

# A Study on Google Analytics

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**Abstract**— Google Analytics is an enterprise-class based web analytics tool which provides a transparent view of website traffic and marketing effectiveness. Google Analytics has powerful and advance features that give rich insight into the websites and improve website ROI (Return on Investment). This research paper consists of case study on Google Analytics, which demonstrates features Google Analytics provides and reports it generates. On the basis of the evaluation of web usage, web site owners or E-business marketers can enhance the efficiency of marketing, and web traffics. This paper will also present the limitations of the Google Analytics and propose better approach to overcome the issues.

**Key words:** Google; Analytics; Word press; Visits; Reports

## I. INTRODUCTION

Google Analytics a tool that you can used to track information about the way visitors to your site interact with it. Data available through this service consists of site visits, page views, average time on site, pages per visit and percentage of new visits. In addition to the data mentioned above, Google Analytics can also track referral traffic including search engine, direct visits, website referrals and marketing campaigns (Pay Per Click, Banner advertising, referrals and marketing campaigns (Pay Per Click, Banner advertising, e-mail marketing etc.) Web analytic collects a large amount of data from users such as browser type, connection speed, screen size, visitors' type, etc. The collected data are usually large in quantity and type that need to be further processed to become useful information or knowledge.

## II. LITERATURE REVIEW

The internet has been playing the important role of corporate marketing during the past ten years With its combination of rich text, multimedia and user involvement, the internet contains more information than any other media , The internet

Offers speed, reach, and multimedia advantages, and has changed the way in which businesses interact with their customers, suppliers, competitors, and employees.

### A. Google Analytics Home

When you log into Google Analytics, you end up on the home page where you can see a list of all of the websites you have set up in your account. This list shows you some basic data right of sessions, average session duration, bounce rate and conversion rate.

If you have a lot of website like i do, you can see the search box under the date range to search for a particular domain. If you only want to view the domains that are most critical to your business, you can mark them with a star and change the show settings to list only the starred websites.

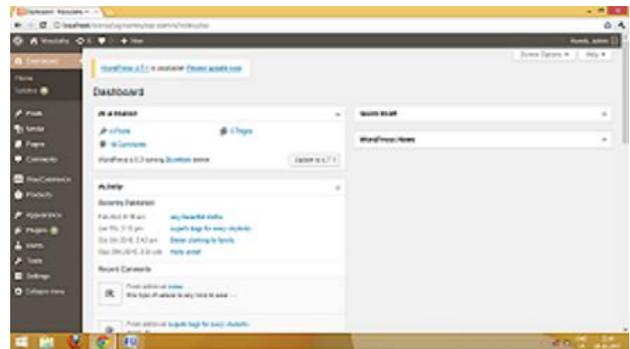


Fig. 1: The design of Google Analytics main module

You can use the date range to see your data over any specified time period. You can also use it to compare the current time period to a previous time period to see the change in sessions, average session duration, bounce rate and goal conversion rate.

Since the data for each website changes to reflect the compared timeframes, it's easy to see which of your websites are getting more or less traffic and conversions.

### B. Google Analytics Reporting

The Google Analytics Reporting page shoes your Audience Overview data. At the top of the screen, you'll see the basic Google Analytics menu bar that allows you to go back and forth between the home page, Reporting, customization (reports) and admin section. Further to the right, you can switch to another website within your Google Analytics account.

On the left sidebar, there is a search box to help you find specific report and a list of links to important areas of your Google Analytics.<sup>[1]</sup>

## III. DASHBOARD

Dashboards allow you to create customized views of your Google Analytics data using widget. Its great way to see specific subsets of data without having to navigate through your reports.

You can add the widgets to your dashboards using the +Add Widget button or by adding widget as you browse your standard reports using the +Add to Dashboard link. You can also download ready-to-go dashboards in the Google Analytics Solution gallery.

### A. Shortcuts:

Shortcuts are simply that-links to your favorite Google Analytics reports.

Whenever you're viewing a specific piece of data in Google Analytics that you want or need to revisit often, click on the Shortcut link above it. This places it in your Shortcuts menu for future reference.

