



SEO Checklist: **MOVING TO PWA**

An e-book by BSS Commerce & SimiCart

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► Overview

What is Progressive Web App (PWA) & How does it work?

A PWA is a mobile-friendly website that behaves like an app but doesn't need downloading and users will have the look and feel of a native mobile app.

To own such functionality, PWA requires four technologies: Web App manifest file for allowing home screen access; Service Worker for offline support; Transport Layer Security (TLS) to ensure privacy and data integrity; and Application Shell Architecture for allowing fast loading time.

What PWA can outweigh Responsive Websites is offline functionality, push notifications, and the installable home screen. Meanwhile, it outweighs Native App in terms of indexing ability by search engines, all-device compatibility, and no download and updates required.

How does PWA work with SEO?

Based on JavaScript, PWA is questioned whether it can be crawled by Google or not. The answer is yes as PWA is basically a website, and Google is able to render JavaScript content. Therefore, Google can crawl and index it like any other website.

Also, the goal of SEO is to provide the best user experience, two to four times faster loading speed ([think with Google](#)), increase time spent on pages and reduce the bounce rate. And PWA is capable of leveraging those criteria, thus indicating to Google that the site is worth appearing in higher search rankings.

► Why do you need this checklist?

As Google can crawl PWA like any other website, PWA does need SEO and when performed correctly, it will bring better results. PWA can improve SEO and site exposure, then conversion rates, especially with users who are hesitant to install additional apps. Moreover, with quick rendering, PWA provides them with a faster and more excellent browsing experience, which is a ranking signal for Google. However, SEO for PWA requires more complicated technical demands (stated below), which means if not performed right, it can destroy your rankings.

That's why those who migrate to PWA or launch one for their shopping sites should totally understand how to optimize for the search engines.

► SEO Checklist for PWA

Preparing steps

1 - Check PWA readiness

The first thing is to check for the PWA function of your web page. We suggest you use Lighthouse, a helpful tool from Google to improve your web apps' quality. Lighthouse evaluation would base on the four criteria and highlight issues you should address to boost the performance of your web application.

2 - Content Rendering

JavaScript is a client-side script and its websites usually don't have content visible in the source code, and Google has literally nothing to index, so it requires the Rendering stage. After that, a content version like static HTML code that is appropriate for the bot to process will be displayed.

And in fact, Googlebot is currently the best among search engines at processing a Client-Side rendered JavaScript. So you have to ensure the CSS and JavaScript files are accessible to search engines to render the content fully.

3 - SEO audit

Get your website SEO audited by a trusted third party and work on it to spot any problems to fix them. Also, check if initial SEO requirements fully function and if all essential content is present on the initial page load.

4 - General SEO practices

As mentioned above, PWA is a website so you should pay attention to basic SEO practices needed for websites. Let's have a look at our e-book Magento SEO Checklist which is completely free.



The Complete Magento 2 SEO Checklist

And the SEO practices made for PWAs are listed below.



PWA SEO Checklist

1 - Be cautious with JavaScript errors

When parsing, browsers like Google Chrome cannot automatically correct Javascript syntax as HTML can, which may stop search engine spiders from crawling & indexing your web pages.

It's important to have developers write clean & well-structured Javascript codes for your site to avoid many time-consuming fixes later on.

If the site runs into any Javascript errors, developers will need to clean them manually & inform search engines after fixing them.

2 - Avoid using URL addresses with “#”

Google bots will ignore the part behind the '#' or '#!' fragment identifiers of PWA's URLs. This means whatever any specific location of the web app, the bots will always crawl and index the same main page, which can harm SEO scores. Now with the History API, we can update the URL without those identifiers while still fetching resources asynchronously and not needing page reloads. So what you need to implement is a traditional clean URL structure applying the SEO requirements.

3 - Check on the PWA page loading speed

PWAs are told to bring faster loading time, which is a key metric of PWA SEO and helps improve user experience. So don't forget to test your web app's loading performance with tools such as Web Page Test or Lighthouse, then you can enhance it more with Accelerated Mobile Pages (AMP). And make sure to do this before launching your PWA.

