

Internet Marketing: Comparative Analysis of Search Engine Optimization Applications on various Parameters

Pooja Mistry, Dhaval Mistry, Jikitsha Sheth

Abstract: There are presently 2 billion users on the internet which is approximately 28% of the global human population. According to Pew Research, people are depending on more and more on Internet search. Subsequently search engines are the main sources of traffic.[1] More traffic to a commercial website means more visitors, more clients, more deals and so great profit in industry. One ought to consider using SEO (Search Engine Optimization) to raise the website traffic. Search Engine Optimization (SEO) is the practice of designing or updating websites with the objective of gaining top rankings in search engines for a preferred set of keywords applicable to the website's target audience.[3]SEO is done by SEO specialists who use software tools to mechanise repetitive tasks. SEO tools are an intrinsic part of performing SEO work. Therefore opportunities exists to improve SEO tools and to offer an improved experience to SEO specialists. Here, the research of comparative study of features of several chosen SEO tools helps to reveal opportunities to improve SEO tools and to keep the SEO specialist parallel with the growing technologies and areas in the field of SEO.

General Terms: Search Engine Optimization, Internet Marketing, WWW, Internet, Search Engine

Keywords: SEO, Web Analytics, Google Analytics, SEMRush, OpenSiteExplorer

1. INTRODUCTION

A search engine is a software package that searches for sites based on the words users designate as search terms (Duermyer, 2008).[4]Search engines like Google, Yahoo and Bing provide links to information by indexing and organizing billions of web pages. Bing presents the outcomes listings in the SERP with three levels of confidence.[16]By simply keying a few keywords, a set of relevant web pages are displayed to a searcher. Thus search engines provide marketers the opportunity to grasp customers by ensuring that their websites are included in the list of results for specific search keywords applicable to their target audience. So, to improve the visibility of client's website in search result Search Engine Optimization is performed.

1.1. Search Engine Optimization (SEO)

The method of improving the visibility of a website in search engine results is known as search engine optimization (SEO).[3]

SEO is an on-going iterative process without a dissimilar start and end point.

1.2. SEO Software Market Trends

The SEO Software marketing is evolving quickly because of following reasons:

1. Habitually changes in Google algorithm.
2. Combination of social signal with SEO software.
3. Enterprise integration of SEO within the organization.[7]

SEO consists of following core focuses which are:

1.2.1. On-page and off page optimization

On-page optimisation which covers what can be done on the pages of the website.[26] Title Optimization can be done by counting, keyword in the title and by using short and likeable title. Meta Tags Optimization can be specified by describing the selling point and what information that page offers.[2]

off-page optimisation which covers activity that takes place without considering only single page. (e.g. link-building).[26]

Link building is the exercise of identifying opportunities for others web sites to create links back to a target website. [26]

1.2.2. Traffic Analysis

Website traffic analysis allows us to determine what pushes traffic to your website and how well your website translates the traffic to becoming a new customer or lead.

1.2.3. Keyword research

Keyword research is required to understand what target end users are searching for; this research can be accomplished by talking to target users through interviews or focus groups, reviewing keywords competitors use and analysing historical search statistics for keywords relevant to the target audience.[3] Keyword research Tools are those Tools which help you

discover probable keywords based on past search volumes, search movements, bid charges, and page content from linked websites.[24]

1.2.4. Competitive Analysis

A competitive analysis is one very effective method of deconstructing your competitor's online marketing strategy to discover how they are doing so well.

1.2.5. Organic and/or PPC (Pay-Per-Click) Analysis

PPC works by dealers bidding on keywords that agree to their Web site. The highest bidder obtains the highest advertisement place when users examine for that particular keyword. Widely held keywords can be very pricey, cost near \$10 per click. All time a customer/searcher clicks on that ad, the marketer gets charged. [4]

1.2.6. Reporting and Monitoring

Monitoring include reviewing the target website's ranking in search engines, reviewing the links which point to the target website, and monitoring web traffic and conversion analytics.[3]

2. DIFFERENT SEO TOOLS AND WEB ANALYTICS

In the field of SEO, software tools are used to streamline the SEO process and automate repetitive tasks.

