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Searchandizing Analytics: Drive better search results and increase revenue

IBM Commerce Whitepaper

Stephan Lacasse, Executive Business Advisor, IBM Commerce
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Based on a recent IBM webinar, [Searchandizing Analytics: Drive Better Search Results and Increase Revenue](#), this information is aimed at merchandizers and

retailers. With the main retail fall and holiday season just around the corner, leverage analytical tools to drive better search results, increase conversion and ultimately increase revenue.

This white paper is broken down into three sections:

1. The first section provides an introduction and context for on-site search analytics. We discuss why on-site search analytics is so important and briefly introduce a process for evaluating and improving search results.
2. The second section focuses on basic analytics for product search.
3. The third and last section deals with advanced search analytics for product search in more detail.

We then conclude and point to some contacts for more information.

Introduction to On-Site Search Analytics

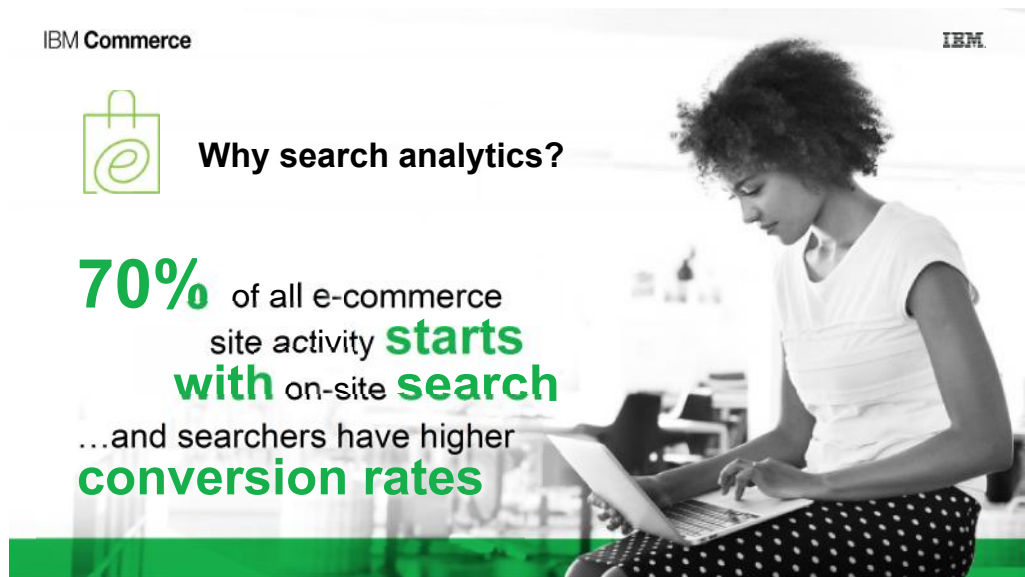
Let's focus on how analytics can help improve your on-site searches so potential customers can find what they are looking for more easily and quickly and convert these shoppers into buyers. It should be noted that this is not about Search Engine Optimization (SEO) or Search Engine Marketing (SEM). These are important topics, but will not be covered here as they are well covered in the media.

Many companies spend a lot of money driving customers to their site just to lose them once they get there because they can't find what they are looking for. The information presented here is primarily aimed at merchandizers who want to drive better product search results and increase revenue. Search results can tell you more about your customers' intentions than many other data on your web site because it is more semantically rich. Search analytics could therefore also be used by e-commerce site developers who want to improve their web site. The techniques discussed may be applied using different tools, however, since IBM is already implementing these techniques using integration between our products - IBM WebSphere Commerce and IBM Digital Analytics - the examples use these for illustrative purposes.


70% of all e-commerce site activity starts with on-site search...and searchers have a higher conversion rates, but almost one-third of searchers are unable to find what they are looking for or abandon the site in frustration.

Why On-Site Search Analytics?

Multi-channel merchants need to consider all aspects of the Customer Experience. Approximately seventy-percent (70%) of shopper's online experience starts with the search bar; and some studies indicate that the customers who use on-site search have conversion rates that are about two-thirds higher than the standard conversion rate for online shopping. This statistic hits at the heart of what we have included in the title of our webinar - search results that sell – because, if shoppers can't find it, they can't buy it.

