PageRank sculpting: How to get more from your links

30-second summary:

- SEO strategists focused on link building often forget that it’s much easier to optimize their existing link equity than it is to build more.
- Large enterprise and ecommerce websites with thousands of landing pages often spread PageRank too thin, sending link equity to pages that are unlikely to ever rank.
- SEO strategists can achieve dramatic ranking improvements by changing the internal linking profile of their websites to concentrate more PageRank on their highest-value landing pages.
- An iterative approach to internal link edits with a crawler, A/B testing, and site rollbacks allows webmasters to make adjustments until they get their PageRank distribution right.

Over the past decade, some SEOs have loudly proclaimed that the art of PageRank sculpting is dead. As is often true when armchair technologists voice their opinions with clickbait headlines, they got it dead wrong. In fact, the larger the site and the more PageRank it has, the more effective PageRank sculpting can be.

PageRank-driven link algorithms are Google’s original authority metrics. They are still the fundamental basis for how authority is evaluated on a per-page and per-domain basis. PageRank even underlies the PA/DA metrics from Moz and UR/DR from Ahrefs. Google uses its PageRank algorithms to separate the signal from the noise in its massive 30 trillion page index and provide high-quality search results.

Call me a traditionalist, but one of the reasons I love

experimenting with PageRank is because it is an onsite strategy that I have 100% control over. Earning new links is great, but it’s time-consuming work. Maximizing the value of my existing links is much easier than building new ones. For websites with large existing backlink profiles, it’s often more immediately impactful.

Not trying to use PageRank to your advantage is a major missed opportunity, particularly for enterprise-level or e-commerce sites with hundreds to thousands of landing pages. This post will break down three powerful PageRank strategies that I use with my clients to improve their rankings. But first — some history.

How PageRank sculpting died and why it should come back

Once upon a time, Google offered full transparency about their PageRank calculations for any page on the internet directly from their database. SEOs knew which pages had more PageRank and did everything they could to capitalize on it.

One of the ways SEOs used to do PageRank sculpting was by using nofollow tags to direct more link juice to specific pages. Google responded by making it so that all links on a page transfer the same amount of equity, regardless of nofollows. Also, Google decided to deprecate and later fully shutter their PageRank API endpoints.

Although we no longer have a window into PageRank metrics, it is still being distributed across our sites, so thinking about where we are sending it is really important. I regularly see large websites with multiple landing pages that target too many competitive keywords. Ninety-five percent of their pages get no traffic, but their PageRank is being stretched across all of them.

Some ecommerce sites have a product page for every SKU in their catalog, resulting in too much PageRank being sent to inventory that's low-value, out-of-stock, or unlikely to rank on Google. Those ecommerce sites that dynamically create new pages from a template for every city or state often only rank for keywords with low search volume. Those kinds of pages usually don't have enough unique content for Google to see them as valuable, so sending link equity there is a complete waste of precious PageRank.

New ecommerce sites with thousands of product SKUs right off-the-bat never work because they've spread their site authority across too many pages and don't have enough PageRank for the pages that matter. When you look at successful large sites like Amazon (which has over 300 million landing pages), they put their most important product segments into the navigation menu, so they can direct their domain's PageRank where they want it for SEO purposes.

So how do you shift your page PageRank in a way that actually has an impact? You do it through internal links. Internal links spread around your link equity from one page of your site to another. Here are some of the internal linking strategies that I've used to shift PageRank and produce dramatic results for large websites.

#1: Reclaim lost PageRank by redirecting broken internal pages

A page that is 404-ing cannot rank in search results and doesn't pass PageRank to other pages. One of the first ways you can get more out of your links is by redirecting those broken internal links to your highest-value landing pages.

As we build our websites over time, site structure changes, and URL permalinks can change too. This is especially true for older websites with a lot of history, as well as larger

websites with lots of web pages. The links that point to your site are static, so it’s very common for older backlinks to point to broken pages. It’s also common that old internal links in blog posts or other content regions of our site point to pages that no longer exist. Google’s crawlers see all of this, and it reflects the poorly on-site quality.

