

Selecting the right
site search solution for
increasing conversion:
Get a guaranteed **10%+**
lift with Unbxd Search

2019

Executive summary

30-40%

of shoppers
go to search
bar first ¹

+244%

search conversion
compared to site
conversion ²

75%

reduction in
spellcheck issues
with Unbx
Search²

80%

reduction in
zero results with
Unbx
Search²

10%+

conversion lift
with Unbx
Search

Many brands and ecommerce companies have found that improving site search helped significantly boost their site conversions. If you're looking to increase your conversion rate, what should you look for in a site search solution? In this white paper, we'll cover:

- ▶▶ Why improving your site search is critical to improving conversions
- ▶▶ Four key analytical components of a highly effective commerce search experience – and how Unbx Search delivers them
- ▶▶ Our guarantee of a 10% lift in site search conversion with Unbx Search

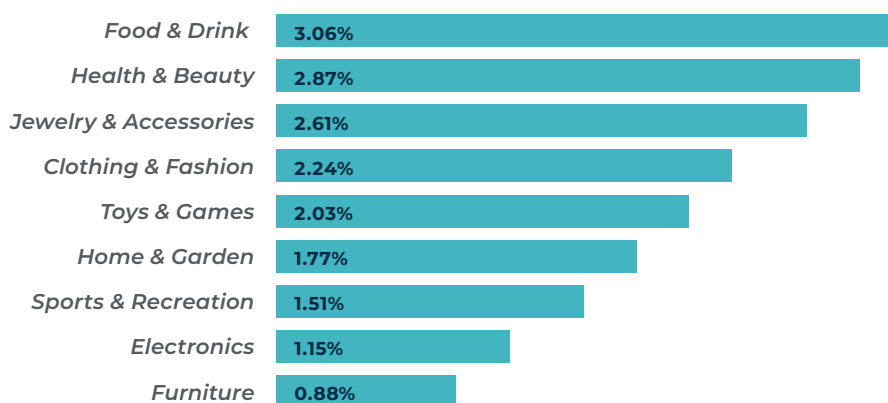
Why site search matters

When shoppers arrive at your site, 30-40% will go directly to your search bar.³ This is especially the case on mobile, where tiny screens make navigation cumbersome.^{4,5} Shoppers starting with search signal higher intent, as they have a clear idea of what they want to buy. In fact, they are 244% more likely to buy than if they navigate or browse your site.⁶ And this translates into higher revenues, as search-originated purchases comprise up to 70% of onsite sales.⁷

Yet, many websites are missing out on this upside due to problems with their site search. Shoppers who make a typo, use less common terms, or prefer natural language to describe what they are looking for might end up with zero results on a site that actually has the product they're looking for. But shoppers don't have the patience to keep looking. As many as 68% of shoppers will not return to a site that provides a poor search experience.⁸

Overall site conversion rates reflect the challenges of helping shoppers find what they're looking for. Across industries, the best conversion rates often barely top 3%, as shown in the table below.

Site conversion rates by industry ⁹



Four dimensions of search that drive conversions

What can online retailers do to increase their site search conversion rates? For any onsite query, there are four dimensions that a strong search solution like Unbxid Search includes. These dimensions are a series of algorithms and steps that together take mere milliseconds to execute, but which make the difference between returning a “dress shirt” or a “shirt dress.”



QUERY PREPROCESSING

Preparing the shopper's query for advanced analytics



QUERY INTENT IDENTIFICATION

Using advanced algorithms to determine the shopper's intent



SHOPPING TREND INSIGHTS

Using local and global shopping trends to increase relevancy



PERSONALIZED RANKING

Ranking search results based on individual shopper preferences

We'll walk through each dimension, and its components, and see how Unbxid Search delivers on these dimensions to help online retailers drive conversions and build their business.

Query preprocessing

Query preprocessing prepares the shopper's query for advanced analytics by running it through a number of data cleansing and standardization processes.

Unbx Search understands a search query just as a sales associate would understand a customer's question in-store. Query preprocessing works in a similar way, using the following checks.

