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Website Statistics 2.0: Using Google Analytics to Measure Library Website Effectiveness

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Measuring effectiveness in library websites has historically focused on tracking crude effectiveness measures, usually in terms of hits or visits. Libraries are served poorly through this approach, as websites represent a unique and increasingly important aspect of the organization and should require more specific and custom measures of effectiveness. Libraries should instead concentrate on setting specific goals for the website, and then create measurable definitions of these goals by defining supporting website user actions and combine these custom (micro) measures with common e-commerce (macro) website metrics for a more nuanced and effective approach to measuring website effectiveness. Tools for creating and tracking these kinds of metrics have historically been out of reach for organizations like libraries due to high pricing levels. The 2005 release of Google's free analytics tool has created an accessible arena where libraries can effectively create and measure micro Key Performance Indicators and macro Key Performance Indicators, track their goal conversions, and monetize their sites

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to gain a professionally-generated, commercial analytics view of the effectiveness of the website.

KEYWORDS google analytics, website metrics, library key performance indicators, library website user behavior, library website traffic analysis

Why should libraries measure effectiveness? The website is extremely important to the success of a library, both in terms of providing access to resources available primarily through the library website and providing users with a satisfactory and efficient service while using those resources. Measuring that service is key when determining relative success or failure. Marshall Breeding of the Vanderbilt University Libraries writes "When it comes to the marketplace, it's said that people vote with their pocketbooks. On the Web, each keystroke and mouse click—or its absence—registers as a vote."[1] Further, Breeding indicates the importance of a library website by discussing the trend toward access to resources through the library website, writing "libraries have a lot at stake regarding the effectiveness of their Web-based resources. For many, the balance between their physical facilities and virtual presence leans more toward more access through the web."[2] Other librarian authors also emphasize the importance of the library website. Rutgers digital services librarian Wei Fang writes that "As more and more digital content goes online, libraries today are fundamentally different than they were as recently as five years ago. Websites have become an essential component of library service, and designing these websites involves both technical and administrative decision-making."[3]

Library budgets are also indicating a trend, revealing an additional funding push towards more electronically accessible information sources such as e-journals and e-books. A 2006 cross-type survey of more than 400 libraries by the Publisher's Communication Group found that expenditures for electronic information sources accounted for 38% of a typical library budget (on average, and across five library "types"), and represented an 8% increase from the previous year.[4] As the library website becomes one of the primary access points for e-content, it becomes more and more important for libraries to work hard to maintain a website that provides effective access points and information about these electronic information resources.

INTRODUCING THE KEY PERFORMANCE INDICATORS (KPI) TO LIBRARY WEBSITES

It seems necessary to attempt to determine return on investment or effectiveness of website efforts by tracking important measures, or metrics. In his

analytics blog *Web Analytics World*, Manoj Jasra writes "Without analytics, it is very difficult to measure how effectively your website is at improving your business's bottom line . . . there is no need for business owners to make decisions blindly when they have the ability to make educated decisions using analytics."[5] In the e-commerce web analytics world, important measures of website performance are known as Key Performance Indicators (KPI)—a term borrowed from measures of business performance. Google's Conversion University defines KPIs as "An essential or primary measure of performance. In Web sites, this generally indicates metrics of visits, bounce rate (macro), conversion rate (macro), average pages per visit, average time on site, percentage of new visits, and other reports." KPIs are considered a difference-maker in gauging the effectiveness of your website. Search-engine marketing strategist Jody Nimitz defines them as "Basically . . . a quantifiable measurement that can be tracked and evaluated, and that is harmonious with what you want to achieve. KPIs will change depending on the industry that you are in and depending on the type of site that you have; they cannot be universally applied."[6]

Nimitz also emphasizes the absolute importance of KPIs, stating that these measures are also "what separate the 'winners' from the 'try-agains'; and knowing not only what to measure, but also how to measure it and what it all means, is what separates and defines levels of success."[7] Other analytics gurus look at KPIs as a way to distill meaningful numbers to indicate action. On his blog, analytics writer Brian Clifton states that "Key Performance Indicators (KPIs) are used throughout organisations for defining success. They are particularly essential in Web analytics due to the plethora of data collected. In fact, without KPIs it is easy to become overwhelmed. So, once you have set your overall website objectives, use KPIs as the metrics to benchmark your progress."[8]

While KPIs can be macro (site-wide), generic, and applicable across many different kinds of websites, it is even more important to closely tie KPIs to organizational goals that are supported by the website, goals that are specific to the website. By tracking and observing these key, site-specific metrics over time, an organization will gain the ability to determine relative success or failure of effort of the website and, consequently, the website's effectiveness.

