

- Measure or Metric** – simply a numerical value. Number of hits, page views, and number of visits are a few examples of measures. Dimensions are measured against measures in order to create a report. In a table containing data for a report (see Figure 1), measures appear as columns. Measures may be static and unchanging, such as number of times a page has been viewed, or may be calculated, such as average page view time or total percentage of hits.

Pages		Measures		
Pages	Dimensions	Visits	Views	Average Time Viewed (seconds)
1.	Motorcycle Superstore - Motorcycle Helmets and Motorcycle Accessories http://www.motorcycle-superstore.com/	179,392	271,915	54
2.	Street Bike Gear and Sportbike Helmets - Motorcycle Superstore http://www.motorcycle-superstore.com/1/DVG/Street-Bike.aspx	64,269	94,222	21
3.	Discount Motorcycle Gear Closeouts Clearance Sale - Motorcycle Superstore http://www.motorcycle-superstore.com/Closeout.aspx	60,978	90,893	33
4.	Men's Street Bike Motorcycle Riding Apparel at Motorcycle Superstore http://www.motorcycle-superstore.com/1/1/DV/Street-Bike-Mens-Riding-Gear.aspx	29,392	43,723	20
5.	Motorcycle Helmets at Motorcycle Helmet Superstore http://www.motorcycle-superstore.com/107/MNGR/Motorcycle-Helmets.aspx	28,458	44,485	40
6.	Motorcycle Parts - Motorcycle Parts Superstore http://www.motorcycle-superstore.com/227/MNGR/Motorcycle-Parts.aspx	25,019	37,279	39
7.	Street Bike Helmets Men's Riding Gear - Motorcycle Superstore http://www.motorcycle-superstore.com/1/1/38/DEPT/Street-Bike-Helmets-Mens-Riding-Gear.aspx	23,844	93,456	39
8.	Street Bike Jackets Men's Riding Gear - Motorcycle Superstore http://www.motorcycle-superstore.com/1/1/39/DEPT/Street-Bike-Jackets-Mens-Riding-Gear.aspx	23,690	90,167	39
9.	Discount Street Bike Closeouts at Motorcycle Superstore™s http://www.motorcycle-superstore.com/1/CDVG/Street-Bike-Closeouts.aspx	21,557	39,827	37

Figure 1: Dimensions and Measures

- Referrer** – the source from which a visitor lands on a page on a site, for example, a search engine, blog post, or another page on the site.
- Conversion** – the act of turning one type of visitor into another type of visitor, for example, converting an unregistered visitor into a registered user, converting an inactive user into an active user, or converting a registered user into a loyal user.
- Key Performance Indicator (KPI)** – a specially designated metric that is used to measure how one is doing with regard to achieving a particular goal. For example, if one was to launch an email campaign in which users were sent a special link to visit your site, a captured metric might be the number of click-throughs for this link and the organizational goal may be to achieve a 15 percent click-through rate. When combined, these two pieces of information signify a KPI which can then be measured over the duration of the campaign.
- Bounce Rate (single-page visits)** – the percentage of visitors that leave the site on the same page they entered the site. It is important to watch for pages that have high bounce rates, as this could indicate that users are having difficulty finding the information they seek.
- Segmentation** – allows reports to be split into groups. Segments are used to group visitors based on a common attribute, or set of attributes, in order to distinguish the behavior of one visitor from another.



Measuring Success

So how does an organization measure the success of its wiki? How does an organization know if its investments are paying off? While these are excellent questions, there are no straightforward answers. The goals of one organization can differ greatly from those of another organization, even in the same industry. Nevertheless, there is some general guidance that will get an organization started on the right path toward measuring its wiki's success:

- Define purpose and goals
- Derive key performance indicators to measure a wiki's progress towards their goals
- Ensure that the organization is maintaining a healthy wiki
- Collect the appropriate metrics to measure KPIs

The first step towards measuring the success of a wiki is to define a set of goals. For example, one of the purposes of a wiki is to allow users to collaborate. What does the organization hope to accomplish by giving users the means to collaborate? Goals alone will not help define KPIs, so it is important to identify metrics that will help measure the organization's progress towards its goals.

Another question to consider is this: Is the wiki open to the public? If the wiki is open for public enrollment, a goal may be to grow the registered user base by five percent per year and attract 10 percent more visitors per year. For those running a private wiki, it is beneficial to learn if members from different departments are collaborating and, if so, how often they are collaborating. Goals such as these are easily measured.

