Increase Customer Conversion and Boost Revenue with On-Site Search Optimization: A Q&A with David Gebala of Teradata Aster

By Ron Powell
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This BeyeNETWORK article features Ron Powell's interview with David Gebala, senior business development manager of field applications for Teradata Aster.

The reason that I chose to interview David Gebala for this article is because it is becoming increasingly more apparent to today's organizations that an incredible amount of money is being lost as a result of ineffective search technologies being used on websites. When people go to a website to find a specific product or service, they expect to find it quickly and easily. If they don't, they will simply click over to another website. Effective website search requires a laser focus that offers site visitors the best match on their first search attempt. The inability to provide customers with that match often leads to a poor user experience, abandoned shopping carts and thus a loss of revenue. The interview highlights how text, predictive and behavioral analytics can assist in optimizing a company's online search capabilities.

David, a company's website is basically the window into its products and services. Most customers and potential customers use search to locate what they need. Does it make any difference what search capabilities a company has?

David Gebala: It's a really good question. As consumers of websites, we always take for granted that there is going to be some easy way to find what we want. It's not just about e-commerce. There are so many web properties that want to get us on a path to something, whether that be subscribing to a newsletter, making a purchase or signing up for electronic billing. Search is often the gateway to put consumers onto that path. It is a big issue that every company with a website should be concerned about, regardless of whether they're trying to sell something or encouraging an action.

When looking at the importance of on-site search, we always look at performance. Can you talk about the importance of performance?

David Gebala: Performance of website search is important because it is the main starting point for most consumers. Our research shows that almost 90% of people will start doing their research online if they're going to make a purchase. Basically, the public is trained to turn to a company's website as the first place to look for information. With those numbers being as high as they are, you can definitely understand how important it is for a company's search to perform and provide relevant results to the consumers.

If we talk about examples of underperforming search, how do you know if your search results are working as you need them to?

David Gebala: It's actually not something that you would know right off the bat. It's something that our analytics can tell you. But I can certainly point to something that would be an underperforming search. There are things that we're all familiar with as we navigate and browse through websites. I'll stick to an e-commerce example because that's the most obvious situation where a search would have an impact on your revenue. If you, as a consumer, go to the website and the very first thing you do is start searching for a product you're interested in, you would recognize a failed search if no results are returned. We've all seen the message "Sorry, no results found. Please try again." Also, if results are returned but are not what the user is looking for, that also is an underperforming search because you've returned non-relevant results. Both of these scenarios are going to fail to put a website visitor on the path to conversion.

From the corporation or the website side, you'd actually have to dig a little deeper because underperformance doesn't mean you're not getting anything out of it, but rather you're not getting as much as you can out of it. That's why we call this on-site search optimization. You may be returning good results, but you don't know what you're missing.

We uncover that situation by looking at the pathway. If the last thing that the person does on your site is search and then exit, what you've essentially done is returned no results or irrelevant results and that person left. That is what we call a silent abandonment. Your prospect has just exited, and you wouldn't know about that unless you used our pathing analytics to uncover what percentage of your prospects are silently leaving. They're probably going to go to a different site – a competitor that is going to provide what they want. The sad thing about this is that it erodes your brand loyalty and it frustrates the consumer. Over time, your poor search results will make it a frustrating experience to visit your website, and that is not something that will build brand loyalty or customer satisfaction.

So you could actually see a drop in revenue over time, right?

David Gebala: Yes, this is all potential revenue that is not being realized. We are very aware that most companies want to do some A/B testing, and we have some numbers of customers who have done this and seen up to a 5% increase in revenue and a 25% increase in conversion rates. There are other metrics too that have gone up, such as average basket size for conversion. We're slowly rolling this out and getting more data around the lift that it provides. Everything has been overwhelmingly positive.

How does using the predictive and behavioral analytics of Teradata's on-site search optimization solutions differ from traditional on-site search that most companies are now using?

David Gebala: Let me sketch out the "as-is" that we see in a lot of the installed bases of today's on-site search solutions. The manufacturer provides the product description to the retailer, and the merchandiser either accepts those key words or comes up with some of their own. Those are the key words that they plug in for each product. That is what we call an open loop. You set it out there, and you make your best guess as to what you think the consumer is going to type in to reach the product you're trying to get them to buy. Sometimes it works, and you're in synch with that consumer. That's what they type in, and they get exactly what they want. But there are many cases where the consumer will type in something else, and you'll end up with either no search results or you'll come up with weak search results that don't satisfy the consumer and don't lead to the purchase.

