



Applied Research Center
FLORIDA INTERNATIONAL UNIVERSITY

Web Analytics Narrative for the

Deactivation and Decommissioning Knowledge Management
Information Tool

<http://www.dndkm.org>

Third Quarter 2013

Period: July 1, 2013 – September 30, 2013

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For Third Quarter 2013 (July 1, 2013 – September 30, 2013)

(Previous Period March 31, 2013 – June 30, 2013)

Summary

D&D KM-IT is recuperating from the previous quarter impact of new Google Algorithm changes. Last quarter, the site experienced an average of 50% decrease in visitors and 20% decrease in page views. This quarter, the site started a positive trend and is moving in the right direction.

This report was developed by combining the Google Analytics (GA) data with the data from Google Webmaster Tools (GWT). The information gathered from GWT is mainly the visits to documents from Google search results which GA is not able to track. The data shown in Figure 1 is from (GA) only, where the current period is represented by the blue line and the previous period is represented by the orange line. The *Combined Visits* section on page 5 has a more detailed comparison.

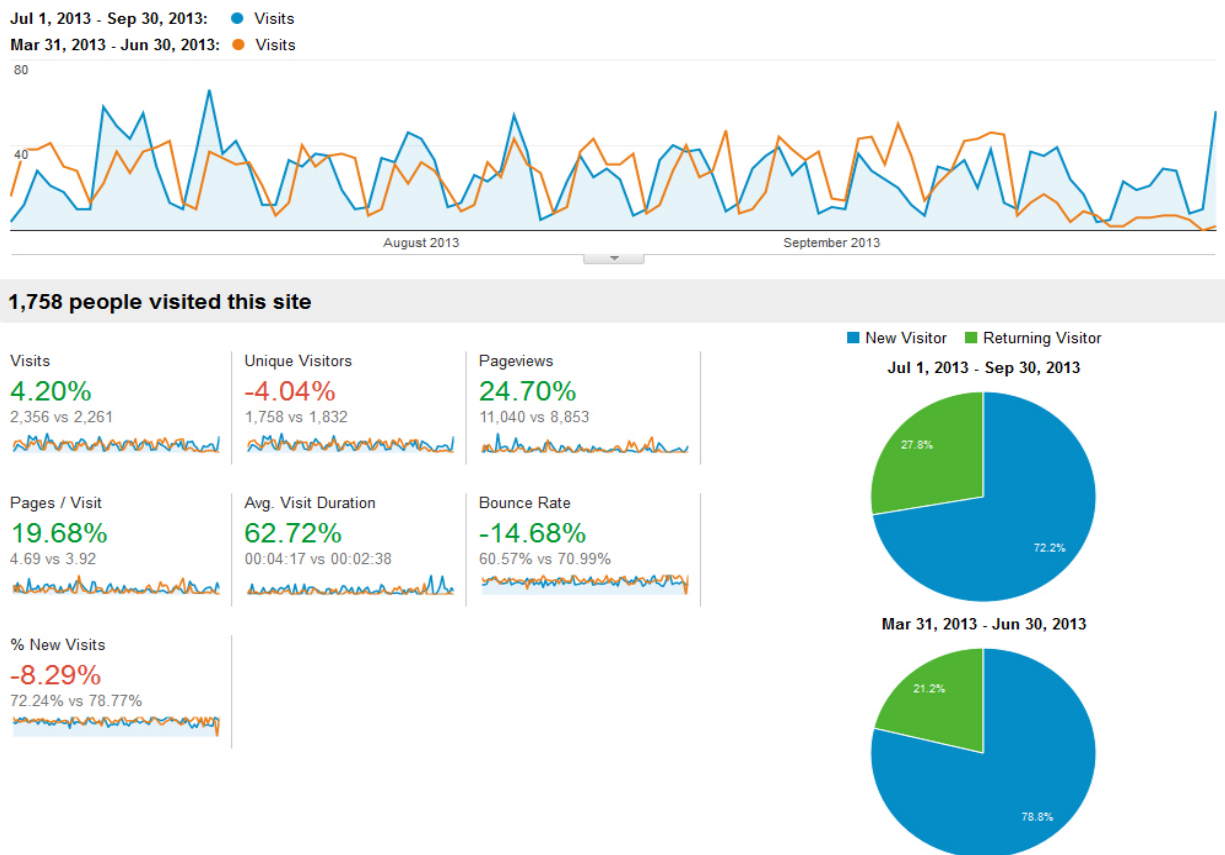


Figure 1: Summary of Q3 2013 (blue line) vs. previous period (orange line Q2 2013)

