



WHITEPAPER

Website Migration - How to Move the Site Without Damaging SEO, Traffic, and Conversions

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Executive summary

Are you using a website platform with older technology and not SEO-friendly?

Your website's navigations are complex and the design looks outdated?

Is it safe to say that you are considering moving your website from one stage to another stage? And your greatest concern at this point is how the website will turn out after migration? In this paper, we will cover all the necessary knowledge about Migration, how it works and how LTIMindtree carries out the website migration without losing brand SEO equity.

The site migration might appear like a herculean task yet with LTIMindtree the entire process happens smoothly with no downtime for the existing sites and the websites migrated by LTIMindtree are of top quality.



What is website migration and why would I need it?

Website migration is the process of making crucial changes to the website. It includes changes in the domain, URLs, design, layout, and content. It also involves transferring a website from one place to another. A website migration becomes mandate when even a small part of the website goes through a key transformation. The nature of the transformation demands what kind of site migration is required.

Types of website migration explained in the below image:

DOMAIN & HOSTING CHANGES

- Domain change/Rebranding
- Moving or merging parts of the site
- HTTP to HTTPS
- Changing mobile set-up (AMP)

PLATFORM CHANGES

- Moving website to a new platform
- Upgrading platform version
- Introducing new platform features

CONTENT CHANGES

- Adding or removing web pages
- Adding or removing content
- Consolidating pages or content
- Introducing new languages or locales

STRUCTURAL CHANGES

- Site hierarchy changes
- Navigation changes
- Internal linking changes
- User journey changes

DESIGN & UX CHANGES

- UX-driven changes across devices
- Look and feel changes
- Media changes
- Site performance changes

Why site migrations are tricky and complex in nature?

Website Migration is not a simple and straightforward activity. It requires a lot of planning and detailed analysis, and if not carried out effectively, it can result in loss of organic ranking, visits, and revenues coming from the site.

Let's understand by below-given scenarios:

Scenario 1 - During migration, we make changes to the pages that are ranking on search engines. There is a possibility that keyword ranking could be lost when migration activity begins and that in turn can lead to loss of revenue, and the time taken to recover the lost ranking ranges from weeks to months.

Scenario 2 - During migration, you missed to add the top-performing page in XML sitemap and to set up the redirection for the same.

This will result in the new URL not being crawled by search engines leading to loss of ranking. And all the users visiting the page will land on a 404 page (not found) that will not only lead to high bounce rate but also decrease the user engagement score, leading to poor user experience and loss in conversions.

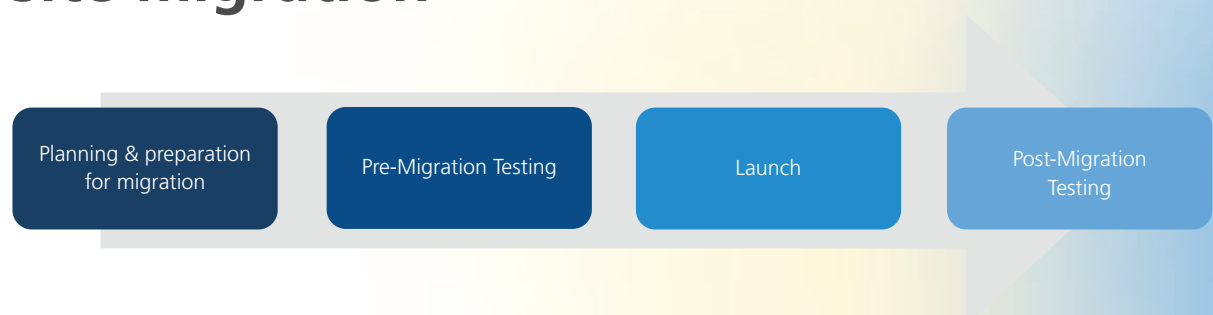
Words from Google John Mueller about the website migration:



Common reasons why website migration fails



LTIMindtree formula for handling site migration



A. PLANNING AND PREPARATION FOR MIGRATION

1) Website migration scope - Plan everything from the starting until the end in prior. Set timelines and targets to ensure that things are performed within the stipulated timeline. Set clear objectives and create a scope for the website migration.

The objectives will differ depending on the type of the migration. For example - moving a website from HTTP to HTTPS will have a different objective from a CMS migration.

In the scope file, record what are the modifications, new improvements, and discard items, and who will be affected. Make a list of the listing pages and product detail pages separately. Keep all the descoped URLs in a separate bucket for an easy access during the redirections set up.