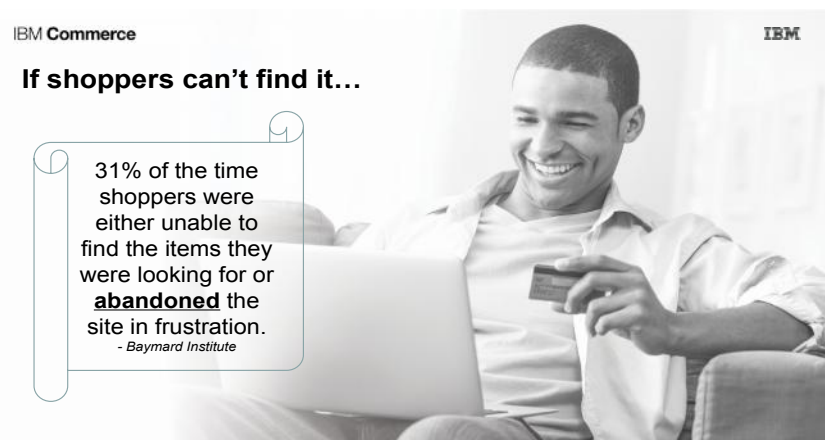


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 **Why search analytics?**

70% of all e-commerce site activity **starts with** on-site **search**
...and searchers have higher **conversion rates**

The Baymard Institute estimates that almost one-third of the time (31%) shoppers were either unable to find the items they were looking for or abandoned the site in frustration. Obviously this is not a good situation to be in if you are trying to sell anything on-line. You want your customers to be able to find and buy what they are looking for.



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If shoppers can't find it...

31% of the time shoppers were either unable to find the items they were looking for or **abandoned** the site in frustration.
- Baymard Institute

Evaluating and improving search results is not a static, once-and-done, process. It is continuous and dynamic.

Basic analytics for product search should include top on-site search hits and top on-site search misses.

But the problem is many merchandizers and retailers do not even know how their customers' searches are performing. This should be a huge priority for merchants - these are qualified customers, specifically searching for your products. They are doing a lot more than just looking around!

It should be clear that on-site search is important. However, what do we mean by search analytics?

Why would shoppers not buy, but abandon your site? Shouldn't this be common sense?

Most online merchants at this point have "on-site search". That is a good start for helping shoppers find what they are looking for. Having basic search that has not been "tuned" from a relevancy or search results quality perspective, however, oftentimes can leave an extremely frustrating customer experience as shoppers enter their search terms and then receive results that do not come close to what they are looking for.

Some questions you should be asking yourself are:

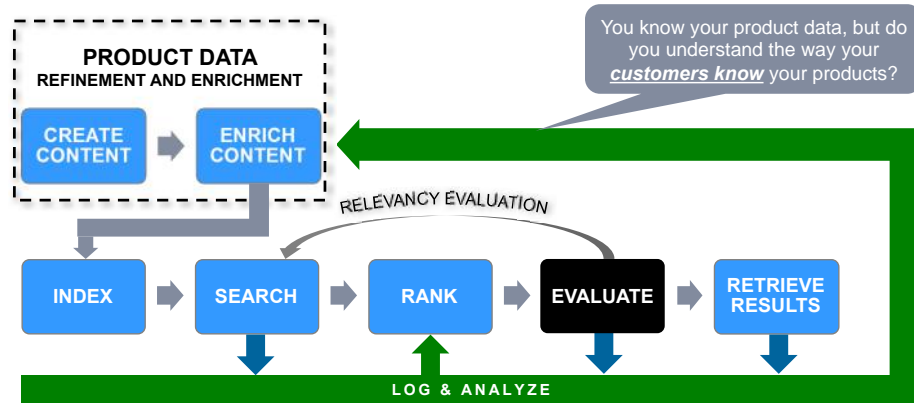
1. Do you know how your customers' search results are performing in general and also specifically?
2. Do your search results directly lead to conversions?
3. Are you able to determine whether your product on-site search is returning relevant results for your shoppers?
4. Do you have an on-going process in place for improving on-site search results?

By the end of this whitepaper you should have the knowledge and tools to allow you to answer these questions.