### B. Intelligence Event:

Intelligence Events are alerts you can setup within Google Analytics that email you when a specific occurs.

You can set up alerts for events like a dramatic change in number of sessions, goal conversions or other metrics within a daily, weekly or monthly timeframe.

1) *Real Time:*

Want to know who's on your website right now? Real-Time data gives you access to that data instantly.



Fig. 2: Google Analytics Real Time customer traffic report

You can see current visitor's page views, active pages, locations and more.

C. *Audience Through Conversion Reports:*

The meat of your Google Analytics data is found in the Audience, Acquisition, Behavior and Conversions sections. These are the in-depth reports on your users, traffic sources, and content and goal completions.

Chances are, you've toured most of these reports in the past. I'll be writing about the data and benefits of each of these sections in upcoming posts here at Social Media Examiner.<sup>[4]</sup>

IV. GOOGLE ANALYTICS STANDARD REPORTING VIEWS

Each subsection of the main sidebar options offers a standard report. When you're viewing a standard report, you will likely see the following: the report name (e.g., Language), the date selector and a standard toolbar with option that allow you to customize the view, email the Report, export the report data to various spreadsheet formats or PDF, add the report to your dashboard or create a shortcut to the report.

When you see the graduate hat beneath the date selector in the toolbar, you can click on it to learn more about the data within that specific report (as shown in below).

Under the toolbar menu, there are two options. All Sessions shows you your data throughout Google Analytics as a whole, and +Add Segment allows you to see your data based on certain criteria, such as direct traffic, search traffic, mobile traffic and so forth.

On the +Add Segment page, you can use the +Create New Segment option to create your own criteria, such as traffic from the US or traffic that entered your website on a specific landing page.

You can see a great post on how to use segments to track social media traffic by Eugen Oprea and download ready-to-go segments in the Google Analytics Solutions Gallery.

Looking at All Sessions, you'll see the data specific to the report you're viewing. Most reports start with an Explorer timeline view.

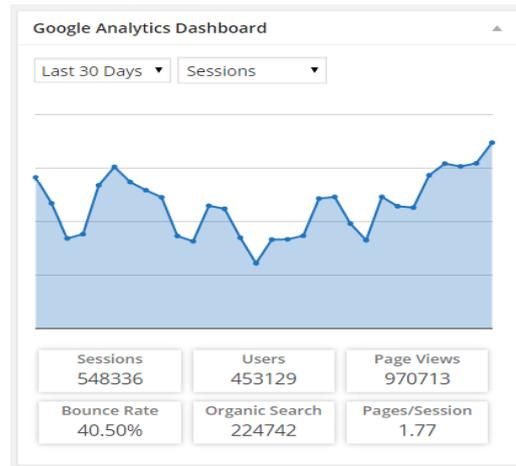


Fig. 3: Graph showing looking at all "session"

At the top of the Explorer view is the option to switch between Summary, Site Usage, Goal Sets, Ecommerce and AdSense.

The summary view is the default and shows the Acquisition, Behavior and Conversions data for the data being reported. In the example below, this would be the data for visitors who speak a particular language.

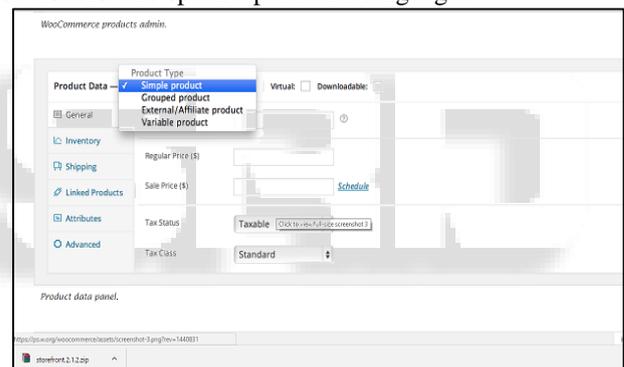


Fig. 4: Products "Admin Module" design

If you have several goal set up for your website, use the Conversions drop-down menu to change the data to different goal.