You asked about predicting key words. That's one part of our solution. Using our text analytics, we go through a number of pre-processing steps that include parsing and tokenization as well as some similarity rankings between products so we can actually tell you which products are most similar to each other. Our modeling using support vector machines can tell you the key words that should be most closely associated with that product so that when the user types it in, they'll get the most up-to-date relevant product that they're looking for.

The behavioral part is that we loop in actual pathways of successful conversions. So, you can simply go to the

weblog of customers who have purchased this product successfully and track back the search terms they used that led them to the purchase.

Using text analytics and behavioral analytics together, we can actually determine the search word that resulted in the most conversions, incorporate that back in and improve the search results over time.

Let's talk about key word prediction because to me when I am searching on a website, it is really critical that the key word I enter in that search box does bring up the most relevant products or services. Can you explain how the key word prediction and behavioral analytics improve on-site search?

David Gebala: In predicting key words, you can start with the set that the manufacturer gives you or that your in-house merchandisers come up with. Then, by going through the text analytics that we apply to all product descriptions, categories and brand names, we'll actually predict the key words that you should be associating with each product or service. That is supplemental. You don't necessarily replace the suggested key words. Slowly, over time, if those key words are relevant, they will keep increasing in their affinity for products.

That's how we predict the key word part, and then the behavioral part is the "golden path" that has actually led to the most purchases of a product. That path contains information about how the consumers started, what search terms were used, and what products they clicked on as they decided on the product that they ended up purchasing. That is the behavioral part because the consumers' behavior is now having input into training your search engine to return the results that are most relevant.

The behavioral part becomes more and more important in certain industries that are very fast moving. For example, in the consumer technology world, new products become available all the time. If your search results are predicated on static words, you are going to fall behind very quickly. Fashion is another industry that is fast moving. A lot of apparel retailers have to keep up with trends and new fashions, and often the consumers know more than the retailer. The bottom line is that you need to be able to speak in the same language as the consumers in fast-moving industries. With behavioral analytics, the search terms the consumers are using for the new products or fashions can be integrated quickly into your search engine.

I would imagine there are generational differences too. The search terms used by the younger generation probably are very different from the terms used by senior citizens. If the person who determines the search terms for a retailer has been around for many years, he or she may not know what terms are being used for new products and services. If you have a system that looks at what words are being entered and what is being purchased, those key words can then rise to the top.

David Gebala: That's right. I'll give you an example. A lot of sophisticated retailers try to educate and use very specialized terms, and their merchandisers are very attuned to that. I'll give you an example. Something that you and I call a "blanket," they would call a "throw." The consumer that enters "blanket" is not going to get those results even though a "throw" is just a specialized type of blanket. It gets even worse than that. We are all familiar with a slow cooker, but it's also called an electric cooker, a hot pot, a crock pot or a crock watcher. Obviously, the manufacturer is going to want people to search on its branded term, but a retailer wants to throw the net as wide as possible so that when someone types in "electric cooker," they're still going to see that crock pot and everything else similar to it. This is an exacerbated problem for niche retailers because they're trying to merchandise a very specialized product that they want to show to a very discerning public. But sometimes a throw is just a blanket.

I'm sure another big question for enterprises is if a company can improve their existing search systems with analytic insights or do they need to implement an entirely new search solution? Do you augment what they already have or is this a replacement?

David Gebala: We are not looking to rip out any existing search systems that are in place. We simply make that existing system smarter about what it recommends. This is a multi-genre analytics solution. There are

parts of it you can update multiple times a day, such as relevancy ranking based on new input from your weblog. There are parts of it that are model-based that will take longer to update. All of these are simply supplemental to existing search engines. We code this as a layer that supplements the existing system and makes it smarter, but we do not replace it.

That's probably good news for most enterprises. The last question I have, and I think you touched on it earlier, is about lift. Have you seen some dramatic changes in lift for customers?

David Gebala: We have. In a limited pilot that we had quantified, we did A/B testing where some people got results from the intelligent system and others from the previous system. A comparison was made and the conversion rates were up from 5% to 25% depending upon the day. And the online revenue was up by 5%. For a large retailer, this could mean millions of dollars – up to multiple millions of dollars if you expand it to many brands.

That's incredible. Dave, thank you for discussing how Teradata Aster is addressing the on-site search optimization needs of enterprises today.

About the Author

Ron Powell, an independent analyst and consultant, has an extensive technology background in business intelligence, analytics and data warehousing. In 2005, Ron founded the BeyeNETWORK, which was acquired by Tech Target in 2010. Prior to the founding of the BeyeNETWORK, Ron was cofounder, publisher and editorial director of DM Review (now Information Management). Ron also has a wealth of consulting expertise in business intelligence, business management and marketing. He may be contacted by email at rpowell@wi.rr.com.