[A Process to Evaluate and Improve Search Results](#)

The process to evaluate and improve search results is on-going, not static but dynamic and continual. It should begin when you create and enrich your content. The content is indexed and then searched on. Results should be looked at heuristically, using basic, high level analytics for product search, such as top search hits and top search misses, and then more granularly using advanced search analytics. Results should be ranked and relevancy scores calculated, before being evaluated. Throughout the process feedback, loops should be used to constantly improve results as shown in the figure below. We have a whole other webinar dedicated to this process so we will not get into the details here.

Evaluation & improvement – a process



Top on-site search hits report allows you to find out the top products that your customers are looking for on your site.

Basic Search Analytics

Let's dive into more detail about basic analytics for product search and introduce more advanced analytics.

Basic Analytics for Product Search

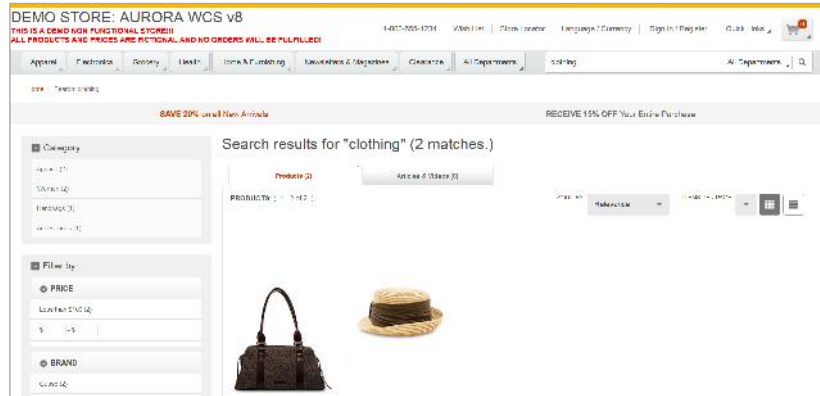
There are two basic search analytics that every merchandizer should be using to analyze the effectiveness of on-site searches:

1. Top on-site search hits
2. Top on-site search misses

Top on-site search hits

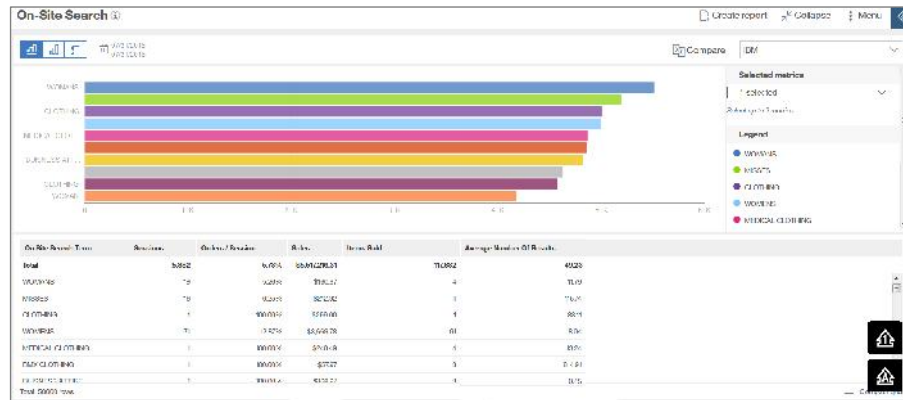
Tools such as IBM Digital Analytics capture this type of information using tags and puts it in a data store so it can easily be retrieved. We have also designed reports so this data can be presented. Alternatively, IBM WebSphere Commerce has a feature by the same namesake, top search hits, that captures this information as long as you have statistics turned on. The reason you want to capture this information is because you should know what your customers are searching for that resulted in a successful (meaning at least one product) search result. Ideally these should be ranked in terms of frequency of search, number of sessions that the search term was used, but also in terms of conversion (you want to know which of these searches resulted in a sale). Examples can be seen in the figures below:

Search hits



In the figure above, a customer searched for “clothing”. The figure below shows all of the search terms that returned something along with the number of sessions and the sales resulting from each search term.

Search hits



You should use this information to optimize search results for top keywords so that your hottest products get top ranking. If clothing is a top search hit, consider creating a search rule for that keyword. The search rule could boost the most popular women’s clothing brands in the search results, or list your top-selling women’s clothing brands at the top of the results list. You

might also want to check for keywords that have a high number of search results, even if the number of searching sessions is low. Consider creating search rules for these keywords so that the first few pages of search results contain your top-selling products.