SEO software comes in differentnatures and sizes, from rank-checking tools to keyword research tools to full-service platforms that bring about keywords, links, competitive cleverness, global rankings, page optimization, and workflow privileges. [23]

Some of the most dependable tools are provided by Search Engine companies and other well-known SEO organizations are: Google Analytics from Google, Opensite Explorer from SEOmoz, SemRush from SEOquake, WooRank, Hubspot, and SearchEnabler. Obviously, the list is very large for the SEO tools and web analytic tools.

2.1. Google Analytics

Google Analytics is a free hosted web analytics facility that permits web site proprietors and marketers to better understand and influence visitor actions and generate a higher ROI on marketing enterprises. Google Analytics is fully integrated into Google AdWords and is available free to both AdWords advertisers as well as to any website owner.[8]

Google Analytics (GA) focuses on easiness and speed to appeal to a wide range of customers. Data is collected at the individual session and individual hit levels and can be retrieved through the platform's standard UI.[6]

2.2. Open Site Explorer

Open Site Explorer is a link analysis tool that closely mimics what Google or Bing's linkscape looks like. Open Site Explorer was created by SEO software firm SEOmoz in 2010.[27]

Different features provide by Open Site Explorer are:

- **Page Authority:** The quality mark of your web pages (based on link metrics)
- **Domain Authority:** The quality mark of your website (as a whole, based on link metrics)
- **Linking Root Domains:** The amount of domains (separate websites) linking to you directly from their website (as opposed to multiple links approaching from the same site)
- **Full Links:** The total amount of links points to your website
- **Social Signals:** This includes social media metrics that have a positive correlation with positions. These consist of Facebook shares, Facebook Likes, and Google +1[27]

2.3. Woorank

The exceptional Woorank provides an supreme service, with both it's stunning interface, ease of use and sheer number of stats it provides you. Woorank's facilities are free once a week, however for a additional in-depth study, along

with limitless usage, you are required to buying a plan, along with which you get extras such as a PDF document of your stats, and report customization. [30]

2.4. Hubspot

Hubspot is the arriving marketing software which is the succeeding set of SEO tools.[33]

HubSpot Arriving Marketing Software gives you all the tools you need to make marketing that people will actually love –earning quality leads and loyal customers in return.[33]

2.5. SearchEnabler

SearchEnabler is on-demand software platform, directing to make search engine optimization (SEO) easy, inexpensive and quantifiable.[31][32]

Features provided by SearchEnabler are:

1. SEO Campaigns
2. Website Analysis
3. Backlink Analysis
4. On page Optimization
5. Keyword Ranking
6. Dashboard and Reporting

2.6. SemRush

SEMRush is the industry standard SEO tool for keyword research, giving incomparable insights into competitors' PPC keyword targeting, rankings and traffic data. [34]

The SEOquake team has done a eccentric job putting together some of the greatest keyword-related visions on the market, making this tool a primary in many search engine optimizers' toolkits[34]

SEMRush toolkit is a modest keyword research tool. After you deliver a URL, SEMRush will provide several perceptive metrics, including an approximation of how much search traffic they're receiving, how much they're earnings on AdWordsads, and the predictable search volume of the keywords they are take aim. [34]

3. WEB ANALYTICS

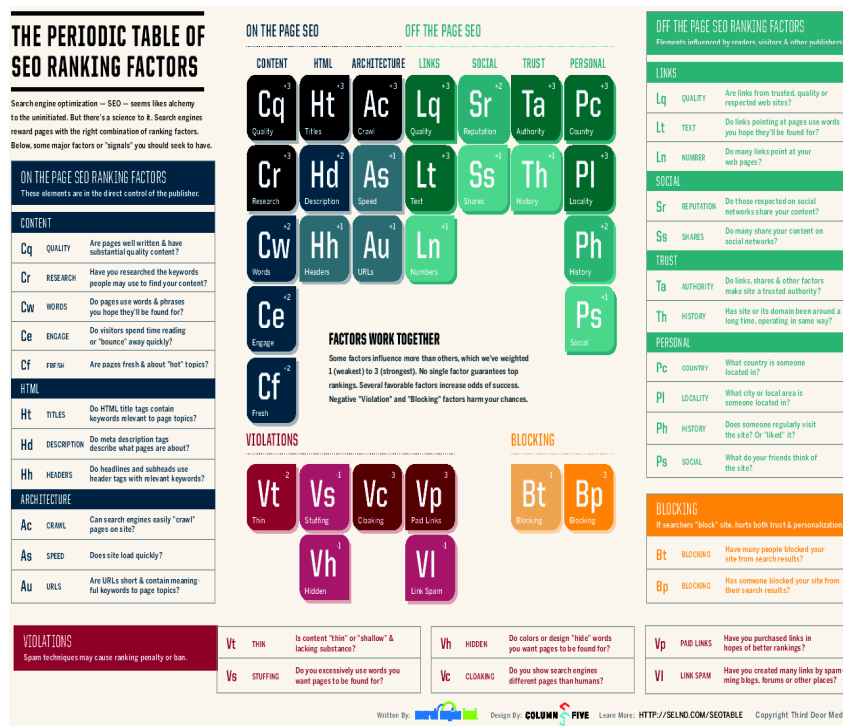
Site managers today rely on Web analytics to get insights into the performance of their Web site. The information is used to support them optimize their site performance by removing navigational bottlenecks, identifying the best sources of acquisition, improving merchandising efficiency and more.[9][13]