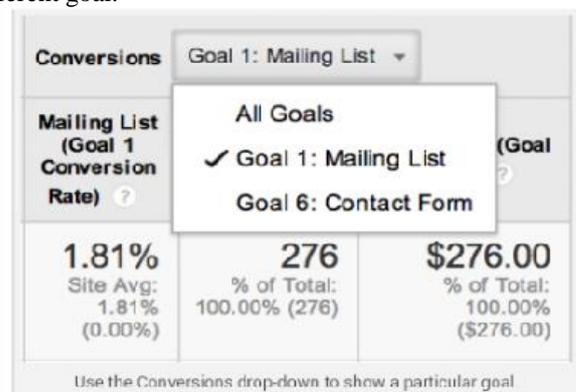


Fig. 5: Conversions "drop-down menu design"

The Site Usage view shows you just the number of sessions, pages/session, average session duration, percent of new sessions and bounce rate for the data reported. Basically, the Site Usage view is everything from the Acquisition and Behavior portions of the table except new users.

The Goal Sets view shows you the overall goal conversion rate for goals within a set (you can have four goals per set), per-session goal value and individual goal conversion rates for each goal in a set. (We'll talk about setting up goals toward the end of this post.)

The Ecommerce view shows you revenue, transactions, order value, ecommerce conversion rates and per-session value for the data reported. In order to receive this data, you need to have set your website up with ecommerce tracking, which you can learn about in the Google Analytics Help Centre.

The AdSense view is for publishers who have Google AdSense set up on their website. This shows you data for AdSense revenue, ads clicked, page impressions, CTR and eCPM for the data reported. To receive this data, you must have your AdSense account linked to your Analytics account.

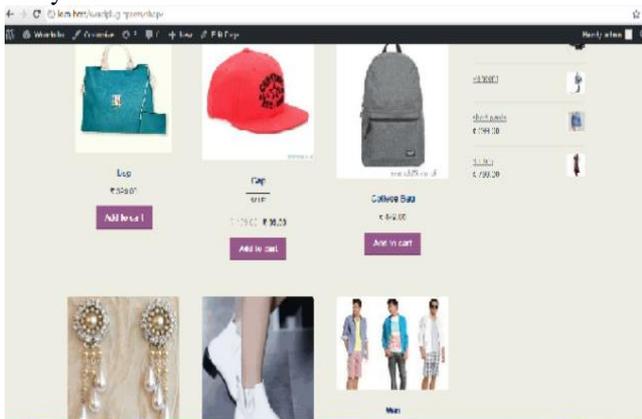


Fig. 6: Design of system module “WooCloths shop”

Beneath the Explorer view option is drop-down for Sessions. Use these drop-downs to see different data comparisons within your report, such as Session vs. Bounce Rate.

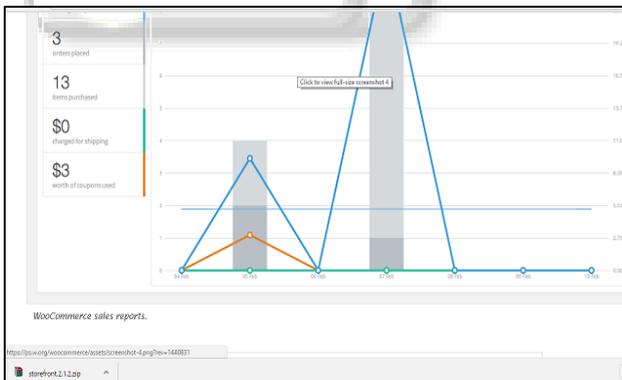


Fig. 7: Graph showing total “traffic” on site.

To the right of these drop-downs, you can change your data view to daily, weekly or monthly and change the timeline to a more detailed chart or graph view.

