HOW and WHY: The Power Couple of Profitable Data Analytics

inter|ana

Helping your business users get more value from your data

Getting more value from your data means uncovering intelligence that helps your business take concrete actions to improve outcomes.

But a lot has to happen to get from data to intelligence and, most importantly, to business value. First, you have to collect the data from all the relevant systems and make it available for analysis. Then you have to present that data to the business users who need to perform the analysis. And, finally, they need to analyze the data to get the answers needed to make better decisions and build effective strategies.

Of course, as most organizations are painfully aware, this is far easier said than done. Data is scattered across multiple applications and databases, and bringing it all together requires some form of the dreaded ETL process. And then they need to be able to query the data so it can provide answers to the questions they have. And all that, which can take days or even weeks, just lets them answer the question: What happened? It's a good step, but it's just the first step. It's not enough to get to your ultimate objective of taking the right action to achieve your business goals.

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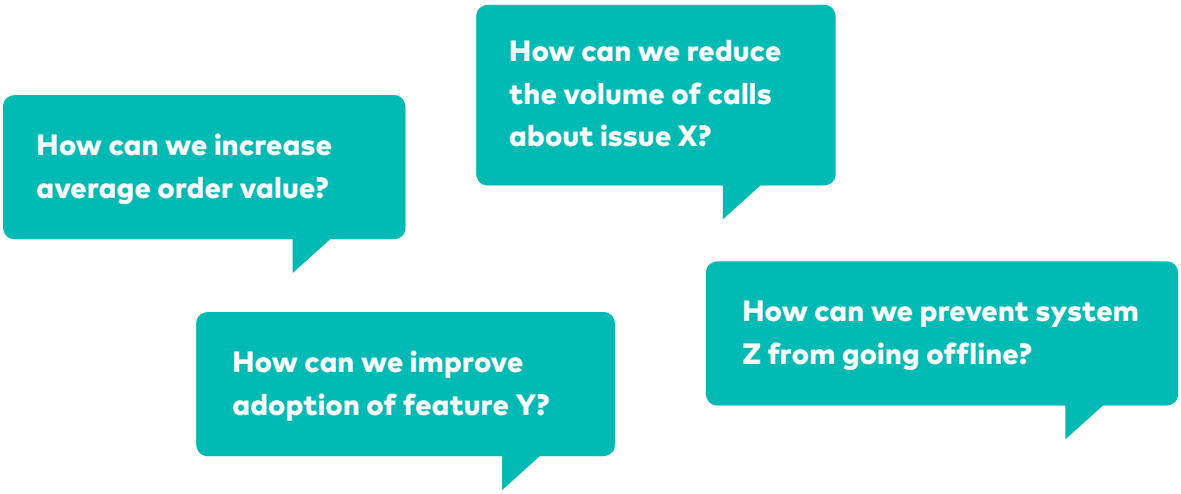
Connecting the dots

You've got goals, and you need to determine HOW you're going to achieve them. For example:



And, you've taken the first step in your analytics journey to figure out WHAT happened. But "hard" data can be much squishier than one would think. Without the right context, it can be misleading and send you down the wrong path.

Let's say you have a review website, and referrals sent to partners through your site are down. That's WHAT happened in the past. And it tells you that you need to do something to improve referral rates. But it doesn't tell you WHY it happened so you can determine HOW you should go about doing something to fix it. You need to answer more questions before you can take action. For example: Are the low referral rates consistent across the board, or do they vary by product? Is it a merchandising problem? Is there an issue in the purchase path? The answers will fundamentally drive the way you approach your solution.

Before you can build a strategy for HOW to move forward, you need to look deeper into the data to uncover WHY you got the WHAT. And this is where the usual data-to-analysis process can fall short.

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The challenges of getting to WHY

Too often, limitations in analytics and business intelligence techniques prevent users from being able to answer WHY—and subsequently HOW—quickly and confidently. And that's because:

WHY is iterative

It requires exploration to uncover the reasons behind a result. You need to form a hypothesis—for example, users are having a bad experience with your site's product search feature—and then query the data to test that hypothesis. But the ETL process isn't suited for real-time iteration. You're either limited to whatever pre-built queries you have, or you have to go through the process of getting new queries built, which takes time and can be a hassle.

WHY can hide in granular detail

With way more data being generated than a lot of analytics tools can handle, many organizations choose to manage the volume by aggregating data. And while that may be sufficient to understand the WHAT at a broader level, you lose detail that can provide critical context. To continue with the reviews site example, you've counted the number of searches that result in leads sent to partners, but by aggregating data in this way, you're unable to more closely examine intermediate steps in the search experience. Additional ETL is needed. Even if you can process the ETL job overnight, you still don't know which aspects of the search user journey are problematic. Getting an answer will require subsequent ETL and more days of waiting.