Figure 1 on the previous page is a summary of what took place during Q3. Visits to the site increased by 4.20% while unique visitors decreased by almost the same amount, 4.04%. The rest of the numbers are positive which make sense since they are all tied together. The pageviews increased by 24.70%. This number is directly related to the number of pages a visitor clicks while on the site. This number (Pages/Visit) also increased by 19.68%. As a result, visitors stay longer on the site when clicking on multiple pages. Therefore, the Avg. Visit Duration also increased by an impressive 62.72%. The site was able to drop the Bounce Rate by 14.68%, which is a good thing.

2013 Q3 Infographic

An infographic is an image composed of charts and/or diagrams used to represent information or data. We have compiled an infographic based on the web analytic data from this quarter (see Figure 2 on the next page). The content of the infographic are measurements that will be discussed later in this report. The measurements included in the infographic are: total visits, average monthly visits, new and returning visitors. There is also a measurement on what is the percentage of visitors that come from the FIU network. In addition, time on site, traffic type, demographics, keywords, browsers and module destination are also included. The aim is to provide a summary of key data from the report in a single graphical image.

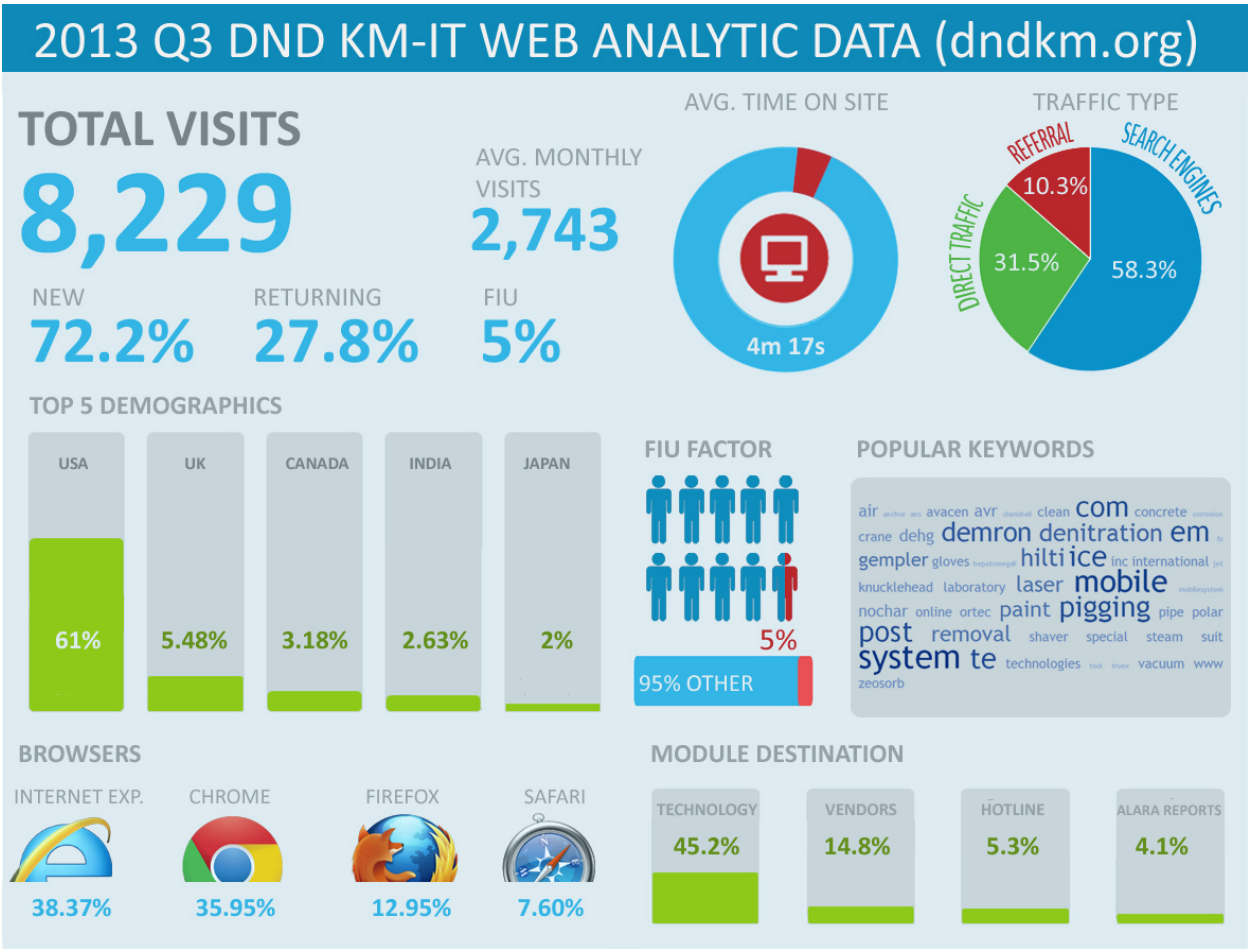


Figure 2: Infographic for 2013 Q3 Based on Web Analytic Data

Recovering from Q2 algorithm updates

During Q2, the site suffered from several algorithm changes rolled out by Google. D&D KM-IT experienced a 67.57% drop in visits just by Google alone. The details of the algorithm changes were discussed in detail in the Q2 report, *2013Q2_Web Analytics Narrative for dndkm.pdf*. A copy of that report can be made available to the reader upon request; therefore, this report will focus on the Q3 data and its analysis.

The D&D KM-IT team conducted some research in order to establish the best approach to take in order to get D&D KM-IT back up in the page rank. Climbing a search engine page rank is a slow process due to the crawling frequency, content value, keyword relevance, algorithm rules and extreme competition from other sites doing the same. The D&D KM-IT team will continue this effort, which can take few months. So far, the preliminary numbers from Q3 show a positive trend change that we hope will continue.