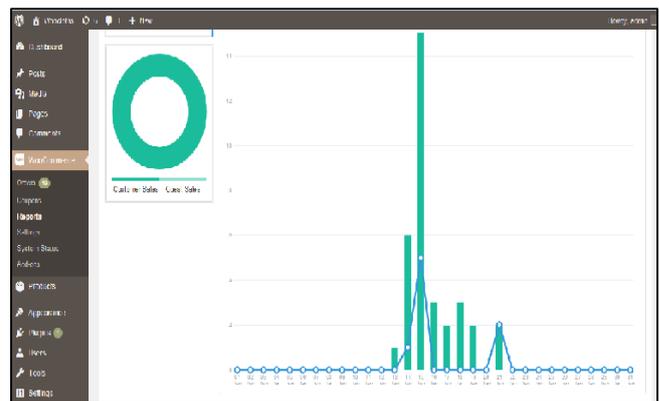


Fig. 8: graph showing no of “Visits Graph”

In the table below your Explorer, there are a few more viewing options. At the left, you'll see drop-down to add a secondary dimension.

For example, let's assume you're viewing the en-us Language report (Audience>Geo> Language>en-us) and want more detailed information about the top sources of traffic for English-United States users.

Click on Secondary Dimension; choose Acquisition from the menu and then Source. The table data now you the data you want.

#### A. Google Analytics Report

The Google Analytics reports you need, on your dashboard, in your All Posts and All Pages screens, and on site's frontend:

- Sessions, organic searches, page views, bounce rate analytics reports
- Locations, pages, referrers, keywords analytics reports
- Traffic channels, social networks, traffic mediums, search engines analytics reports
- Device categories, browsers, operating systems, screen resolutions, mobile brands analytics reports
- User access control over analytics reports

Name (Last, First)	Username	Email	Location	Orders	Money Spent	Last order	Actions
admin	admin@gmail.com	admin@gmail.com	Maharashtra, India	31	₹ 38,894.04	₹300 - February 8, 2017	
praveen	praveen@gmail.com	praveen@gmail.com	Maharashtra, India	1	₹ 209.00	₹300 - February 2, 2017	
Shikha	Shikha@gmail.com	shikha@gmail.com	Maharashtra, India	1	₹ 803.00	₹300 - January 17, 2017	
Tranga	tranga@gmail.com	tranga@gmail.com	Maharashtra, India	1	₹ 1,088.00	₹300 - January 21, 2017	
shikha	shikha@gmail.com	shikha@gmail.com	Maharashtra, India	1	₹ 2,205.00	₹300 - January 16, 2017	
neha	neha@gmail.com	neha@gmail.com	Maharashtra, India	2	₹ 1,608.00	₹300 - January 15, 2017	
shikha	shikha@gmail.com	shikha@gmail.com	Maharashtra, India	2	₹ 12,849.99	₹300 - February 1, 2017	
neha	neha@gmail.com	neha@gmail.com	Maharashtra, India	1	₹ 708.00	₹300 - January 19, 2017	
neha	neha@gmail.com	neha@gmail.com	Maharashtra, India	2	₹ 708.00	₹300 - February 2, 2017	

Fig. 9: Use of a secondary dimension to find “specific information”

At the top right of the table, you can change the view to different charts and graphs. For example, you can change to the pie chart view and see that most users come to the site via direct means (no referring website, search engine or social network) and speak English-United States.

At the bottom right of the table is a drop-down to show more rows. This allows you to see more than the default top ten reported data types within your table.

Last but not least, within the table view, be sure to click on links within your table. These allow you to drill down to particular subsets of data.

For example, if you are in the Location Report (under Audience in the left sidebar), the table shows which countries the majority of your sessions are happening in. If you click on United States, you'll see the States breakdown of your traffic. If you click on the state, you'll get the top cities.

The same happens if you click on the links within the table under the All Referrals report. Instead of just seeing the domain that is sending you traffic.

This is great if you contribute to other blogs, for example, as it show you which of your posts are sending the most traffic your way.

### B. Google Analytics Customization

The next text item in the top menu bar is Customization. The benefit of using a Custom Google Analytics report is that you can see an exact portion of your Google Analytics data and have it emailed regularly to contacts you choose.