Below given is the screenshot of the website migration spreadsheet.

Date: 30 July 2021		Website Migration Scope List of URLs							
<Brand Name>									
Start Date	1st Aug 2021	End Date	2nd Nov 2021						
Website URL	www.xyz.com								
Language	Total Pages	Homepage	Articles Listing	Articles Detail	Products Listing	Products Detail	Brand Exp. Pages	Family Pages	Others
Chinese	127	1	8	32	15	40	10	6	15

Following is the scope of the "Lift n Shift" re-platforming effort for Puffs US from -

- A - Stand up a new site using ModernWeb technologies for <Brand Name> China by adapting www.xyz.com designs
- B - Information on list of development activities to launch the site in Chinese
- C - Information on Testing activities
- D - Information on launch activities

2) Build a website migration team - Align all stakeholders involved in site migration and explain their respective tasks. Some of the key members of this team include:

- Web developers.
- UI/UX experts.
- Technical SEO expert.
- Testing team.
- Project Manager.

- Project/Site Migration Consultant.
- Content Team (including translation person if website caters to the native language).
- Copywriter.
- System Administrator.

3) Gather All Relevant Data - Use Analytics to collect data about the pages that are driving traffic to the site with the date range of at least 1 year.

Prepare a spreadsheet and maintain the followings data points:

- Internal and External links.
- Indexed Pages.
- Ranking Keywords or Search Queries.
- Redirection History.
- Create a library for images, creatives and other items.

4) Task Mapping - Create an excel sheet of activities to be done beforehand, during, and after the migration of website, and map everything to the respective stakeholder or team member. With the organized template, it is easy to manage the plan and assigning tasks. Create a group and schedule a daily stand-up to track the progress of migration. Calculate the total man-hours and match it with your launch date with the Holidays in consideration.

5) Define SEO requirements - SEO is a non-negotiable element for website migration and a lot to cover on SEO when it comes to site migration especially if it is website redesign or CMS change.

Some of the board level SEO tasks are as follow:

- URL Structure and Mapping.
- Breadcrumbs, Meta Tags, and Headings.
- Redirections.
- HTML sitemap and XML sitemap.
- Robots File (For Stage and Production environment).
- Identify Top-Performing Pages.

- Page Speed.
- Image Optimizations.
- Canonicals, Schema, and Custom 404.

Below is the spreadsheet screenshot of all the SEO activities listed with their timelines:

Brand/Markets	Stages	Categories	Activities for 123 pages (approximately)	W1	W2	W3	W4	W5	W6	W7	W8	W9	Effort /per site	Translation required		
				07-Jul	12-Jul	19-Jul	26-Jul	02-Aug	09-Aug	16-Aug	23-Aug	30-Aug	Total Hrs/200 pages	English to native		
				09-Jul	16-Jul	23-Jul	30-Jul	06-Aug	13-Aug	20-Aug	27-Aug	03-Sep				
<Brand Name> <Brand Location> <Website URL>	Pre-Launch Analysis	Discovery/Planning	Site Structure Creation- Hierarchy/Navigation/Menu/Footer		•								9	No		
			Basic Keyword research, analysis and mapping, competitor/market analysis		•									15	No	
	Activities for Launch Preparation	UI/UX	UI/UX Recommendations - SEO standpoint			•								7	No	
			URL structure/writing			•								28	Yes	
			Language Tag					•						25	No	
			Schema Markup					•						28	No	
			Canonical Tags					•						4	No	
			Custom 404 optimization with relevant links					•						4	No	
			Robots.txt File					•						2	No	
			Internal linking							•				14	No	
			XML Sitemap					•						5	No	
			GSIC implementation								•			2	No	
		Page speed optimization								•			20	No		
		On Page	Title - new/missing meta tags pages or correction				•							32	Yes	
			Meta Description - new/missing meta tags pages or correction				•							42	Yes	
			Header tags recommendations					•						26	Yes	
			Alt Tags Recommendations							•				9	No	
			Breadcrumbs				•							14	Yes	
			SEO Audit	Site audit & Recommendations - Before & After live							•	•			40	No
			Migration - Redirection	SEO - Site migration from old website to the new site (3XX & 4XX), Audit									•		18	No
Go live Checklist	Take Signoff from SEO Team before Go live											•	4	No		
Post Launch Activities																

6) Content Audit - Identify the content gaps like articles with low word count, content structure, and content forms like infographics, videos, etc. With easy-to-scan content, brands can definitely achieve a better and improved average duration time of users. For better understanding, let's consider a scenario - Assume a company has launched a new product and wanted to create a How-to guide for the same. It is recommended to use text and video in the guide so that the users can easily understand "How to use the product".