Query expansion

Whether due to regional lingo, personal habit, or any number of reasons, people may refer to the same product in different ways. One online shopper might search for "brown couch" while another might look for "coffee sofa" – yet both are looking for the same piece of furniture. Unbx Search understands this, and also knows that the second shopper is using "coffee" as a color and is not looking for a coffee table.

With synonyms auto tagging, Unbx Search looks for synonyms of keywords within the query to return the most relevant results. So, Italian leather sofas that have been tagged "maroon" instead of "red" will be included in the results. With a rich product catalog of over 1 million synonyms, Unbx Search has a high capacity to scour an ecommerce site for products that match the query entered by the shopper.

Debunking myths: What doesn't impact conversion

Improving your site search should be at the top of your priorities. Following are some initiatives that online retailers might think should come before site search. Talk with us to see how Unbx Search can replace the need, or be an important first step, for the following.

Address your site search challenges first before taking on these costs:

- » **Replatforming:** companies spend anywhere from \$100,000 up to \$1 million¹⁰
- » **Personalization:** without strong site search, the impact of personalization is lessened
- » **Building a solution internally:** significant costs in terms of time and money
- » **Using an open source solution:** requires resources for build-out and bug-fixing
- » **Using a legacy search solution:** limitations on search capabilities
- » **Platform default:** limitations on search capabilities

Stemming

Any given word can have a number of variations that all map to a common root. Consider the queries “party dress” and “party dresses.” Both should lead to the same results. Unbx Search understands that all words with the same root should be treated the same. So, shoppers looking for “round shaped ottoman” and “round shape ottoman” are shown the same results. With Unbx Search, 95% of stemming issues are solved automatically, with no additional configuration required.

Stop words

This refers to the removal of any unnecessary filler words from the query. For example, with the query “high-high boots with tassels,” the algorithm eliminates “with” from the results, as it is an unnecessary filler word and its value as a keyword is minimal.

Query intent identification

Query intent identification uses advanced algorithms to determine the shopper’s intent. Unbx Search runs the query through its suite of advanced algorithms to accurately determine the intent of shopper, or “intention terms.”¹¹ There are many algorithms at work for query intent identification.

Specification handling

With specification handling, Unbx Search identifies the attributes, or specifications, of the product. For example, when a shopper searches for “cases for iPhone Xs,” Unbx Search understands that “Xs” is a specification of a particular brand and that the shopper wants to buy a case, not an iPhone.

Specification handling is especially important when your inventory has a number of products, each with its own set of product accessories. The specific product variant requested by the shopper is ranked higher in the search results, making it more relevant.



We implemented a new search capability that provides visual recommendations immediately to users which is increasing conversion rates.”

– **David Kornberg**, Express CEO, about Unbx Search

Dimension handling

Shoppers describe the physical dimensions of a product in a variety of ways. Some spell out the words. Others use symbols, and still others might use just an abbreviation. Consider the ways in which shoppers might search for a TV: '42" TV' or '42 in. TV' or '42 inch TV.'

Dimension handling is the ability of a search solution to understand the dimensions presented and provide the same results, regardless of how the dimensions are described. In the TV example above, Unbxid Search understands the queries as describing the same dimensions of the "product type" TV and delivers the same results for all variations of the query.

Feature extraction

Feature extraction is the process of categorizing a query into appropriate attributes. For example, with the query "red Italian leather L-shaped sofa," the solution identifies each keyword according to its corresponding attribute: red=color, Italian leather=material, L-shaped=sectional, and sofa=product type. The results will reflect the shopper's intent, showing furniture instead of, for example, a leather jacket.

Unbxid has developed vertical-specific algorithms that extract features from multi-word queries, to help connect shoppers with the products they are looking for. For example, when a shopper types in the long-tail query "logitech wireless noise cancelling headphones" at Unbxid customer Monoprice.com's website, the correct results are presented, as shown in the screenshot below. Research shows that more detailed product descriptions tend to drive higher conversion, and feature extraction is especially critical to handle such complex fields.¹²

The screenshot shows the Monoprice website search results for the query "Logitech wireless noise cancelling headphones". The page displays two results for Logitech wireless noise cancelling headphones. The first result is the Logitech Wireless Headset H820e, priced at \$169.99. The second result is the Logitech H600 Headset, priced at \$61.84. Both results include product images, descriptions, and "ADD TO CART" buttons. The search results are displayed on a page with a navigation bar at the top, a search bar, and a sidebar with filters for Category, Sub Category, Brand, and Free Shipping.