4 - Responsive design for different devices

PWA should be responsive by design with all elements scaling dynamically to different resolutions and viewports to ensure the same and best experience regardless of device. You can do it by

- Ensure dynamic serving is used to show different designs based on the user's device.
- Have your PWA pass the mobile-friendly test by Google.
- Use the 'scrset' attribute: to avoid elements not scaling accordingly and fetching different resolution images by screen display capabilities.

5 - Show Google bots the same content as users

Dynamic serving and redirects can help you a lot with responsiveness, yet they might cause content cloaking, meaning the content is not the same for search bots and users. This prevents Google from indexing appropriately, resulting in lower SEO points. Try using Google Search Console's Fetch to check if fetched content matches with the user's view and also make JavaScript and CSS files available for browsers to render full content.

6 - Ensure secured websites with HTTPS and 301 redirecting

It is now a requirement for PWA to run in HTTPS and with 301s redirecting from HTTP to HTTPS. This is to avoid non-secure resources and mixed content, which can harm SEO.

7 - Using Canonical URLs

Typical websites can be penalized for duplicate content where there are too many URLs with the same content. PWA is even more likely due to layered navigation. Therefore, you must specify each PWA page with a canonical URL using the `'rel=canonical'` tags to reduce ambiguity and directly indicates the source of the content.

8 - Not to forget the sitemap

You should include a sitemap on your website and submit it to Google Search Console. Google will first use this to determine which pages are present on your website. And when any website modification happens, don't forget to update your sitemap file for Google to index new pages more quickly.

9 - Correct the linking

Only anchor tags with `"href"` properties would be examined by Google bots; not JavaScript `'onclick'`. Provided that, you must always use `"href"` attributes, or else Google bots' ability to crawl the PWA architecture, internal and external linking would be significantly hindered. In case PWA links require `'onclick'` attributes, you should use both of them for the links.

10 - Optimize for many search engines

Bear in mind that Google is not the only search engine and not every single user searches by it. Ignoring PWA optimization for other search engines can be troublesome. So make sure you test your PWA SEO across all of them.

11 - The '404' status

When the visitor enters a non-existing URL, the network requests should return a 404 StatusCode, instead of any other while showing no route page. It happens when the content is removed or the URL is wrong/mistyped. This error causes search engines to think that the page still exists. Hence, you should have the developers fix that for you and ensure that an HTTP 404 StatusCode is returned for non-existing pages.

12 - Others

- Make sure you're not blocking any pages by robots.txt.
- Implement Open Graph or Twitter Cards to enhance social-sharing content from your PWA
- Avoid the AJAX Crawling scheme on new sites.

► Wrapping up

Is PWA good or harmful to SEO? It depends on how well you understand and utilize it. On the one hand, it helps boost SEO core web vitals by enhancing speed and user experience. On the other hand, it's harder for search engines like Google to index and crawl due to the rich JavaScript content. Consequently, poor implementation without deep PWA understanding can cause a ranking plummet.

Well, doing PWA SEO is never seamless. That's why we made this checklist to inform and help you follow better with PWA SEO practices. However, it's recommended that you have developers that are skillful in PWA technology and website development. If not, you can come to a PWA builder or service provider to help you overcome those technical challenges and resolve them properly.

With 10 years of expertise in Magento PWA, **BSS Commerce** and **SimiCart** are happy to assist you with that.

Siminia by **SimiCart** is a PWA theme for Magento 2 that enables businesses to create fast, engaging, and mobile-friendly storefronts easily without requiring any coding knowledge. With over 40 pre-built templates and drag-and-drop page elements, businesses can transform their store and integrate it with existing and future Magento 2 extensions.

Especially, **Siminia** is *fully optimized* as in this checklist, therefore our customers can be assured their web applications can gain better search rankings.



[Find out about Siminia here](#)