Also, identify the web pages having duplicate content and fix accordingly.

7) Test the design - Website migration is an amazing opportunity to improve areas like:

- Outdated Fonts and Styles.
- Poor signup process.
- Poor Images.

At LTIMindtree, our design team gathers all the information and conduct test that are hindering the better user engagement on the website. They draw a wireframe based on the information and test data. One of the test approaches they take is the Heuristics method.

The below-given image explains this method:

Nielsen Norman Group

Jakob's Ten Usability Heuristics

1 Visibility of System Status

Designs should keep users informed about what is going on, through appropriate, timely feedback.

Interactive mall maps have to show people where they currently are, to help them understand where to go next.



2 Match between System and the Real World

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon.

Users can quickly understand which stovetop control maps to each heating element.



5 Error Prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place.

Guard rails on curvy mountain roads prevent drivers from falling off cliffs.



8 Aesthetic and Minimalist Design

Interfaces should not contain information which is irrelevant. Every extra unit of information in an interface competes with the relevant units of information.

A minimalist three-legged stool is still a place to sit.



3 User Control and Freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action.



Just like physical spaces, digital spaces need quick "emergency" exits too.

6 Recognition Rather Than Recall

Minimize the user's memory load by making elements, actions, and options visible. Avoid making users remember information.



People are likely to correctly answer "Is Lisbon the capital of Portugal?".

9 Recognize, Diagnose, and Recover from Errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.



Wrong-way signs on the road remind drivers that they are heading in the wrong direction.

4 Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.



Check-in counters are usually located at the front of hotels, which meets expectations.

7 Flexibility and Efficiency of Use

Shortcuts — hidden from novice users — may speed up the interaction for the expert user.



Regular routes are listed on maps, but locals with more knowledge of the area can take shortcuts.

10 Help and Documentation

It's best if the design doesn't need any additional explanation. However, it may be necessary to provide documentation to help users complete their tasks.



Information kiosks at airports are easily recognizable and solve customers' problems in context and immediately.

LTIMindtree’s design team does not limit their objectives from only making the website attractive; they also focus on the website readability, way of organization, technically functional, and thereby making the entire journey right from browsing the articles, checking the products and finally purchasing it smoothly for the Customers.

8) Setting up analytics - Make sure the new website contains all the tracking codes. It is very much likely that the tracking code would have changed at the time of migration. So, it is better to verify and if required set up conversion tracking again.

9) Development - It’s the ideal opportunity for designers to take care of migration in a better way.

There are 4 main stages the development team need to take care of:

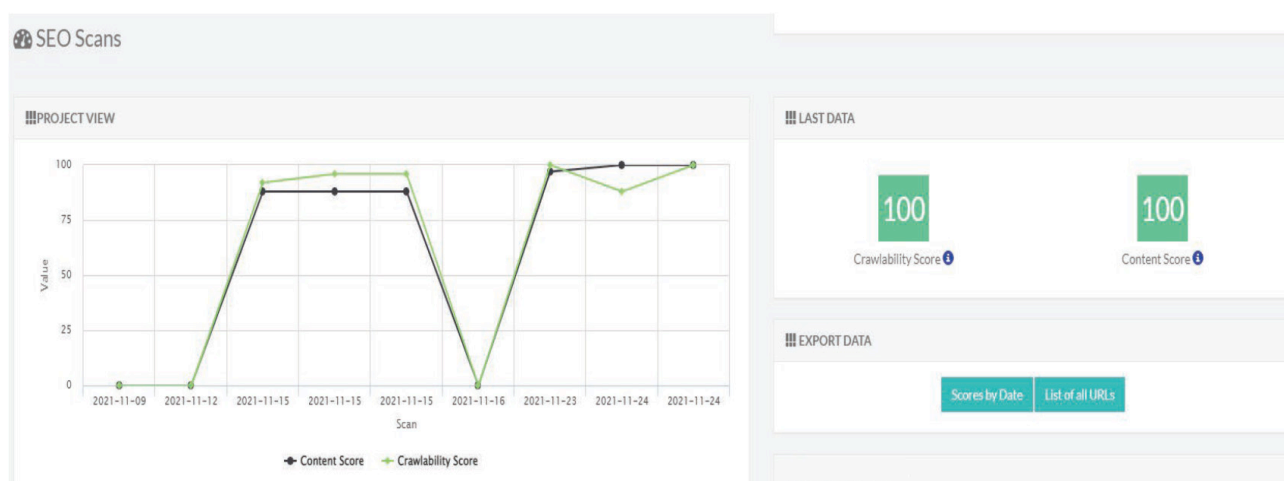
- Backup the current site.
- Set up a staging environment.
- Build the site to the new design.
- Automated testing.