Libraries often track only a few crude measures, however, often gathering limited access data using such tools as hit-counters. Libraries depending solely on this data for gauging website performance fail to realize that this approach is likely providing insufficient information. Fang echos this feeling about visits and visitor counts, writing that ". . . this simple method is far from being good enough for those seeking deeper information about their websites as well as their visitors."[9] For example, the annual Association of College and Research Libraries (ACRL) survey only requires the reporting of virtual visits to the website and virtual visits to the library catalog as reported on

items 16a and 16b in the ACRL statistical summaries' Network Resources and Trends report.[10] While broad measures of usage can be useful, these numbers hardly provide much insight or ability to quantify your website goals.

In addition to the absence of goal-based KPIs, it would also seem that the typical library's statistics are also missing many important macro-level metrics as well: top entry pages, top viewed pages, referring URLs, unique visitors, and the site overlay (click density), reports are all very important measures of effectiveness.[11,12] Additionally, counting hits or visits wouldn't provide the library website manager with any specific idea of how resources are being used. For instance, managers would not be able to determine if their search engine is functioning well, and they wouldn't know at what rate and how successfully they were delivering important sections of their sites to their users, or even if their users were getting to these sections.

Clearly, the business of counting hits and visits is not as effective as measuring micro (goal-based, website specific metrics) KPIs or additional macro KPIs. The first question then becomes, "How do I create micro KPIs for my website, how do they relate to my user activities, and how do I measure them?"

CREATING (MICRO) KPIs BY FOLLOWING AND DEFINING GOALS

First, to know if an activity or process is effective you must know the intent of that activity or what that activity is supposed to be doing or accomplishing. Second, you must be able to measure the activity or process and determine if the activity or process has actually accomplished anything, and how much. Or, as some analytics experts feel, you need to think in terms of behaviors and outcomes.[13] On e-commerce websites this is often easy enough—many e-commerce KPIs are 'built-in' and would typically measure product sales—that is, they are transaction-based measures. A typical e-commerce website could measure transaction-based KPIs as average purchase amount per visitor or the number of first-time visitors who convert to a purchase. Non-e-commerce sites or "informational" sites such as libraries can find it difficult to emulate transaction-based measures yet our users engage in a number of activities that we may not typically think of as transactions, such as RSS feed subscriptions or the number of accesses to virtual reference or e-mail reference questions by unique users. E-commerce transactions like these can often be defined with a "value" assigned based on its importance to the organization. Informational websites can also measure micro KPIs associated with other less "transaction"-oriented goals such as newsletter signups or new website registrations created; the actual inventory of actions to be measured, however, will vary depending upon the needs of the individual library and its goals.

The process of creating robust micro KPIs should be a straightforward process comprised of three basic steps.

Review the library's written goals.
Create a goals document for the library website that supports and reflects library goals.
Create a list that defines website user actions, activities and behaviors that support or reflect the library goals.

STARTING WITH YOUR LIBRARY GOALS

Creating an inventory of items to be measured can be an intimidating and time-consuming process. Often this is accomplished during some sort of library strategic planning session, where the website goal-writer can work with the library goal-writers to integrate various planning documents. One helpful method is to follow a two-step process by first defining desired analytics outcomes or goals through and then closely following the library goals or mission documents.

For instance, a library goal such as "provide access to research materials and resources" could be defined for the website as "increase traffic to the databases and other e-resource pages by 5% over the next fiscal year," which could then be measured by tracking the number of accesses to those pages. A website goal could be more general, such as "enhance research activities at the university," which could then translate to measuring user activity on e-journals pages, click-throughs to databases, or the use of research bibliographies. Anything the website presented that could enhance research would be fair to track, although, for the purpose of simplicity, managers should always choose the most significant representative action. A library goal that is to "promote the services and collections of the library" could be measured by creating a website goal to have 10% of new users clicking on library news items, banners, and other advertisements about services. The website manager would then, of course, measure the amount of user traffic, as a percentage, that actually recorded as an on-click action for library news or advertisement items about library services.