Web analytics play an integral role in nearly every enterprise's digital marketing approach, not only for measuring website traffic, but for measuring other frequencies as well. Web analytics tools, such as Google Analytics, assist libraries in understanding their web site usage statistics by arranging that data into reports and charts.[10]Present web analytics tools collect vast volumes of information about website visitors; these reporting systems make it problematic to identify trends in data due to the number of reports available.[5]

Even though these many SEO tools and Web Analytics are offered, there is always a need of designing a new tool to satisfy the need of SEO Experts with the goal of bridge a gap of SEO features, providing more customization and integration of exceptional feature of different tools. To accomplish the above goal it is necessary to first study about the SEO parameters in depth. It is also essential to know the weightage of each feature. This paper provides an in depth study of SEO parameters that will be useful for thinking of new area in the field of SEO Tool development.

The following figure shows the SEO Ranking Factors is intended to demonstrate the most important things that can help you increase traffic from various search engine. [11]

Figure 1: The Periodic Table of SEO Ranking Factors [7][11]



The following table shows the study of importance of different parameters of SEO by collecting reviews of SEO practitioners.

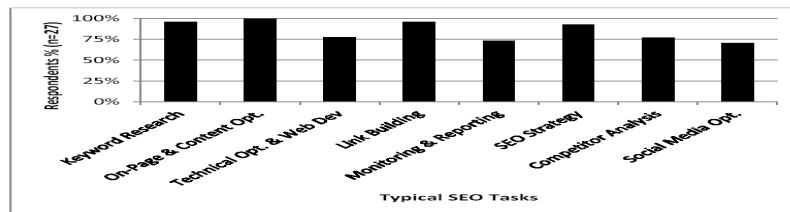








Figure 2: Study of weightage of Different SEO Task[3]

4. RESEARCH WORK

Following is the comparison of various tools like Google Analytics, Opensite Explorer, SEMRush, WooRank and SearchEnabler done by us to see what exclusive features are provided by each one of it.

Comparative Table of various SEO analytics Tools						
Tools	Google Analytics	Open Site Explorer (SEOMOZ)	SEMRUSH	WooRank	Hubspot	Search Enabler
Features						
1	Link Building					
Authority Metrics	Yes	Yes	Yes	-	Yes	-
Link Opportunity Discovery	Yes	Yes	-	-	Yes	-
Outreach Prioritization	Yes	Yes	-	-	Yes	-
Inbound link Discovery	Yes	Yes	-	-	Yes	-
Internal link	Yes	Yes	-	-	-	Yes

Analysis						
External link analysis	Yes	Yes	-	-	-	Yes
URL Rewrite	Yes	-	-	-	-	-
Backlink analysis	Yes	Yes	Yes	-	-	-
Linking domain	Yes	Yes	-	-	-	Yes
2	Keyword Research					
Keyword Suggestion	Yes	Yes	Yes	-	Yes	-
Keyword difficulty	Yes	Yes	Yes	-	Yes	-
Local-focused research tool	Yes	Yes	Yes	-	-	-
Vertical-Focused research tool	Yes	Yes	Yes	-	-	-
Traffic estimation	Yes	Yes	Yes	-	-	Yes
Keyword Density Analysis	Yes	-	-	-	-	-
Keyword Synonym	Yes	Yes	-	-	-	Yes