MONOPRICE | Logitech wireless noise cancelling headphones | Help | Business

Shop | Featured Products | My Account | Quick Order | My Cart

2 RESULTS FOR LOGITECH WIRELESS NOISE CANCELLING HEADPHONES

Narrow Results

- Category: Headphones(2)
- Sub Category: Gaming Headphones(2)
- Brand: Logitech(2)
- Free Shipping: No(2)

Best Match | 25 Items Per Page

Logitech Wireless Headset H820e - Stereo - Wireless - DECT - 328.1 ft - 150 Hz - 7 kHz - Over-the-head - Binaural - Circumaural - Echo Cancelling, Noise Cancelling Microphone
The Logitech Wireless Headset H820e, available in mono and dual versions, combines enterprise-quality wireless audio with superior design elements, making it Logitech's best wireless headset. Interruptions are minimized with a distinct in-call LED IL...
Product ID: 23251
\$169.99 | 1 | ADD TO CART
Volume Pricing

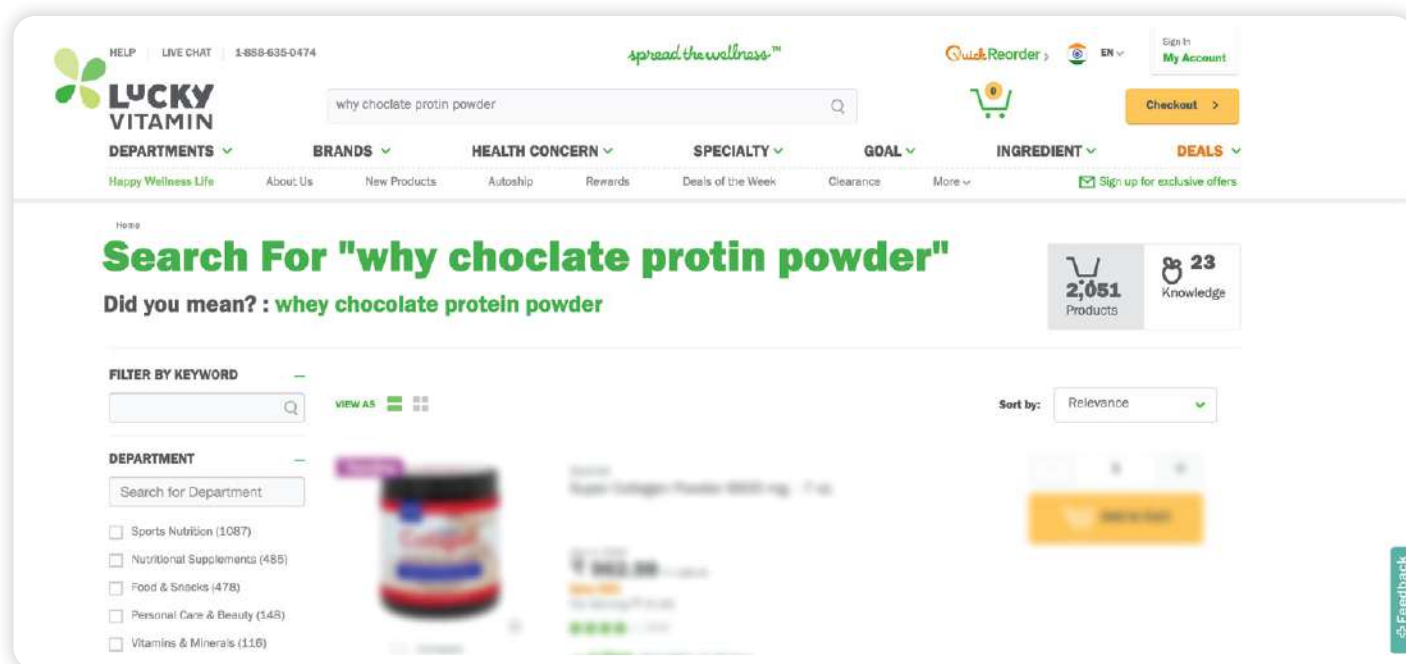
Logitech H600 Headset - Stereo - Blue, Black - Wireless - 32.8 ft - Over-the-head - Binaural - Ear-cup - Noise Cancelling Microphone
Cut loose from your PC with this lightweight, portable headset. The laser-tuned drivers, 10-meter range and 6-hour rechargeable battery make it easy to listen and chat whether you're at your desk or on the couch. Connectivity Technology: Wireless W...
Product ID: 23267
\$61.84 | 1 | ADD TO CART
Volume Pricing

