

A Guide to Better Ecommerce Site Search

Is your search broken? How to find out and how to fix it

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Introduction

Unless you're running an online store with only a few products, chances are you have a site search engine of some kind. Just like Google or Bing, this will let your users type in a word or phrase and click a button (usually something that looks like a magnifying glass). The result should be a list of items, hopefully in the right order, relevant to that word or phrase.

Unfortunately it's not quite that simple – and worse, maybe your site search is broken altogether, which can cost you users, traffic and sales. Here's a list of things to check so you can make sure you're giving the best site search experience to your users. Score the results from 0 (worst) to 3 (best) and be honest! Fire up your site, click on that search box and let's get started.

Twelve point checklist

Task	Notes	Score 0-3
Find the search box	Is it easy to find that site search box? Is it obvious that it's a search feature? Does it have space for a few words? If your users can't identify it as a search engine they may not use it at all.	
Basic search	Type in something you know is on your website - 'orange' if you sell food, 'lawnmower' if you sell gardening supplies. Do the results look OK? Let's not analyze things too much yet, but this is a first pass to check that your search engine works at all.	
Search speed	How quickly do results come back? If it's anything more than a second then it might not be acceptable to users - it should ideally be no more than 250 milliseconds. Even Google with its billions of pages returns results pretty quickly.	
Autosuggest	If you type a few letters, does the site suggest some possible queries (autocomplete)? Does it also suggest some possible results (autosuggest)? These features are common today and users will expect them - they also give users a quick way to jump to a result they want. Score zero if you don't have them at all!	
Spelling	Let's try something we know is a deliberate misspelling of something that is definitely on your website. If you sell shoes, type in 'bluu shoes', if your website offers books, enter 'teen fixtion' - you get the idea. Make sure the correctly spelled version gives some results, obviously! What happens? Do you get offered a correct spelling instead, a 'Did you mean....' prompt? If you just give up and say that there's no results for that search query, you're not doing so well.	

Zero results	What happens if you type 8-10 random letters into the search box and click the button? Your search engine won't have anything that perfectly matches this, obviously - but what does it do instead? Does it just say something like 'I'm sorry there are zero results for that search'; and not give the user any further hints or help? If so, you're not handling zero results.	
Title match	Navigate to a page on your website and copy-and-paste the title of one of your articles or pages into the search box: so if there's a page titled 'The Best Way to Wash Socks' copy exactly that into the search box. The first result for this search should be the article you copied from, right? If not, then there's something going wrong.	
Content match	Let's try that again, but this time let's copy the first few words of an article or description. Again, the first search result should be the same as where you copied the words from - if it's not, then we have a problem.	
Filter & facet	Type in something really general, like 'socks' or 'car' or 'food', that should give you lots of results. How do you narrow down this huge list? Do you show some categories on one side (for example different price ranges, or colours - in the search business we call these facets). If not, you can't help users give you any more information about what kind of socks they want, or food they like. They're stuck with that huge list of results.	
Result order	Let's search for something you know exists on the website in multiple places (e.g. not something so specific that it will only have one or two results). Are the results in the right order? Where's the best result in the list? If it's not in the top three, then something isn't working well.	
Accuracy	Repeat the search above. Are all of the results you see actually related to the search you entered, or are there a few that aren't related at all? Why are they shown if they're not relevant?	
Mobile	How well does your search work on mobile? Is the search box easy to find and use? Can you see enough search results to make a good choice?	
		Total

What was your score?

- 0-12 Your users' search experience will almost certainly be bad. Many of them may go to a competitor's website and not return to your site again. Your brand will suffer.
- 13-24 Although your search isn't terrible, it needs a lot of work so you can retain users and give a great impression while making sales.
- 25-36 You're doing great! However if you don't have a perfect score, why not make some small improvements anyway? Remember the quality of your users' search experience reflects directly on your brand.

By now you should have a pretty good idea of whether or not your search engine is broken. You might have found some odd behaviour or some strange results. In the next section we'll explore why some of these things might be happening and how you might begin to fix them.