Having clearly defined goals and then collecting metrics that are based on customized and relevant KPIs, will allow an organization to get the most out of its wiki.

Criteria for a Healthy Wiki

In order for a wiki to thrive, a number of criteria must be met:

- Users should be able to search for *and find* the information they are looking for in a timely manner
- Users should actively participate in creating and refining content
- Users should provide feedback to each other to help refine content
- Users should be linking to content – not only their own, but content that has been created by others
- While there may be dips in activity from time to time, the active user base should not shrink over a long-term timespan and visitors should return frequently
- As a wiki matures, new content may be added more slowly, but users should have a wealth of information available and should be active in reading and referencing content.

Metrics for all of the criteria above should be collected and reported because they will likely relate to an organization's KPIs.

Reporting

Once a wiki has been instrumented to capture the appropriate dimensions and measures, the organization can begin building reports to put that data to good use. Note that reporting tools all have different capabilities, so it is a good idea to consult an expert who can help create some of the trickier reports and ensure that the data makes sense.

In addition to the out-of-the-box reports, it is good to add a few new custom reports to collect some of the more interesting metrics. For running a public wiki, there are a number of helpful reports available.

One out-of-the-box report is an **entry pages report**. This report is particularly useful to public wikis because it essentially shows pages where a visit to a wiki began. What it may not show is where they

came from or whether this is a new or returning visitor. A report that uses the first URL in a visit as a primary dimension and the referring page as a secondary dimension can be very useful. The aptly-named **entry pages with referrers report** can be used to show which page attracted users to the wiki and where they came from. If the reporting tool allows usage of segments on any report, breaking this report into segments of new users and returning visitors will provide more insight. This report can also determine the success rate of marketing campaigns.

A **conversion report** is probably essential to at least one KPI and so, by definition, it is a must-have report. If a KPI relates to increasing the registered user base, for example, a conversion rate report can provide this key piece of information. A conversion rate report coupled with a marketing campaign will display which campaigns are the most successful.

For public wikis, use **segmentation**. Define segments to determine where loyal users are coming from in order to measure the effectiveness of a marketing campaign or to seek out new markets. Marketing campaigns often direct users to a specific landing page, so creating a segment for users who began their visit at this landing page and converted into a registered user will allow an organization to directly measure the effectiveness of that particular campaign. Segmentation is a very powerful feature, allowing creation of imaginative segments for every type of user group. Data can be sliced in much more interesting ways with the use of segments.

Regardless of the type of wiki, there are a number of reports in addition to the out-of-the-box reports that would be beneficial to generate.

Key Metrics

Since the goal of a wiki is to provide users with a space to create, refine, and consume content, there are a few metrics that are no doubt closely tied to KPIs: visitor loyalty, visitor recency, length of visit, and depth of visit². These measures can be used in combination with other measures or dimensions to create reports that address an organization's goals. These four metrics are probably the most important for reasons that will become obvious later in this paper. Google Analytics provides excellent reports for these metrics out-of-the-box, although one should be able to reproduce these reports with other tools as well.

The **visitor loyalty** measure expresses how many times a particular user visited a site for the report's time period. If users see value in a wiki, then the report will show a high number of visitors with many visits. It is good practice to avoid creating a report that shows the average number of visits per visitor – this will not display whether or not the majority of visitors return. Remember that the goal of any pure content site is to achieve a loyal user base, and so visitors should visit the wiki frequently. See Figure 2 for an illustration of this type of report.