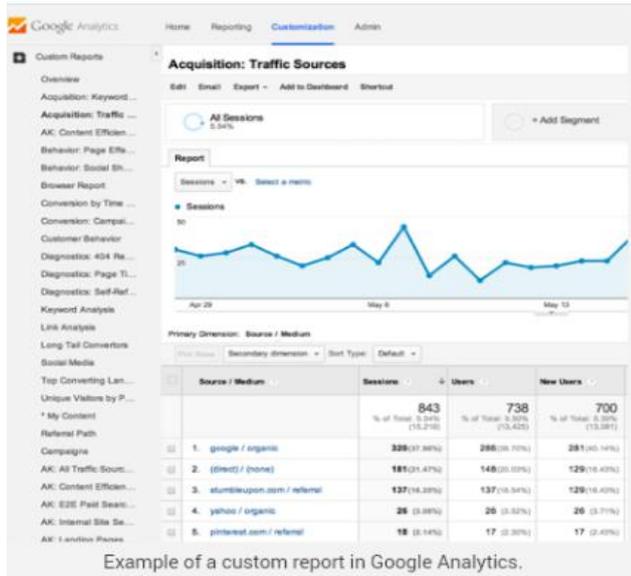


Fig. 10: Example of a “custom report” of the system

You can create new reports on your own, organize them by category and import from the Google Analytics Solutions Gallery.

### C. Google Analytics Admin

The last main menu item in the top menu bar is the Admin menu. This is where you manage all of the settings for your website within Google Analytics. You can find a full breakdown of everything you can manage-form accounts to data filters-in the Google Analytics Help Centre.

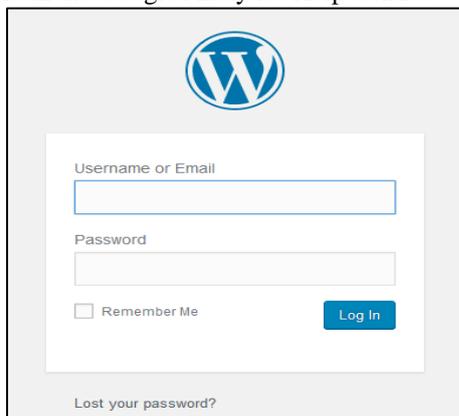


Fig. 11: “Login Page” module design

### D. Two Features You Need To Start Using Now:

Before we conclude your tour of what’s what in Google Analytics, there are two things you should start using right now (if you aren’t already) Google Analytics: Goals and Custom Campaigns.

### E. Google Analytics Goals:

Goals are an essential way to identify how effectively your website is fulfilling the target objectives of your business. With Google Analytics, you can easily set up individual “Goals” so that you can measure discrete actions. For instance, transactions consisting of the minimum purchase amount, the amount of time your website visitor spent on your specific webpage, etc. All these are considered as Goals. Likewise, each time any website visitor completes a particular Goal, a “Conversion” will be logged in your account of Google Analytics.

### F. Google Analytics Custom Campaigns:

Custom Campaigns track visitors from specific traffic sources. Campaigns are set up using UTM parameters appended to the end of a URL a visitor would click on.

Google Analytics requires three parameters to track campaigns: the campaign medium (utm\_medium), the campaign/traffic source (utm\_source) and campaign name (utm\_campaign).

For example, you can create a campaign to track traffic from a link shared through the Buffer app on Twitter.com, which is social media. In this case, social is your medium: twitter.com is your source: and buffer is your campaign name.

[http://iqtell.com/2014/02/are -we-managing-our-to-do-lists-all-wrong/?](http://iqtell.com/2014/02/are-we-managing-our-to-do-lists-all-wrong/)

That link tells Google Analytics that someone completed your campaign parameters. You can see the results in the first entry in the campaigns report below.

### G. Google Analytics Basic Tracking

Installs the latest Google Analytics tracking code and allows full code customization:

- Switch between Universal Google Analytics and Classic Google Analytics code
- IP address anonymization
- Enhanced link attribution
- Remarketing, demographics and interests tracking
- Google Ad Sense linking
- Page Speed sampling rate control
- Cross domain tracking
- Exclude user roles from tracking<sup>[2]</sup>

## V. ALGORITHMS

### A. Goal:

With millions of websites on the Internet, all tracking how visitors are landing to your website and what on your website is performing and what’s not is important information for being competitive and successful online. It doesn’t matter whether you’ve built a personal site, a website for your small business or look after an online presence strategy for large corporations, statistics is key to improving your online marketing investment.