WHY needs the complete picture

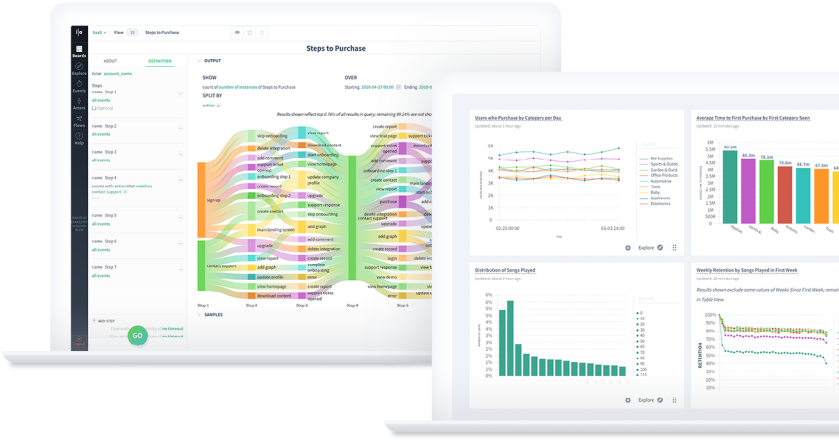
Because data lives in so many different applications and databases, it can be difficult to bring it all together. Some companies are forced to limit the data sources available for analytics purely for practical reasons. But, like aggregation, this can limit your ability to uncover important details. For example, while you might be counting API interactions when sending the referrals to various partners, the data on JavaScript events within individual site search sessions might be trapped within Google Analytics—either because the volume of data is simply too large to send to your data warehouse, or because the event data you need might not even be properly instrumented in GA in the first place. If it's the latter, you're out of luck.

WHY doesn't always have a simple answer

Often, the insight doesn't lie in a point-in-time event, but requires you to understand behavior over sequences of events. And while many analytics tools can tell you about the events, they simply can't handle relative time, such as event 1 happened before event 2 happened. Analyzing behavioral sequences requires each action taken by users to be ordered by time. It might sound trivial, but the flexibility required to create new user cohorts on the fly, slide the time window for historical context, and filter to specific states along a journey flow is a serious analytics challenge. The SQL alone for funnel analysis can get intense, never mind the verbose and fragile queries required to dig deeper into complex flow analyses. Which means you won't be able to discover that users looking for product A are on average maxing out the number of search filter categories (six) and then bouncing from your site. So, while product A generates a lot of search, it has a low rate of referral to retail partners. Users looking for product B, however, use only a couple search filters on average (two), and have much higher referral rates.

Without addressing these limitations, you'd never uncover the WHY, which is that the referral problem is a result of making too many search filters available to your users. But, with this information, you know exactly HOW to fix the problem—reduce the number of search filters available from six down to three—to increase referral rates.

By the way, this is a real-life example of a problem a customer had and was only able to uncover and resolve using Interana.



How Interana enables you to uncover the WHY that informs HOW to improve business outcomes (i.e., the technical stuff)

Interana offers a purpose-built full-stack analytics architecture and managed service.

Unlike traditional three-tier analytics stacks that combine separate systems at each layer, Interana is designed to work as a fully integrated stack running in your private cloud and managed by Interana operations engineers.

Throughout the onboarding process, we work with you to understand any transformations needed upon data ingest. As data is processed, it's persisted on disk to Interana's proprietary column store, where it's sharded by ID and sorted by timestamp, with a range of optional fields and sparse columns permitted. The query layer is optimized to quickly scan time ranges and to process results in parallel over massive volumes of data (i.e., billions of records), typically returning in seconds.

Visual data exploration enables real-time iteration.

Queries are run via Interana's web UI where data can be explored through interactive visualizations, like funnels and flow diagrams, and other custom metrics and cohorts can be defined and calculated on the fly.

Get the answers you need to make better decisions and build effective strategies.

All this means you can provide your business users with an analytics tool that lets them focus on discovery, so they can answer more complex questions and gain richer insight. It's the difference between simply knowing how many conversions you had, and understanding which activities predict user conversion and long-term engagement—so you can take action to markedly improve the results that will drive your bottom line.

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See how you can get from WHAT to WHY to HOW

Reading a white paper is good, but nothing beats seeing it in action. Experience Interana for yourself.

Request a Demo

With Interana, Data > Opinion

Unlike traditional BI and analytics tools that only tell you "what," Interana helps you discover "why." It allows business users to easily analyze trillions of time-based data points dynamically, iteratively, and in real time, making it the ideal platform for customer behavior analytics, web and mobile analytics, and product innovation and optimization. Interana is unique in its ability to analyze enormous data sets without forcing users to rely on partial or aggregated data, or restrict their analyses to a limited set of pre-defined queries. This is why the most demanding data-driven organizations such as Microsoft, Comcast, Uber, and others rely on Interana to transform their raw data into actionable insight.

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