B. PRE-MIGRATION TESTING

1) Making sure you can access the new environment - Access stage environment and test all functionalities, if required adjust host(s) file or go through a local DNS server. Testing is crucial and uncovers any errors that can affect SEO, Marketing, Content, and Accessibility.

2) SEO checks - Crawl the development site to understand any issues that might be present (or nip them in the bud) and start to fully understand the structure and workings of the site.

Run the crawl in the stage environment and check for errors. Evaluate the score and compare it with the past 3 months’ score. Below is the overall score of a migration website in a staging environment:



Crawlability Scan Score Include Metrics like:

$$\text{CRAWLABILITY SCORE} = \frac{\text{\# of Pages w/o Crawlability Issue}}{\text{All Pages}} * 100$$

CRAWLABILITY SCORE	=	# of Pages w/o Crawlability Issue	/	All Pages	*	100
88		66		75		

$$\text{\# of Pages w/o Crawlability Issue} = \text{All Pages} - \text{\# of Crawlability Issues}$$

# of Pages w/o Crawlability Issue	=	All Pages	-	# of Crawlability Issues
66		75		9

Please note that if Unique Pages = 0, then Crawlability Score = 0

$$\text{All Pages} = \text{Unique Pages} + \text{Duplicate Pages} + \text{Non-indexable Pages} + \text{Non-200 Pages} + \text{Failed URLs} + \text{Paginated Pages}$$

All Pages	=	Unique Pages	+	Duplicate Pages	+	Non-indexable Pages	+	Non-200 Pages	+	Failed URLs	+	Paginated Pages
75		64		2		2		7		0		0

$$\text{\# of Crawlability Issues} = \text{Non-200 Pages} + \text{Failed URLs} + \text{Duplicate Pages} + \text{0,1*Conflicting Canonical Tags} + \text{0,1*Broken hreflang links} + \text{0,1*Pages Not in Sitemaps}$$

# of Crawlability Issues	=	Non-200 Pages	+	Failed URLs	+	Duplicate Pages	+	0,1*Conflicting Canonical Tags	+	0,1*Broken hreflang links	+	0,1*Pages Not in Sitemaps
9		7		0		2		0		0		1

$$\text{Non-200 Pages} = \text{301 Redirects} + \text{Non-301 Redirects} + \text{Broken Pages (4xx Errors)} + \text{5xx Errors} + \text{Unauthorized Pages} + \text{Uncategorised HTTP response}$$

Non-200 Pages	=	301 Redirects	+	Non-301 Redirects	+	Broken Pages (4xx Errors)	+	5xx Errors	+	Unauthorized Pages	+	Uncategorised HTTP response
7		3		4		0		0		0		0

Content Scan Score Include Metrics like:

$$\text{CONTENT SCORE} = \frac{1 - \text{\# of Content Issues}}{\text{Max Possible Issues}} * 100$$

CONTENT SCORE	=	1	-	# of Content Issues	/	Max Possible Issues	*	100
0				0		0		

$$\text{Max Possible Issues} = \text{200 Pages} * \text{5 (\# of unique issue types)}$$

Max Possible Issues	=	200 Pages	*	5 (\# of unique issue types)
0		0		

Please note that if Unique Pages = 0, then Content Score = 0

$$\text{\# of Content Issues} = \text{Titles & Descriptions Issues} + \text{Body Content Issues}$$

# of Content Issues	=	Titles & Descriptions Issues	+	Body Content Issues
0		0		0

$$\text{Titles & Descriptions Issues} = \text{Missing Titles} + \text{Pages with Duplicate Titles} + \text{Missing Descriptions} + \text{Pages with Duplicate Descriptions}$$

Titles & Descriptions Issues	=	Missing Titles	+	Pages with Duplicate Titles	+	Missing Descriptions	+	Pages with Duplicate Descriptions
0		0		0		0		0

$$\text{Body Content Issues} = \text{Pages with Duplicate Body Content} + \text{Empty Pages} + \text{Missing H1 Tags} + \text{Multiple H1 Tag Pages}$$