CREATE YOUR LIBRARY WEBSITE GOALS DOCUMENT

The next step is defining specific website goals in order to begin measuring effectiveness using custom KPIs and Google Analytics. At the University of Southern Mississippi, our stated website goals are as follows.

Primary Goal of the Library Website

Facilitate the use of e-resources to the library's constituency (faculty, staff, students, distance education, community, outside researchers, and so on) and provide access to research materials and resources.

Secondary Goals

Provide accurate information about library facilities, activities, services, and staff.
Educate users in library topics and subjects, including library instruction for resource usage, subject research, style, and citation guides, etc.
Support other university needs, goals, and where applicable, activities.

DEFINE SUPPORTING WEBSITE ACTIONS AND BEHAVIORS

Once goals are defined, progress toward measuring them can be made by defining actions and behaviors. Jody Nimitz outlines three rules of developing these sorts of micro KPIs: first, they must reflect your business or organization's goals; second, they must be measurable; and, finally, they must be a key factor for the success of your company or organization.[14] The following actions represent The University of Southern Mississippi Library's goals:

Submissions to our Ask-A-Librarian reference-email application as well as other form submissions such as instruction requests and library reserve submissions
Access to certain key pages such as the databases access landing page, and the e-resources landing page
Access to our subject-resources Web application
Clicks on our home-page banner advertisement
Access to the news section
RSS feed subscriptions
Video podcast views
Uses of our front-page search widget (presents five key resources for searching directly from the front page of the library website) as a percentage of the total of home-page accesses, and as a "page" ranking. Additionally, accesses to individual tabs are also tracked individually, and tabs are ranked against each other by accesses.

All KPIs (micro and macro) can be simple (as in measuring access to a certain page), or they can be complex and "expressed as a ratio or percentage

(Google Analytics Glossary)." They may be derived from combining several Google Analytics reports such as the percentage of new first-time visitors who convert to a desired action. However, micro KPIs also should function as a way to isolate important data, like finding a virtual needle in a haystack. Some experts feel that this is the sole mission of a mico KPI; analytics blogger Clifton states that KPI's are "By definition . . . a small subset of key information points taken from your Web analytics report."[15]

USING GOOGLE ANALYTICS

So how does the library website manager track these KPIs? Simple—use Google Analytics. Google Analytics is a web-based website metrics and analysis application that gathers user behavior, demographics, and technical information. Unlike other web metrics tools that use server log files, Google gathers information by inserting a small amount of javascript code into pages to be tracked and by attaching certain javascript actions onto links. These bits of code then "call back" to the Google Analytics servers every time a page loads or a link is clicked, recording relevant user information. The advantage of this method over logfile analysis is that Google can capture user technical and demographic info that normally is not found in log files (browser, operating system (OS), screen size, resolution, navigation paths, and so on). However, if the Google request is denied for some reason, say, because of Internet connection issues or Google server problems, then the page may "hang" when loading. This is unlikely, however, as Google recommends inserting the code immediately prior to the closing <body> tag. By indicating this location, the majority of the content would load first, lessening concern over possible connection issues.

Google Analytics stores the information it receives in its server and allows account holders to access this information using Google's proprietary analytics software and interface which are derived from the well-known Urchin analytics software suite. The information is presented in a series of reports and pre-calculated metrics and organized within four specific areas: Dashboard, Visitors, Traffic Sources, and Content.

More than 80 reports are available through Google Analytics, many of which are commonly used in e-commerce websites when gauging performance. For those sites that do not activate e-commerce tracking, there are about 60 reports available.

CONFIGURING GOOGLE ANALYTICS

Google Analytics can be found online at http://www.google.com/analytics/. Account activation is free and easily available to users who have a Gmail

account or a Google Docs account. After creating the account, you will need to establish the basics of your Analytics website, a fairly straightforward process. Users are presented with a screen where they can create an initial "profile" and edit the basics needed for activation: the URL of your website, and the filename of the home page (e.g., index.html). Users then may add the Analytics Javascript code to all pages where they want user behavior measured and recorded.

