

[Search](#)

- [Sign Up](#)
- [Sign In](#)



New Thinking for a New Era

- [Home](#)
- [About](#)
- [Blogs](#)
- [Forum](#)
- [Media](#)
- [Members](#)
- [All Blog Posts](#)
- [My Blog](#)
- [Add](#)



The Importance of Making Your Big Data System Insightful

- Posted by [Kumar Srivastava](#) on October 18, 2013 at 10:00am
- [View Blog](#)



With all the emphasis these days that's placed on combining through the piles of potentially invaluable data that resides within an enterprise, it's possible for a business to lose sight of the need to turn the discoveries generated by data analysis into valuable action.

Sure, insights and observations that arise from data analysis are interesting and compelling, but they really aren't worth much unless they can be converted into some kind of business value, whether it's, say, fine tuning the experience of customers who are considering abandoning your product or service, or modeling a fraud detection system to block traffic from malicious users.

Digging jewels like these out of piles of enterprise data might be viewed by some as a mysterious art, but it's not. It's a process of many steps, considerations, and potential pitfalls, but it's important for business stakeholders to have a grip on how the process works and the strategy considerations that go into data analysis. You've got to know the right questions to ask. Otherwise, there's a risk that data science stays isolated, instead of evolving into business science.

The strategic considerations include setting up an "insights pipeline," which charts the path from hypothesis to insight and helps ensure agility in detecting trends, building new products, and adjusting business processes; ensuring that the analytical last mile, which spans the gap from analysis to a tangible business action, is covered quickly; building a "data first" strategy that lays the groundwork for new products to produce valuable data; and understanding how partnerships can help enterprises put insights to work to improve user experiences.

The Insights Pipeline

You can visualize an insights pipeline as a kind of flow chart that encompasses the journey from a broad business goal, question or hypothesis to a business insight.

The questions could look something like this: Why are we losing customers in the European market? Or, how can revenue from iOS users be increased? This kind of query is the first step in open-ended data exploration, which, as the name implies, doesn't usually include deadlines or specific expectations, because they can suppress the serendipity that is a key part of the open-ended discovery process.

Data scientists engage in this kind of exploration to uncover business-critical insights, but they might not know what shapes these insights will take when they begin their research. These insights are then presented to business stakeholders, who interpret the results and put them to use in making strategic or tactical decisions.

The broad nature of open-ended exploration carries potential negatives. Because of the lack of refinement in the query, the insights generated might be unusable, not new, or even worthless, leading to low or no ROI. Without specific guidance, a data scientist could get lost in the weeds.

Closed-loop data exploration, on the other hand, is much more refined and focused on a very focused business function or question. For example, a data scientist might pursue this: Are there any customers who do more than \$100 of business each day with an online business? If so, flag them as “very important customers” so they can receive special offers. There is very little ambiguity in the query.

In the insights pipeline, successful open-ended explorations can eventually be promoted to closed loop dashboards, once business stakeholders ratify the results.

Closed-loop analysis implements systems based on models or algorithms that slot into business processes and workflow systems. As the example above suggests, these kinds of questions enable fast, traffic-based decision-making and end-user servicing. They also don’t add development costs once they are put in place.

But the very specificity of the queries that define closed-loop data analysis can produce insights of limited value. And once the query is set up, the possibility of “insights staleness” arises. Revisiting the “very important customer” example, what if inflation makes the \$100-per-day customer less valuable? The insight becomes outdated; this highlights the need to consistently renew and verify results.

This illustrates the importance of consistently retuning the model, and, sometimes, forming new questions or hypotheses to plug back into an open-ended exploration. For example, a system that filters incoming emails for spam can quickly become outdated as spammers change tactics or use new technologies. A closed-loop system like this often needs to be revamped entirely to reflect changes in smaller behavior.

The Analytical Last Mile

Making decisions is one of the most challenging parts of doing business. In IT, employees are very comfortable delivering reports or assembling dashboards. But deciding on an action plan based upon that information isn’t easy, and lots of insights but few decisions introduces a lag time that in turn erodes business value.

The analytical last mile represents the time and effort required to use analytics insights to actually improve the state of a businesses. You might have invested heavily in big data technologies and produced all kinds of dashboards and reports, but this adds up to very little if interesting observations aren’t converted into action.

The value of analytics and a data-driven culture is only realized when the analytical last mile is covered quickly and efficiently. The inability to do this often results in lost business efficiency and unrealized business value.

More often than not, human latency is to blame. It’s defined as the time it takes employees to collect the required information, perform analysis, and disseminate the resulting insight to decision makers, and, then, the time it takes decision makers to collaborate and decide on a course of action.

Covering the analytical last mile efficiently requires an investment in and emphasis on setting up streamlined data collection, analysis and decision-making processes.