What does it mean if your search is broken?

In the previous section we gave you a list of things to check that would help you identify if your website's site search engine is broken. Hopefully you didn't find too many problems - but for those you did find, let's dive in a little deeper.

What do we mean by 'broken'? The job of a site search engine is to take **queries** (what your users type in to the search box) and present an ordered list of **results** that are the most relevant to those queries - and to do that job in a very short time. It seems so simple - but it's actually quite hard to do well.

Remember that a broken site search will almost certainly be causing frustration for your users. Trained by Google or Bing, they expect a search engine to understand what they mean, even if they can't express that need very well. Unhappy users will find another way to answer their questions, or go to your competitor, or complain to you directly.

So what might be causing our site search to be broken and what can we do about it? It's important to think about site search optimization as an ongoing process - we can't fix everything in one go, and new problems may appear in the future as your data (and your users' behaviour) changes. But let's make a start!

Start at the source

The root cause of many search engine issues is the source data - your list of products or the documents you're presenting to your users. This is after all what the search engine will have to search through. Ask yourself what level of control you have of this data:

1. Was it created by your organisation and if so do you have editorial or content guidelines? If different authors are using different terms to describe similar things (a classic example is the US language 'pants' versus the UK term 'trousers') or aren't creating data in a consistent way this can be a problem.
2. If it was created outside your organisation do you have any way of controlling, editing or annotating the data? For example, do you classify products, or add a publication title to every incoming article, or clean up the data in any way? How consistent is this process?

No matter what some commercial vendors promise, even the most advanced search engine can't easily make sense of bad data. This is a classic case of 'garbage in, garbage out'. So, data quality should be one thing you focus on.

Talking about search

It's common to assume that search engines are solely the responsibility of the IT department. After all, they installed the software and keep it running! The trouble is, unless everyone else understands at least a little about how it works and what it needs to be supplied with, your search engine may give terrible results - even if it never actually shows any software errors. The IT department probably aren't experts in news, groceries, gardening (or whatever

subject area it is that your business covers) so may not know what a “good” result is.

Unless you communicate regularly about search - and how to make it better - then your poor IT department will probably get blamed for poor results, even though they need the help of other parts of your organization to fix things. Search can touch many parts of an organization and should be seen as a shared responsibility across departments. You should create a ‘search team’ that regularly meets to work on improving search.

Measure and repeat

How do you know search is broken? Using the table above, you now have a list of problems - but this won't be a complete list. Make sure you don't just focus on fixing your (or someone else's) own personal bugbears with your search engine - perhaps they're not the most important things to fix anyway.

If you have a lot of data to search, or lots of users, then you will have a lot of queries. Some will be common (e.g. “shoes” or “romance novel”) and some more specific (“red shoes for evening”, “romance novel set in 18th century france”). You should make sure to record all your user queries with as much other information as possible - what results were presented to them, if any? What else did the user click on? Have you seen this particular user before? How did they interact with the results?

It's also vital to think about what are the most important searches to your business. If you sell items via your website, what kind of results make you the most profit? Are some of your users more valuable to your business than others? Is your search engine helping you fulfil your mission or objectives? This exercise will help you focus on which search optimisations are likely to make a big impact on your business.

Assess your control

Depending on the search engine you are using, you'll have various levels of control available to you. It might be part of another software system that limits what you can do, or be provided by a third party as a hosted solution. What dashboards do you have available? Can you easily change and test new settings? Is it the latest version of the software? Your IT department will be able to help with this assessment - but you should also consider what skills and experience you have available to you in-house. If you don't have full control (and the knowledge of how to use this) then the improvements you can make will be limited.

We're now beginning to understand some of the root causes of broken search; we've started to assess our source data, got our search team talking, begun to measure and quantify the problem and worked out how much we can change if we need to do so. The next section will discuss some practical steps you can take to optimise search.

How do you fix a broken search

Now we understand a little more about what might be at fault, let's consider some ways we can fix search.