Create landing pages for top keywords that make your products irresistible. Build a landing page for women’s clothing that provides a compelling sales pitch. Top search hits that represent brands are also ideal candidates for landing pages.

Build campaigns and promotions around the products, categories and brands associated with top keywords. For example, if people are searching for specific type of clothing, create a promotion for this type of clothing. Then display an ad for the promotion on the search results page when customers search for hats.

Check your synonyms and replacement terms to see if they need fine-tuning. If the number of results returned for a popular keyword seems lower than it should be, check the synonyms and replacements column in the report. If there are no synonyms, consider adding some to expand the search to include a wider range of products.

Top on-site search misses

Conversely, merchandizers and retailers should know what search terms resulted in no results.

Top on-site search misses report allows you to find out the top products that your customers are looking for on your site but not finding.

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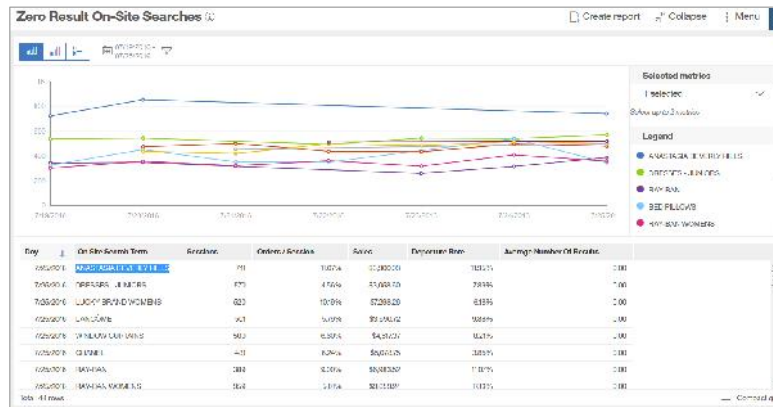
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Search misses



The figure above shows that a customer looked for “Anastasia Beverly Hills”. The figure below tells you how many people searched for that term, as well as other terms but could not find them on your web site, resulting in “zero-results” on-site searches.

Search misses



Use this information to find out what your customers are looking for unsuccessfully. This may be even more important than searches that resulted in results because your customers may be searching for a product keyword that returns no results and no suggested keyword; however, perhaps your store sells a suitable product indexed under a different keyword. For example, your store may not carry “Anastasia Beverly Hills” but may carry a different brand for a similar product (perhaps your store sells cosmetics, but for a different brand). If so, consider adding a replacement term so that a search for "Anastasia Beverly Hills" returns matches for your brand. As a result, customers searching for "Anastasia Beverly Hills" see relevant search results instead of no search results.

Customers may be misspelling a product keyword and getting no results and no suggested keyword. Again, you can add a replacement term so that a search for the misspelled keyword returns a list of all your matching products. We will talk about spelling suggestions later, but for now know that in some cases, a misspelled word can be listed in this report. You will see later, in the Search Spelling Suggestions report, from the Suggested Keyword column that the search engine can provide a suggested keyword that corrects the error and returns relevant search results. In that case, you probably do not need to take any action because the search engine is handling the spelling error effectively.

Search term click thru allows you to understand what search terms are leading to what orders, along with the products the shopper is clicking on in their search results.

Customers may be searching for site content that is available on the site, but they are not finding it. For example, perhaps your customers are searching for “shipping information” before placing an order. Ask yourself why customers are having trouble locating shipping information using navigation and are forced to search for it in the search bar instead. To make shipping information easier for customers to locate, you might index the shipping page content so the page is returned in the search results. You may also want to consider redesigning your site so that shipping information is more visible. Create a landing page for shipping information.

Customers may be searching for site content that is not available, but it should be. Perhaps you offer an in-store service but the service is not yet available on your online store. This might indicate that customers are interested in this service and that you should consider investing the time to provide one.

Advanced Search Analytics

We have discussed basic analytics for product search and we introduced more advanced analytics for product search by asking some questions every merchandizer should be able to answer. Now, let’s discuss advanced search analytics in more detail.

Introduction to Advanced Analytics for Product Search

Getting basic information about the top search hits and the top search misses from your customers as discussed above is important, but to be even more effective you want to drill down on these search analytics. You want to know:

1. After being presented with product search results, which of those products do people buy?
2. Where in the product search results list are the products that shoppers are buying?
3. What are the most frequently misspelled product searches?
4. After being presented with product search results, upon what are shoppers clicking on?
5. What facets are most used to refine search results?