Combined visits

As mentioned earlier, Figure 1 in the *Summary* section was extracted from the GA software. It does not take into account the direct visits to documents from web searches. By combining the information from GA with GWT, we get a better picture of the total number of visits the website received. During Q3, the D&D KM-IT website served 612 unique documents to search engines. The 612 documents were clicked a total of 5,873 times. Therefore, combining 5,873 direct visits to the site via documents plus 2,356 visits to the site through the rest of the D&D KM-IT system, we get a total of 8,229 total visits to the site, which translates to 2,743 average visits per month (see Table 1). The four previous quarters are also included in this table to demonstrate how the traffic has improved over time. One thing to notice in the table below is the steady increase of visits to documents on the site. We expect this trend to continue as D&D KM-IT continues to populate its content with more documents.

Table 1: Combining Google Analytics and Google Webmaster Tools Visit Count for Q3 in Comparison with Previous Quarters





























Source	2013Q3	2013Q2	2013Q1	2012Q4	2012Q3
Google Analytics Visits (visits counted by GA to every HTML page of the D&D KM-IT website)	2,356	2,138	4,941	2,708	2,257
Webmaster Tools Visits (Counting only direct visits to documents where GA code can't be included)	5,873	5,476	Not included (only March could apply)	4,532	4,369
Total Visits to D&D KM-IT	8,229	7,614	4,941*	7,240	6,626
Average Visits Per Month	2,743	2,538	1,647*	2,413	2,208

* March 2013 was not measured correctly: 1) It was possible that Google ignored the PDF Viewer which did not count the visits to the site, 2) The D&D KM-IT team removed the PDF Viewer so the documents could be accessed but not counted, 3) Webmaster Tools numbers could be counted for March but this tool only keeps a 3 month trailing count and can't isolate the visits to March alone; therefore, it is not included in the numbers.