Google will start receiving data from the website within 24 hours and notify the user if there is a problem. If the code is pasted but no data arrives, or if it is wrong or incorrect in some way, Google Analytic's help documentation will likely guide you to a way to solve the problem. Google maintains a large array of help documentation and F.A.Q.s from the Google Analytics Help website to troubleshoot issues.

CREATING CONVERSION GOALS TO MEASURE MICRO KPIs

A conversion occurs when a visitor reaches a goal—a page or some sort of ending action that is specified in the goal settings section of each profile. Defining goals as custom KPIs requires the creation of a conversion goal from within the goals-setting section in a Google Analytics account. At this point, user behaviors on the library website that reflect your website goals should have already been identified. What remains is to simply identify the actual pages associated with these desired behaviors. For example, if one of your website goals was to drive traffic to your various databases, then you could define, in Google Analytics, a single access to this page as a successful conversion goal. Or, if a website goal is to increase reference usage, a conversion goal could be defined as the thank-you page for a reference-question form submission or an on-click event to the button that initiates a virtual reference chat.

Google Analytics also lets the user define a conversion funnel for each goal. A conversion funnel is a series of pages through which the user must navigate in order to reach a goal so that the website manager can track the user's behavior while navigating this path. In an e-commerce site, this may be defined by first viewing the product in the online catalog, clicking the "add to cart" button, and then progressing through the purchase process to order the product. A website manager can view the user's progress and see where users tend to abandon the purchase path, perhaps identifying a problem area where clusters of abandonments occur.

The library website manager can do the same, defining a specific progress path for a library user such as the typical or desired navigational route to a bibliographic instruction sign-up form. In Google Analytics, the library website manager could then see where users abandon this navigational path

prior to reaching the conversion goal. Perhaps a navigational element on a preceding page is not clear, or there are load-time issues with the second path in the page, and so on. The manager can now identify which area or areas have the highest rate of abandonment and can focus on those navigational or page elements along the conversion path to see if the premature departures can be diminished or halted.

GOAL CONVERSION REPORTS AND INTERPRETATION

The most important report associated with conversions is, of course, the Goal Conversion Rate report, which shows the percentage of sessions on a site that result in a conversion goal being reached on that site.[16] Conversion rates show how well a website gets users to perform desired actions; the typical rate of conversion in the commercial realm is around 2%. If a website's conversion rate is dramatically higher, the analytics manager has probably incorrectly defined a conversion goal. Generally, the website manager would watch for trends, observe the amount of "funds" being generated, and attempt to make a determination of which goals were being met and whether the different conversions were resulting in a satisfactory Return On Investment (ROI).

RETURN ON INVESTMENT AND MONETIZING YOUR LIBRARY WEBSITE CONVERSIONS

Google's Conversion University emphasizes the importance of configuring non e-commerce sites to emulate e-commerce sites, citing improvements to statistical data and analysis of goals and goal conversions. Within Google Analytics, users are allowed to assign a monetary value to a conversion goal, which allows website managers to "monetize" goals. Google details the specifics of setting up each page (with tracking code) in the Google Analytics Help Center article "How do I track e-commerce transactions?"[17] and the Google Conversion University article "Monetizing non-ecommerce sites."[18] Google says that by configuring your site as an e-commerce site, website managers should be able to see the:

Total amount of "revenue" received each day
Amount of time and number of visits it takes for visitors to convert
Breakdown of how much each "product" (i.e., goal) contributes to revenue
List of specific "transactions" (i.e., specific goal conversions)

Monetizing also allows the website manager to engage in nuanced conversion tracking. For instance, if a website goal is to promote access

to electronic resources, and a conversion goal is to track access to certain databases on the website, it is important to differentiate between and to assign a value to each of these conversion goals; access to one database may be more important to the library than access to another database. Managers then, should sometimes strive to monetize goals on non-ecommerce websites in order to compare them to the weighted values to similar user activities that may be of a greater or lesser value to the organization.[19] For instance, if my library determines that a referral from the website to database A is worth more than one to database B, I will assign a higher monetary value to database A than database B. Although both may receive roughly the same number of website referrals, database A will show a higher overall monetary conversion number than if both were valued at the same rate. This is important because, if accesses to database A are worth more, then the site's monetization number should most definitely reflect that increased value.