Search Term Click Thru

Search results relevancy scores can be used to determine how the product search is positioning products in search results.

Search term click thru allows you to understand what “search terms” are leading to what orders, along with the products the shopper is clicking on in their search results.

For example, a visitor searches for “bathroom” and is presented with the following results where relevancy issues are obvious. Does the click-thru behavior lead to other searches, catalog browsing or ultimately to an order?

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Search term click-thru

Understand what happens after search results are presented

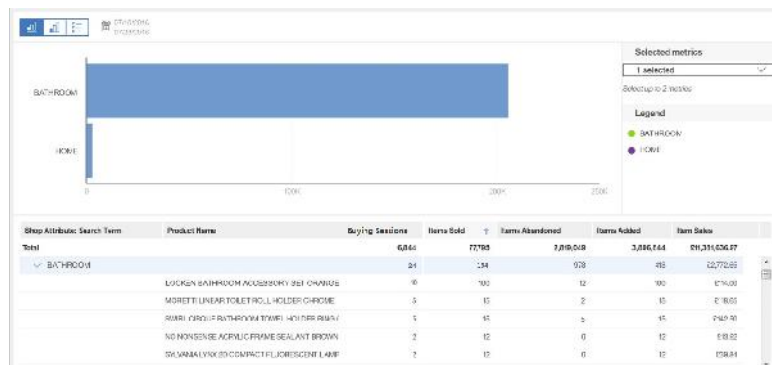


The figure shows the direct relationship between the on-site search term and actual products viewed, added to cart, abandoned or purchased. For example, it shows that many shoppers bought the “Locken Bathroom Accessory Set Orange” after searching for “bathroom” accessories. This allow you to understand your customers buying behavior resulting from searches.

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Search term click-thru drill-down



Search Relevancy Scores

Search relevancy can be tuned to elevate products in the search results.

Search result relevancy scores can be used to determine how the product search is positioning products in search results.

Merchandisers can enhance product positioning by using relevancy scores to measure the effectiveness of their product data enrichment initiatives, search rules and search associations and custom search profile changes.

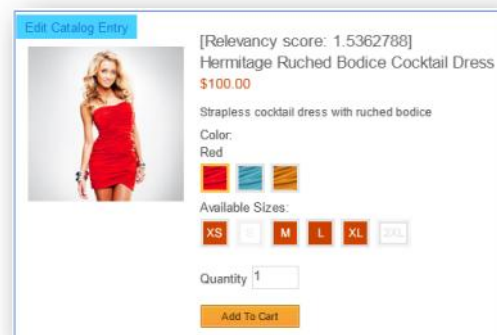
For example, someone searched for “red dress” and the figure below shows the result along with the relevancy score for the result. Note: the score would not be shown to the customer; it is for illustrative purposes only in this example.

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Search relevancy scores

- § Determine how product search is positioning products in search results
- § Merchandisers can enhance product positioning by using relevancy scores



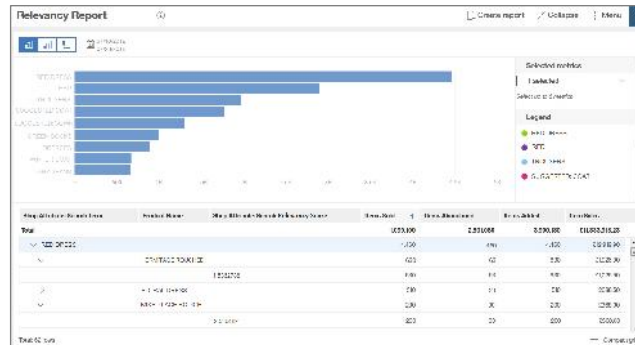
Relevancy scores are relative. There is no perfect score. They are dependent on what the search engine produces. Relevancy scores can be “tuned”.

For example, the figure below shows relevancy scores for several different products for a given search phrase.

Merchandisers can view the products that were returned for a given search phrase - and the associated relevancy score of the products returned - to develop boosting/relevancy strategies to, for instance, position specific high margin products.