Typo Suggestion	-	Yes	-	Yes	-	Yes
Keyword Chart (pie)	Yes	-	-	-	-	-
Keyword Popularity chart (bar)	Yes	-	-	-	-	-
Keyword Ranking	Yes	-	-	-	-	Yes
Long-tail Keyword	Yes	-	Yes	-	-	-
Keyword Diff.	Yes	-	-	-	-	-
Keyword cannibalization checker	-	-	-	-	-	-
3	On-Page Analysis					
Keyword Report	Yes	Yes	Yes	-	Yes	-
Duplicate content Analysis (Duplicate content filter)	Yes	Yes	-	-	Yes	Yes
Internal Linking	Yes	Yes	-	-	Yes	Yes
Broken Link scan	Yes	Yes	-	-	Yes	-
Crawlability Data	Yes	Yes	-	-	Yes	Yes

Conversion Funnels	Yes	Yes	-	-	-	-
Title tag	Yes	Yes	-	Yes	-	Yes
Meta tag	-	-	-	Yes	-	-
Meta description	-	-	-	Yes	-	-
Headings	-	-	-	Yes	-	-
Images lternative	-	-	-	Yes	-	-
Text/html ratio	-	-	-	Yes	-	-
Frames	-	-	-	Yes	-	-
404 error pages	-	-	-	Yes	-	-
4	On-site analysis					
Automated Competitor Website audit	Yes	Yes	-	-	-	Yes
Automated Subdomain Analysis	Yes	Yes	-	-	-	Yes
Automated Website audit	Yes	Yes	-	-	-	Yes
Bad/Dead links	-	-	-	-	-	Yes

Domain age	-	-	-	-	-	Yes
Class C checker	-	-	-	-	-	-
HTML Validator	-	Yes	-	-	-	Yes
Meta tag generator	-	Yes	-	-	-	-
SEO Suggestions	-	Yes	-	-	-	Yes
Spider Simulator	-	-	-	-	-	Yes
Term Extractor	-	Yes	-	-	-	-
Popular Pages	Yes	-	-	-	-	Yes
Indexed Pages	-	-	-	-	-	Yes
Website Heatmap	-	-	-	-	-	-
A/B Test	-	-	-	-	-	-
Microsite Analysis	-	-	-	-	-	-
Duplicate page analysis	-	-	-	-	-	-
Copywrite Information	-	-	-	-	-	-
Different metrics comparison	Yes	Yes	Yes	-	-	-
5	Competitive Analysis					

Keyword	Yes	Yes	Yes	-	Yes	Yes
Ranking	Yes	Yes	Yes	-	Yes	-
Links	Yes	Yes	Yes	-	Yes	Yes
Authority	Yes	Yes	Yes	-	Yes	-
Browser Toolbar	Yes	Yes	Yes	-	-	-
6	Reporting & Tracking					
Rank tracking	Yes	Yes	Yes	-	Yes	-
Report Templates	Yes	Yes	Yes	-	Yes	Yes
Customized Report	Yes	Yes	Yes	-	Yes	-
Scheduled Report	Yes	Yes	Yes	-	Yes	-
Inbound Link Tracking	Yes	Yes	-	-	Yes	Yes
Social media Monitoring	Yes	Yes	Yes	-	Yes	Yes
SERP Archiving	Yes	Yes	-	-	-	-
7	Help & Support					
Blog	Yes	Yes	Yes	-	Yes	-
FAQ	Yes	Yes	Yes	Yes	Yes	-
Email Support	Yes	Yes	Yes	Yes	Yes	Yes

Phone Support	Yes	Yes	Yes	-	Yes	Yes
Q&A Section	Yes	Yes	-	-	-	-
8	Domain Analysis					
Domain popularity analysis	-	Yes	Yes	-	-	-
Competitor Domain	-	Yes	Yes	-	-	Yes
Domain statistics	-	Yes	Yes	-	-	-
Domain registered	Yes	Yes	-	Yes	-	-
Domain expiration	-	-	-	Yes	-	-
Robot.txt	Yes	-	-	-	-	Yes
Domain Redirect	-	-	-	-	-	Yes
9	Content analysis					
Site Content	Yes	-	-	-	-	-
Site speed	Yes	-	-	-	-	-
Site search	Yes	-	-	-	-	-
Adsence	Yes	-	Yes	-	-	-
Duplication Checking	-	-	-	-	-	-