Best Match | 25 Items Per Page

Spellcheck

Misspelling is the cause of many zero result queries, which causes shoppers to abandon their search and leave a site to look elsewhere. Unbx Search has a robust spellcheck capability that automatically recognizes and corrects misspelled words. For example, if a shopper searches for “bleck lethar,” Unbx Search identifies both misspelled words and replaces them with “black leather.” Unbx Search can handle up to 6 misspelled words in a single query. In fact, Unbx Search customers have seen a 75% reduction in spellcheck issues and an 80% reduction in zero results.

At the site for Lucky Vitamin, another Unbx customer, the search “why choclate protin powder” presents an interesting search challenge, since “why” is a valid word, although it is a typo in this instance. Unbx Search algorithms detect that “why” is a misspelling, and the shopper is prompted with, “Did you mean ‘why’?”



Relational queries

Shoppers will often query using a descriptive phrase. Unbx Search determines user intent by understanding grammatical constructs. For example, if a shopper searches for “dresses for parties,” Unbx Search assesses that “dress” is the primary product type and that “parties” is related to “dress” and is a secondary attribute.

Diversity handling

With a very broad keyword, such as “phone,” Unbx Search resolves the lack of identifiable shopper intent from head queries by showing a diverse result set. In this case, the results included show a variety of phones across different brands, models, colors, and more.

Handling low-recall long-tail queries

Multi-word, longer queries pose both a challenge and a huge opportunity for online retailers. Generally, the longer the query, the lower the chance that there will be an exact match in the catalog. Addressing long-tail queries is critical, though, as they signal higher purchase intent, and they often make up a large percentage of overall site queries. A recent study showed that 32% of 20 million queries on a commercial search engine appeared 3 or fewer times.¹³

For example, if a shopper is looking for “pink suede leather handbag” and the catalog does not have many products that match those specifications, Unbx Search intelligently maps the same query to “suede leather handbags” or “leather handbags,” based on the volume of products available for either search. Implicit data about the shopper can also help in such situations. For example, if a shopper is more likely to opt for a particular brand, results from that brand can appear higher in the search results.

Automated thesaurus

Unbx Search’s automated thesaurus leverages machine learning to identify similar words in a document based on occurrence patterns. These words can then be appended to a query to increase recall. As shown in the screenshot from Unbx customer Ashley Homestore below, for the query “couch,” the algorithm identifies “sofa” as a similar word to “couch” and automatically includes results with “sofa.”

The screenshot shows the Ashley Homestore website interface. At the top, the Ashley Homestore logo is on the left, and the location '56007' is displayed. A search bar contains the word 'Couch', which is highlighted by a circular callout. Below the search bar, there are navigation links for Furniture, Mattresses, Kids, Outdoor, Bedding, and Home Decor. A 'Free Shipping*' banner is also visible. The main content area shows search results for 'Couch', displaying '1 - 16 of 281 products'. Below this, there are filter options for Price Per Item, Ratings, Shipping & Delivery, Color, and + More Filters. The search results are sorted by '16'. Four sofa products are displayed in a grid:

- Jarreau Sofa Chaise Sleeper**: 4.5 (87) rating, \$699.99 (crossed out) / \$429.99, In-Home Delivery.
- Bladen Sofa**: 4.6 (893) rating, \$299.99, HomeStore Special, In-Home Delivery.
- Darcy Sofa**: 4.4 (456) rating, \$299.99, HomeStore Special, In-Home Delivery.
- Darcy Sofa Chaise**: 4.3 (1509) rating, \$429.99, HomeStore Special, In-Home Delivery.

