

Website Traffic Analysis

Definition:

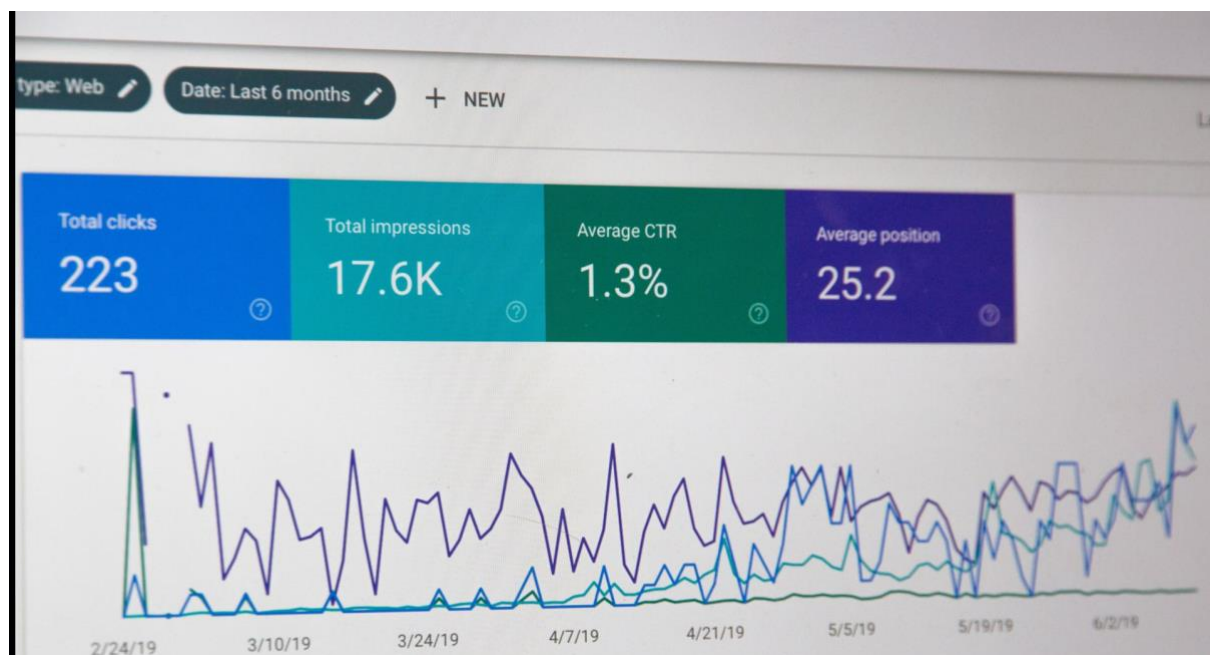
website traffic analysis involves collecting and analyzing data about your website visitors so you can optimize the growth and conversations on your website.

Web traffic is the amount of data sent and receive by the visitors to a website. It is large portion of internet traffic.

This is determined by the number of visitors and the number of pages they visit.

Sites monitor the incoming and outgoing to see which parts of pages of their site are popular and if there are any apparent trends, such as one specific page being viewed mostly by people in a particular country.

Design:



Analyze objectives: First, it enables you to understand the behavior Of your target audience. By analyzing metrics such as traffic sources, bounce rate, time on site, and exit rate, you can gain insight into how users interact with your website and identify areas for improvement. This information is vital and to implement effective tactics that optimize website traffic and improve conversion rates.

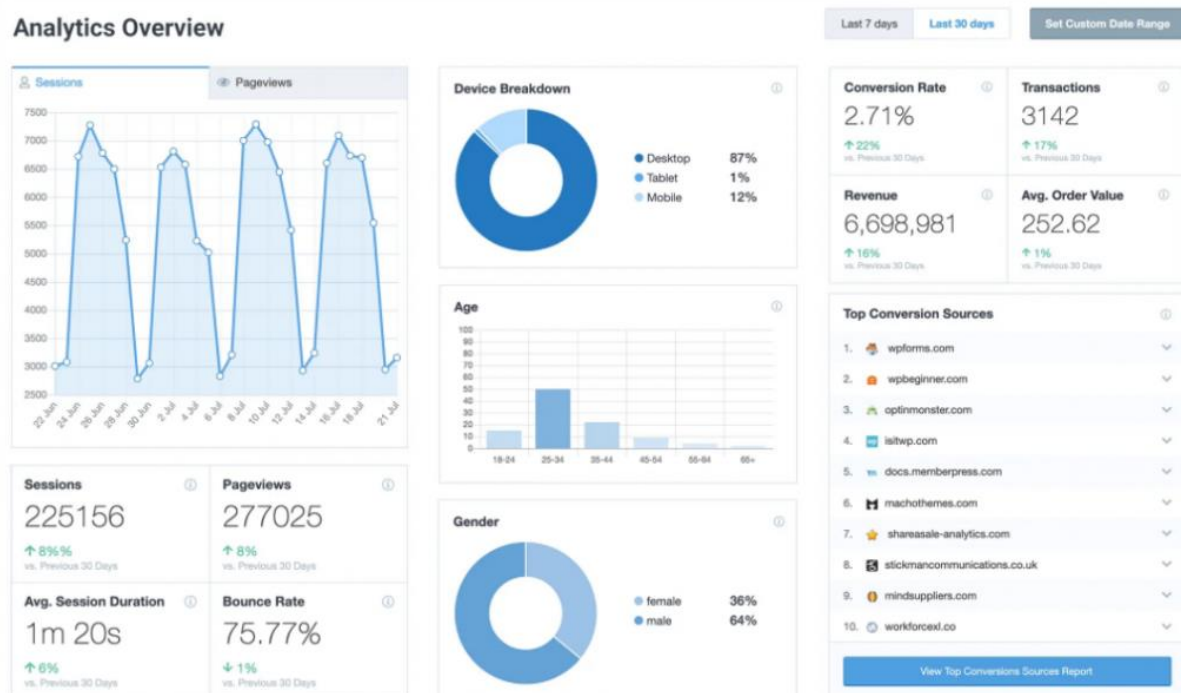
Data collection: website traffic analysis involves collecting and analyzing data about your website visitors so you can optimize the growth and conversations on your website.

Most common data collection methods.

- ❖ Manual counting

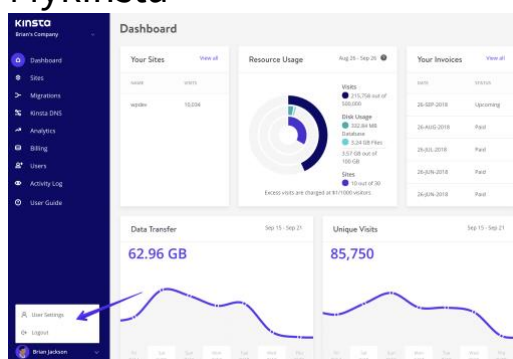
- ❖ Pneumatic tubes
- ❖ Inductive loops
- ❖ Video detection
- ❖ GPS tracking
- ❖ Transportation planning
- ❖ Traffic signal optimization
- ❖ Road capacity analysis

Visualization: Data visualization can help you identify website traffic patterns by revealing trends, patterns, outliers, and correlation. Such as line charts, bar charts, pie charts, heat map or scatter plot.



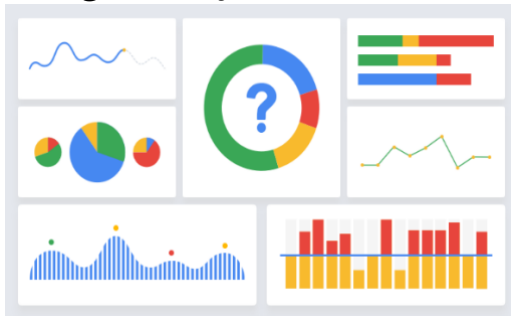
Tools:

- ❖ Mykinsta



- ❖ Semrush
- ❖ Similarweb
- ❖ Sitechecker

- ❖ Serpstat
- ❖ Google analytics



- ❖ Ubersuggest

PHASE 2: INNOVATION

DESEIGN INTO INNOVATION TO SOLVE THE PROBLEM

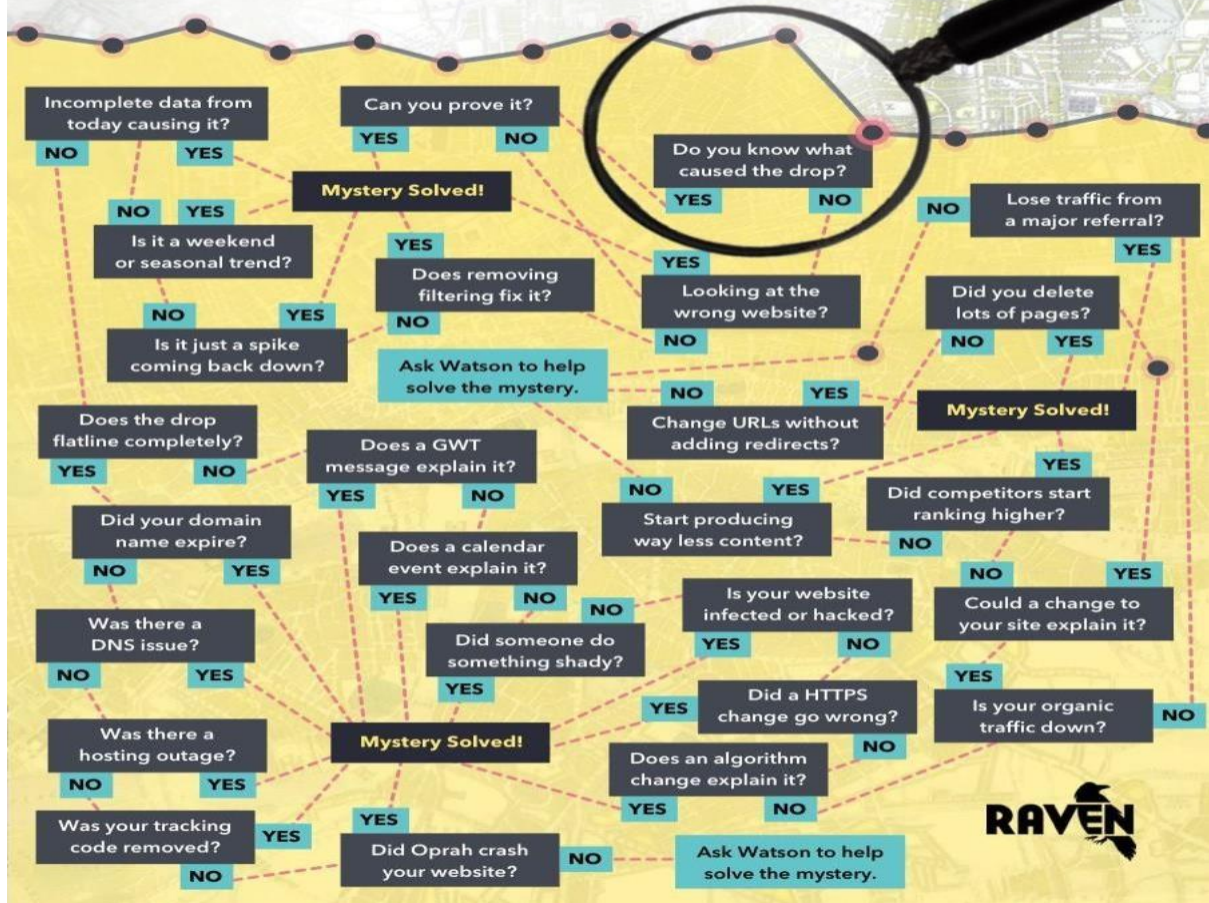
THERE ARE SOME TECHNIQUES THAT USED TO REDUCE TRAFFIC ANALYSIS

- Optimize your content with keywords
- Create targeted landing pages
- Craft engaging , high quality content
- Boost your local search reputation
- Use digital ads to promote your site
- Got more backlinks from trusted sources
- Engage your audience on social media

These are some techniques which are used to reduce the website traffic analysis.

They are responsible for creating websites that not only look good but also function well.

Solve Website Traffic Drop Mysteries Like Sherlock



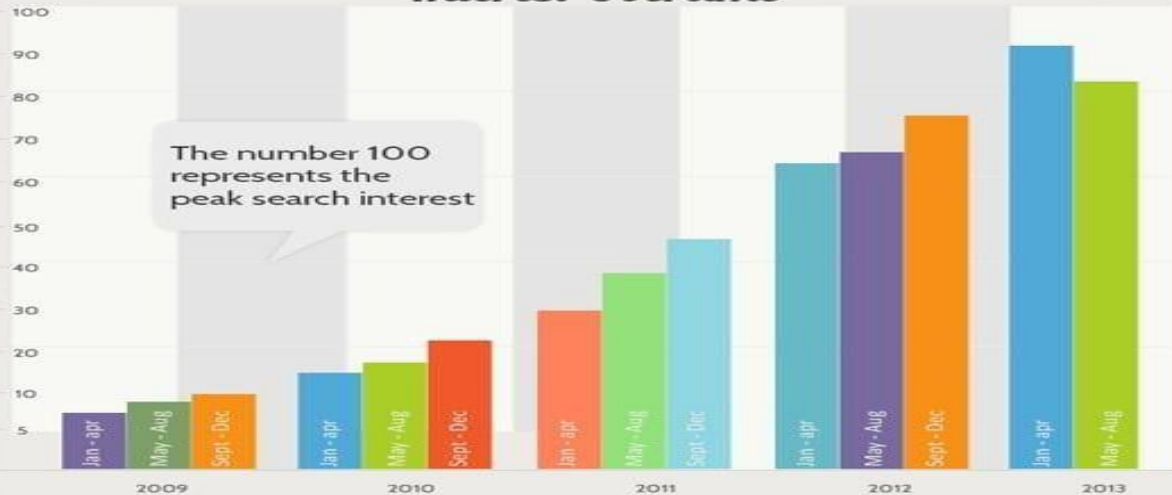
Website traffic analysis tools help you identify the types of users that visit your website, their interests, and every action they take on your web pages. As a result,

you'll discover how to improve user experience (UX) and get a clearer picture of how well your website is performing.