### B. Google Analytics with Word Press Platform:

Google Analytics is the go to program for web statistics that can help a webmaster determine the reach and the targeting of a website. Analytics can help a webmaster to decide if a certain online marketing campaign is working or not as well as what can be done to fix it. It is also a great starting point for staying in compliance with the many other Google algorithms that regulate visibility on the Internet, namely Google Panda and Google Penguin.

### C. With Google Analytics Integration with Word Press

Including the following:

- How you're demographic is accessing your website
- When your target market visit your website most frequently
- Who exactly is visiting your site and if they are in your demographic or not
- How visitors are actually interacting with the content on your site in real time

## VI. DATA FLOW DIAGRAM

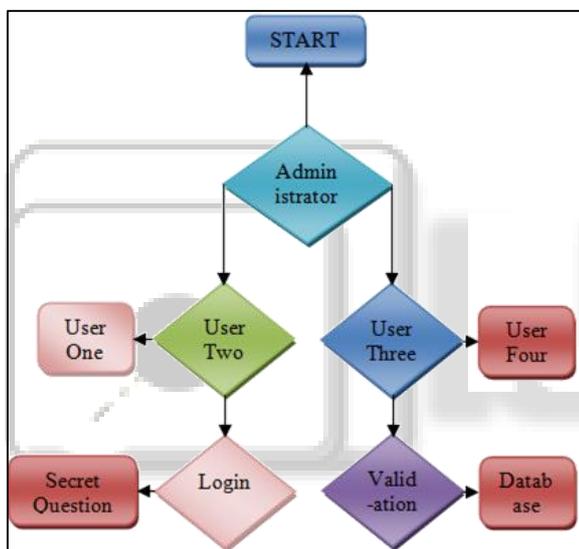


Fig. 12: Implementation of "Data Flow Diagram"

### A. DFD:

The Users Flow report is a graphical representation of the paths users took through your site, from the source, through the various pages, and where along their paths they exited this site. The Users Flow report lets you compare volumes of traffic from different sources, examine traffic patterns through your site, and troubleshoot the efficacy of our site.

The Users Flow visualization lets you see:

The relative volume of traffic to our site by the dimension you choose (e.g., traffic sources, campaign, browser).

The relative volume of page views per page or collection of pages.

Access the Users Flow report now and explore our site. For information about how to configure the report and use the different visualization options, Using Flow reports.

Where do visitors go after using our site search? How quickly does site search lead visitors to conversion pages? Do specific search terms lead to unexpected pages, for better or worse?

The answers are in our Google Analytics data, but not in the regular Site Search reports. Allow me to introduce Site Search Flow in Google Analytics: a way to use Visitors Flow for site search insight.

### B. Operations:

Step 1: Create an account on Google Analytics:

Go ahead and sign up for a new account on Google Analytics if you don't have one already.

Step 2: View Architecture and Properties:

In my opinion, the same Property ID should be used for all the domains and sub domains in case the business mission and objectives are connected and common. In such a situation, you may want to analyze all the data on the different domains and sub domains on one platform i.e. the same Google Analytics property. You may, however, create different views for sub domain and domain like this:

#### 1) Google Analytics Menu:

However, it will be best to create a different Google Analytics property for all the sub domains and domains given that business goals are different for each of them:

#### 2) Google Analytics:

Step 3: Insert Google Tag Manager or Google Analytics Tracking Code:

Analyzing traffic data from the given site at Google Analytics requires you to do one of the following:

Insert Google Analytics Tracking Code (GATC). GATC can be found in Google Analytics at Property level setting.

#### 3) Google Analytics Tracking Code GTM:

Step 4: Use GTM or GATC to set up Ecommerce Tracking: It is essential for every ecommerce site aiming to succeed to have ecommerce tracking. Ecommerce tracking allows the details of a commercial transaction to be sent to Google Analytics. A few examples of the details include traffic sources, names of regions and countries, and keywords.