Top Documents

The top ten documents served by D&D KM-IT are shown in Table 2 below. The impression column represents how many times this document was returned as a search result on Google. The Avg. Position represents the order in which this document was placed on the results page. The lower the Avg. Position, the closer it is to the top of the results. Finally, the Clicks column is the number of times this document was clicked by the user from the search results page. Next to each of these labels is an arrow up or down. This arrow represents the movement of this document compared to the previous quarter in this category. The top document is “Crossflow Filtration” from the Innovative Technology Summary Reports (ITSRs) category. This document was clicked a total of 170 times, an increase from the previous quarter. Notice that eight out of the top ten documents are from the ITSRs section of the website. There is clearly an interest in ITSR documents from the D&D community, in particular, those belonging to the D&D and Mixed Waste category as demonstrated by the document path.

Table 2: Top 10 documents in Q3 2013 ( increase and  decrease from previous period)

Document	Clicks	Impressions	Avg. Position
/ITSR/Tank/Crossflow Filtration.pdf	170 	1,300 	7 
/Technology/1246-Instruction Manual.pdf	150	3,000 	7.5 
/ITSR/DND/NITON XL-800 Series Multi-Element Spectrum Analyzer (Alloy Analyzer).pdf	150 	1,000 	12 
/ITSR/DND/Laser Cutting and Size Reduction.pdf	110 	1,300 	4.9 
/ITSR/TRUMixedWaste/Membrane System for the Recovery of Volatile Organic Compounds from Remediation of Off-Gases.pdf	110 	900 	4.5 
/ITSR/SoilGroundWater/Frozen Soil Barrier.pdf	90 	600 	2.7 
/ITSR/TRUMixedWaste/Cyanide Destruction-Immobilization of Residual Sludge.pdf	90 	900 	3.1 
/Technology/975-Laser Decon Paper.pdf	70 	1,000 	5.1 
/ITSR/DND/Nochar Petrobond Absorbent Polymer Tritiated Oil Solidification.pdf	70 	1,600 	1.8 
/ITSR/TRUMixedWaste/Acid Digestion of Organic Waste.pdf	70	700 	10 

A noteworthy observation from the table above is that the impressions, although generally increased for this quarter, are lower in total than the previous quarter. It seems that the updates from the algorithm changes by Google has with no doubt lowered our impressions in Google, but has also returned more efficient results because the direct visits to documents increased, as shown in Table 1.

Top Searches and Queries

The top 10 keywords with the most impressions and best position are shown in Table 3. The top query with the most impressions (the number of times it was returned by Google as a search result) was the phrase “Mobile system” with approximately 400 impressions. There were several search queries that returned in the first page of the results. “Anchor ladder”, “Demron full body suit” and “Roto peen” returned on the first page of results at some point during the quarter. One thing to remember is that search results are highly targeted to the users search and browsing patterns and are hard to duplicate.

Table 3: Top Search Queries (Impressions, Clicks and Position)

Query	Impressions	Query	Position
Mobile system	400	Anchor ladder	1
Ice pigging	250	Demron full body suit	1
Denitration	170	Roto peen	1
Em0614@post.com	170	Km it	1.8
Demron	170	Nelco shot blaster	2
Laser paint removal	110	Blu suit	2
Hilti te 100	90	Q guard	2
Em0613@post.com	90	Anti contamination suit	2
Nochar	60	Bitbuddie	2.3
Deng	60	Plant dismantling procedure	2.3



Figure 3: Keyword tag cloud representation of top 40 query impressions

Figure 3 is a keyword tag cloud representation for Q3 of the top 40 keyword query impressions on the website. It provides a good visualization of the extended data from Table 3. The tag cloud separates phrases into single words and displays the “weight” of each word according to the frequency of the word.

Figure 4 below is also a tag cloud. This tag cloud is from keywords found on the D&D KM-IT website. This is basically how a search engine “sees” the site. The information most relevant on the site will be displayed bigger and bolder.