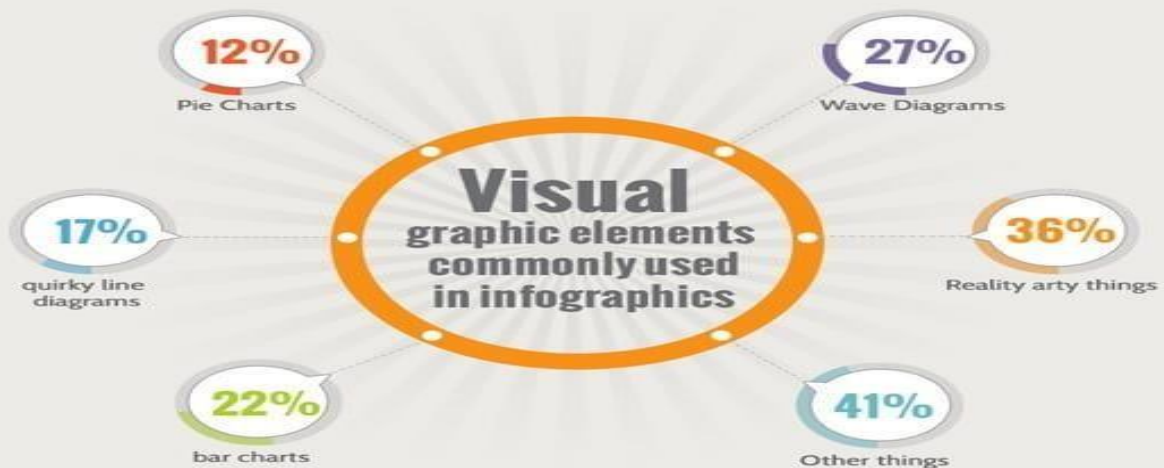
These KPIs include:

- **Traffic volume:** The number of new and returning visitors to your website along with their demographic info.
- **Traffic sources:** How users reached your site (e.g. organic search, sponsored ads, email, social media posts).
- **Page views:** The number of times people visit specific pages on the site.
- **Session duration:** The total amount of time a visitor spends on your website.
- **Bounce rate:** The proportion of visitors who landed at any of your webpages and then left without further interacting with the site.
- **Conversion rate:** The percentage of visitors that interact with a call to action on the website (such as submitting a form or purchasing a product). This interaction is known as [a conversion](#).
- **Unique visits:** Counts only a person's first visit, allowing you to separate potential clients from loyal users.
- **Exit pages:** Identifies the pages from which each visitor leaves your website.
- Website traffic analysis tools measure the performance of your website using the aforementioned metrics. The data they gather allows you to compare your performance to your competitors' and make sure you're on the right track.
- The key measurements, however, are centered around unique visitors (UVs), page views, and traffic sources.
- Monitoring unique visitors will help you identify the number of individuals who viewed one of your website's pages at least once a month.
- With traffic views, the duration of every session genuinely matters depending on the type of website you're running. For example, it would be a critical indicator for content-generating websites.
- As for traffic sources, they help determine peak audience activity times. Consequently, you'd be able to learn at what times you can expect traffic surges so you improve your strategies.

Interest Overtime



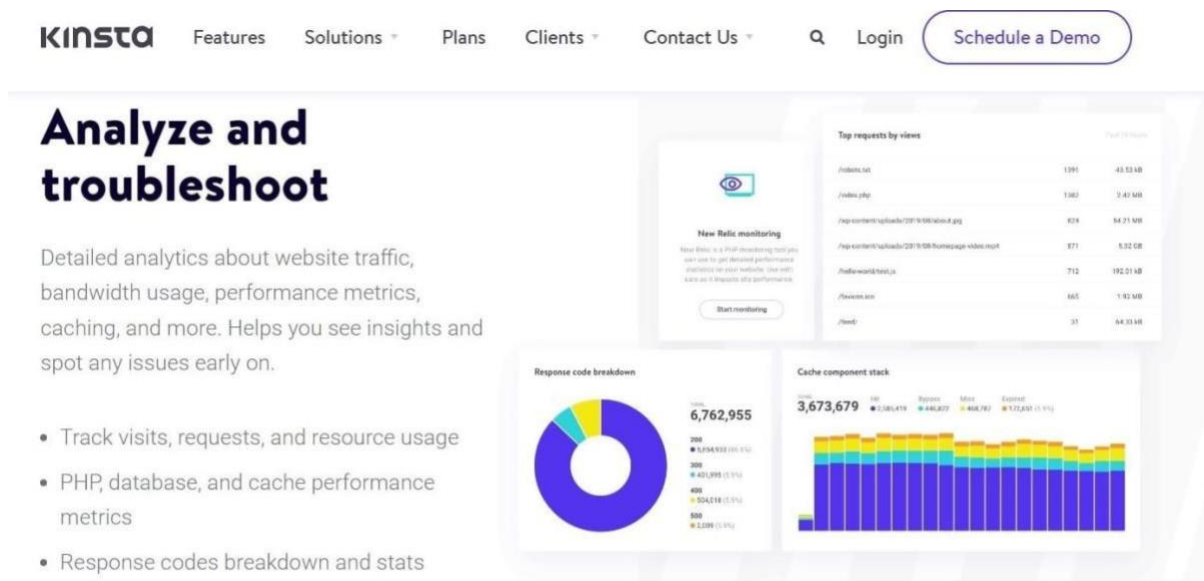
It was discovered that from 2010 - 2012, infographic search volumes have increased by over **800%** in just over 2 years. Statistics from the social network Digg reveal that since 2007, infographics on Digg have increased by **250** times! Now that is a trend wave worth catching!



Reasons to use infographics

- Easily Scanned**
1. The vision rate of humans is comparatively very high and over 90% of information that total data comes visually will be stored in the brain.
- Virality**
2. Due to immense attracting capacity of infographics, they easily get shared on different social platforms and goes viral when compared to ordinary text.
- Global Coverage**
3. With availability of an online publishing tool at a push of button, infographics can be shared worldwide in a quicktime, which the local print media can never do.
- Brand Awareness**
4. On creating an infographic by placing your brand logo at the footer part, it would really help your business by creating a genuine brand awareness.
- Enhances Web Traffic**
5. A compelling infographic with interesting information will play a key role in driving more traffic to your website as visitors share it on their social profiles, if it's really worth.
- Benefits SEO**
6. Due to its viral nature, infographics helps you in gaining few quality links back to your website thereby improving the visibility of the website to get indexed on Search engine results page.
- Represents you as a Subject Expert**
7. The Meticulous research that you conduct for crafting the infographic will show your knowledge and level of understanding on the respective subject.
- Growth**
8. Google Analytics has showed that there has been abundant increase in the "Insights for Search" pertaining to 'Infographics' keyword.
- Portability**
9. The infographic can be easily placed on their websites by the respective website owners and bloggers by using the embed code that you place underneath the infographic on your website.

1. MyKinsta (MyKinsta Analytics)



The MyKinsta homepage.

Developed in-house by Kinsta, the [MyKinsta dashboard](#) is one of the easiest full-fledged tools in the market for site management.

You can do pretty much everything through MyKinsta – from basic database search to employing server-level 301 redirects, issuing free SSL certificates, blocking IP addresses, harnessing premium DNS management, and so much more.

For the benefit of this article, we'll lay eyes on [MyKinsta Analytics](#), a tool within the MyKinsta dashboard.

With this tool, you have access to a wealth of performance-related analytics. For starters, you can view statistics for each site separately or collectively, with lookback windows of 24 hours, one week, and one month.

MyKinsta Analytics also provides you with extensive insights on resource usage for visitors, bandwidth, and top requests by visits or bytes. [Performance monitoring](#) insights cover different aspects, including MySQL and PHP response times as well as AJAX usage.

2. Semrush

Semrush Features

Start solving your marketing challenges today with 55+ tools and reports on Semrush.

Get Started For Free



Choose your area of interest

All

SEO

Content

Market Research

SMM & SERM

Keyword Research

Bring traffic to your site by finding the best keywords

Learn more

6 tools

On-page SEO

Get new ideas to improve your site's health and SEO performance

Learn more

3 tools

Competitor Analysis

Increase your website traffic and improve performance with competitors' winning strategies

Learn more

4 tools

Semrush features. (Image source: [Semrush](https://www.semrush.com))

Launched in 2008, [Semrush](https://www.semrush.com) offers a whole range of marketing and accurate website traffic analysis tools for online businesses.

Semrush helps you measure your own online traffic and domain's performance by giving you complete reports of visits, session duration, and page views. Plus, you can analyze the ratio of mobile to desktop traffic and user interaction.

Semrush lets you check the performance of your competitors' websites as well. Although crucial metrics like the growth of monthly traffic volume,

Pricing:

You can choose between monthly and yearly payments for Semrush's three price levels. Pro, Guru, and Business plans are \$119.95, \$229.95, and \$449.95 respectively. Pro and Guru packages are available to try for free for the first 7 days of purchase.

Semrush also offers a free-forever account with capped features, which is a good option for beginners and startups.

GOOGLE ANALYTICS

Welcome to Google Analytics

Google Analytics gives you the free tools you need to analyze data for your business in one place, so you can make smarter decisions.

[Start measuring](#)

Complete information

Understand your site and app users to better check the performance of your marketing, content, products, and more.

Get insights only Google can give

Access Google's unique insights and machine learning capabilities to make the most of your data.

Connect your insights to results

Analytics works with Google's advertising and publisher products, so you can use your insights to deliver business results.



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The Google Analytics homepage. (Image source: [Google Analytics](#))

You've probably come across [Google Analytics](#) more than once already. It's without a doubt one of the most powerful free products out there, favored by thousands of users.

You can use its extensive reports to measure your site traffic, identify your most popular content, and see how visitors and prospects use your website to convert. Google Analytics also allows you to create audience segments for Google Ads' remarketing and promotional campaigns.

Google Analytics additionally lets you manage more than one property under one account. It's also possible to view parameters for different sites via a single dashboard. The service is fully compatible with a wide range of platforms and services, including [WordPress](#).

[Similarweb](#) is a powerful data platform for monitoring market trends and traffic in real time. It's ideal for growing businesses and large enterprises. Popular brand names that utilize this service include eBay, Booking.com, The Economist, PepsiCo, and Walmart.

The most notable thing about Similarweb is that it helps you fully understand everything happening on your site – including which locations send you the most traffic – through a simple and quick process.

This website traffic analysis checker also gives you a detailed breakdown of your audience and lets you see how other websites are performing. You can use it to analyze the interests of your visitors and review conversion analysis reports to generate more leads.

[Sitechecker](#) is a multipurpose SEO analytics solution that enables you to swiftly and effectively track the success of your web resource marketing strategy so that you can progressively [enhance performance](#).

Sitechecker's [website crawler](#) function assists in finding – and instantly resolving – any and all technical SEO errors in order to drive more traffic. To help you maintain a healthy website, Sitechecker also lets you check for broken links, inspect your website's architecture, and explore the best landing page options. Furthermore, the built-in keyword rank checker lets you verify your [domain's Google rank](#).

[Seipstat](#) is another SEO-centric website traffic analysis auditor to help businesses and professionals pipe more organic traffic to their sites. It assists you in automating every step of your search engine optimization campaign, saving you hours of even days each month.

Backlink analysis, URL analysis, rank tracker, and keyword research are some of the tool's best components. What's more, Seipstat has over 230 Google databases available as keyword data sources.

DEVELOPMENT PART 1

Importing Necessary Libraries

Before we can start digging into datasets, we need to equip ourselves with Python's data preprocessing tools. The good news is that Python has a fantastic ecosystem of libraries that will make our data cleaning and wrangling much easier. In this step, we'll import three essential packages - Pandas, NumPy, and scikit-learn.

Pandas is the bread and butter for working with tabular data in Python. It provides easy-to-use data structures and functions for exploring, manipulating, and analyzing datasets.

To import these libraries, simply run the following code:

```
import pandas as pd
import NumPy as np
from sklearn import preprocessing
```

Now we have the full power of Pandas, NumPy, and scikit-learn at our fingertips. With this utility belt equipped, we can start wielding these tools to whip our datasets into shape.



Data Loading and Understanding

Now that our preprocessing libraries are imported, it's time to load our raw data and start getting familiar with it. In doing so, one might find it useful to explore the [Python Dash vs Streamlit](#) comparison. Both these platforms offer powerful capabilities for data loading and exploration, making it easier to understand the intricacies of your dataset.

We'll start by loading a sample CSV dataset containing housing price data for different regions. Using Pandas' `read_csv()` method makes this a breeze:

```
housing = pd.read_csv('housing.csv')
```

With our DataFrame loaded, we can now use Pandas' convenient attributes like `.head()` and `.info()` to explore the data. Visualizing the data with plots and charts also provides useful insights. This high-level investigation allows us to understand the properties of each variable, spot errors or anomalies, and inform our preprocessing strategy.

Handling Missing Data

Now that we've loaded and explored our data, it's time to address one of the most common data preprocessing tasks - handling missing values. Most real-world datasets contain some amount of missing data due to human error, equipment malfunctions, or respondents skipping questions. If not addressed properly, missing data can reduce model accuracy and lead to misleading analytical insights. Some strategies for handling missing values in Python include:

- Deletion - Removing rows or columns containing missing values
- Imputation - Replacing missing values with the mean, median, or mode
- Modeling - Using machine learning to predict missing values based on other columns

Data Transformation

Once the missing data is handled, the next step is data transformation. This process involves modifying the data in a way that enhances its suitability for analysis or model building.

One type of transformation is scaling, which is crucial when dealing with features that exist on different scales. Machine learning algorithms can be biased towards variables with higher magnitudes – think of a dataset that includes age (a two-digit number) and salary (a five or six-digit number).

```
scaler = preprocessing.MinMaxScaler()  
data['column_name'] = scaler.fit_transform(data[['column_name']])
```

Copy

Another transformation is normalization, which adjusts the distribution of data. Certain machine learning algorithms assume that the input data is normally distributed, or follows a Gaussian distribution. If the data does not meet this assumption, we can use the `PowerTransformer` from scikit-learn to make it more Gaussian-like:

```
norm = preprocessing.PowerTransformer()  
data['column_name'] = norm.fit_transform(data[['column_name']])
```

Encoding Categorical Data

Most interesting datasets contain categorical variables like country, genre, or status. Machine learning algorithms prefer numerical data, so encoding categoricals is crucial. In this step, we'll learn techniques for converting categorical columns into numeric formats.

The two main encoding methods are:

- **One-hot encoding** - Creating new columns indicating the presence (1) or absence (0) of each category value.
- **Label encoding** - Assigning a numeric code to each unique category label.

In Python, we can implement one-hot encoding using Pandas' `get_dummies()` method or scikit-learn's `OneHotEncoder` class. For label encoding, scikit-learn's `LabelEncoder` works great.

Final Thoughts

Mastering data preprocessing is a fundamental step in your data analysis and machine learning journey. It allows you to transform raw, messy data into clean, understandable input that can be used to create accurate and efficient models. While it may seem tedious and uninteresting, proper data preprocessing can make a huge difference in your project's outcome. Put these Python tools into practice, and you'll be well on your way to becoming an expert data wrangler.

Learn also: [Data Cleaning with Pandas in Python](#).

Website Traffic Using IBM Cognos for virtualization

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- [Note: These subheadings are SEO-friendly and provide a comprehensive overview of the article content related to improving website traffic using IBM Cognos Analytics](#)

Understanding the Importance of Website Traffic

Before we dive into the specifics of using IBM Cognos Analytics, let's take a moment to understand why website traffic is so important. Website traffic is essentially the number of visitors your website receives over a given period of time. It serves as a key performance indicator (KPI) for your online presence and can provide valuable insights into the effectiveness of your marketing efforts, user experience, and overall brand awareness.