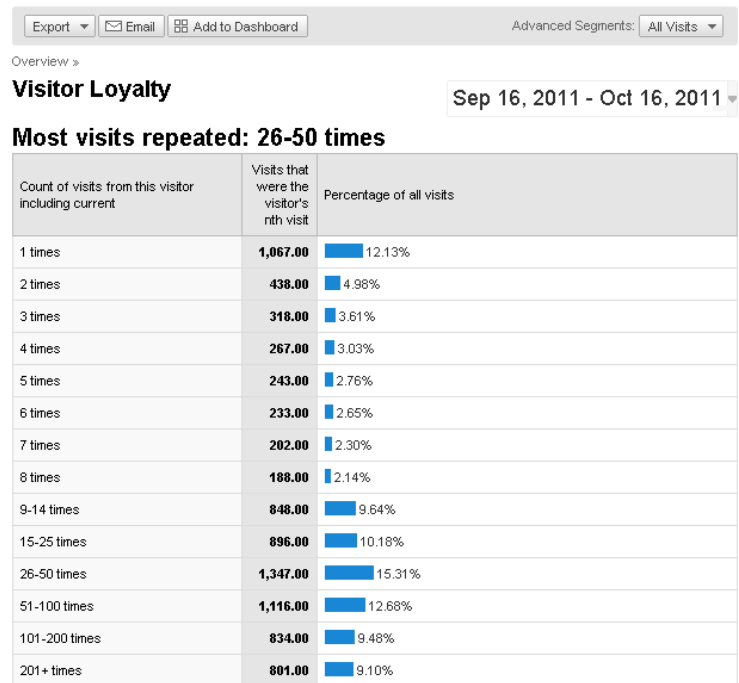


Figure 2: Visitor Loyalty Report for a Healthy Wiki (Google Analytics)

² <http://www.kaushik.net/avinash/i-got-no-ecommerce-how-do-i-measure-success/>



The **visitor recency** measure indicates the last time a particular visitor has visited the site. This metric is in line with the visitor loyalty measure mentioned above. One goal could be to ensure that users continue to come back *frequently* to consume or produce content. If many users stop visiting for a long period of time, this may indicate that overall interest in the wiki is dropping. See Figure 3 for a sample report.

For those who guessed that the **length of visit** measure shows how much time a user has spent during a visit—they would be absolutely correct. For pure content sites (e.g., a wiki), users will spend a lot of time producing and consuming content so visit duration should ideally be somewhat lengthy.

Note that in the report above, 27 percent of visits only last between zero and ten seconds. This is not necessarily a bad thing because users may have key pieces of information bookmarked. If they are adept at finding the information they need, their visit will consequently be brief.

The **visit depth** measure indicates how many pages a user viewed before ending their visit.

Note that the report above shows that over 24 percent of visits consisted of only a single page view. Is this a bad thing? It is hard to say for sure without digging deeper and it would be unwise to jump to this conclusion based on a single figure. The report in this figure comes from a well-established wiki with a loyal user base, so it is likely that most of the users knew what they were looking for and found it in a minimal number of page views. This wiki also sends email notifications whenever a page is updated, so the users could simply click on a link in their email to reach their desired destination (note: email click-throughs would be a terrific segment in an analytics suite). Ideally, median page views value should be somewhere in the middle of the distribution.

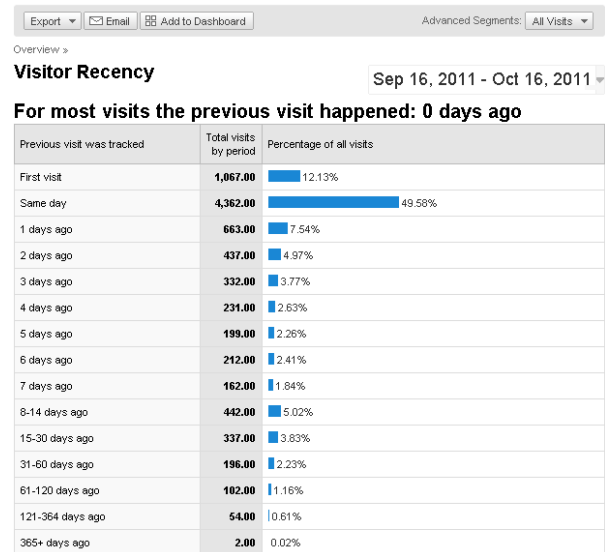


Figure 3: Visitor Recency Report for a Healthy Wiki (Google Analytics)

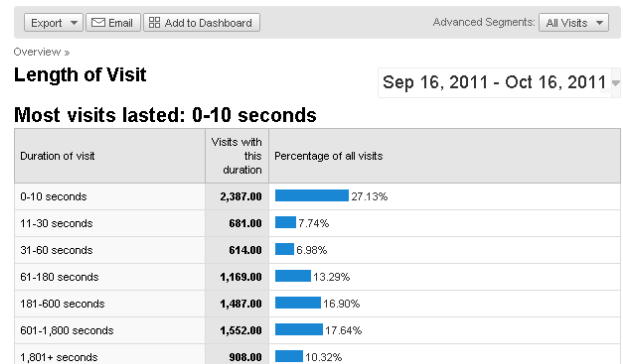


Figure 4: Length of Visit Report for a Healthy Wiki (Google Analytics)