A “Data First” Strategy

When you define, design, and introduce a new product or service, data generation, collection and analysis, and product optimization might be the last thing you're thinking of. It should be the first.

A "data first" strategy ensures that the right kind of technology is in place to deliver insights that can improve the end user experience. Thinking through what kinds of user data might be collected ensures that the enterprise isn't caught off guard when the new product or service begins to gain momentum.

Some of the data you should think about gathering includes:

- Data generated by user actions and interactions, such monetary transactions, information requests, and navigation
- Data that defines the profile attributes of the user, including information available from the user, the enterprise, or enterprise partners
- Contextual data about the user's social network activity triggered by the product or service, the user's location in relation to use of the product or service, or the channels through which the product or service is being used or accessed

Instead of losing critical time scrambling to set up methodologies to gather this data, you'll be prepared to do some fine-tuning to the product to boost the end user's experience.

Partnerships

A lot of skills and capabilities are required to take a data-driven effort to optimize the user experience and turn that into an actual, tangible improvement in your customer's experience and, ultimately, boost the enterprise's bottom line.

Many of these skills are not traditionally part of a business' core competencies, so partnerships are a great way to bring in outside expertise to help polish the customer experience. Some areas where enterprises look to partners for help include: the ability to reach customers with content, offers, deals, and ads across multiple channels, devices or platforms; the ability to access user transaction history across multiple services and products; and the capability to know users' locations at any point in time.

There's a reason that big data analysis has become such a catchphrase. It's an amazingly powerful tool that can improve user experiences and boost the bottom line.

But it's critical that business stakeholders have an awareness of the process, think about the right strategic considerations, and realize the importance of moving quickly and decisively once insights are delivered. Otherwise, it's all too easy for a business to get mired in data science, instead of transforming a valuable insight into an even more valuable action.

Kumar Srivastava is the product management lead for Apigee Insights and Apigee's Analytics products.

Image: iStockphoto

Views: 633

Tags: [Big](#), [analytics](#), [business](#), [data](#), [enterprise](#), [science](#)

[Favorite](#)

[0 members favorited this](#)

[Share](#)  [Tweet](#)  [+1](#)



- [< Previous Post](#)
- [Next Post >](#)

Comment

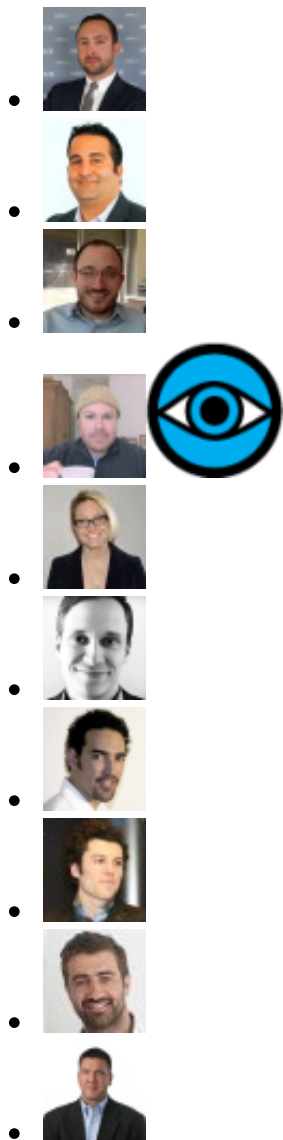
You need to be a member of Innovation Insights to add comments!

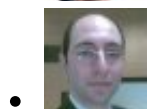
[Join Innovation Insights](#)

Welcome to
Innovation Insights

[Sign Up](#)
or [Sign In](#)

Members





- [View All](#)

Forum



[What single digital marketing trend or technique will make a big impact in commercial businesses this 2015?](#)

Started by Frank Wallem in [General](#). [Last reply](#) by Alex Vasili Jan 9. [3 Replies](#) [2 Favorites](#)

- [Add a Discussion](#)
- [View All](#)

Videos



[How does Internet traffic travel across an ocean? These gadgets](#)

Added by [Mike Barton](#) [1 Comment](#) [1 Favorite](#)

- [Add Videos](#)
- [View All](#)

© 2015 Created by [Insights Site Creator](#). Powered by

[Badges](#) | [Report an Issue](#) | [Terms of Service](#)

Registration on or use of this site constitutes acceptance of our [User Agreement](#) and [Privacy Policy](#) (Revised 09/10/2012). [Your California Privacy Rights](#).

Wired © 2012 Condé Nast Digital. All rights reserved. The material on this site may not be reproduced, distributed, transmitted, cached or otherwise used, except with the prior written permission of Condé Nast Digital.



Like

Share

1,388 people like this. Be the first of your friends.