Body Content Issues	=	Pages with Duplicate Body Content	+	Empty Pages	+	Missing H1 Tags	+	Multiple H1 Tag Pages
0		0		0		0		0

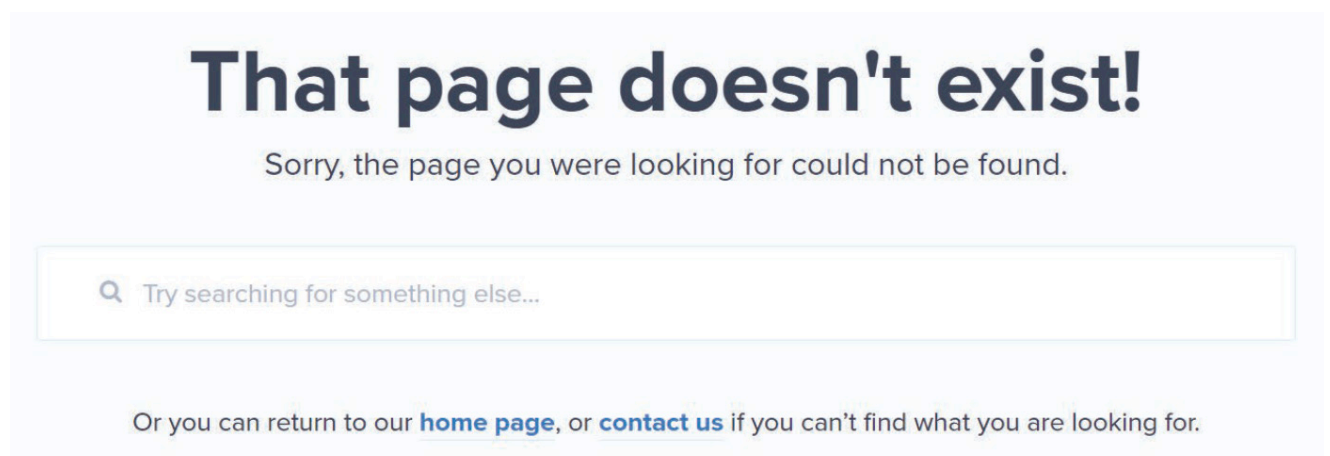
3) Redirection Testing - Testing the redirects before the new site goes live is critical and can save us from a great difficult situation later. There are numerous approaches to check the redirects when website is in stage environment however the critical to note is that, do not live the new website without testing or fixing the redirects.

Once staging environment is set, crawl the redirection URLs and check for the below mentioned possible errors:

- Check for URLs that are redirects to itself infinitely.
- Redirection with a 400 or 500 server response.
- Redirection chains.
- No wildcards redirections.
- Canonical URLs returning 404, 410 or 503, 500 server responses.
- No invalid characters in URLs.

Pro Tip: Use 301 Redirection for important traffic pages. A 301 Redirect instructs the Search Engine to follow a diversion from a 404 (broken) or Irrelevant Page to a relevant page and ensures traffic doesn't encounter a dead end. A 301 redirect will pass most of the value of your previous page to your new page and will reduce the loss of traffic you will see if you change your URLs without using redirects.

4) Create Custom 404 Page - Make sure you have created a good custom 404 page with links to the search box, home page, and sitemap. Refer to a good example of a custom 404 page:



That page doesn't exist!

Sorry, the page you were looking for could not be found.

Try searching for something else...

Or you can return to our [home page](#), or [contact us](#) if you can't find what you are looking for.

5) Test for Mobile Friendliness - Test website mobile-friendliness and responsiveness with the Google Mobile-Friendly Test and the mobile speed test and make any recommendations for improvement if any.

6) Test all conversion actions, e.g., Contact Forms, Calls to Action, Email Subscriptions, Orders, Purchases, etc., and feedback on any issues that you can see.

C. LAUNCH

1) Technical Checks - Once your site has been tested by the team, it's time to set it live.

Achieve this by:

- Removing authentication or IP blocking.
- Updating robots.txt to allow crawling.
- Changing DNS entries.
- Update property in Google Search Console.

2) Website Status Code - There is slight chance that new website can go temporarily down at the time of moving the website from old to new. Make sure the responsible team is aware of this fact and well in advance they should be prepared for the same. Having said that downtime can't be prevented 100%, at any rate, it should be kept least, but if downtime occur server should response with 503 status code. Also, while the website is temporarily down serving an informative webpage saying that the website is down for maintenance, with this we can reduce the bad user experience.