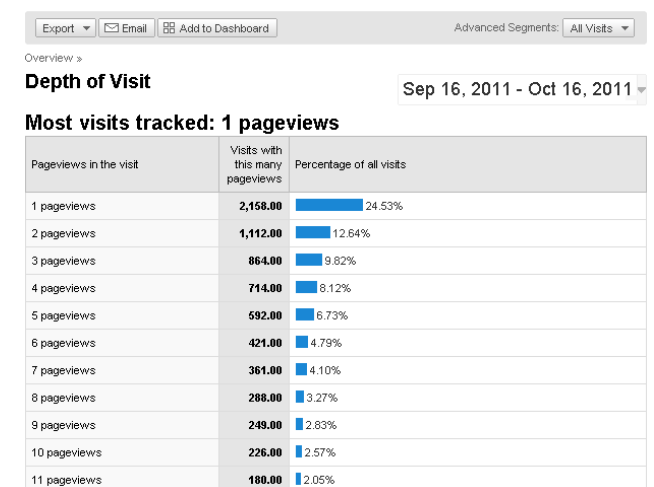


Figure 5: Visit Depth Report (Google Analytics)



comment in order to help build an all-encompassing “user activity” report once all of the other pieces are in place.

Some wikis have a mechanism which allows users to provide micro-feedback, such as a Facebook-style “Like” button or a “thumbs up/down” style of rating system for pages and comments. If not, organizations may enlist the help of its experts to incorporate these features into the wiki and begin capturing metrics on these actions. The ability to rate a post is a form of activity which should count towards determining if a user is actively collaborating, even if they are not adding or editing content.

An added benefit of micro-feedback is that content authors and collaborators will receive feedback on their productions. As the wiki community grows, authors with a high amount of “likes” or a high “thumbs up” rating may be seen as credible and useful sources of information.

With all of these handy metrics in hand, one can create a single report to show all of this useful information at once. As a primary dimension, only the page needs to be specified. This will list all pages that have been accessed for the report’s time period. Measures will be as follows (in any order): hits, visits, edits, unique edits, comments, and “likes.” Since “page creations” will always be 1 one unless grouped by a larger dimension, it will be omitted from this report. As mentioned earlier, this report is a great way to see the bigger picture. If organizational goals require more granular information, other reports allow for drilling down deeper into the data.

Bounce Rate Reports

Bounce rate reports can be a double-edged sword. Bounce rate reports can highlight problem areas on a wiki. If many users are ending their visit after performing a search without viewing any results, for example, they probably are not finding the information they seek. However, bounce rate reports can also be very misleading. If the bounce rate report shows a page with a particularly high bounce rate, one might take it to mean that the users did not find what they were looking for and consequently ended their visit. Another interpretation for this scenario is that users found *exactly* what they looked for and did not need to browse around further. For this reason, one should not jump to conclusions based on bounce rate alone. Regardless, bounce rate reports are a must-have report for a simple reason—they highlight the extremes of user satisfaction and dissatisfaction.

Active Reporting

All of the reports that have been mentioned up to this point are passive. That is – all of the data that drives these reports has been generated as a product of user interaction with the wiki. Other, more active reports are available (i.e., data needs to be extracted from the product in order to produce the report). One such example is a Link Analysis report⁶. A **link analysis** report can provide valuable insight into a wiki’s usage by illustrating the interconnectedness of the pages within the wiki.

Suppose an individual wants a historical report of how users have collaborated on key areas of the wiki. This would be nearly impossible to accomplish with data that has been collected passively – especially if this data was not previously collected. Most (if not all) wikis have a page history feature which can display the number of collaborators for a particular page. Depending on the wiki software, a custom solution could be devised to show some interesting statistics (e.g., pages with a large number of unique editors or commenters, broken down by groups or departments).

Active reporting is also a great way to accurately glean metrics that have not been collected previously. The unique edits metric is a perfect example of this. Long-standing wikis can turn to active reporting if the organization suddenly decides that the “number of unique edits” measure would be great to have, but they have not been conducting collections to date. A reporting mechanism must be put in place (in the form of a plugin, perhaps) in order to retrieve the page revision history for all pages of interest in a wiki. This mechanism can then report on the number of unique collaborators for each page along with any other relevant information (edit date, author, page name, URL, etc.).

⁶ https://www.socialtext.net/open/wiki_analytics



Along with all the benefits of active reporting, there are also some inevitable flaws. Figures drawn from an active report cannot be easily incorporated into the reports from analytics tools. This inhibits the ability to slice this data in meaningful ways, but on the other hand, some very accurate numbers will emerge in the event that these figures are relevant to the organization's KPIs.