You may be able to put some of these ideas into practice immediately and some may take a little longer - but it's important to remember that optimising your search is an ongoing process. Your content, user behaviour and wider market conditions will all change over time so you will have to keep up! Remember that "measure and repeat" should be your approach to optimising search.

Finding the patterns

The best place to start is with some of your most common queries. Fix these, and you've made a lot of your users happy. Take a look at the 100 most common queries (you should be logging all queries entered into your search box by default) - can you notice any patterns? Are there a lot of location-based queries for example, or queries that map easily to categories of products? Are there queries that are best answered by a FAQ or other customer service page? Are there queries in a different language to what you might expect? Are your customers using different words than you might expect ('pants' instead of 'trousers' for example)? How many of these queries give zero or fewer than expected results?

Prioritise by value

Classifying the problems you see from your query logs (and other problems with search you know about, like search speed) will give you a list of things you could fix - but you may not have time or budget to fix everything. The next step is to assign a priority based on the value of each type of problem to your business. If you need your users to find your office or store, location-based queries may be important. If you want them to buy things from your website, directing them to product categories may help. If jobseekers can't find how to submit their resumé to your site, that won't help you find them a position. Working with your search team, agree the highest priority issues (and regularly meet to revise this list).

Quick fixes

Here's a short list of things you should be able to implement quickly based on your findings above:

Manual redirects

Most search engines will let you add a fixed redirect (also known as a 'best bet') for particular queries. These should only be used when you know the best result for a query is a particular result or webpage - e.g. "customer complaint number" or "store in New York". You can show a link to the 'best bet' at the top of the result list, or even redirect to the page itself.

This technique can also be used when the query is too generic or vague for you to give a good result, in which case it could be redirected to a category page presenting some further choices. A good example is 'screwdriver' when your website sells 500 different types of screwdriver - just presenting a list of those 500 isn't particularly helpful, but a category page showing the 12 basic types of screwdriver ('power', 'Phillips', 'flathead', 'screwdriver set' etc.) helps the user give you some more information.

Make sure you limit how many manual redirects you use - if the list gets too long, or you don't clearly record the reason for using each redirect you may end up with unexpected side effects, or even forget why the redirect was added in the first place.

Help with zero results

We tested this above by typing in a random stream of characters to your search box. If the user is presented with zero results and no help about what to do next they may leave your site - and that's a customer you've lost! At the very least give them some helpful hints:

"We're sorry but we didn't find any results for that query. Try typing in some different words to describe what you're looking for and we'll do our best to help!"

Or show them a list of categories as a better starting point.

If you haven't already implemented automatic spelling suggestions (sometimes known as a 'Did you mean?' feature) then this is also a great way of helping the user:

"We found no results for 'shoos' - did you mean 'shoes?'"

Or correct it automatically, as Google does:

"Showing results for 'shoes'"
(search instead for 'shoos')

Fix the data

Remember that even the best search engine you can buy or download won't be able to give your users good results if your data is of low quality. If there's a misspelled word in one item in the source data and the user types in the correct word, that item won't appear in search results. If whoever created the data didn't label a record correctly then it may not appear where you think it should.

Some of the problems you identified above may be fixed easily in the source data. However, in some cases the data is fine, but your users just aren't using the same words as you are! Perhaps you need to train your content team or engage some partners to help with labelling data.

Synonyms

Synonyms are a great way to translate between the terms your users type into the search box and the terms that describe items on your site. These can be very different! Your content may have been written by specialists who are very familiar with the subject matter - your users probably won't be as expert. An engineer might describe a 'Phillips stubby screwdriver' and a home improvement enthusiast a 'short crosshead screwdriver' - if there's no way to map between these two ways to describe the same thing then your users won't get good results for their query.

There are various ways to implement synonyms - one way, bidirectional, phrases - and which you can use will depend on your search technology and the problems you're trying to solve. Again, you should make sure you keep records of which problem a synonym was added to fix.

Looking further ahead

Once you've prioritized your search issues and tried some of the quick fixes above, you should think about how to further improve search. There's a lot more queries than those first 100 or so of course, and even the low-volume queries can tell you something (this is often where misspelled queries appear).