User behavior

Query logs can surface browsing patterns of shoppers with similar preferences, and these insights can be used to further increase relevancy. Suppose, for example, that a shopper searches for “**red sofa.**” The query logs might reveal that most shoppers searching for a red sofa bought those made with Italian leather. Research shows that order rate is the most reliable guide for ranking results,¹⁴ so Unbx Search would re-rank the search results and boost red sofas made from Italian leather.

External data sources crawler

Web-based data sources like Wikipedia, ConceptNet, and WordNet contain vast amounts of lexical information. Unbx Search leverages these to identify semantic relevance and fetch related terms for specific queries, thereby boosting search performance. Unbx's catalog boasts a size of 500 million products and growing.

Shopping trend insights

In addition to the many algorithms that parse the query and help identify the shopper's intent, information from local and global shopping trends can further increase relevancy in search results. Insights used by Unbx Search come from a variety of sources:

Seasonality

Holiday periods see a rise in overall web traffic and demand for certain products. For example, leading up to Valentine's Day, shoppers tend to purchase more red items. Around Christmas, demand for gift cards surges. With Unbx Search, an online retailer can increase conversions by boosting such high demand products during these periods.



I don't look at Unbx as just a technology platform. It's a partnership to develop my business, which ultimately means we're meeting our customers' needs better and faster. This partnership helps us focus on our core business.”

– **Harley Thomas,**
Sr. Director of Corporate & Digital Marketing, ibSupply

Recent trends

If certain topics suddenly start trending in places like social media, they could lead to a significant surge in product demand. For example, if a certain athlete or sports team starts performing well, shoppers are more likely to buy their associated jerseys and products. To increase the chance of conversion, Unbxid Search can surface these items higher in search results.

Unexpected events

Unpredictable events can lead to a sudden change in user behavior. For example, if there is a hurricane or blizzard expected to strike a particular region, there's likely to be an increase in demand for items such as groceries and flashlights. Unbxid Search can factor unexpected events like these into its algorithms.

Personalized ranking

The fourth dimension, personalized ranking, sorts search results based on an individual shopper's preferences using any of the following techniques:

Broader personalization: Segmentation and targeting

Shopper segments based on device, geography, channel, and user type (new vs. repeat shoppers) can enable targeting with custom-made campaigns. For example, online retailers can target users based on their locations and show them products that perform better in those locations. A robust site search solution enables e-commerce sites to create segments accordingly, helping to boost conversions.¹⁵

1:1 personalization

There is a wealth of information that shoppers leave behind when they browse a site. This information helps for surfacing more relevant results to the shopper when they return to the site. Aspects of user behavior such as affinity to a particular brand, sensitivity to price, and purchase data need to be taken into account while showcasing the order of products shown to different shoppers using the same search query.

For example, if a shopper showed an affinity for the Ralph Lauren brand at a site previously, when she returns to the same site she should see Ralph Lauren items given higher preference in results for her queries.

Guaranteed **10%**
lift in site search
conversion



Unbxid Search conversion guarantee

Unbxid's strengths in the four dimensions of search make it a leading solution. Underpinning these capabilities is our deep expertise in AI and machine learning. We have built an extensive library of deep learning models, and an army of experts in data science and engineering that fine-tune our algorithms continually to produce the best results for our customers. Unbxid's ongoing investments in data science professionals reflect our understanding of the human-machine synergies in AI, and the bottom-line benefits we deliver to our customers prove this out.

We are so confident in the power of Unbxid Search that we can offer a guarantee on your search conversion results. Unbxid offers a premium service to ensure at least a 10% conversion lift in the first 90 days.

The upside could be much more. See what results we've delivered for customers in different verticals: ¹⁶

Examples of Unbxid Search customer results by industry

Industry	Considerations for Search	Conversion Increase	Revenue Increase
Furniture & Home Decor	Showing breadth of catalog; showcasing products	18%	17%
Fashion	Showing broad array of products	29%	24%
B2B	SKU search; repeat behavior; customer-specific pricing/catalogs	37%	26%
Mass Merchant	Relevance; entity extraction	11%	3%
Grocery	Repeat visitor behavior; baskets built for retailer	24%	28%
Specialty	Relevance; entity extraction	28%	13%

Are you ready to invest in an improved site search experience for your shoppers that can bring significant upside to your business?