Introduction to IBM Cognos Analytics

IBM Cognos Analytics is a powerful business intelligence and data analytics platform that can help you gain deep insights into your website's performance and audience behavior. It enables you to collect, analyze, and visualize data from various sources, allowing you to make informed decisions and optimize your website traffic strategies.

With its user-friendly interface and robust features, IBM Cognos Analytics empowers marketers and business owners to extract meaningful insights from their data and drive actionable improvements.

Leveraging IBM Cognos Analytics for Website Traffic Improvement

Now let's explore some specific ways in which you can leverage IBM Cognos Analytics to improve your website traffic.

- 1. Analyzing Website Traffic Data with IBM Cognos Analytics:** One of the first steps in improving website traffic is to analyze your existing data. With IBM Cognos Analytics, you can easily gather data from various sources, such as website analytics tools like Google Analytics, social media platforms, and customer relationship management (CRM) systems.
- 2. Key Metrics to Track for Website Traffic Improvement:** IBM Cognos Analytics provides a wide range of metrics and KPIs that you can track to measure the effectiveness of your website traffic strategies. Some important metrics to consider include total website visits, unique visitors, bounce rate, time on site, conversion rate, and click-through rate.
- 3. Setting Up IBM Cognos Analytics for Website Traffic Analysis:** To get started with IBM Cognos Analytics, you need to set up the platform and configure it to collect data from your website and other relevant sources. This may involve integrating IBM Cognos Analytics with your website's tracking tools, CRM system, and other data sources.
- 4. Using IBM Cognos Analytics to Identify Target Audience and Market Segments:** Understanding your target audience is crucial for driving relevant traffic to your website. With IBM Cognos Analytics, you can segment your website traffic based on various criteria, such as demographics, geographic location, referring websites, and user behavior.
- 5. Improving SEO Strategies with IBM Cognos Analytics:** Search engine optimization (SEO) plays a vital role in increasing organic website traffic. IBM Cognos Analytics can provide valuable insights into keyword performance, search engine rankings, and organic traffic trends. By analyzing this data, you can identify opportunities to optimize your website's
- 6. Optimizing Content Marketing Efforts Using IBM Cognos Analytics:** Content marketing is another powerful strategy for driving website traffic.
- 7. Enhancing User Experience with Insights from IBM Cognos Analytics:** User experience (UX) plays a significant role in attracting and retaining website visitors.
- 8. Utilizing Social Media Insights to Drive Website Traffic using IBM Cognos Analytics:** Social media platforms can be powerful drivers of website traffic.
- 9. Tracking and Analyzing Referral Sources with IBM Cognos Analytics:** Referral traffic refers to visitors who land on your website from external sources, such as other websites, online directories, and social media profiles.
- 10. Integrating Google Analytics with IBM Cognos for Comprehensive Website Traffic Analysis:** Google Analytics is a widely-used website analytics tool that provides in-depth insights into website traffic.

11. Leveraging Predictive Analytics to Drive Website Traffic Growth with IBM

Cognos: Predictive analytics is a powerful technique that uses historical data and machine learning algorithms to forecast future trends and outcomes

12. Implementing Data-Driven Strategies for Improved Website Traffic using IBM Cognos

Analytics: One of the biggest advantages of IBM Cognos Analytics is its ability to enable data-driven decision making.

13. Creating Custom Reports and Dashboards in IBM Cognos Analytics for Better website

traffic insights: IBM Cognos Analytics allows you to create custom reports and dashboards that align with your specific website traffic goals.

14. Measuring the Effectiveness of Marketing Campaigns with IBM Cognos

Analytics: Successful marketing campaigns can have a significant impact on website traffic.

15. Harnessing the Power of Business Intelligence to Maximize Website Traffic using IBM

Cognos: Business intelligence (BI) refers to the process of using data and analytics to gain insights and make informed decisions.

16. Best Practices and Tips for Increasing Website Traffic using IBM Cognos Analytics: As with any tool or strategy, there are certain best practices and tips to keep in mind when using IBM Cognos Analytics to improve your website traffic.

Note: These subheadings are SEO-friendly and provide a comprehensive overview of the article content related to improving website traffic using IBM Cognos Analytics

By following the strategies and utilizing the capabilities of IBM Cognos Analytics discussed in this article, you can take significant steps towards improving your website traffic and ultimately achieving your online business goals. Remember, driving traffic to your website is just the first step – it's equally important to focus on converting that traffic into leads and customers through effective marketing and sales strategies.

How Do Website Traffic Analysis Tools Work?

Tools for website traffic analysis look at important statistics that show the areas where your site is productive and where you need to make improvements.

These checkers scrutinize user behavior on your web pages and show calculated details about important key performance indicators (KPIs).

These KPIs include:

- **Traffic volume:** The number of new and returning visitors to your website along with their demographic info.
- **Traffic sources:** How users reached your site (e.g. organic search, sponsored ads, email, social media posts).
- **Page views:** The number of times people visit specific pages on the site.
- **Session duration:** The total amount of time a visitor spends on your website.
- **Bounce rate:** The proportion of visitors who landed at any of your webpages and then left without further interacting with the site.

- **Conversion rate:** The percentage of visitors that interact with a call to action on the website (such as submitting a form or purchasing a product). This interaction is known as [a conversion](#).
- **Unique visits:** Counts only a person's first visit, allowing you to separate potential clients from loyal users.
- **Exit pages:** Identifies the pages from which each visitor leaves your website.

Website traffic analysis is the process of collecting and interpreting key data points that describe web traffic to and from your site. (Web traffic is information about every user that visits your site.) While the general rule of thumb is the more traffic, the better, high traffic numbers alone don't always translate to increased sales or lead generation.

Web traffic analysis breaks down data using specific metrics to organize that data and help you understand:

- Who's visiting your site
- How long they're on your site
- What they're doing while on your site
- Top of Form

Metrics matter in all aspects of business

This includes your website. To ensure your site is performing well and delivering conversions, you can deploy website traffic analysis tools to identify key trends, prioritize developing patterns, and streamline your site.

So, what does the process of website traffic analysis entail? What benefits does it offer and how does it work? And most importantly, what tools are available to help?

Let's get started.

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[Tools for Website Traffic Analysis](#)

What is website traffic analysis?

Website traffic analysis is the process of collecting and interpreting key data points that describe web traffic to and from your site. (Web traffic is information about every user that visits your site.) While the general rule of thumb is the more traffic, the better, high traffic numbers alone don't always translate to increased sales or lead generation.

Web traffic analysis breaks down data using specific metrics to organize that data and help you understand:

- Who's visiting your site
- How long they're on your site
- What they're doing while on your site
- Most-likely reasons they leave your site

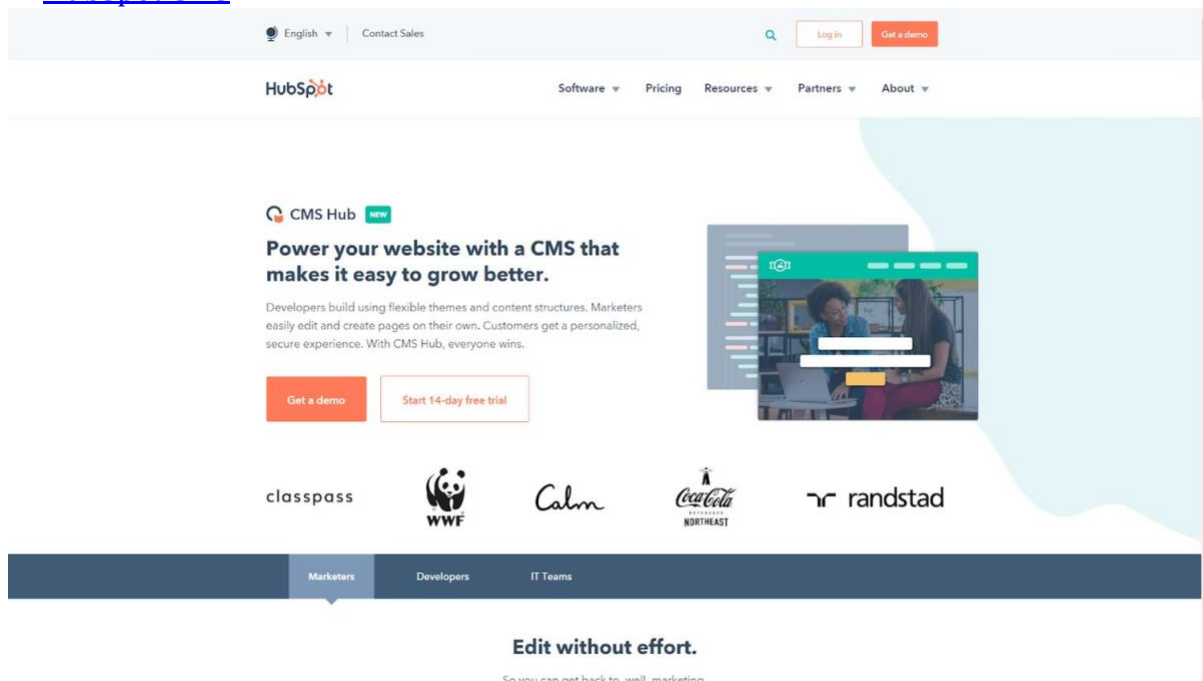
When you're equipped with accurate and immediate website traffic data, it's possible to develop pattern models that identify potential weak points in your web design and inform ongoing development decisions.

The good news is there are a number of resources you can implement to help with your website traffic analysis. Next, let's look at how they work.

How do website traffic analysis tools work?

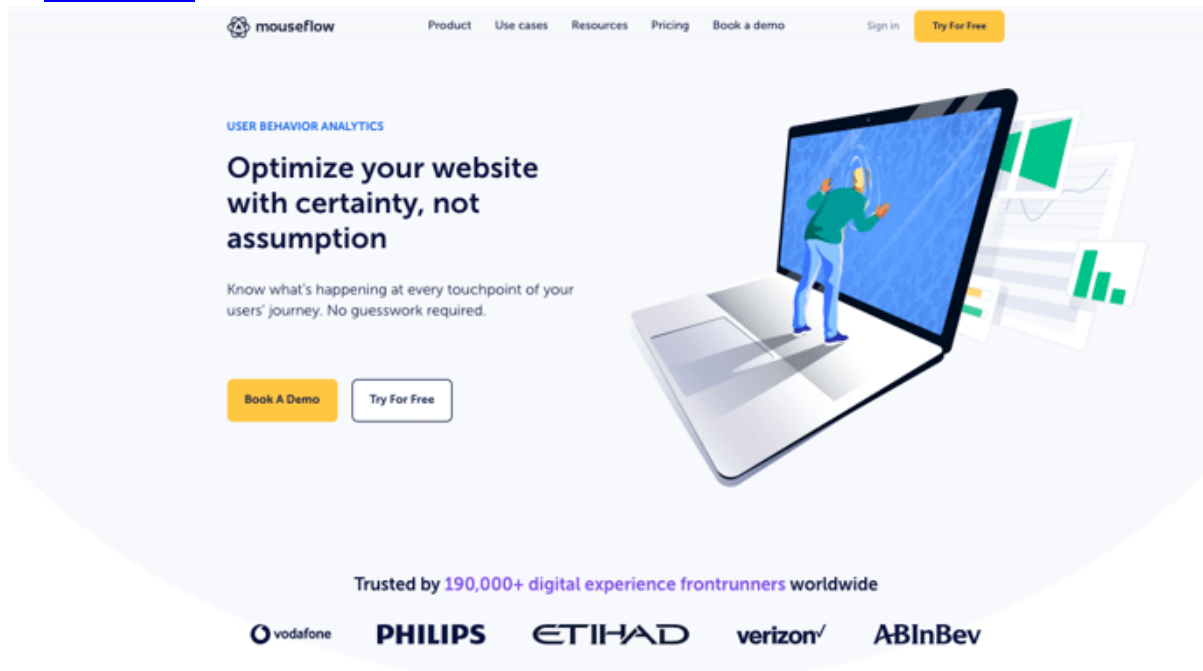
Website traffic analysis tools work by measuring key metrics — datasets that highlight where your site is seeing success and where you may need to make improvements. Here are some common website traffic metrics your tools will likely measure:

1. [HubSpot CMS](#)



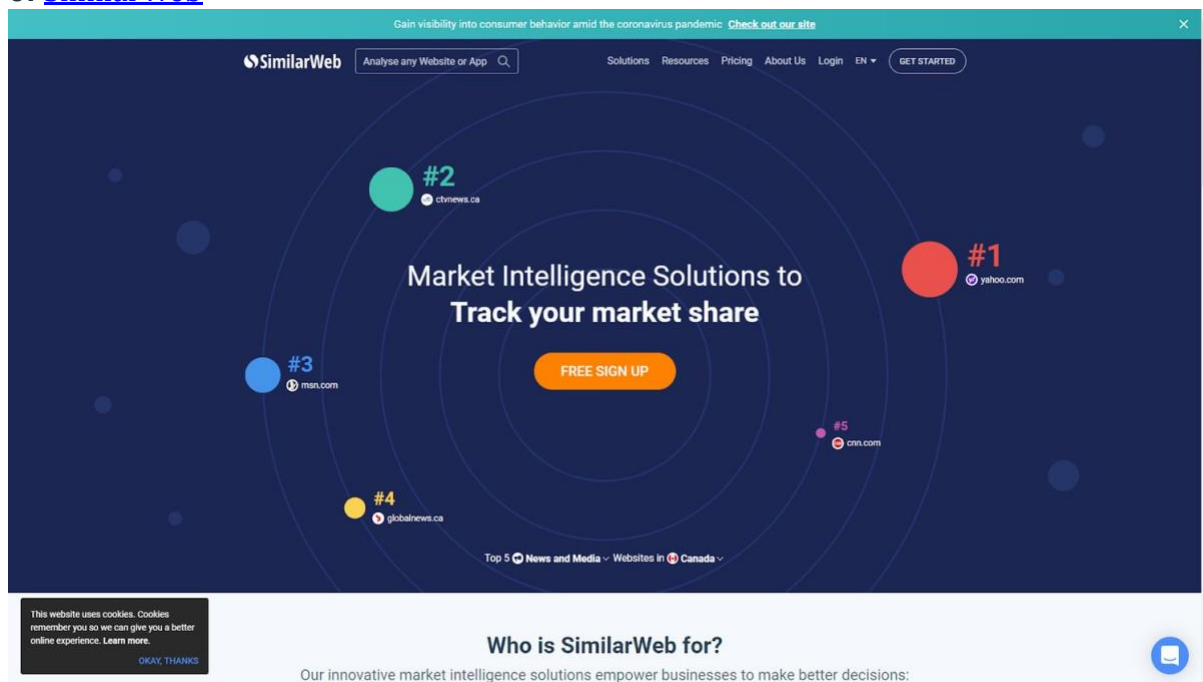
[Hubspot CMS](#) offers powerful and customizable website traffic analysis tools. Combined with top-tier campaign, lead generation, and customizable form tools, HubSpot CMS is your one-stop-shop for website metrics, management, and marketing.