DETERMINING ROI FOR THE LIBRARY WEBSITE'S E-RESOURCES

Return on investment, or ROI as it is known, measures cost of an activity, expressed as a percentage—that is, if an item sold has given a 300% return on the initial investment of say, $2,000, the item sold for $6,000. Library website managers can face difficulty accurately determining ROI for aspects of the library website simply because we have few specific instances in which the outlay of funding is clearly linked to revenue. For example, a library may spend $20,000 on a database, but the return on that investment is difficult to determine because users do not pay for access nor do libraries assess the dollar worth of an access by tracking costs such as advertising. Despite these difficulties, it is possible to use a variation on the cost-per-access metric used in journal cost calculations and apply that to the library website.

Combining the previous fiscal year's costs of database, aggregator, and e-journal subscriptions, web managers could then divide the resulting number by the total number of access to all of the library's databases and e-journal access pages. The result would be a variation of the pure cost-per-access number specific to the website. The number could then be used to determine a per-access value for each of these pages, assuming that the goal is to match or surpass the amount of uses of these pages compared to the previous fiscal year. At the end of the new fiscal year, the resulting numbers could then be used to compare to the previous year's numbers and assign a comparative monetary value to these access numbers as a form of "revenue" and using the combined total cost of database aggregator and e-journal expenditures, the manager can then calculate ROI as well as track "revenue" using Google Analytics' value-assignment feature in the goal-conversion configuration area.

WORKING WITH MACRO-LEVEL DATA AND KPIS

Measuring custom conversion goals and monetizing these goals is not the only path or method for determining effectiveness. On the blog *Occam's Razor*, Google Web metrics guru Avinish Kaushik advises that you should "almost always start with a rock solid understanding of data at a macro level" by asking four specific questions.[20]

How many visitors are coming to your website?
Where are they coming from? Referring URLs, user segmenting, on-campus vs. off-campus, and in the library vs. outside of the library are examples of tracking user origination.
What do you want them to do on the website (tracking and measuring goals and conversions to understand, predict, and control user behavior).
What are they actually doing? Measuring goals by tracking KPIs through conversions, and tracking general, macro-level activity.

Kaushik refers to the sort of generic data that libraries already tend to gather such as unique visitors, bounce rates, originating traffic segmentation, and so on. Kuashik wants to make sure the user understands that this macro-data is also important and has its role.[21] Using Google Analytics, Kaushik's four questions can be answered directly from the initial Dashboard view, and the subsequent full reports.

THE BEST MACRO GOOGLE EFFECTIVENESS METRIC—BOUNCE RATE

As defined by the Google Analytics help site, a website's bounce rate is "the percentage of single-page visits or visits in which the person left your site from the entrance (landing) page." Or, as Kaushik says, the bounce rate "measures the percentage of people who come to your website and leave 'instantly'."[22] A high bounce rate indicates that the particular page being measured is unsatisfactory or not meeting the expectations of the user in some fashion. Bounce rate reports for pages can be used in conjunction with other reports to find and fix problems—for example:

Site search—quickly identify poor page tagging and keyword recognition
Landing page/home page can be used to measure the quality of traffic from particular sources
Top Content can identify certain pages that are accessed often, that then lose users immediately; the bounce rate metric can be used to identify "actionable items" on these pages, such as a confusing navigation table or perhaps a page that renders poorly in certain browsers.

USING THE BOUNCE RATE REPORT TO FIX WEBSITE PROBLEMS

Two of the most common problems with websites are landing pages with high bounce rates and unqualified traffic; that is, people visiting the site and leaving immediately and people visiting the site and then leaving because it did not meet expectations, respectively. The Google Analytics blog states that it is important to "find and fix high-traffic landing pages that lose a high percentage of visitors."[23] This is accomplished by using the bounce rate reported in the Top Landing Pages report. Pages that have both a high bounce rate and a high number of entrances require alterations. Two examples follow:

> Example 1. You are reviewing the Top Content Report. You notice a high-ranking page has a very high bounce rate. You then move to the Landing Page optimization report and choose the Entrance Keywords report.

You review the top keywords. Which keywords have the highest bounce rates? Are there some that stand out? There will be. What are these keywords? Are they appropriate for the page? If so, then review the content and design of that page to emphasize links to that content. If not, try to determine phrases, links, or tags that result in that page being returned to the search engine as an appropriate page. This may involve re-tagging with more appropriate metadata, removing content, or removing certain links.