Search relevancy score report

- § View products returned for specific search phrases
- § View/compare associated product relevancy scores
- § Develop strategies to position specific products



Merchandisers are interested in helping shoppers find what they are looking for and to be able to effectively position merchandise that will sell, and sell at good margins.

While improving relevancy may involve technical changes, business users can focus on improving product data and setting up search associations and search rules to control product positioning (pinning) and boosting of products in search results.

Improving search relevancy & product positioning

- § Merchandisers are interested in helping shoppers find what they are looking for
- § Need to be able to effectively position merchandise that will sell, and sell at good margins for higher inventory turn-over

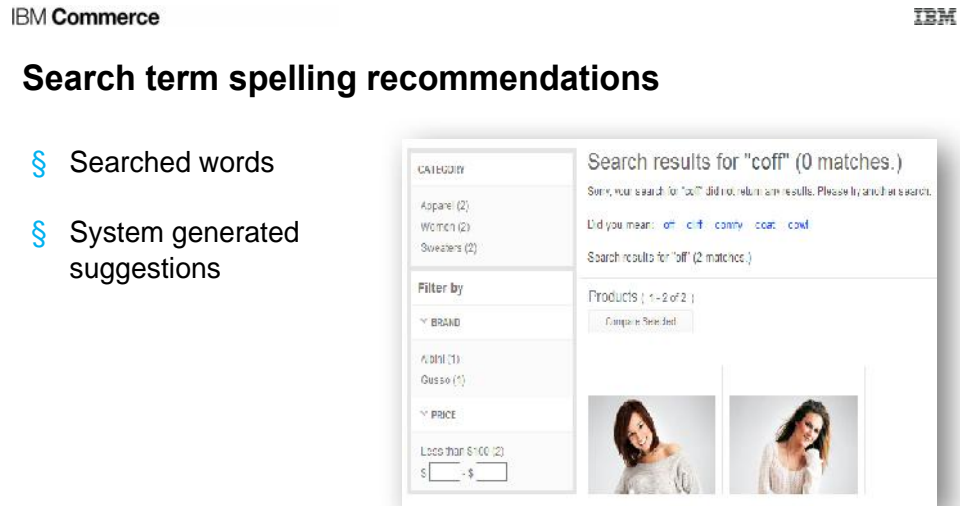


Search term spelling allows you to find out how customers spell (or misspell) their search terms along with system generated suggestions.

Search Term Spelling Recommendations

Search term spelling recommendations allows you to find out how customers spell (or misspell) their search terms along with the provided system generated suggestions.

For example, the figure below shows that someone entered “coff” in the search bar and the system generated a number of suggestions.

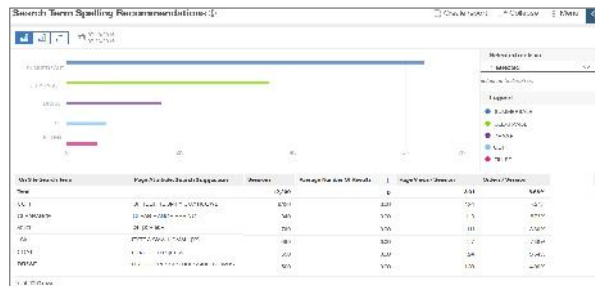


- § Searched words
- § System generated suggestions

The figure below shows on site search terms along with suggestions. The search term spelling recommendations can be filtered by selecting only those terms that had suggestions associated with them. This way you can find out what word spelling was most often used so you can tune your search results.

Search term spelling recommendations

- § View search terms
- § Spelling suggestions
- § Filtering



Search term usage allows you to understand how users are navigating away from the search results page.

Search Usage

Search term usage allows you to understand how users are navigating away from the search results page i.e. are they using the Top Navigation menu rather than clicking on a search result?

For example, a visitor searches for “men’s button down dress shirt”. He is presented with 178 product results. He is not finding what he is looking for so he clicks on the top navigation Apparel tab and then selects Men’s and then Shirts.

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Search usage

Understand how users are navigating away from search results page



The figure below shows the search usage. For example, it shows how many people clicked on the top navigation bar from the first search results page for “men’s button down dress shirts” after being presented with the search results. These show that some customers are obviously not finding what they are looking for and revert to using the top navigation bar instead. This indicates that you may need to refine your search results to make it more easy for your customer to find what they are looking for.