2. [Mouseflow](#)



- Mouseflow lets you see *exactly* what your visitors see — easily replay the entire visitor experience to identify key pain points and make adjustments that lead to a boost in conversions.

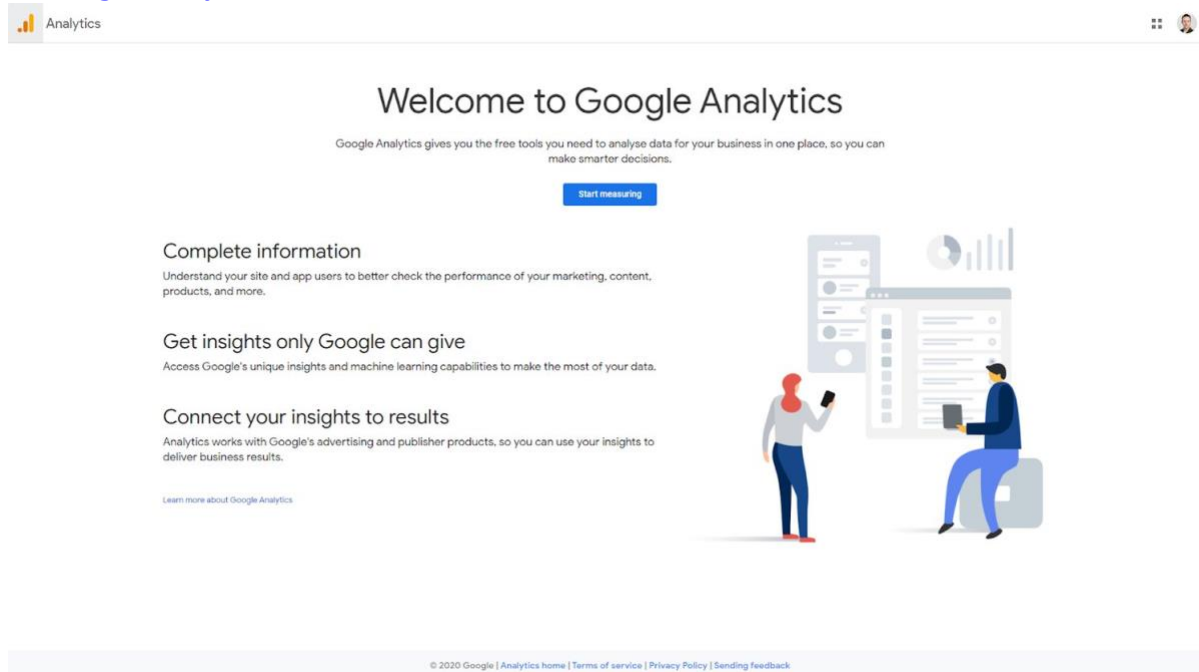
3. [SimilarWeb](#)



SimilarWeb is ideal for tracking your market share with benchmarks, trends, and traffic analysis. It gives you an understanding of what's working on your site, what isn't, and how you can improve.

SimilarWeb is free for limited tracking and traffic results.

5. [Google Analytics](#)



Arguably the king of free website traffic analysis, Google Analytics helps you build a complete picture of visitor preferences while connecting key insights to traffic results.

Data Cleaning Steps & Process to Prep Your Data for Success

What Is Data Cleaning?

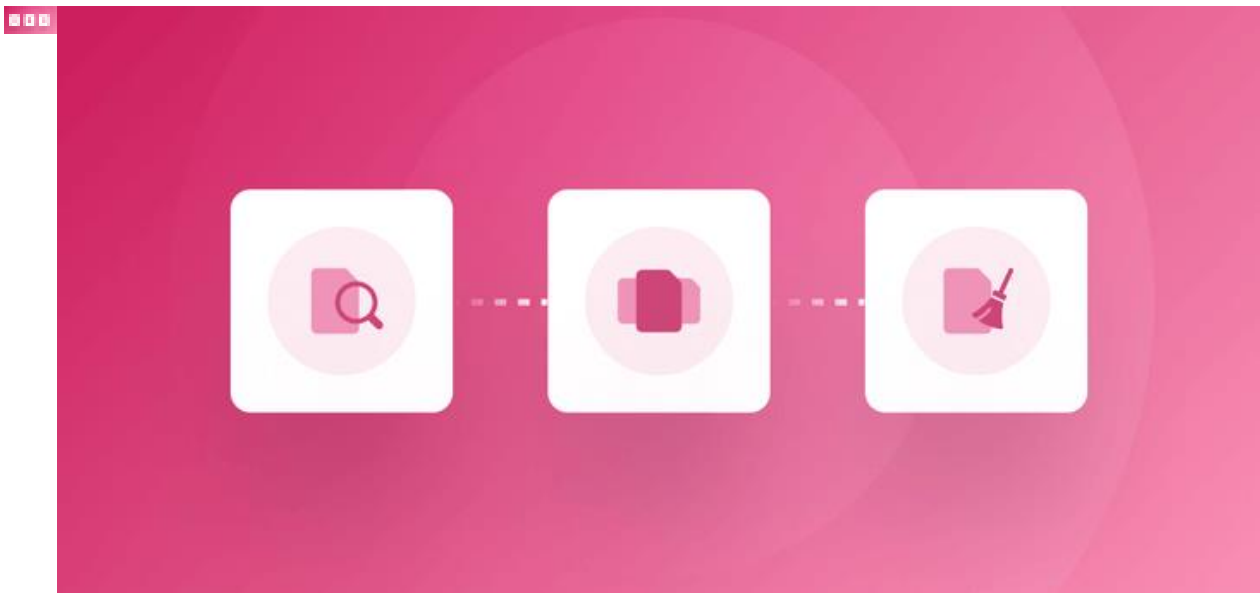
[Data cleaning](#) is the process of editing, correcting, and structuring data within a data set so that it's generally uniform and prepared for analysis. This includes removing corrupt or irrelevant data and formatting it into a language that computers can understand for optimal analysis.

There is an often repeated saying in data analysis: "Garbage in, garbage out," which means that, if you start with bad data (garbage), you'll only get "garbage" results.

Data cleaning is often a tedious process, but it's absolutely essential to get top results and powerful insights from your data.

[Try MonkeyLearn](#)

Data Cleaning Steps & Process to Prep Your Data for Success



No matter what kind of [data analytics](#) you're performing, your analysis and any other downstream processes are only as good as the data you start with.

Most raw data, whether text, images, video – often even data stored in spreadsheets – is improperly formatted, incomplete, or downright dirty and needs to be properly cleaned and structured before you begin your analysis.

There are a number of data cleaning, “data cleansing,” or “data scrubbing” techniques you can put to use to ensure your [data is properly prepared](#) for analysis.

- [What Is Data Cleaning?](#)
- [Data Cleaning Steps & Techniques](#)
- [Data Cleaning Tips](#)

What Is Data Cleaning?

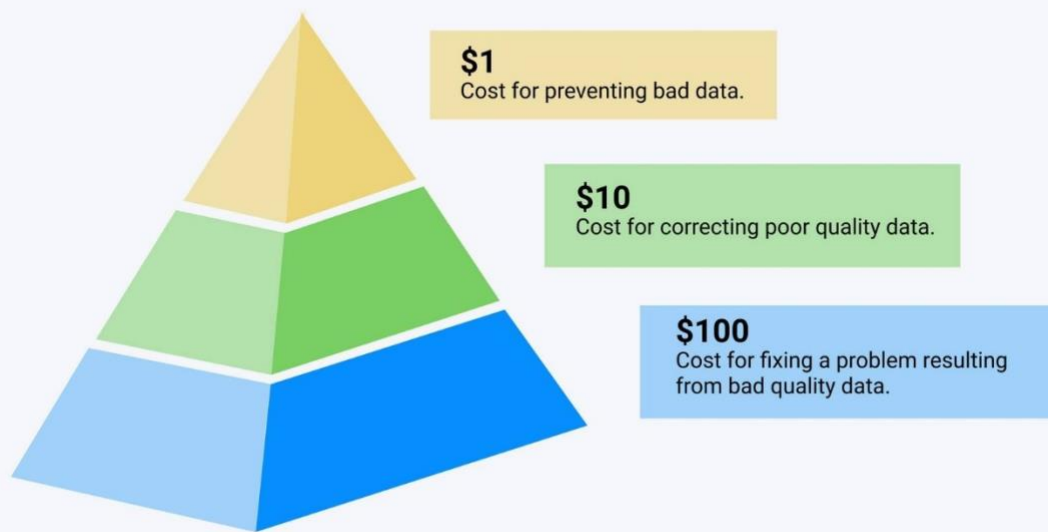
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This is powerfully elucidated with the 1-10-100 principle: It costs \$1 to prevent bad data, \$10 to correct bad data, and \$100 to fix a downstream problem created by bad data.

The Cost of Bad Quality Data Over Time



So, it's important that you perform proper data cleaning to ensure you get the best possible results.

In [machine learning](#), data scientists agree that better data is even more important than the most powerful algorithms. This is because machine learning models only perform as well as the data they're trained on.

Data Cleaning Steps & Techniques

Here is a 6 step data cleaning process to make sure your data is ready to go.

- **Step 1:** [Remove irrelevant data](#)
- **Step 2:** [Deduplicate your data](#)
- **Step 3:** [Fix structural errors](#)
- **Step 4:** [Deal with missing data](#)
- **Step 5:** [Filter out data outliers](#)
- **Step 6:** [Validate your data](#)

Data Cleaning Tips

- **Create the right process and use it consistently**

Set up a data cleaning process that's right for your data, your needs, and the tools you'll use for analysis. This is an iterative process, so once you have your specific steps and techniques in place, you'll need to follow them religiously for all subsequent data and analyses.

It's important to remember that, although data cleaning may be tedious, it's absolutely vital to your downstream processes. If you don't start with clean data, you'll undoubtedly regret it in the future when your analysis produces "garbage results."

- **Use tools**

There are a number of helpful data cleaning tools you can put to use to help the process – from free and basic, to advanced and machine learning augmented. Do some research and find out what data cleaning tools are best for you.

- **Pay attention to errors and track where dirty data comes from**

Track and annotate common errors and trends in your data, so you'll know what kinds of [cleaning techniques](#) you need to use on data from different sources. This will save huge amounts of time and make your data even cleaner – especially when integrating with analysis tools you use regularly.

Wrap Up

It's clear that data cleaning is a necessary, if slightly annoying, process when running any kind of data analysis. Follow the steps above and you're well on your way to having data that's fully prepped and ready for downstream processes.

Data Accuracy and Consistency

If you care about whether your business succeeds or fails, you should care about data accuracy. Data accuracy is important because it has an impact on your company's bottom line. Unfortunately, that impact often goes undetected—until it's too late.

Say your [business uses data for operational purposes](#), and your data is inaccurate. You could upset an entire segment of customers whose names you got wrong in an email—damaging your reputation and losing their trust. Or, you could lose profitable sales because you inadvertently listed an in-demand item as “out of stock” on your ecommerce website.

Introduction to Data Quality

There are many varying definitions of “data quality”, with some definitions defining it with terms such as “accurate data” or “timeliness”, but we take a more robust approach to defining data quality to help you inform your data management strategy for you to avoid all possible data quality issues.

Data accuracy is one of [ten dimensions of data quality](#), and one of three dimensions that influence data integrity. Data is considered accurate if it describes the real world. Ask yourself: Do the entities actually exist in your data collection, do they have the attributes you describe in your data

Data, the lifeblood of modern organizations, flows through various systems, sources, and processes. However, ensuring that this data remains accurate, coherent, and aligned with predefined standards is a multifaceted challenge. This is where data consistency comes into play.

Data consistency refers to **the quality of data being uniform, accurate, and coherent across various databases, systems, and applications within an organization.**

In this article, we will learn the core concepts of data consistency, and provide examples that showcase its impact across industries.

Data consistency:

Data consistency refers to the quality of data being uniform, accurate, and coherent across various databases, systems, and applications within an organization. **It ensures that data remains the same and aligns with the established rules and standards throughout its lifecycle, regardless of the platform or location it's accessed from.**

Importance of data consistency

Data consistency is crucial for several reasons that extend beyond simple accuracy. It's a cornerstone of effective [data management](#) and informed decision-making. Here's a deeper look at its significance:

1. Reliable decision-making

- Inaccurate or inconsistent data can lead to misguided decisions.
- If different departments or systems present conflicting information, it becomes challenging to determine the correct course of action.
- [Data-driven decisions](#) rely on the assumption that the data is accurate and consistent.
- Inconsistent data can lead to poor strategic choices, erode trust in analytics, and hinder business growth.

2. Operational efficiency

- Consistent data streamlines business processes.
- Employees can work more efficiently when they're confident in the accuracy and reliability of the information they're using.
- Inconsistent data can lead to wasted time as employees try to reconcile differences or correct errors.
- This inefficiency can delay projects and impede productivity.

3. Customer trust and satisfaction

- When customer data isn't consistent, it can lead to misunderstandings and inaccurate interactions.
- Customers expect businesses to have accurate and up-to-date information about their preferences and history.
- Sending contradictory messages or not recognizing customer interactions can damage the relationship, erode trust, and result in lost opportunities for upselling or personalized experiences.

5. Legal and regulatory compliance

- Some industries are subject to strict data regulations that require accurate and consistent data storage and reporting.
- Failure to comply can result in legal consequences and financial penalties.
- Inconsistent data can lead to non-compliance with data protection laws.
- This results in lawsuits, fines, and damage to a company's reputation.

6. Data integration and analysis

- Organizations use data from various sources for analysis.
- Inconsistent data makes integration and analysis complex, leading to incomplete insights and inaccurate conclusions.
- Inaccurate insights can misguide critical business strategies, leading to missed opportunities or misguided investments.

7. Efficient collaboration

- Collaboration across departments relies on shared data.
- Inconsistent data can lead to misunderstandings, miscommunication, and delays when teams rely on different versions of the truth.
- Without data consistency, collaboration breaks down, impeding innovation and alignment between different parts of the organization.

In essence, data consistency ensures that the data used across an organization is dependable, accurate, and aligned with the objectives and standards of the business.

Companies that prioritize data consistency not only mitigate risks but also create a solid foundation for growth and innovation in the data-driven era.