To reclaim that PageRank, you just need to create redirects from the 404ing page to the appropriate landing page. Here are a few strategies for finding your broken backlinks and 404ing pages:

1. **Google Search Console:** Check your 404 logs to see a list of broken links and pages
2. **Audit your incoming backlinks**: Use a backlink analysis tool to test the pages where the incoming links are going to make sure they are resolving. If you know how to code, you can build a simple Python script to do this for you.
3. **Analyze server logfiles**: If you’re tech-savvy, check your apache or Nginx log files to find 404ing pages, especially those crawled by Googlebot.

It’s a good idea to do this regularly, especially for dynamic sites with a lot of content. I like to run my crawler across our sites every month to make sure all of the internal links are pointing to valid landing pages without any 301 redirects or 404ing broken pages. This is a signal to Google that there’s a webmaster looking after the site and the site is high-quality.

It’s important to think about whether the content of your redirected pages is topically relevant to the old page. Universally redirecting 404s back to your homepage is lazy and not a great idea. Once you identify the broken links pointing to your site, find landing pages that would make sense to redirect them to.

Also, keep in mind that the PageRank algorithm has a “damping factor”. Each time PageRank transfers from page to page, it incurs a 15% loss, including across redirects. For internal links, there’s no reason to be losing 15% of your internal PageRank. For external links, a 301 redirect lets you capture 85% of the link equity, which is much better than getting 0% with a 404.

#2: Concentrate the PageRank of your domain onto the pages that really matter

Google uses the internal linking structure of your website to calculate the amount of PageRank on each page. Most sites have the bulk of their PageRank on their home page, which then passes link juice through to the rest of the site. Pages that are closer to the homepage, like those linked to in a navigation menu and footer, or pages that are internally linked to frequently, will always have more PageRank.

Image source: Linkgraph.io

To identify which pages on your site you should remove or push deeper, check Google Analytics to see which of your landing pages aren't getting organic traffic. It helps to build a list of the pages you want to take PageRank away from, as well as the highest opportunity landing pages on your site that you want to push more PageRank towards. Here are a few strategies for how to concentrate PageRank where you want it to go.

1. **Use your header and footer**: They serve as a kind of buoy for PageRank across your domain, so linking the most important pages on your site in them concentrates your PageRank onto those important pages.
2. **Remove the worst performing pages**: To make your internal linking more effective, don't have pages in the header and footer that don't get traffic or rank well. Remove links to them from the home page, nest them deeper into your site, merge pages, or remove them altogether.
3. **Create category pages: Category pages are a great way to build silos of PageRank that you can concentrate on select pages. Prioritize the items on these pages, and link to pages that matter the most near the top of the page.**
4. **Use a site:search on Google**: The order in which your pages appear will help you understand which pages that search engines see as the most important by PageRank.
5. **Use Blog Content:** Blog content allows you to link to your high-value landing pages in a way that is contextually relevant. This helps reinforce topical relevance, depth, and authority for your most important pages.

#3: A/B test your PageRank

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For those who want to attempt some heavy PageRank shifting, it's important to take an iterative approach to your internal link edits. It helps to use a version control system (like Git) or site snapshots that you can deploy and crawl in a staging environment. As I make my edits, I recrawl my site in the staging environment each time to see how much more PageRank I'm getting on the pages that matter.

Once I'm ready, I'll deploy the new version live and then monitor my keyword rankings for the affected pages over the course of a week or two. If you've picked the right pages to prune and promote, you should see a nice lift in keyword rankings where it matters. If not, you can easily rollback.

PageRank sculpting works best when used on a site with high-quality landing pages with good UI/UX and strong core web vitals. As with all SEO strategies, they work best when combined. If your primary pages are not high quality or have poor UI/UX, no amount of PageRank shifting is going to get them onto page one.

Overall, larger websites run a greater risk of spreading link equity too thin simply due to their size. But for those that have quality pages, PageRank sculpting is an ideal strategy for helping Google recognize the pages that matter most.

What are your thoughts on PageRank sculpting? Have you ever tried your hand at it? Feel free to share your thoughts and queries in the comments section.

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