You will probably also have realised that if you can set up an effective search testing process (both offline and online) you may be able to prevent some future problems - and you'll certainly need this process to verify your fixes are working correctly and haven't caused side effects.

You should also consider the structure of your search team. Remember that search optimization is a team sport, and the best search teams work across the business, not just the IT department. Specialist training is a great way to build search skills within the business.

But what if you do nothing? What are the risks? In the next section we'll discuss *why* you should fix your site search.

Reducing business risk by optimizing search

You will have noticed that some of these ideas will involve significant work - even finding the problems, categorising and prioritising them will take some time. Fixing today's problems is only the start: as data, user behaviour and the wider world changes over time you'll need to put in place a constant process of tuning and optimisation, backed by testing.

But why bother? Surely once you've fixed some of those larger problems, the smaller ones won't matter as much? If users can't find what they need, they'll just try again, surely? Alternatively, perhaps they could browse your site and find the items they want that way, rather than searching?

We could hope that the above is true, but ignoring a broken search introduces several different kinds of risk to your business.

Losing to the competition

You've probably spent a significant amount of time and money on SEO to drive users to your site from the major search engines. Unfortunately, so have your competitors! If you can't provide the information a user is looking for, quickly and accurately, then they'll simply leave and go somewhere else. In today's connected world there's always another option - from your direct competitors to the global giants such as Amazon. Once your users are on your site, you need to work hard to retain them and great search is one way to do this.

Damaging your reputation

A broken search reflects badly on your business overall - if you can't provide a good search user experience, why should your users trust you to provide timely delivery, good after-sales service or user relations? Bad search can be hugely frustrating for users: it gives the impression that you don't understand them and don't care enough about their needs. Consider a physical store: if the automatic doors didn't work, or the floor was dirty, would you want to buy food there? Your search engine may be one of the first things your users interact with when they encounter your business and its quality (or lack thereof) will leave a lasting impression.

Not trusting the results

Accuracy is highly important to build trust - it shows that understanding of a user's needs and your ability to save them time. In e-commerce you may want to present high-value products at the top of the list (make sure they match what the user searched for though, an expensive but incorrect result isn't helpful) - simply put, good search can drive sales and bad search can lose you money.

Not maximising the opportunity

If you know what a user is searching for and you can record this behaviour along with what they purchase, you can learn what other products or services they might like and present them as recommendations. This allows you to cross-sell products, give them special offers and help maximise how much they spend with you. If your search isn't being measured correctly you don't really understand your customers, and you're almost certainly losing potential sales.

Not keeping up

Remember that your users, data and the wider world will all change over time - and if you don't keep up with search optimisation you will fall behind the curve. An effective search tuning strategy allows you to constantly adapt as behaviour changes, add new items to your website and make sure they are findable and to be very sure of the impacts of any enhancements or new features you add.

An optimised search engine helps you maximise the value of many other investments you make - from SEO, to website design, to product catalogue management, to producing high-quality products to sell. It's true to say that if you can't find something online, it's almost like it doesn't exist.

Conclusions & Takeaways

Here's some key points to take away:

- There are lots of ways search can be broken - make sure you understand where your site does well and where it needs to improve
- If you aren't measuring search, you don't know what's wrong with it - and you can't make it better.
- Prioritise any improvements by the value they'll deliver - you can't fix everything straight away.
- Work as a team and communicate - fixing search is a shared problem
- Make sure you have the freedom to make changes and experiment - but test your changes for impact
- Not fixing search can introduce many different kinds of risk to your business - including loss of sales and damage to your brand and reputation.

Who are we?

We are masters of the craft of search relevance and discoverability. Let us *empower your search team* to increase their ability to deliver results for your business. To do this, we provide [training courses](#) and [expert consultancy](#). We steward open source software including [Quepid](#) and [Elasticsearch LTR](#) and create many [blogs, reports and videos](#). Our book [Relevant Search](#) led the way in developing the 'practice' of relevance tuning and our [Haystack](#) events and [Relevance Slack](#) bring the search & relevance community together to share ideas and new techniques.

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