Interpreting Reports

There is always some margin of error with reporting. Even the best analytical tools cannot tell reveal the user's intentions nor can it prevent a user from clearing their cookies and artificially ending a visit. Users' actions will always be subject to interpretation. Visitor tracking can be tricky. JavaScript-based collection mechanisms will give much more interesting data than server access logs, but this technique tracks user sessions with cookies. If a user clears their cookies or switches to a different computer, it will count as a new visit. The unique visitor metric cannot be trusted for this reason, but this measure will still be able to give a good understanding of the big picture. It is always useful to look more closely at *trends* rather than *figures*.

Acting on Metrics

Those who follow along with the tips to this point should be on the right track. KPIs are in line, measured by collecting all metrics, and are fully explained with various reports. All that remains to be done is to identify KPIs where the organization falls short of their goals, identify the underlying causes, and create a plan to address the issues.

In many cases, this is easier said than done so here is a scenario to illustrate the subtleties of this process:

Your organization is hoping to increase the registered user base by 300 users over the next month as part of a new email marketing campaign. After the first week, the campaign report shows that 75 percent of users clicked on the link in the email. This means that you are almost certainly reaching the correct target audience and piquing their interest. The new user conversion report, however, tells you that only 10 percent of those users have registered for an account with your wiki. At this rate, it seems unlikely that your organization will meet its goal. What went wrong? The conversion report can also tell you where you lost users in the conversion process. In this scenario, most of the users left at the registration page. Your analytics tool of choice allows you to segment this report to help you dig deeper into the data, so you begin viewing various segments in order to gain some insight into the situation. Finally, the search turns up something interesting: the "browsers" segment, which groups users according to browser and version, reveals that users who are running the latest version of Internet Explorer have a 100 percent drop-off rate at this stage in the conversion process. In all likelihood, this means that they are having technical difficulties on the registration page, so you reach out to your technical team to verify the problem and find a solution. Once your technical team deploys the update to fix the issue, you rectify the problem with the impacted users and the registration numbers start increasing again as indicated by your reports.

In this scenario, one could quickly identify and react to this situation by leveraging analytics reports.

Tips

First and foremost, it is critically important to establish a set of measurable business objectives in order to develop a set of key performance indicators. KPIs drive reporting and help measure progress towards an organization's goals. It is important to start collecting analytics early, and to track progress towards these goals. One may not be able to retroactively measure performance towards all organizational goals. Often, organizations will not set clear goals early on, so by the time they need to know if they are meeting their objectives, they do not have a good answer.

Starting from scratch can be difficult for users, so it is helpful to begin collaborating by seeding the wiki with useful information. Arrange for training sessions to showcase the features of the wiki and to explain fundamental concepts.

A healthy wiki must be maintained in order to remain healthy. Allowing a wiki to stagnate by not addressing the needs of the user base is a surefire way to disengage the audience. Analytics reports will drive the maintenance and improvement of your wiki.



Each web analytics tool currently available has its fair share of pros and cons. Google Analytics is free, powerful, and offers impressive segmentation capability; however, all data is stored on Google's cloud (this creates some privacy implications) and one cannot re-analyze old data when producing new custom reports or goals. WebTrends is powerful and gives absolute control over data, but it is not free and the reporting options can be limiting. It is important to weigh the pros and cons of each tool and use whichever one(s) best suit the organization's needs.

Lastly, the field of web analytics is tricky business. Consult an expert when collecting metrics and creating/interpreting reports and do not hesitate to ask for clarification.

Conclusion

The principles outlined above can be applied to a number of other social media products. In order to measure the effectiveness of a wiki, one must establish a set of KPIs based on your goals. Next, one should collect the appropriate data to measure your progress towards organizational goals. Once the data is in hand, the appropriate reports may be created to display the results and then sliced in meaningful ways. Lastly, it is important to interpret data correctly. When reviewing a report, keeping an open mind will allow for viewing data from all angles. With all of this data in hand, continued maintenance of the wiki will allow an organization to get the most out of their investment.



About Project Performance Corporation

Project Performance Corporation is part of the AEA group, a 1,200-person, multi-disciplinary team of information technology and knowledge management professionals, project management experts, scientists, technologists, and regulatory specialists. With more than 20 years of experience in information management and enterprise services implementation, we specialize in delivering effective, reliable answers to the most complex challenges. At the heart of it all are our people - innovative thinkers, well versed in business processes and drivers, with unequalled focus on delivering quality products and services.

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