Figure 4: D&D KM-IT top keywords as seen by search engines

Top Modules

The top 3 performing modules this quarter were Technology, Vendors and Hotline (see Figure 5 on page 11). This is not surprising since these modules have been the corner stone of the D&D KM-IT system. On the following page, there is a list of the top performing items within each of the modules (see Table 4). This table details the top popular items under each module. It lists the name and the URL link to the item.

Table 4: Most popular modules

Popular Technology	Popular Vendor	Popular Hotline
<p>ADAMANT Twin Blade Cutter Circular Saw</p> <p>/Technology/TechnologyFactSheet.aspx?TechnologyID=150</p>	<p>Special Technologies Laboratory</p> <p>/Vendors/ViewVendor.aspx?id=78&name=Special%20Technologies%20Laboratory</p>	<p>Problem: Fixatives for Use with Soil</p> <p>/Hotline/ProblemFactSheet.aspx?ProblemID=224</p>
<p>DeWalt Reciprocating Saw- DW309</p> <p>/Technology/TechnologyFactSheet.aspx?TechnologyID=154</p>	<p>AIL Systems Inc</p> <p>/Vendors/ViewVendor.aspx?id=66&name=AIL%20Systems%20Inc</p>	<p>Solution: DOE Decommissioning Handbook</p> <p>/Hotline/SolutionFactSheet.aspx?SolutionID=160</p>
<p>NELCO GPx-10-18 Porta Shot- Blast</p> <p>/Technology/TechnologyFactSheet.aspx?TechnologyID=25</p>	<p>AECOM</p> <p>/Vendors/ViewVendor.aspx?id=213&name=AECOM</p>	<p>Problem: Fixative Recommendation for Metal Corrugated Bldg</p> <p>/Hotline/ProblemFactSheet.aspx?ProblemID=175</p>
<p>Concrete Shaver/DTF-25 Floor Shaver</p> <p>/Technology/TechnologyFactSheet.aspx?TechnologyID=35</p>	<p>CEA, LIST/France</p> <p>/Vendors/ViewVendor.aspx?id=191&name=CEA,%20LIST/France</p>	<p>Problem: Site Characterization Plans/procedures</p> <p>/Hotline/ProblemFactSheet.aspx?ProblemID=221</p>
<p>Evolution 180 Portable Metal Cutting Circular Saw</p> <p>/Technology/TechnologyFactSheet.aspx?TechnologyID=156</p>	<p>Alaron Nuclear Services</p> <p>/Vendors/ViewVendor.aspx?id=215&name=Alaron%20Nuclear%20Services</p>	<p>Solution: Soil fixative activities</p> <p>/Hotline/SolutionFactSheet.aspx?SolutionID=239</p>

There is clearly a theme on the technology and hotline modules. For instance, on the Technology module, the popular items deal with some type of circular saw concrete cutting technology. In fact, four out of five top technologies are directly related to this arena. When it comes to the Hotline module, the theme focuses on fixatives. Notice that two problems and one solution from the top 5 Hotline items deal with this topic. This type of information sheds light on what type of resources; research and needs are current in the D&D community.

On the following page is the breakdown of the number of pageviews each of these modules received and their comparison to the previous period. The Vendor module saw the biggest increase with an over 100% increase in pageviews. Third in the list is the homepage or root of the site which is displayed with a “/”. Since we are focusing on the modules we are ignoring the homepage and granting the Hotline third place.