What this means to your bottom line

Every percentage point increase to conversion translates into significant revenue upside for online retailers. For a company with **300,000** monthly site-search visits, a **5%** site-search conversion rate, and an AOV of **\$100**, Unbx Search's 10% lift guarantee can mean an increase of **\$1.8 million** in annual site-search revenue. And delaying implementing Unbx Search means leaving **\$150,000** on the table every month.

What would a **10%** site search conversion lift translate into for your business?

Contact us

With its delivery of the four components that improve the shopper search experience, Unbx Search can lead to at least a **10%** lift in site-search conversion.

To learn more about Unbx Search and our conversion guarantee, contact us at sales@unbx.com.

How good is your site search?

Answer

Yes / No:

- ▶ Do the top 20% of your queries comprise no more than 60% of your search revenue?
Yes/No
- ▶ Is your search conversion rate 3x or greater your site conversion rate?
Yes/No
- ▶ Do null queries (<5 results) make up less than 4% of your search queries?
Yes/No
- ▶ Are 75% of misspelled queries corrected automatically?
Yes/No
- ▶ Do 50% or more of your search visitors engage with autosuggest?
Yes/No

If you answered **"No"** to any of the above, you're leaving money on the table.

Contact Unbx to learn how we can help.

Sources:

¹ Unbx data, 2018.

² Unbx data, 2018.

³ Unbx data, 2018.

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⁵ <https://baymard.com/blog/mobile-ecommerce-search-and-navigation>

⁶ Unbx data, 2018.

⁷ Unbx data, 2018.

⁸ <https://www.addsearch.com/blog/shockingly-high-cost-poor-site-search/>

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¹⁰ <https://www.digitalcommerce360.com/2019/02/08/nearly-half-of-eretailers-are-investing-in-their-ecommerce-platforms>

¹¹ "Central Intention Identification for Natural Language Search Query in E-Commerce," SIGIR 2018 eCom, July 2018, Ann Arbor, Michigan, USA. Accessed on February 12, 2019 at <https://sigir-ecom.github.io/ecom18Papers/paper2.pdf>.

¹² Reid Pryzant, Young-joo Chung, and Dan Jurafsky. 2017. "Predicting Sales from the Language of Product Descriptions". In Proceedings of SIGIR, Tokyo, Japan, August 2017 (SIGIR 2017 eCom). Accessed on March 6, 2019 at <https://nlp.stanford.edu/pubs/pryzant2017sigir.pdf>

¹³ "Entity-Based Query Recommendation for Long-Tail Queries," Zhipeng Huang, Bogdan Cautis, Reynold Cheng, Yudian Zheng, Nikos Mamoulis, and Jing Yan. ACM Trans. Knowl. Discov. Data. 1, 1, Article 1 (January 2018), 23 pages. <https://doi.org/10.1145/3233186>. Accessed on March 6, 2019 at <http://www.cs.uoi.gr/~nikos/TKDDQRec.pdf>.

¹⁴ Shubhra Kanti Karmaker Santu, Parikshit Sondhi, and ChengXiang Zhai. 2017. "On Application of Learning to Rank for E-Commerce Search". In Proceedings of SIGIR '17, Shinjuku, Tokyo, Japan, August 07-11, 2017, 10 pages. DOI: <http://dx.doi.org/10.1145/3077136.3080838>. Accessed on March 6, 2019 at https://www.researchgate.net/publication/316998625_On_Application_of_Learning_to_Rank_for_E-Commerce_Search.

¹⁵ Shubhra Kanti Karmaker Santu, Parikshit Sondhi, and ChengXiang Zhai. 2017. "On Application of Learning to Rank for E-Commerce Search". In Proceedings of SIGIR '17, Shinjuku, Tokyo, Japan, August 07-11, 2017, 10 pages. DOI: <http://dx.doi.org/10.1145/3077136.3080838>. Accessed on March 6, 2019 at https://www.researchgate.net/publication/316998625_On_Application_of_Learning_to_Rank_for_E-Commerce_Search.

¹⁶ Unbx data, 2018.