The first step you will have to take is enabling your Google Analytics account to collect ecommerce data.

#### 4) Google Analytics Tracking Code GTM:

Make sure that the GTM snippet is inserted on the website. Then, create a tag that you can fire to enable the transfer of data from the pages to Google Analytics. It will look like this:

The first step you will have to take is enabling your Google Analytics account to collect ecommerce data.

#### 5) Google Analytics Enable Ecommerce:

Try-Shopify the second step is to choose one of the two to place ecommerce tracking – Google Tag Manager or Google Analytics Tracking Code.

If you chose the Google Tag Manager in order to transfer ecommerce details to Google Analytics, the transaction details present on your confirmation page/ thank you page will have to be pushed into the data Layer on GTM.<sup>[3]</sup>

## VII. WEB ANALYTICS TOOLS COMPARISON GOOGLE ANALYTICS VS IBM DIGITAL ANALYTICS

The information was based our experience last year with web analytics tools.

### A. Google Analytics:

#### 1) Advantages:

Feature-rich (supports for experiments, purchasing, campaigns, multi-product) Well understood, documented, vast community (you can Google for it and find info ranging from instrumentation to test automation) Extensive tooling (for debugging/development) Easy to toggle domain for automated testing (to prevent data from being sent to Google during unit tests) Easier to identify more granular traffic sources based on url value filtering. For example, it is easier to determine which website(s) within a domain is driving more traffic.

Recently launched the mobile device support. Good user flow report interface and faster performance, with various segments.

#### 2) Disadvantages:

Unsupported (or very expensive if you pay for support) less user level tracking, opaque accounts handling practices (horror stories of having accounts banned with little or no explanation) GA has been known to intermittently show incorrect numbers and then fix itself a day later.

When using a permanent filter, GA filtered out all of the traffic. GA forum showed other users had same issue but didn't find any solutions to it. Limited APIs to get more granular level of data in order to automate the reporting process. Ex. Unable to automate the reporting process for traffic generated from Cloud Marketplaces (ibm.com website) unable to track traffic from intranet.

### B. Core Metrics:

#### 1) Advantages:

Integrated with IBM Unica Marketing Automation Tool, The ability to segment employees in tracking data. (Cookie-based solution currently being tested), Multi-domain support can use tag manager to manage tags more modules such as benchmark, social, DDX/tag manager data separation for production and testing environment.

Dashboard tool is nicer. In our case, we can create different persona/roles dashboard based on the focus difference such as Exe dash, Marketing dash, sale dash, dev dash, etc.

Can track videos operation such as play, pause duration, etc. (when the video is on the same website) provides opt out privacy option for customers. Able to track traffic from intranet and virtual environments. More user level tracking.

#### 2) Disadvantages:

Not as many users at least 1 script will have to be loaded in <head>, can't load entirely at the end of <body> (best practice). This may slow down page loading time a little bit. Cannot a sync or defer loading of scripts (because they write to document) when a child account such as benchmark and DDX don't support multi-domains.

Customized reports are limited based on how much you pay doesn't support mobile devices click stream/User Flow is slower and you have to configure it first.

If you are using parent-child account, the child account tracking might be impacted by the global parent account's function implementation.

### C. Disadvantages for Both Tools:

No end to tracking. Ex marketing programs activities, users 'touch points tracking to the sales leads. No advanced analytics. Ex latency or time duration between users download an asset and request trials, cost to obtain a customer, etc. IBMer traffic separation. No integration with marketing automation system. Ex. When user downloaded a whitepaper but didn't watch any demo for a few days, we should do a follow up; when users requested trials, but never logged in the trial, we should do a follow up. No jump starts toolkit specific user behavior (customer) analysis such as record & reply which Tealeaf provides. Ex if you want to see why customers drop off at the trial registration because the registration form is asking for too much info or never bothered to request the trials.

## VIII. CONCLUSION

Google Analytics for Word Press plug in enables you to track your site using the latest Google Analytics tracking code and allows you to view key Google Analytics reports in your Word Press install.

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