1. Manual data entry
2. Data duplication
3. Lack of data standards
4. Integration challenges
5. Legacy systems
6. Data migration
7. Lack of data governance
8. Incomplete updates
9. Organizational changes
10. Lack of training and awareness

Website Traffic Analysis Importing required libraries

In [1]:

In [2]:

```
!pip install wordcloud

Requirement already satisfied: wordcloud in c:\users\sanjay pk\anaconda3\lib\site-packages (1.9.0)
Requirement already satisfied: pillow in c:\users\sanjay pk\anaconda3\lib\site-packages (from wordcloud) (9.2.0)
Requirement already satisfied: matplotlib in c:\users\sanjay pk\anaconda3\lib\site-packages (from wordcloud) (3.5.2)
Requirement already satisfied: numpy>=1.6.1 in c:\users\sanjay pk\anaconda3\lib\site-packages (from wordcloud) (1.21.5)
Requirement already satisfied: python-dateutil>=2.7 in c:\users\sanjay pk\anaconda3\lib\site-packages (from matplotlib->wordcloud) (2.8.2)
Requirement already satisfied: cycler>=0.10 in c:\users\sanjay pk\anaconda3\lib\site-packages (from matplotlib->wordcloud) (0.11.0)
Requirement already satisfied: fonttools>=4.22.0 in c:\users\sanjay pk\anaconda3\lib\site-packages (from matplotlib->wordcloud) (4.25.0)
Requirement already satisfied: kiwisolver>=1.0.1 in c:\users\sanjay pk\anaconda3\lib\site-packages (from matplotlib->wordcloud) (1.4.2)
Requirement already satisfied: pyparsing>=2.2.1 in c:\users\sanjay pk\anaconda3\lib\site-packages (from matplotlib->wordcloud) (3.0.9)
Requirement already satisfied: packaging>=20.0 in c:\users\sanjay pk\anaconda3\lib\site-packages (from matplotlib->wordcloud) (21.3)
Requirement already satisfied: six>=1.5 in c:\users\sanjay pk\anaconda3\lib\site-packages (from python-dateutil>=2.7->matplotlib->wordcloud) (1.16.0)
```

In [3]:

```
import os

from wordcloud import WordCloud

%matplotlib inline
```

Importing the Dataset

In [4]:

```
data = pd.read_csv('Documents/daily-website-visitors.csv')
data
```

Out[4]:

	Row	Day	Day.Of.Week	Date	Page.Loads	Unique.Visits	First.Time.Visits	Retu
0	1	Sunday	1	9/14/2014	2,146	1,582	1,430	
1	2	Monday	2	9/15/2014	3,621	2,528	2,297	
2	3	Tuesday	3	9/16/2014	3,698	2,630	2,352	
3	4	Wednesday	4	9/17/2014	3,667	2,614	2,327	
4	5	Thursday	5	9/18/2014	3,316	2,366	2,130	
...
2162	2163	Saturday	7	8/15/2020	2,221	1,696	1,373	
2163	2164	Sunday	1	8/16/2020	2,724	2,037	1,686	
2164	2165	Monday	2	8/17/2020	3,456	2,638	2,181	
2165	2166	Tuesday	3	8/18/2020	3,581	2,683	2,184	
2166	2167	Wednesday	4	8/19/2020	2,064	1,564	1,297	

2167 rows × 8 columns



Dropping the columns

In [7]: `data = data.drop(columns=['Date'])`
`data`

Out[7]:

	Row	Day	Day.Of.Week	Page.Loads	Unique.Visits	First.Time.Visits	Returning.Visits
0	1	Sunday	1	2,146	1,582	1,430	152
1	2	Monday	2	3,621	2,528	2,297	231
2	3	Tuesday	3	3,698	2,630	2,352	278
3	4	Wednesday	4	3,667	2,614	2,327	287
4	5	Thursday	5	3,316	2,366	2,130	236
...
2162	2163	Saturday	7	2,221	1,696	1,373	323
2163	2164	Sunday	1	2,724	2,037	1,686	351
2164	2165	Monday	2	3,456	2,638	2,181	457
2165	2166	Tuesday	3	3,581	2,683	2,184	499
2166	2167	Wednesday	4	2,064	1,564	1,297	267

2167 rows × 7 columns



Checking the dataset

In [8]: `data.info()`

```

<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2167 entries, 0 to 2166
Data columns (total 7 columns):
#   Column                Non-Null Count  Dtype
---  -
0   Row                    2167 non-null   int64
1   Day                    2167 non-null   object
2   Day.Of.Week            2167 non-null   int64
3   Page.Loads             2167 non-null   object
4   Unique.Visits          2167 non-null   object
5   First.Time.Visits      2167 non-null   object
6   Returning.Visits       2167 non-null   object
dtypes: int64(2), object(5)
memory usage: 118.6+ KB

```

Checking the missing values

```
In [9]: data.isnull().sum()
```

```

Out[9]: Row                0
Day                0
Day.Of.Week        0
Page.Loads         0
Unique.Visits      0
First.Time.Visits  0
Returning.Visits    0
dtype: int64

```

```
In [13]: data['Day.Of.Week'] = data['Page.Loads'].apply(lambda x: x.split('-')[0])
data
```

```

Out[13]:

```

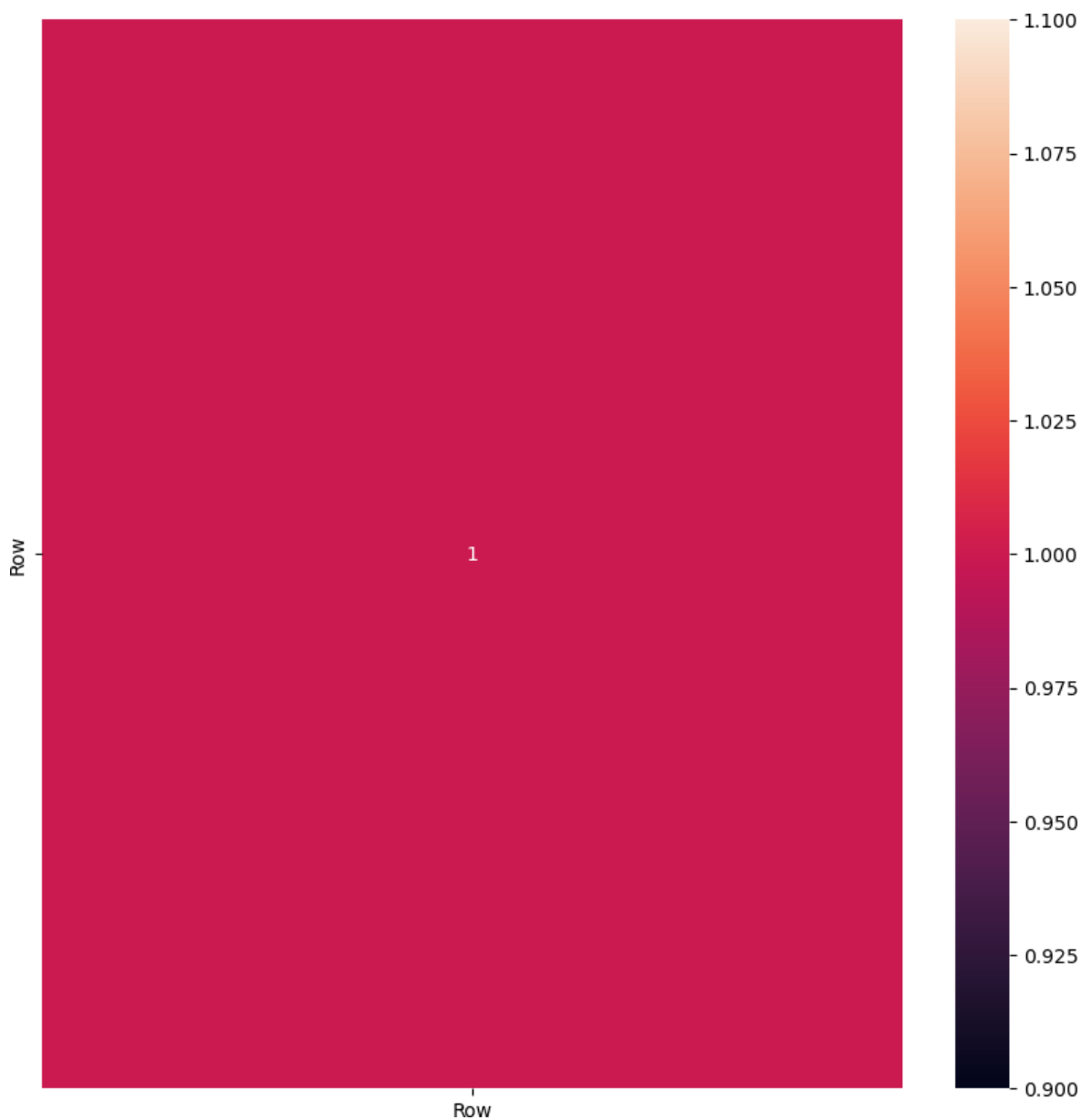
	Row	Day	Day.Of.Week	Page.Loads	Unique.Visits	First.Time.Visits	Returning.Visits
0	1	Sunday	2,146	2,146	1,582	1,430	152
1	2	Monday	3,621	3,621	2,528	2,297	231
2	3	Tuesday	3,698	3,698	2,630	2,352	278
3	4	Wednesday	3,667	3,667	2,614	2,327	287
4	5	Thursday	3,316	3,316	2,366	2,130	236
...
2162	2163	Saturday	2,221	2,221	1,696	1,373	323
2163	2164	Sunday	2,724	2,724	2,037	1,686	351
2164	2165	Monday	3,456	3,456	2,638	2,181	457
2165	2166	Tuesday	3,581	3,581	2,683	2,184	499
2166	2167	Wednesday	2,064	2,064	1,564	1,297	267

2167 rows × 7 columns

Visualizing the Datasets using various Graphs

```
In [14]: plt.figure(figsize=(10,10))
sns.heatmap(data.corr(),annot=True)
```

Out[14]: <AxesSubplot:>



```
In [15]: data.corr().T
```

Out[15]:

