger trends in the industry.

Another great option for adding context to your business data is to compare your stock to that of your competitors and across indexes, as shown below, based on Google Finance.

Tracking Stock Trends for WTMD



Source: Based on Google
Finance visualization

Events

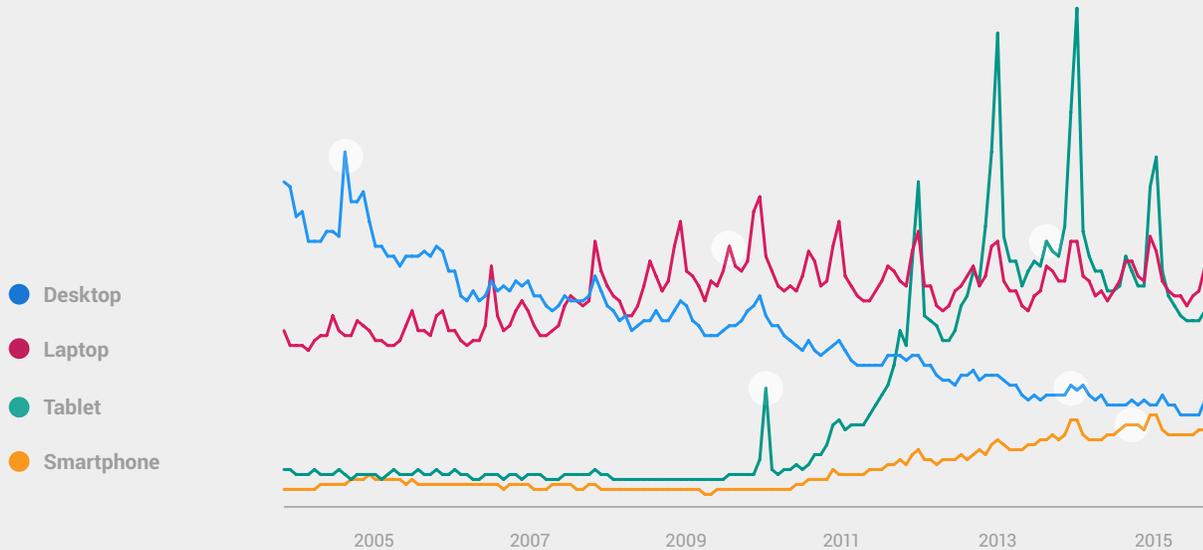
While conducting research for his presentation, Mark found that sales decreased during a particular month. Upon further investigation, he learned that a competitor's in-store event had offered special deals.

Data is often influenced by external events—some of which can't be controlled. For example, Mark might see a sudden increase in sales for a specific laptop after a celebrity is photographed carrying one. This kind of influence is hard to track.

News alerts and social media monitoring can help you tune into world chatter. You can also compare news events to stock fluctuations. Another option is to analyze trends and events (as shown below) in search data on Google and YouTube. These things provide context for those consuming the data.

For example, Mark could check out industry trends and see how sales for each device type are performing. Then, he could compare that information to WTMD's own sales numbers.

Tech Trends and Events



Make your data actionable

Using the TITE matrix, Mark was able to provide context for the 2014 numbers. He explained the oscillations in the data and provided Anne with real insight to guide the company's 2015 strategy.

Context is critical when analyzing data. It helps marketers make better decisions by drawing conclusions that are more meaningful and accurate. And for data to be trustworthy, it must be comprehensive.

In his book [Knowledge is Beautiful](#), British data journalist David McCandless says context plays a key role in how well we understand information: "When you understand something, you're able to perceive its structure: its connections, its relationships, its significance relative to everything else," he writes. "Context, I'm realising, is the field of these connections, the network we plug any new information into. That

explains why, when something is contextualised, we can suddenly get it. It feels 'meaningful' to us because it fits into the network of what we already know and understand and can relate to. Our knowledge."

As you're creating context for your data to tell that meaningful story, keep these four things in mind:

- **Compare data points** to their predecessors to surface how the company's performance is changing over time.
- **Review all customer interactions.** Make sure all touchpoints are being measured and reported to get a full view of the customer.
- **Check in on industry trends** so you can see how your company's increases and decreases align with the averages.
- **Be aware of industry events** that can have an impact on your business.



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