Content Error	-	-	-	-	-	Yes
Content Warning	-	-	-	-	-	Yes
Content Notices	-	-	-	-	-	Yes
10	Social media Tracking					
Network referrals	Yes	-	-	-	-	-
Landing page	Yes	-	-	-	-	-
Conversions	-	-	-	-	-	-
Plugins	-	Yes	Yes	-	-	-
Visitor flow	Yes	Yes	-	Yes	-	Yes
Social publishing	-	Yes	-	-	-	-
Facebook shares	-	Yes	Yes	Yes	-	Yes
Tweets	-	Yes	Yes	Yes	-	Yes
Bookmarking	-	Yes	-	Yes	-	Yes
Google+	-	Yes	-	Yes	-	Yes
11	Directory submission status					
Directory Submission Info	-	-	-	-	-	-
12	Blog & Video Optimization					
Blog statistics	-	-	-	Yes	-	-

Video statistics	-	-	-	Yes	-	-
13	RSS Feed Status					
RSS pinging	-	-	-	-	-	-
Flash optimization	-	-	-	Yes	-	-
Flash meta tag	-	-	-	Yes	-	-
14	Ranking fluctuation Management					
Seasonal fluctuation	-	-	-	-	-	-
15	Advertising Analysis					
Campaign	Yes	Yes	-	Yes	Yes	-
Keywords	Yes	-	Yes	Yes	Yes	-
Matched Search Query	Yes	-	-	-	-	-
Destination URL	Yes	-	-	-	-	-
Placements	-	-	-	-	Yes	-
Keyword positions	Yes	-	Yes	Yes	Yes	-
16	ROI analysis (monetizing)					
ROI Prioritization	Yes	-	-	-	-	Yes

17	Spider simulation					
Crawl pages	-	-	-	-	-	Yes
Crawl Errors	-	-	-	-	-	Yes
Crawl warnings	-	-	-	-	-	Yes
Crawl Notice	-	-	-	-	-	Yes
Spider traps detection	-	-	-	-	-	-
18	Rank Tracking					
Page rank checker	Yes	Yes	-	Yes	-	-
19	Cost Analysis					
Compare Channel	Yes	-	-	-	-	-
Compare Keyword	Yes	-	-	-	-	-
Compare campaign	Yes	Yes	-	-	-	-
20	Conversion Analysis					
Goal	Yes	-	-	-	-	-
E-commerce	Yes	-	-	-	-	-
Multi-channel Funnels	Yes	-	-	-	-	-
21	Traffic Analysis /Real time Analysis					

Visitors localization	Yes	-	Yes	Yes	-	-
Traffic Source	Yes	Yes	Yes	-	-	Yes
Content	Yes	-	-	-	-	-
Visitors	Yes	Yes	Yes	Yes	Yes	Yes
Timeline	Yes	-	-	-		-
Traffic type chart	Yes	-	-	-	Yes	-
Traffic Estimation	Yes	Yes	Yes	Yes	-	Yes
Traffic Rank	Yes	-	-	Yes	-	-
Visit by SE	-	-	-	-	Yes	Yes
Visit by linking site	Yes	Yes	Yes	-	-	Yes
Visit by social media	Yes	Yes	Yes	Yes	-	Yes
Log file tracking	-	-	-	-	-	-
Timeline Site changes	-	-	-	-	-	-
22	Technology parameters					
Google Analytics	Yes	Yes	Yes	Yes		Yes
W3c validity	Yes	-	-	Yes		-

Doc type	Yes	-	-	Yes		-
Encoding	-	-	-	Yes		-
Speed tips	-	-	-	Yes		-
23	Reports and Tracking					
Report Export	Yes	Yes	Yes	Yes	Yes	Yes
Scheduled Report Emailing	Yes	Yes	Yes	Yes	Yes	Yes
Report Sharing with customer	Yes	Yes	Yes	Yes	Yes	Yes
Task scheduler	Yes	Yes	Yes	Yes	Yes	Yes

5. RESULTS AND ANALYSIS

Shortcomings in SEO tools

1. Shortcomings in accuracy
2. Variable results in different tools for the single parameter
3. Gaps in SEO tool functionality

Possible solutions to overcome shortcomings in SEO tools

1. Integration is a potential solution
2. Providing rich variety of matrices
3. Focus on outstanding and unique features of SEO tools
4. Apply Artificial Intelligence concept with SEO tools.