	Row
Row	1.0

```
In [16]: for i in data.columns:
          print(i,"-----",data[i].unique())
```

```

Row ----- [ 1 2 3 ... 2165 2166 2167]
Day ----- ['Sunday' 'Monday' 'Tuesday' 'Wednesday' 'Thursday' 'Friday' 'Saturday']
Day.Of.Week ----- ['2,146' '3,621' '3,698' ... '2,623' '3,581' '2,064']
Page.Loads ----- ['2,146' '3,621' '3,698' ... '2,623' '3,581' '2,064']
Unique.Visits ----- ['1,582' '2,528' '2,630' ... '2,638' '2,683' '1,564']
First.Time.Visits ----- ['1,430' '2,297' '2,352' ... '1,686' '2,184' '1,297']
Returning.Visits ----- ['152' '231' '278' '287' '236' '241' '133' '175' '274'
'268' '284' '286'
'216' '140' '193' '296' '312' '308' '250' '162' '200' '328' '359' '351'
'319' '282' '177' '233' '366' '387' '421' '376' '329' '203' '409' '434'
'244' '290' '451' '423' '416' '384' '279' '226' '264' '428' '402' '403'
'407' '343' '191' '292' '440' '410' '454' '436' '362' '208' '289' '490'
'437' '488' '458' '389' '253' '469' '415' '406' '314' '337' '281' '560'
'574' '561' '535' '377' '310' '546' '552' '594' '554' '442' '300' '391'
'478' '477' '447' '320' '178' '321' '145' '197' '160' '183' '252' '182'
'161' '258' '150' '223' '356' '385' '393' '350' '174' '220' '382' '427'
'388' '288' '185' '221' '394' '429' '368' '270' '375' '411' '418' '464'
'214' '297' '499' '501' '417' '242' '335' '494' '521' '509' '342' '471'
'495' '500' '496' '380' '254' '361' '542' '570' '587' '483' '283' '556'
'603' '533' '448' '325' '364' '578' '576' '596' '580' '486' '313' '424'
'579' '581' '585' '551' '398' '618' '605' '571' '360' '408' '599' '604'
'591' '504' '295' '371' '559' '648' '614' '633' '516' '318' '456' '698'
'693' '686' '689' '566' '397' '475' '765' '715' '696' '754' '780' '760'
'636' '502' '445' '709' '702' '679' '479' '695' '670' '668' '597' '345'
'632' '506' '299' '354' '564' '651' '622' '466' '583' '455' '355' '589'
'607' '639' '628' '255' '544' '545' '569' '468' '317' '553' '573' '541'
'520' '432' '293' '522' '538' '363' '204' '229' '484' '523' '528' '467'
'201' '276' '505' '548' '266' '525' '422' '213' '562' '503' '239' '285'
'531' '511' '489' '401' '245' '473' '532' '524' '260' '515' '498' '470'
'481' '536' '206' '259' '404' '235' '537' '482' '238' '311' '519' '563'
'251' '333' '567' '584' '577' '256' '353' '547' '623' '645' '649' '661'
'616' '331' '656' '652' '324' '657' '674' '646' '348' '419' '716' '660'
'650' '678' '708' '704' '665' '621' '491' '461' '322' '753' '790' '749'
'620' '833' '798' '800' '748' '617' '724' '658' '640' '598' '232' '309'
'138' '176' '367' '326' '228' '457' '512' '426' '339' '624' '465' '301'
'358' '575' '412' '588' '572' '392' '568' '609' '507' '613' '687' '555'
'746' '810' '558' '370' '517' '731' '743' '736' '772' '346' '480' '737'
'783' '744' '510' '792' '775' '694' '735' '634' '727' '681' '543' '782'
'771' '725' '610' '400' '534' '836' '857' '837' '758' '662' '849' '877'
'898' '830' '676' '625' '987' '924' '926' '832' '631' '907' '730' '606'
'794' '755' '747' '680' '378' '444' '685' '787' '819' '856' '734' '803'
'769' '675' '414' '796' '728' '673' '565' '707' '413' '677' '692' '667'
'257' '365' '225' '269' '334' '647' '608' '611' '600' '529' '271' '381'
'682' '672' '627' '653' '298' '476' '643' '699' '595' '275' '659' '513'
'425' '729' '697' '294' '430' '776' '330' '742' '774' '349' '703' '714'
'797' '841' '405' '899' '914' '815' '761' '872' '890' '897' '669' '853'
'825' '845' '915' '814' '644' '946' '903' '919' '902' '690' '905' '918'
'822' '487' '880' '969' '1,036' '961' '806' '784' '979' '998' '993' '957'
'985' '895' '842' '369' '190' '439' '207' '396' '557' '590' '526' '373'
'635' '341' '420' '684' '801' '763' '671' '705' '691' '344' '745' '717'
'720' '700' '460' '664' '340' '721' '722' '443' '683' '719' '831' '710'
'723' '602' '654' '452' '642' '374' '638' '463' '441' '323' '230' '527'
'263' '492' '383' '234' '493' '518' '395' '198' '261' '435' '249' '497'
'453' '450' '219' '265' '332' '438' '184' '291' '433' '472' '474' '446'
'459' '305' '248' '327' '593' '372' '615' '592' '205' '199' '390' '302'
'315' '462' '316' '399' '386' '619' '530' '641' '809' '586' '739' '767'
'485' '706' '701' '629' '688' '711' '805' '881' '777' '663' '908' '913'
'925' '866' '852' '848' '773' '751' '666' '612' '307' '549' '601' '306'
'539' '626' '379' '582' '759' '732' '811' '752' '802' '630' '859' '838'
'947' '850' '956' '937' '973' '243' '277' '550' '514' '766' '770' '823'
'785' '778' '789' '791' '821' '817' '762' '824' '304' '181' '540' '202'
'508' '637' '712' '157' '210' '188' '187' '246' '267' '303' '655' '834'
'431' '280' '338']

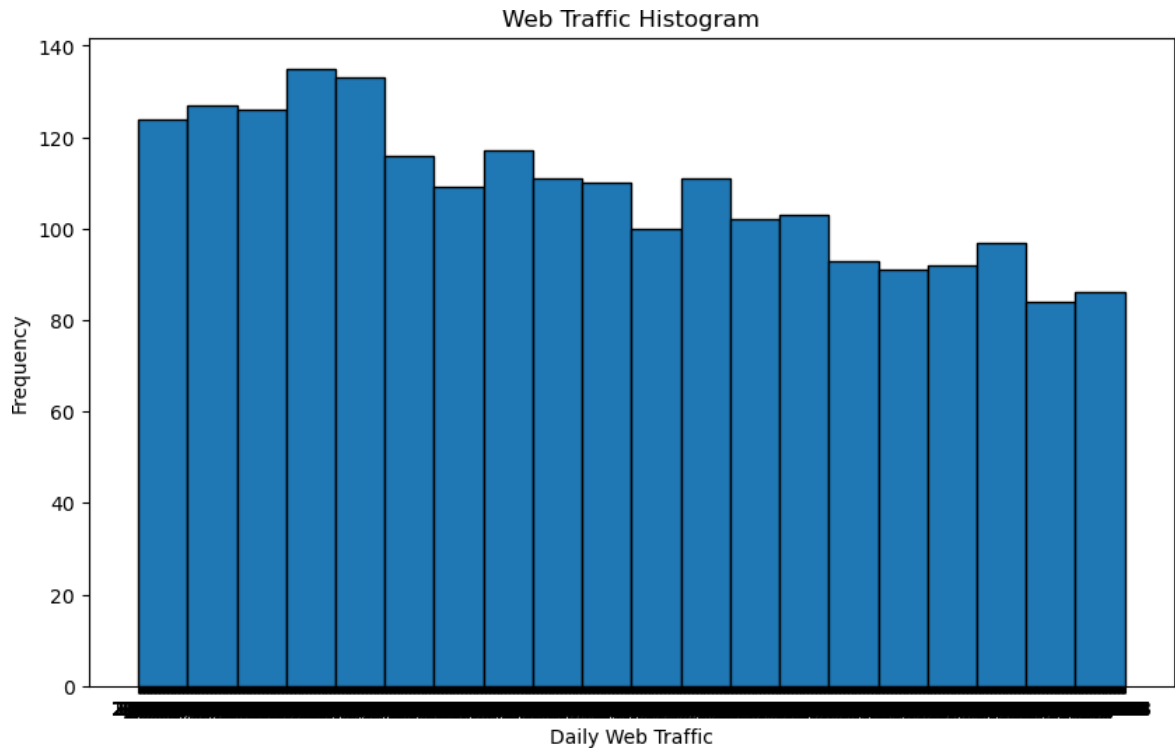
```



```
In [18]: plt.figure(figsize=(10, 6))
plt.hist(data['Unique.Visits'],bins=20,edgecolor='k') #You can adjust the numbe

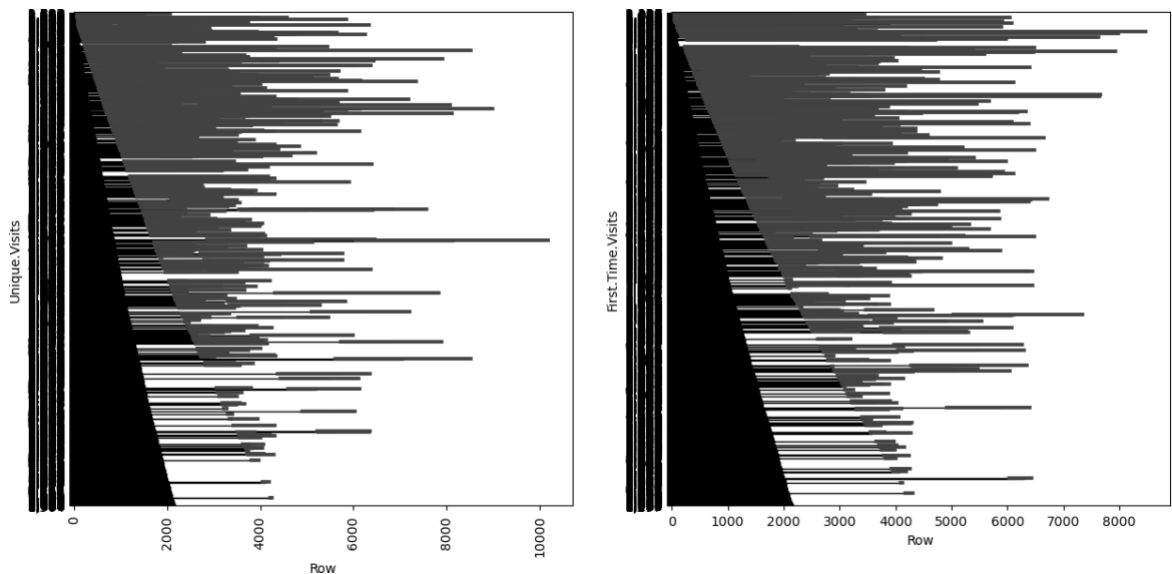
plt.xlabel('Daily Web Traffic')
plt.ylabel('Frequency')
plt.title('Web Traffic Histogram')

plt.show()
```



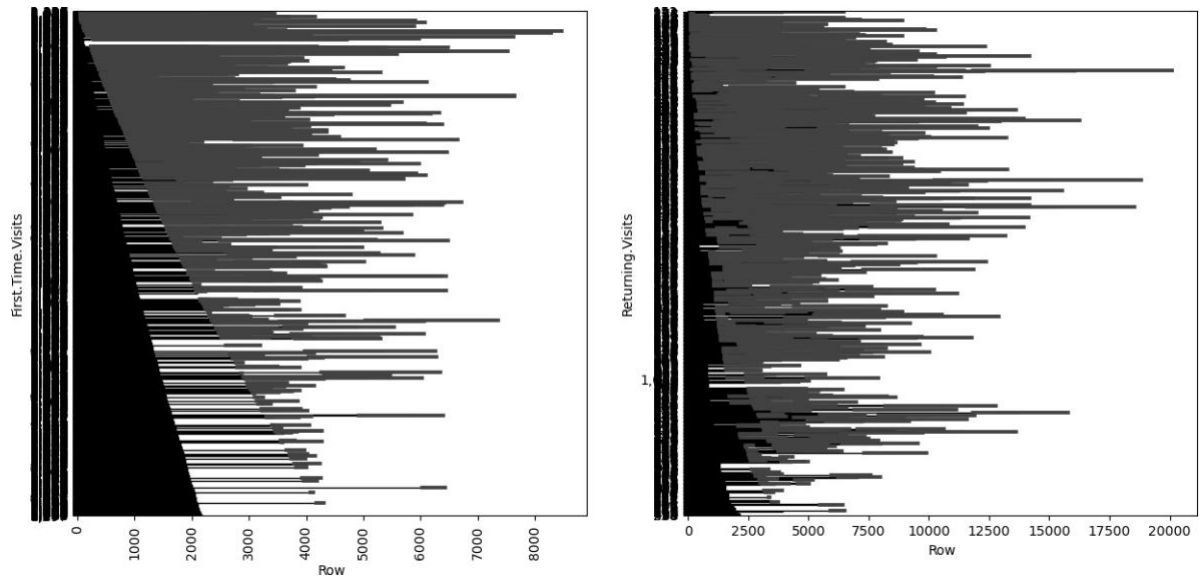
```
In [21]: plt.figure(figsize=(15,15),dpi=100)
plt.subplot(2,2,1)
sns.barplot(x="Row",y="Unique.Visits",data=data,edgecolor="black",estimator=sum)
plt.xticks(rotation=90);
plt.subplot(2,2,2)
sns.barplot(x="Row",y="First.Time.Visits",data=data,edgecolor="black",estimator=su

Out[21]: <AxesSubplot:xlabel='Row', ylabel='First.Time.Visits'>
```

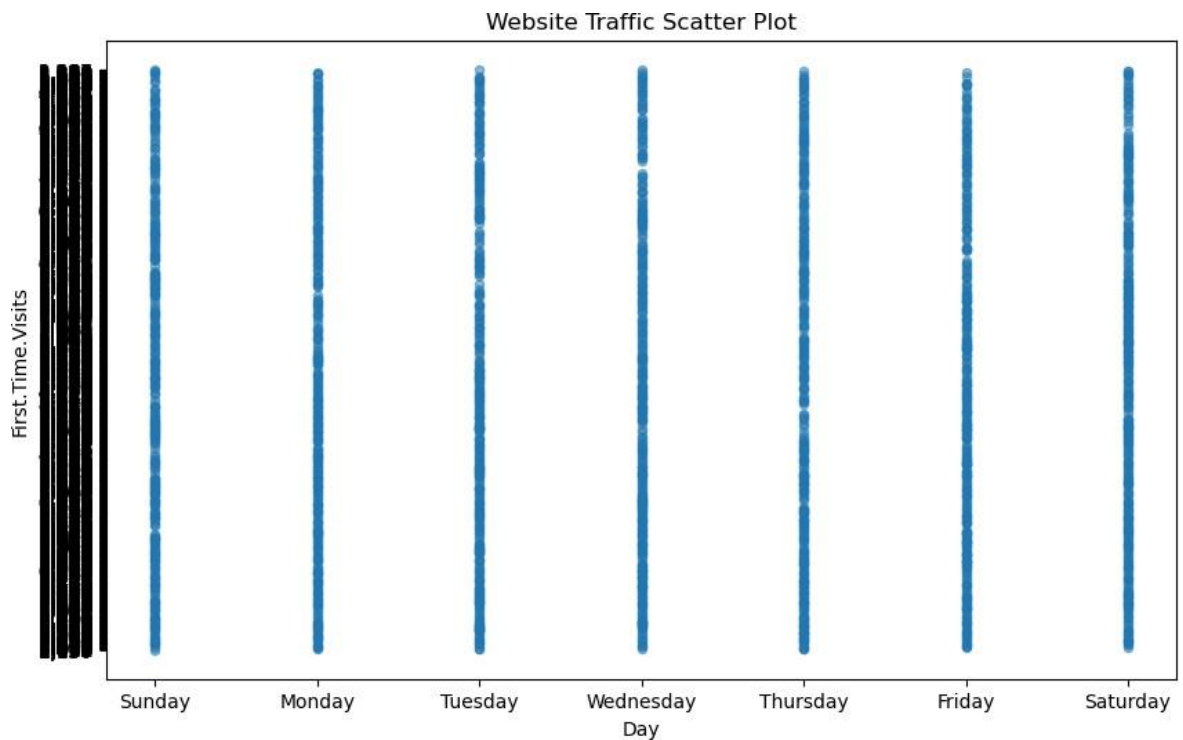


```
In [23]: plt.figure(figsize=(15,15),dpi=100)
plt.subplot(2,2,1)
sns.barplot(x="Row",y="First.Time.Visits",data=data,edgecolor="black",estimator=su
plt.xticks(rotation=90);
plt.subplot(2,2,2)
sns.barplot(x="Row",y="Returning.Visits",data=data,edgecolor="black",estimator=sum
```

```
Out[23]: <AxesSubplot:xlabel='Row',  ylabel='Returning.Visits'>
```



```
In [29]: plt.figure(figsize=(10, 6))
plt.scatter(data['Day'], data['First.Time.Visits'], s=20, alpha=0.5)
plt.xlabel('Day')
plt.ylabel('First.Time.Visits')
plt.title('Website Traffic Scatter Plot')
plt.show()
```



analysis project .

"Website traffic analysis is the process of collecting and interpreting key data points that describe web traffic to and from your site. (Web traffic is information about every user that visits your site.)

While the general rule of thumb is the more traffic, the better, high traffic numbers alone don't always translate to increased sales or lead generation.

Web traffic analysis breaks down data using specific metrics to organize that data and help you understand:

Who's visiting your site How long they're on your site What they're doing while on your site Most-likely reasons they leave your site When you're equipped with accurate and immediate website traffic data, it's possible to develop pattern models that identify potential weak points in your web design and inform ongoing development decisions.

The good news is there are a number of resources you can implement to help with your website traffic analysis. Next, let's look at how they work." <https://blog.hubspot.com/website/website-traffic-analysis-tools>

"Website traffic analysis tools work by measuring key metrics — datasets that highlight where your site is seeing success and where you may need to make improvements.

Here are some common website traffic metrics your tools will likely measure:

Traffic Sources Where do your visitors come from? Are they searching (and finding) your site organically or landing on your page via social media post, paid search, or email?

While total traffic numbers offer a general picture of site success, tracing traffic sources helps identify specific successes and highlight potential problems. For example, here's an example of what a traffic sources report looks like in HubSpot."

<https://blog.hubspot.com/website/website-traffic-analysis-tools>

"Page Views Page views show how many times users have visited a specific page on your website.

This helps pinpoint the most popular pages on your site and allows you to use them as templates for underperforming areas.

Visits This metric showcases the total number of visits to your site, and accounts for both new and returning visitors.

While this is a great metric for showing total growth over time, it's not the best indicator of sales or lead generation — since every visit from every source is counted, regardless of what action they take (or don't) on your site.

Unique Visits Unique visits give you a better indication of website success, since it only counts the first (and, therefore, unique) visit of any user.

Even if users return to your website every day, only their first visit counts. This helps you separate brand loyalists from prospective customers.

Bounce Rate Bounce rate describes the percentage of visitors who viewed any page on your site and immediately left without further interaction.

As noted by Business 2 Community, the average bounce rate is around 40%, but lower is always better. Website traffic analysis lets you pinpoint (and improve) current bounce rates.

Here's an example of an analysis tool within HubSpot that displays your bounce rate (among other data points):**Average Time On-Page**
Average time on-page is how long visitors spend on any given page on your site.

To make use of this metric effectively, pair it with source identification: Are there user sources that pair well with increased time on page, such as a particularly successful email campaign? Are there others that don't fare so well?

Analyzing average time on-page in combination with source traffic can help streamline your marketing spend."