> Example 2. You are reviewing the Top Content Report. You notice a high ranking page has a very high bounce rate. You then move to the Landing Page optimization report, and choose the Entrance Sources report. Review your entrance sources. Which ones have the highest bounce rates? How does this knowledge guide you toward fixing bounce from this page? For instance, you notice that many high-bounce-rate referrals are coming from an academic source. You choose that source, segment the data, and notice that many of the high-bouncing referrals are coming from a single professor's curriculum pages. You could then review those class/course pages to determine the appropriateness of the links and descriptions (perhaps they are poorly done, somehow giving the user the wrong impression of what to expect). At this point, the professor could be contacted and provided with links to more appropriate content on your site or persuaded to alter the link descriptions to make them more effective or even remove them.

TRACKING OUTBOUND LINKS FOR LIBRARIES

It is always useful to measure and track outbound traffic, and for libraries, we especially want to track clickthroughs to electronic resources.

As mentioned earlier, libraries spend much of their budget on electronic information sources, and, while they can easily obtain usage information from vendors, they often cannot obtain the referring website information from vendors, nor are server logs able to track outbound activity from a website. It would be useful for a library to know if users are successfully referred to particular or important databases. Fortunately, Google Analytics is able to track outbound activity through a simple link-tagging javascript call. First, use the Google Analytics Javascript call "pageTracker._trackPageview('desired/path')" in your <a href> tag as an onClick event. Example: <a href="http://www.jstor.com" onClick="javascript:pageTracker._trackPageview('/outgoing/jstor');">.

Second, note that Google can set an arbitrary filepath so that outbound links are conveniently organized; an example is "outgoing/resource_name." In this example, Google will record the fake folder named '/outgoing,' which will contain all outgoing link data, and then the various resource names and associated click-through data. Thus, all outbound links can be found in a "search in URL" search in the Top Content report under the fake file path folder 'outgoing,' with all resources then listed alphabetically under in their own fake filepath folders ('jstor' for example).

You can then quickly look at all outbound click-throughs to JSTOR. Outbound-link tracking tags can also be used to track downloads of podcasts, PDFs, or other types of file downloads. You can add the Google tag to a Flash actionscript external link-out code snippet to track and record clicks on a Flash Banner or Flash advertisement.

SITE SEARCH REPORT

It is important to understand that many users access library website information via the search function, not through browsing or navigation (the so-called "Google effect"). If your search is not returning the expected results, users may simply give up and leave the site. Therefore, a comprehensive website search report functions as an essential effectiveness metric across industry segments.

In Google Analytics, the Site Search Report provides comprehensive data on how people are searching your website using your search engine, and the results of those searches. It records search terms, aggregates search terms by number of searches, and provides a window into how users are using a website, or what they are looking for in a website (among many other search metrics). This report also answers pre-provided questions in the areas of search, visits, and content, such as "When did visitors use site search" and "Which search terms did visitors use?" You can also see which site searches convert, and the goal value your site search is generating in terms of "raw" conversions, or monetized conversions.

The Site Search also provides a unique window into user dissatisfaction or satisfaction levels and how they are using your site. For instance, if you use the "Site search start pages" report, you can see where people originated a search—if your website search is available on every page, you can likely get a good idea of what pages may be confusing or frustrating for users. For instance, are there two or three pages where a high number of search originations are clustered? Viewing the search terms associated with those clusters and then viewing the page of origin may pinpoint navigation or call-to-action issues with that specific page.

SITE OVERLAY

The Google Analytics Site Overlay provides a visual overlay of click data (Google Analytics calls this "click density") on "top" of the website as it is navigated. This shows the number of clicks on a given link on a given page, and the click percentage (for that link) on that page. The Site Overlay is essentially a visual overview of what links are getting attention on a page. The Site Overlay can be used in conjunction with a bounce report and the referring traffic reports (referrers and referring search terms) for a particular page to determine navigation or call-to-action issues. A call to action refers to a web page's content. Does that page give the user a distinct or firm idea of what to do next? Is it apparent, to the user, what it is you want the user to do on that page? Perhaps your navigation is unclear, or the layout is confusing, or the page's graphic content is unfocused and not reflective of the page's intent. The Site Overlay can help identify these issues with its visual representation of click-though graphs.