Search usage

Facet Details - Page	Facet Details - Version	Facet Details - Page Area	Facet Details - Link	Clicks	Orders/Clicking Session
Total				111,265	7.93%
SEARCH RESULTS FACET				1346	1.21%
TODAY				77	0.48%
		ALL MALE (MEN ADULTS)	MENS BUTTON DOWN DRESS SHIRT	77	0.79%
		ALL MALE (MENS INFANTS)	TROUSERS	62	0.16%
		APPAREL (WOMENS/INFANTS)	T-SHIRT	162	0.09%

Search facets allows you to understand how search facets/filters are being used.

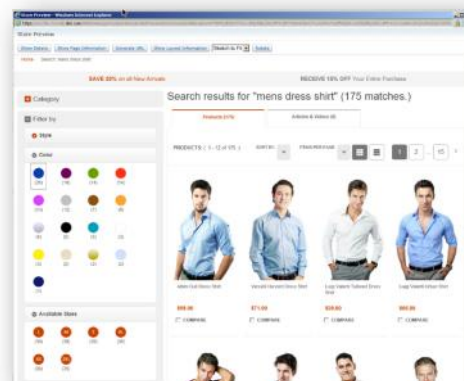
Search Facets

Search facets show what customers are clicking on after being presented with the search results for a specific search term. It allows you to find out what product facets customers are interested in.

For example, someone searches for “men’s dress shirt” and is presented with 175 results, so he or she filters down to only show the products that are blue in color.

Search facets

Understand how search facets/filters are being used



The figure below is similar to the search usage report, but it shows the search facets that were used to filter down the results. For example, it shows that the

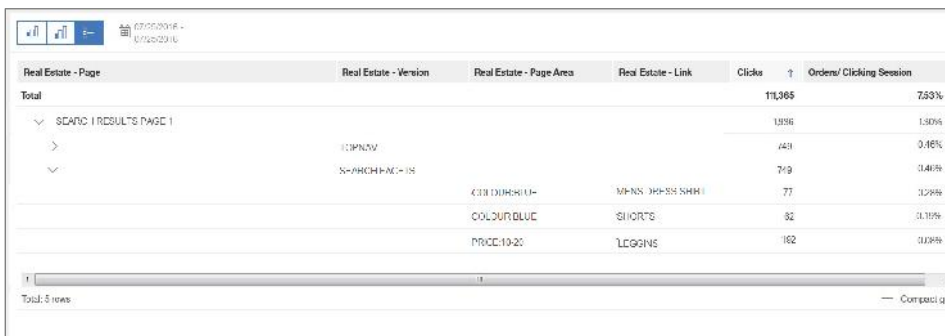
color blue seems to be trending and that people seem to be more interested in leggings between \$10 and \$20.

This is similar to the search usage discussed above, but as it relates to filtering down the search results that were presented. Search facets allows you to track usage of search results faceted navigation to see which facets (i.e. filters) are most used and those which could be removed completely from the search result page.

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Search facets



Real Estate - Page	Real Estate - Version	Real Estate - Page Area	Real Estate - Link	Clicks	Orders/Clicking Session
Total				11,365	753%
SEARCH RESULTS PAGE 1				1398	1.93%
	COMPANY			449	0.46%
	SEARCH FACETS			719	0.46%
		CLOTHING	MEN'S SHOES	77	0.29%
		COLOUR: BLUE	SHORTS	52	0.10%
		PRICE: 10-20	LEGGINGS	162	0.33%

Conclusions

After discussing some basic analytics as well as more advanced analytics for product search, it is obvious that search analytics is important to all merchandizers and retailers because most customers start their on-line experience with a product search and those customers who quickly find what they are looking for have a much higher conversion rate than those who do not start with a search or cannot find what they are looking for.

Do you want to drive better search results and increase sales? Then leverage on-site search analytics capabilities to get better insight into what search terms your customers are using. Contact a Business Advisory Services professional today to learn how you can improve your search process.

Please contact us with any questions or for more information:

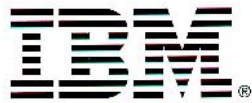
<p>Stephan Lacasse IBM Commerce Business Advisory Services Email: slacasse@us.ibm.com</p>	<p>Rhett Daniel IBM Commerce Business Advisory Services Email: rdaniel@us.ibm.com</p>
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