<https://blog.hubspot.com/website/website-traffic-analysis-tools>

Analyze your site traffic with the traffic analytics tool

Last updated: September 14, 2023

Available with any of the following [subscriptions](#), except where noted:

Marketing Hub Professional, Enterprise

CMS Hub Professional, Enterprise

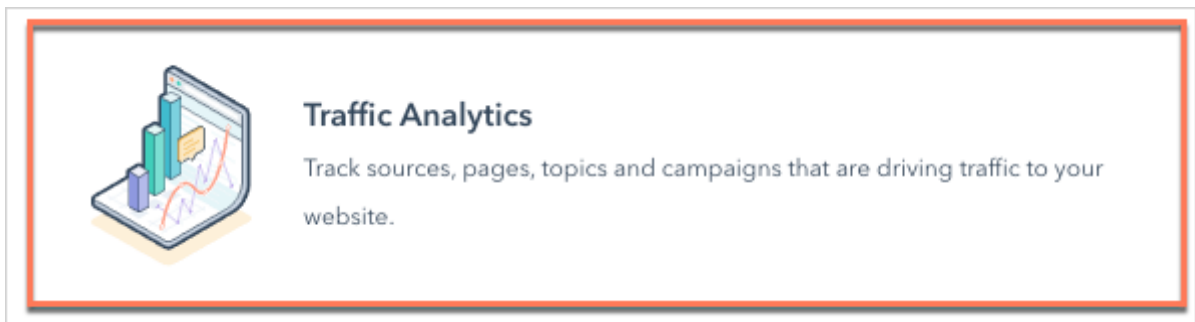
Legacy Marketing Hub Basic

Use [HubSpot's traffic analytics tool](#) to view website traffic data. This includes viewing traffic by source, topic cluster, device type, country, and more.

If you have an external site, ensure you [install the tracking code to your site](#) to begin tracking your traffic in HubSpot.

To navigate to the traffic analytics tool:

- In your HubSpot account, navigate to **Reports > Analytics Tools**.
- Click **Traffic Analytics**. By default, you'll be brought to the *Sources* tab of the traffic analytics tool.



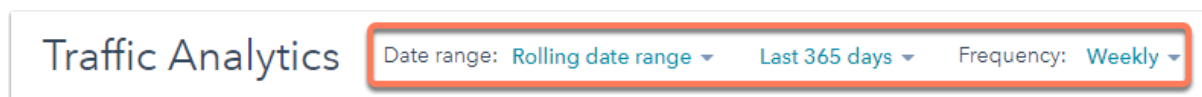
Using reports in the traffic analytics tool

Below, learn how to customize, filter, export, and save traffic analytics report data.

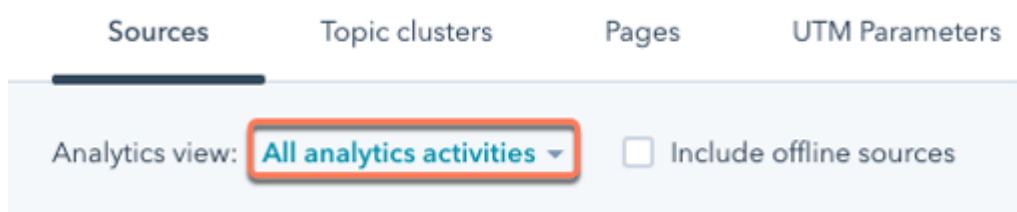
Customize and filter report data

While on any of the tabs in the traffic analytics tool, you can change the report's date range and frequency, export and save the report, and filter data by specific [analytics views](#). Any filtering you add, such as date range, will apply to both the chart visualization and the raw data table.

- To filter the data by time range and frequency, use the **Date range** and **Frequency** dropdown menus.
 - These filters apply across all tabs of the traffic analytics tool.
 - If you select a rolling date range, the data set will exclude the current day.
 - A week in the report starts on Sunday by default, when the date range selected consists of a week, or when the frequency is set to *Weekly*.



- To filter the data to only show traffic for a specific analytics view, click the **Analytics view** dropdown menu, then select an **analytics view**, or click **Manage views** to [customize your analytics views](#). This option is not available for the *Topic clusters* tab.

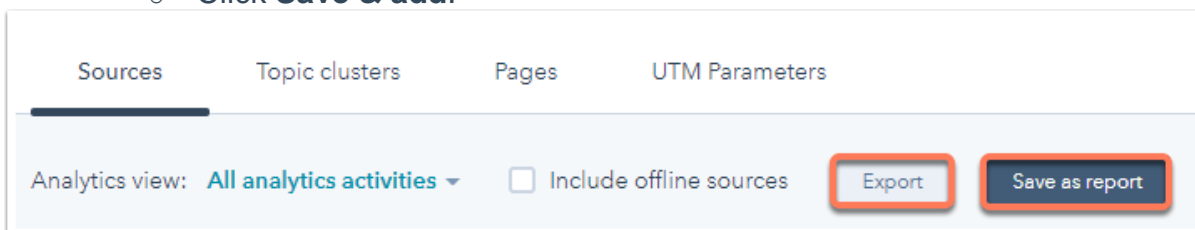


- To customize the metrics that appear in the table below a chart:
 - In the upper right of the table, click **Edit columns**.
 - In the dialog box, select the checkbox for each **metric** you want to display. You can only have a maximum of seven metrics at a time in your table. Learn more about [the metrics below](#).
 - Click the **X** next to a property in the *Selected columns* section to remove it from the table.

- Click **Save** to apply these changes.

Export or save a report

- To export a report as a CSV, XLS, or XLSX file:
 - Above the chart, click **Export**.
 - In the dialog box, enter the **Name** of your file and click the **File format** dropdown menu to select a **format**. Click **Export**.
 - The export file will be sent to your email address and can be downloaded in your notification center, accessed by clicking the notification icon in the top right.
- To save a report to a [dashboard](#) or your [report library](#):
 - Above the chart, click **Save report**.
 - In the dialog box, enter the **Report name**.
 - To add the report to a dashboard, click the **Add to dashboard** dropdown menu and select if you want to add it to an **existing dashboard** or [create a new custom dashboard](#).
 - If you select **Existing dashboard**, click the **Select existing dashboard** dropdown menu and select the dashboard to add the report to.
 - If you select **New custom dashboard**, enter the **Custom dashboard** name and click the **Visibility** dropdown menu to select if the dashboard should be shared, shared but read only to others, or private to your own user.
 - Click **Save & add**.



Types of traffic analytics data

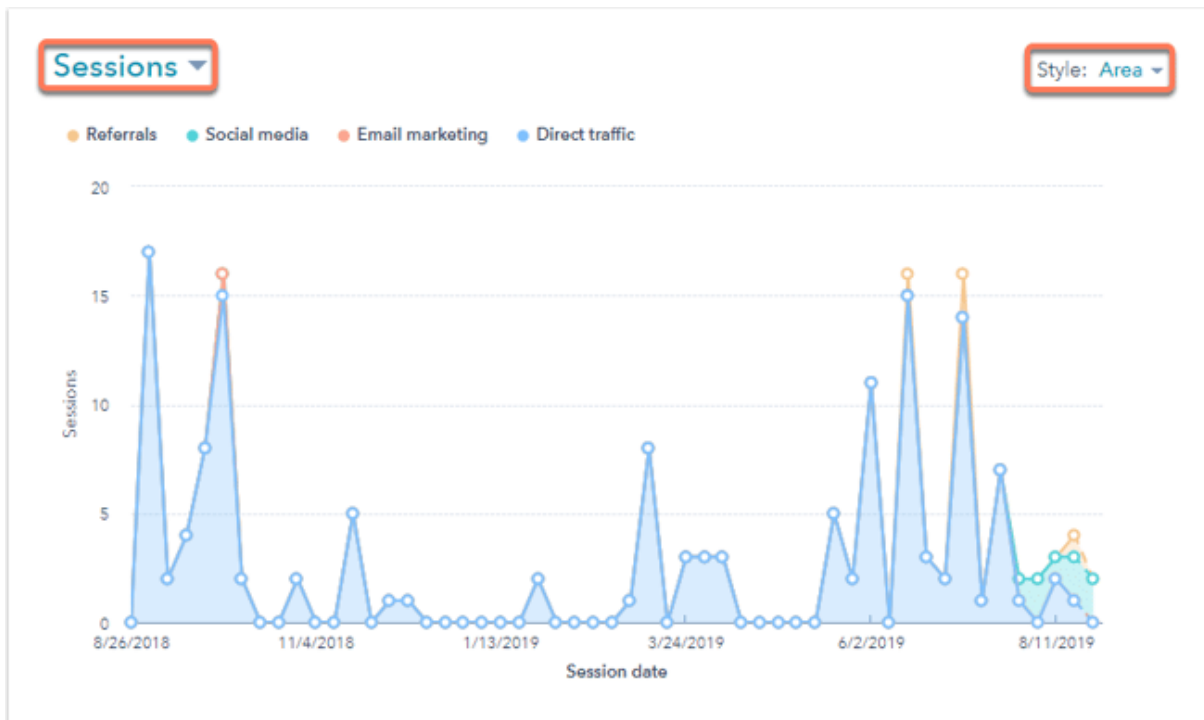
Below, learn about the types of data on each tab of the traffic analytics tool.

Sources

The *Sources* tab shows where on the internet your visitors are coming from. Learn more about [the sources defined by HubSpot](#).

By default, the chart will display total sessions by source as a line chart.

- To display a different metric, in the upper left of the chart, click the **dropdown menu** and select the **metric** you want to view in the chart. Learn more about [these metrics below](#).
- To change the chart visualization style, in the upper right of the chart, click the **Style** dropdown menu and select the **type** of chart you want to use. You can choose an area chart, column chart, line chart, or a combination of an area and line chart to visualize the data.



- To include contacts that were added through offline means, such as [through an import](#), select the **Include offline sources** checkbox.

Sources Topic clusters Pages UTM Parameters

Analytics view: **All analytics activities** ▾ ☐ Include offline sources

- To view a specific source's data in the chart, select the **checkbox** next to it in the table below. You can select **multiple sources** to compare their impact.

<input checked="" type="checkbox"/>	SOURCE	SESSIONS ▴▾
<input checked="" type="checkbox"/>	Paid search	101,517
<input checked="" type="checkbox"/>	Organic search	81,658
<input checked="" type="checkbox"/>	Referrals	55,078

Below the chart, the table displays the raw metrics based on each source. To drill down further into the source data, click the **Source** you want to analyze. Learn more about [drill down data](#).

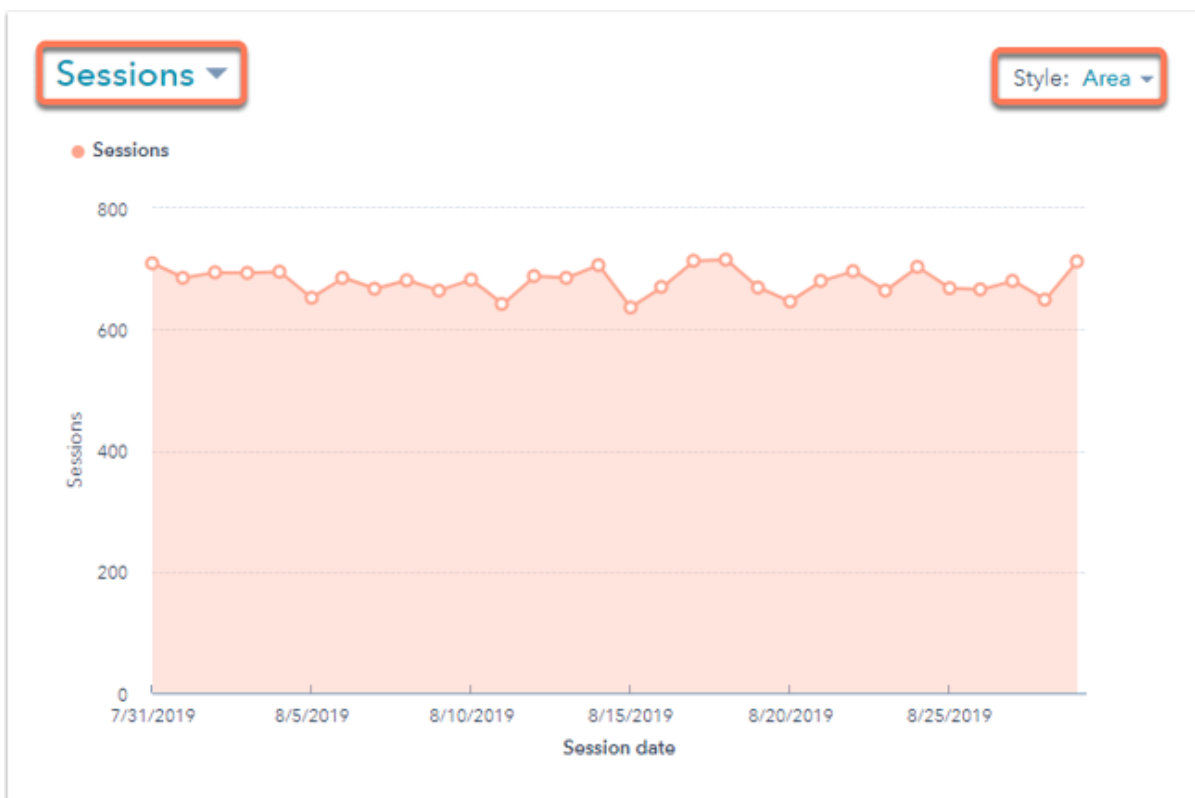
All sources > [Edit columns](#)

<input checked="" type="checkbox"/>	SOURCE	SESSIONS ▾	SESSION TO CONTACT RATE ▾	NEW CONTACTS ▾	CONTACT TO CUSTOMER RATE ▾	CUSTOMERS ▾	BOUNCE RATE ▾	SESSION LENGTH ▾
<input checked="" type="checkbox"/>	Paid search	101,517	0%	-	0%	-	71.83%	2 seconds
<input checked="" type="checkbox"/>	Organic search	81,658	0%	2	0%	-	70%	28 seconds
<input checked="" type="checkbox"/>	Referrals	55,078	0%	-	0%	-	71.89%	2 seconds

Topic clusters

The *Topic clusters* tab shows you the traffic data in terms of the topic clusters you've created.

- By default, the chart will display total topic cluster sessions as a line chart. To update the displayed metric and chart type, in the upper left of the chart, click the **dropdown menu** and select the **metric** you want to view in the chart. Learn more about [these metrics below](#).
- To view only a specific topic's data in the chart, select the **checkbox** next to it in the table below. You can select **multiple topics** to compare their impact.



- To drill down further into a topic's data, click the **topic name**, then click a **subtopic name** to view data for individual pages associated with that topic.

All topic clusters > [Edit columns](#)

	TOPIC CLUSTER	SESSIONS ▾	SESSION TO CONTACT RATE ▾	NEW CONTACTS ▾	CONTACT TO CUSTOMER RATE ▾	CUSTOMERS ▾	
<input type="checkbox"/>	big data	14,290	10.89%	1,556	0%	0	
<input type="checkbox"/>	Big Data	2,259	10.58%	239	0%	0	
<input type="checkbox"/>	Sewers	611	3.44%	21	0%	0	

Pages

The *Pages* tab shows your content's performance using [key traffic metrics](#). By default, you'll see data for all of your HubSpot pages. The *New contacts* metric in this report includes all contacts created from form submissions.