6. CONCLUSION

The above comparative study of SEO tools clearly depicts the lacking features and exclusive features in SEO tools. The study of tools represent that there are lot of opportunity to improve available tools/design a analytics tool by including a basic feature with a new features like heat map, keyword cannibalization checker, microsite analysis, content duplication checker, simulator to see effect of off page and on page optimization on traffic and page ranking, Ranking fluctuation management, ROI calculator, Spider simulator, Spider trap detection and many more other exclusive features. The opportunity is wide for creating new concepts for SEO using Artificial Intelligence. For e.g. automatic alert, suggestions for improvement, different Key Performance Indicators, GEO facility with different feature of SEO such as country wise keyword popularity, keyword analysis facility with different languages, Automated SEO etc.




7. REFERENCES

1. Arjun Thakur, A. L. Sangal, Harminder Bindra,(2011) "Quantitative Measurement and Comparison of Effects on various Search Engine Optimization Parameter on Alexa Traffic Rank", International Journal of Computer Applications, Volume 26- No.5, ISSN- 0975 – 8887
2. Dr S. Saravanakumar, K Ramnath, R Ranjitha ,V.G.Gokul, (2012) "A New Methodology for Search Engine Optimization without getting Sandboxed", International Journal of Advanced Research in Computer and Communication Engineering Vol. 1, Issue 7, ISSN: 2278 – 1021
3. David, McVittie, (2011) " SEO TOOLS:Looking at SEO Specialists as a user class", Department of Computing and Information Science, The University of Guelph, Ontario, Canada
4. Farrokh Mamaghani," Search Engine Marketing: Techniques, Tools, And Utilization", St. John Fisher College, Rochester, New York, USA
5. Raiza Daniela Fernandez Palacios,(2012)" Web Analytics Dashboard and Analysis System",Advances in Computational Research,ISSN: 0975-3273 & E-ISSN: 0975-9085, Volume 4, Issue 1
6. LeeAnn Prescott, (2012) " Enterprise Web Analytics Tools: The Marketer's Guide", Search Engine Land

7. Karen Burka, (2012) "Enterprise SEO Tools: The Marketer's Guide", Search Engine Land
8. Google Analytics, (2004) "Google Analytics Guide", Google
9. "Use of Key Performance Indicators in Web Analytics", HBX on demand Web analytics
10. Tabatha A. Farney, "Click Analytics: Visualizing Web Site Use Data"
11. Search Engine Land, "Periodic Table of SEO Ranking Factors"
12. WebTrends, (2005) "Best of web analytics guide"
13. Gary Angel, Joel Hadary, Paul Legutko, (2006) "Functionalism: A New Approach to Web Analytics"
14. Yahoo, (2009) "Yahoo Web Analytics User Guide"
15. IBM, (2011) "IBM Coremetrics web analytics"
16. Bing, (2009) "New features relevant to webmasters", Microsoft
17. Advance web ranking tool, (2012) "Advanced Web Ranking User Guide"
18. SlingshotSEO, "SEO keyword research guide"
19. HubSpot, "HubSpot User Guide"
20. Danny Sullivan, (2002) "Search Engine Watch"
21. Raven Tools, "Raven Internet marketing Tools User Guide", version 0.9
22. SEOMoz, "SEOMoz-The-Beginners-Guide-To-SEO", 2nd edition
23. Search Engine Land, <http://searchengineland.com/buyers-guides/enterprise-seo-tools-the-marketers-guide>
24. SEOBook, <http://www.seobook.com/glossary/>
25. Search Engine Round Table, <http://www.seroundtable.com/>
26. <http://www.directtrafficmedia.co.uk/blog/n-page-seo-vs.-off-page-optimisation>

27. <http://fixcourse.com/open-site-explorer/>
28. <http://www.seobook.com/glossary/>
29. <http://www.searchenginejournal.com/sme-seo-software/54506/>
30. <http://www.webdesignerdepot.com/2012/03/10-tools-to-analyze-your-website/>
31. <http://www.crunchbase.com/product/searchenabler>
32. <http://www.searchenabler.com/seo-software/seo-campaigns/>
33. <http://seo-tools-review.toptenreviews.com/hubspot-review.html>
34. <http://seo-tools-review.toptenreviews.com/semrush-review.html>

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