NEW VISITS

The New Visits report measures a website's percentage of new visitors out of all visitors. New Visits is a very simple metric that is meaningful in overall usage terms and basically describes how often a site can, or does, on average, attract new visitors. E-commerce websites like to see this macro data as high as possible, but libraries may find that it levels out to a sort of standardized baseline, depending the semester, quarter, or other academic timelines. Only clear decreases are worrisome.

AVERAGE TIME ON SITE

For libraries, this can be a confusing statistic. Most sites want users to stay for an extended period but libraries often may want to point users toward a

specific resource off-site as quickly as possible as a part of a general website goal. Low time on site percentages on e-resources pages then should be inversely related to the number of click-throughs to e-resources. Conversely, high time-on-site numbers for these pages may indicate user confusion or problems. Special collections and other primary-source sections of the library website may almost always want to see a high number in this area as users view finding aids, digital collections areas, and so on.

VISITORS AND VISITS

Perhaps the most common statistical grouping for library websites, the visitors and visits reports, give a general view of all traffic and activity. This, of course, is very useful in conjunction with other reports as well as by itself. These are often the only statistics that many library websites gather, or that are requested for reporting by various accrediting agencies or representational library organizations.

NEW VS. RETURNING

This statistic shows user loyalty as well as how many new users are discovering your services. Among other report subsections, this report can answer questions such as, "Do these new users continue to use the library, or do they finish the assignment and never come back? How often do they return, what are the respective ratios between the two for a variety of reports, and what are the respective bounce rates between the two segments?"

The last report under this area is very useful because it can show if new users have difficulty with your site. For instance, if your bounce rate is high for new users but much lower for returning users, your site may be confusing, must be learned, and may need to be redesigned with a more intuitive interface.

BENCHMARKING BETA

A very interesting Google Analytics-specific report shows how your site compares within specific segments of the market based on other, similar sites using data taken from the Google Analytics data cloud. For instance, a website manager can choose to compare to similarly sized library and museum websites and then review as a graphical overlay, general, averaged data for that analytics segment. It's always useful to see how your site is doing compared to the next one.

ENTRANCE SOURCES

An important part of user segmentation, the Entrance Sources report in Google Analytics, shows the sources from which your visitors arrived. Sources can be defined as search engines, external websites, or direct access (typing in a URL). Entrance sources can be set up to segment users in a variety of ways: by IP address (to differentiate internal from external visitors) or by method of access. This report can be viewed by specific page, by resources, by folder, or by site. It is important because it shows what sites send traffic to the library website. This trouble-shooting report can be used in conjunction with search engine referrer reports or by itself to identify unqualified traffic. It also can be used to track whether a particular campaign is working well. For example, if your library is pushing resources for freshman English 102 students, you can use this report to track the number of professors who respond by seeing if they are linking via their course websites to your advertised resources or resource pages.

THE GA DASHBOARD

When a website manager first logs in to Google Analytics, the Dashboard is the initial view. The Google Analytics Dashboard is the summary of a site's data and reports. The Google Analytics Dashboard performs the following functions.

It contains quick summaries of reports, simple "first step" web metrics like Visitors and Unique Visitors

The view can be customized to contain any or all reports considered essential for that profile

It provides strong visuals of your data; that is, reports primarily consist of a visual display of information for easier data reviewing rather than textual displays

Tracking RSS and Podcast Activity

Google Analytics does not easily track Really Simple Syndication (RSS) subscriptions or podcast downloads. In fact, Google recommends tracking RSS activity—access, subscriptions—with a third-party tool such as Feedburner.

CONCLUSIONS

Measuring the effectiveness of a website can be somewhat elusive if you don't know where to start. Libraries certainly have spent enough time proving worth in a variety of areas, and proving the worth or effectiveness of

the website shouldn't be viewed as any less important. By following the Goal-creation and Goal-tracking processes outlined here, website managers should be able to gain a better understanding of where to start, what questions to ask, and how to gather more usable data than by simply tracking the number of visits or visitors. This approach will provide specific conclusions about the most important aspects of a library's website while showing managers exactly how the library website supports the library's bottom line. Finally, the examples using Google Analytics to track these micro- and macro-measures in combination with the presented methods should show how library website analytics can function at a level of specificity that is common in the world of commercial and e-commerce analytics.

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