The *Pages* report can be further filtered by page type:

- To filter your data based on page type:
 - Click the **Page types** dropdown menu above the chart.
 - Select **Blog posts**, **Landing pages**, **Website pages**, or **Knowledge articles** to filter the data to that specific page type.
- To further filter your content, click filter **Filter [page type]** to filter pages by different metrics.
 - If you've selected *Blog posts*, you can filter the metrics by blog, blog author, language, and blog tag.
 - For any other page type, you can filter the metrics by domain and language. Only [primary domains](#) can be filtered. If you want to filter by another domain, you may want to [create a custom analytics view](#).
 - When you've [installed your HubSpot tracking code](#) on pages that are hosted on external domains, views to those pages will not be categorized in the page types available here unless you add additional code. Learn about [the additional code that you can add to your external pages for categorization](#).

By default, the chart will display total page views as a line chart. To update the displayed metric and chart style:

- In the upper left of the chart, click the **dropdown menu** and select the **metric** you want to view in the chart. By default, *Page views* will be selected. Learn more about [these metrics below](#).
- In the upper right of the chart, click the **Style** dropdown menu and select the **type** of chart you want to use for analysis. You can select an area chart, a column chart, a line chart, or a combination of an area and line chart to visualize the data.
- To include a specific page in the chart, select the **checkbox** next to a page in the table below the chart.

Below the chart, the table displays the raw metrics based on each source.

- Enter **search terms** in the search bar to search for a specific page. You can enter text in quotation marks (e.g. *"Homepage - Version 2"*) to search a specific term. This will only work with [HubSpot-hosted pages](#).
- Click a **column header** to sort the pages by that metric.
- In the table below, select the **checkbox** next to a page to include it in the chart. Select **multiple pages** to compare their impact.
- Click a **page** to view its details in a new tab.

<div> <div>Edit columns</div> <div>Search</div> </div>						
	PAGE	VIEWS ↕	ENTRANCES ↕	AVERAGE TIME ON PAGE ↕	BOUNCE RATE ↕	EXIT RATE ↕
<input type="checkbox"/>	Growth Report: T... www.biglytics.net/gr...	182,567	131,393	5 seconds	72.01%	73.13%
<input type="checkbox"/>	Case Study [Data... www.biglytics.net/w...	91,445	65,849	5 seconds	71.69%	73.58%
<input type="checkbox"/>	Common Miscon... www.biglytics.net/c...	91,175	65,932	7 seconds	72.05%	78.35%
<input type="checkbox"/>	10 Steps to Beco... www.biglytics.net/1...	15,269	10,951	6 seconds	71.59%	71.77%

Other pages on domain

If you're tracking an external site that generates over 20,000 new, unique URLs per month, review the limits below to understand how HubSpot will bucket your external page views.

For performance reasons, the *Pages* report will only display page views per URL for up to 20,000 external pages per month. Once 20,000 new, unique external page URLs have been added to the report in a given month, the report will then display page views per page URL for up to 100 new unique page URLs per day. Any page views beyond this limit will be bucketed under the domain rather than the page URL. In the report, you'll see these views categorized as *Other pages on domain*.

[screenshot]

- This limit only applies to URLs that the account has never previously tracked views for.
- Pages hosted on HubSpot do not count against this limit.

For example, your website might be structured to create a new page per user, such as www.example.com/user/michaelscott. If you're tracking all of these external pages in HubSpot, the *Pages* report will display those page views as follows:

- If in August you receive 15,000 sign ups, meaning that 15,000 new user pages are created at unique URLs, the *Pages* report will display page views for each unique URL.
- If in September you receive 25,000 new sign ups, meaning 25,000 new user pages are created at unique URLs, the *Pages* report will display page views per unique URL for the first 20,000 pages. Since you've hit the monthly limit, the *Pages* report will continue to display page views per unique URL only for the first 100 new pages per day. All views for new, unique page URLs after that will be bucketed under the domain rather than individual pages. For the rest of the month, views for new pages beyond the first 100 per day will appear under *Other pages on domain* www.example.com.

For websites that would exceed these limits, there are a couple options to avoid views being bucketed under *Other pages on domain*:

- [Set a canonical URL](#) in the affected pages' HTML headers, such as <https://example.com/user>. This will instruct HubSpot to track page views under one URL. [Learn more about canonical URLs](#).
- For single-page applications, [customize your HubSpot tracking code using the `setPath` function](#). Similar to the above, this will instruct HubSpot to track page views under the specified URL rather than each new, unique URL.

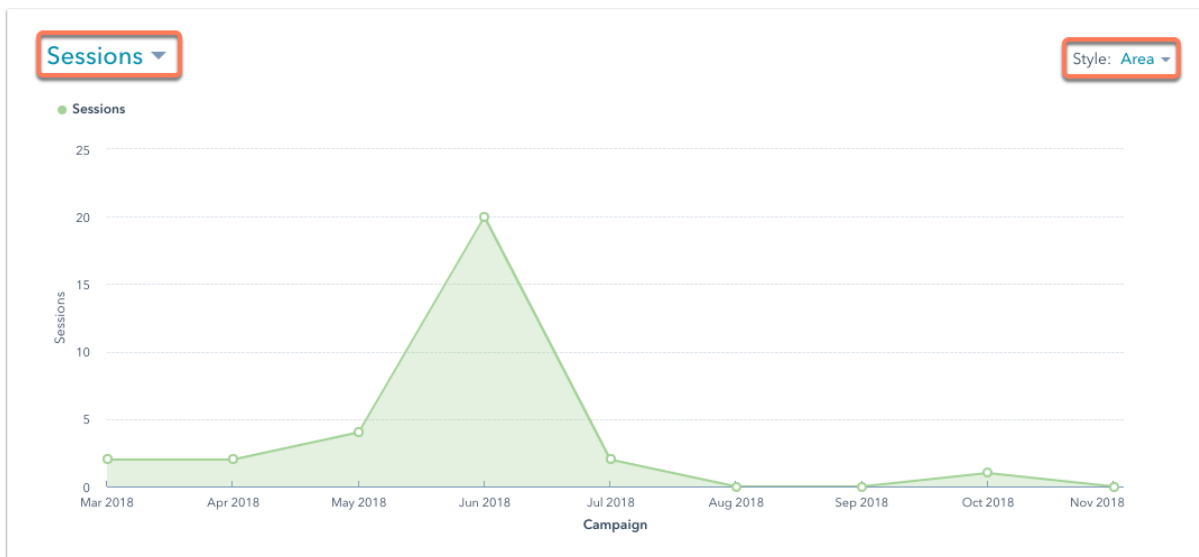
UTM parameters

The *UTM Parameters* tab allows you to analyze traffic data in terms of the UTM parameters in the URLs that your visitors are using to access your site. This includes analyzing any [manual tracking URLs you've created](#).

- To analyze a specific UTM parameter, click the **UTM Parameter** dropdown menu in the upper left and select the **type of parameter**. By default, *Campaign* will be selected.

By default, the chart will display total UTM parameter sessions as a line chart. To update the displayed metric and chart style:

- In the upper left of the chart, click the **dropdown menu** and select the **metric** you want to view in the chart. By default, *Page views* will be selected. Learn more about [these metrics below](#).
- In the upper right of the chart, click the **Style** dropdown menu and select the **type** of chart you want to use for analysis. You can select an area chart, a column chart, a line chart, or a combination of an area and line chart to visualize the data.
- In the table below, select the **checkbox** next to a page to include it in the chart.



Below the chart, the table displays the raw UTM parameter metrics.

- Enter **search terms** in the search bar to search for a specific UTM parameter.
- Click a **column header** to sort the UTM parameters by that metric.
- Click a **UTM parameter** to view the specific source where the visitor came from with the UTM parameter.

All UTM campaigns > [Edit columns](#)

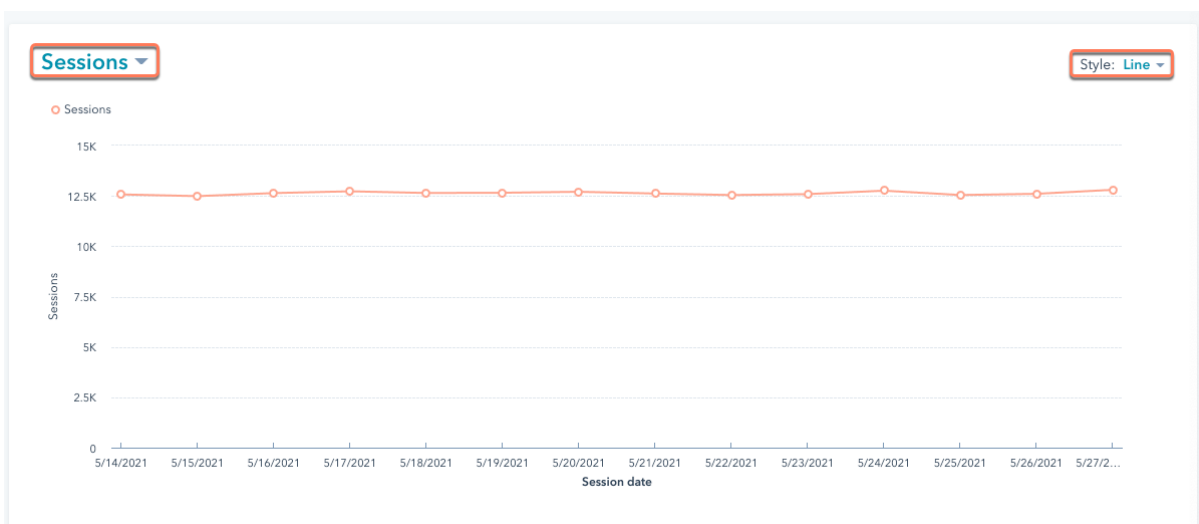
	CAMPAIGN	SESSIONS ▾	NEW CONTACTS ▴	CUSTOMERS ▴	BOUNCE RATE ▴	NEW SESSION % ▴
<input type="checkbox"/>	[*] eboo...	141,167	7,101	0	69.71%	9.87%
<input type="checkbox"/>	email	42,217	2,269	1	69.46%	9.93%
<input type="checkbox"/>	no camp...	17,071	886	0	69.04%	9.7%
<input type="checkbox"/>	hs_email	14	0	0	28.57%	28.57%
<input type="checkbox"/>	big data ...	2	0	0	100%	100%

Device types

The *Device types* tab enables you to analyze your site traffic by visits made on desktop, tablet, and mobile.

By default, the chart will display total sessions as a line chart.

- To display a different metric, in the upper left of the chart, click **Sessions** and select the **metric** you want to view in the chart. Learn more about [these metrics below](#).
- To change the chart visualization style, in the upper right of the chart, click the **Style** dropdown menu and select the **type** of chart you want to use. You can choose an area chart, column chart, line chart, or a combination of an area and line chart to visualize the data.
- To include specific device types in the chart, select the **checkbox** next to the device type in the table below the chart.



The table below the chart displays the raw data of your website traffic by device type.

- Click a **column header** to sort the pages by that metric.
- Select the **checkbox** next to a device type to include it in the chart.

- Click the name of a **device type** to view data by device operating system.

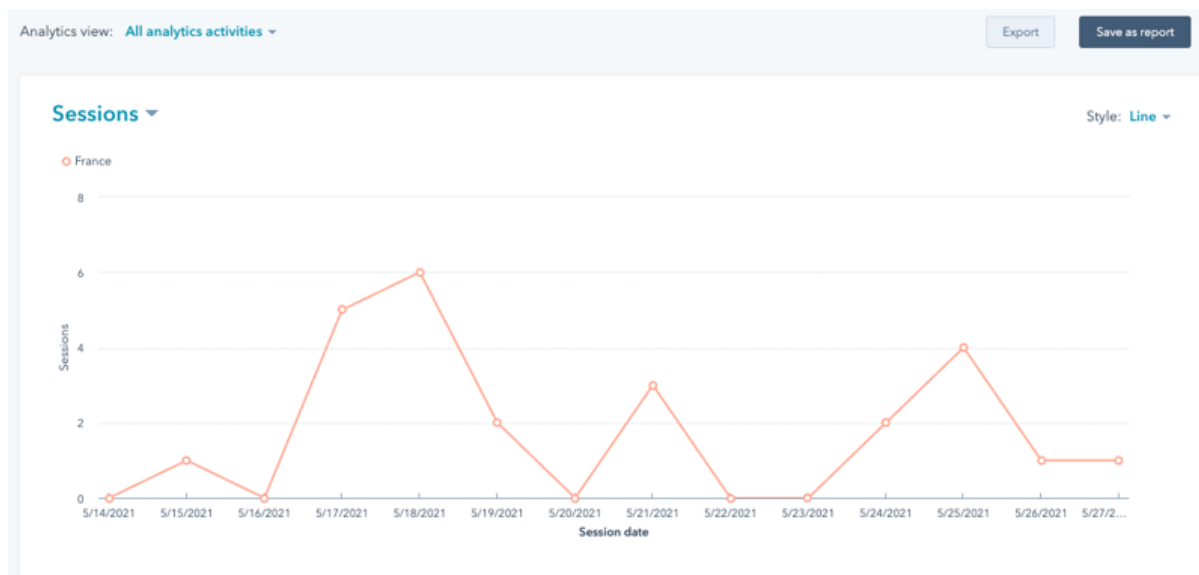
All devices >								Edit columns
<input type="checkbox"/>	DEVICE TYPE	SESSIONS	SESSION TO CONTACT RATE	NEW CONTACTS	CONTACT TO CUSTOMER RATE	CUSTOMERS	BOUNCE RATE	SESSION LENGTH
<input type="checkbox"/>	Desktop	159,198	0%	3	0%	-	71.37%	2 seconds
<input type="checkbox"/>	Tablet	8,875	0%	-	0%	-	71.32%	2 seconds
<input type="checkbox"/>	Mobile	8,810	0%	-	0%	-	71.86%	2 seconds
	Total	176,883	0%	3	0%	0	71.39%	2 seconds

Countries

On the *Countries* tab, analyze your site traffic by the countries of your visitors. HubSpot's country code data uses the [ISO 3166 standard](#).

By default, the chart will display total sessions by country as a line chart. To update the displayed metric and chart style:

- In the upper left of the chart, click the **dropdown menu** and select the **metric** you want to view in the chart. By default, *Page views* will be selected. Learn more about [these metrics below](#).
- In the upper right of the chart, click the **Style** dropdown menu and select the **type** of chart you want to use for analysis. You can select an area chart, a column chart, a line chart, or a combination of an area and line chart to visualize the data.
- To include specific countries in the chart, select the **checkbox** next to the country in the table below the chart.



CONCLUSION:

BY THIS WE CAN ABLE TO REDUCE THE INTERRUPTIONS , THAT ARE COMING IN WHILE WE ARE SEARCHING ANYTHING IN AN PARTICULAR DEVICE . WITHOUT ANY DELAY OR ERROR QUICK RESPONSE WILL BE OCCUR IN AN PARTICULAR TIME.