3) Create Google Analytics Annotations - Use Google Analytics Annotations to annotate all critical dates, even if you are good with remembering the date.



4) Before Launch, pause All PPC/Display or other paid campaigns since the website is under migration and traffic is going to be volatile for some time. It is pointless at this moment to bid money on campaigns and also to avoid the negative user.

D. POST-MIGRATION TESTING

1) Check for Crawling Errors - Watch out for the crawl details available in the Search Console, to ensure Google bots are accessing the pages. In general, when Googlebot goes over newly indexed pages it will speed up the average number of pages it crawls each day. Check that spike around the launch time of the website. If that spike is absent, something might be affecting Googlebot's capacity to crawl the website.

2) Use 'Fetch and Render' from Google Search Console to know how the engine searches process the homepage. Check for any slip-ups and fix them prior to indexing.

3) Submit XML Sitemap

4) Check Structured Data Errors - Some of the important structured data every website implements:

- Breadcrumbs.
- FAQ.
- How-to.
- Organization.
- Website.
- Product.
- Review and Ratings.
- Video (if video present in the article or product pages).

5) Mobile Usability Errors, HTML Improvements, and International Targeting (to check for hreflang reported errors).

6) Test Redirections – Once the site is live test that all of the source URLs go to the correct targets and that there are no chains or loops. Then test that all of the target's work. Maintaining a spreadsheet in the below format can help:

Source URL	Destination URL	Testing Status
		Working fine

7) Measure Website Speed - After the new website launch, understand web pages speed to ensure the pages are stacking quick enough on both desktop and mobile phones. Do not forget that site speed is a ranking factor, so examine carefully and compare it with the old site speed. If the new website's page loading times are greater than the previous scores, start working on optimizations, otherwise, the website's traffic and conversions would be going to suffer.

8) Test All Conversions KPIs Again - Test again all CTAs, Goals, Contact Forms, and Newsletter subscriptions to make sure all events are working perfectly fine on the live site.

9) Requesting Inbound Links Update - Backlinks are very important criteria, which informs Google that the web page is extremely relevant. Prepare a list of referring domains that are providing backlinks to the website. Set up an outreach method to contact the website owner and request them to update the link with new URLs.

Monitoring and measuring the impact of site migration

At the beginning of the document, I have mentioned that the biggest concern one could have is whether the site has migrated successfully or not. If you really want to know the response, I would suggest not to quantify the migration output just after the migration, the more you wait the clearer appropriate response becomes, as performance during the initial months can be very fluctuating depending on the website authority. Prefer a tenure of at least 3-4 months before evaluating the migration performance. Measuring performance is vital but before measuring the impact, it is very important to know to what metrics and KPIs should be analysed. For example - If the website is experiencing conversion drops after migration, it is possible that the reason for the drop includes many factors like UX/UI issues, Redirects, Poor website load time, and Seasonal traffic trends.

So, we mustn't look only at organic traffic and goal completions but also pay attention to the following:

- Website performance and visibility on desktop & mobile.
- Keyword Rankings. Make a comparison for Pre Vs. Post-migration.
- Check bounce rate, average session duration of page.
- Check traffic of category pages. Do a comparison Pre Vs. Post-migration.
- Check conversion on product pages. Current top-performing product pages are the same as pre-migration product pages.
- Check conversion rate by the device. Analyze separately mobile, desktop, and tab and check if it has increased or decreased after migration.

Also, do not forget to review the website from a technical standpoint:

- Check count of indexed pages.
- Top traffic driving webpages.
- Pages in XML sitemaps.
- Make sure all analytics code trigger correctly.
- Site speed or website load time.

Conclusion

A site migration occurs for a couple of reasons and the most common reasons are domain change, CMS change, platform change, or redesign of the entire website. Each website and business is unique, their migration objectives are different and, thus every migration has its own unique challenges.

Few can be very simple and few can be very complex. Follow LTIMindtree's approach for website migration, evaluate the resources well, track down the migration activities, ensure that the website migration is on track. If any errors or issues occur, investigate and solve them well in advance.

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Vikash Singh

Technical Lead

Vikash Singh is Technical Lead with over 8+ years of experience, he is known for his ability to create a subtle yet powerful SEO strategies. His SEO methods and approaches are organized, well thought-of, and always result-oriented. Vikash is also having experienced in advanced analytics and certified in the strategy of content marketing from UC Davis, California via Coursera platform.

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