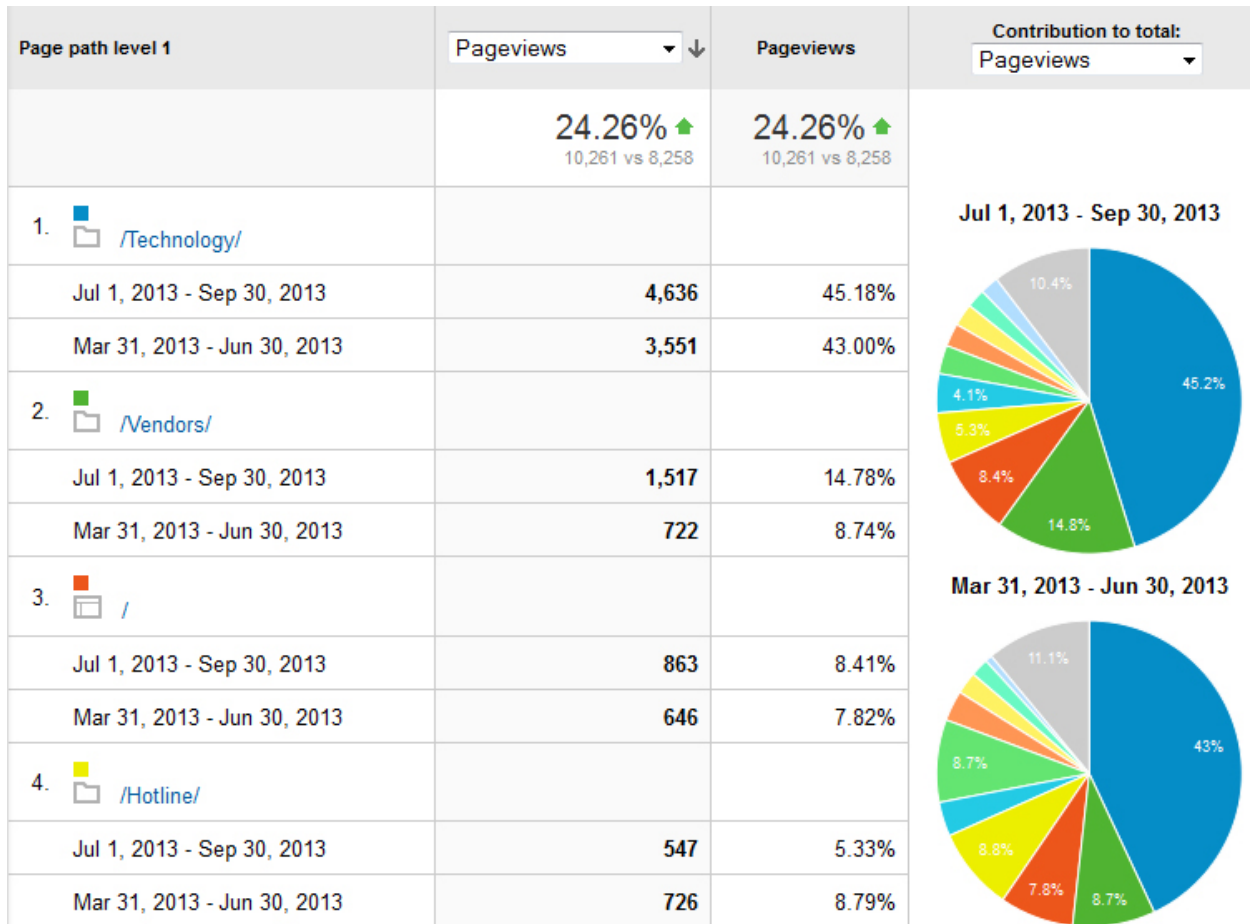


Figure 5: Top performing modules during Q3

Visitor Type

The following figure is a comparison of the visitor types that the system hosted during the Third Quarter 2013 (2013Q3) and Second Quarter 2013 (2013Q2) (Figure 6). On the bottom are the numbers from the previous period (2013Q2) and on the top are the numbers from the current period (2013Q3). Figure 6 demonstrates an increase in Returning Visitors to D&D KM-IT. The first column on the left (Visits by Visitor Type) shows that returning visitors increased by almost 6.6%. Returning visitors are a key to web site sustainability and it's always good to see this number in the positive territory. The middle column (Visits by Country/Territory) stayed almost identical, with the United States and United Kingdom combining for 86.7% of the global visits. The last column on the right (Visits by Traffic Type) categorizes the visitors by the method they used to come to the site (via search engines, labeled organic on the figure; direct; or by referral). This column shows a small decrease in search engine traffic by 3.6% while referral traffic stayed pretty much the same. Direct traffic increased almost proportionally to the decrease in search traffic. This is a good indication and it ties back to the returning visitor data

on the far left column. As returning visitors come back to the site, they do so through some sort of bookmark or shortcut or even by typing the site URL address on their browser.

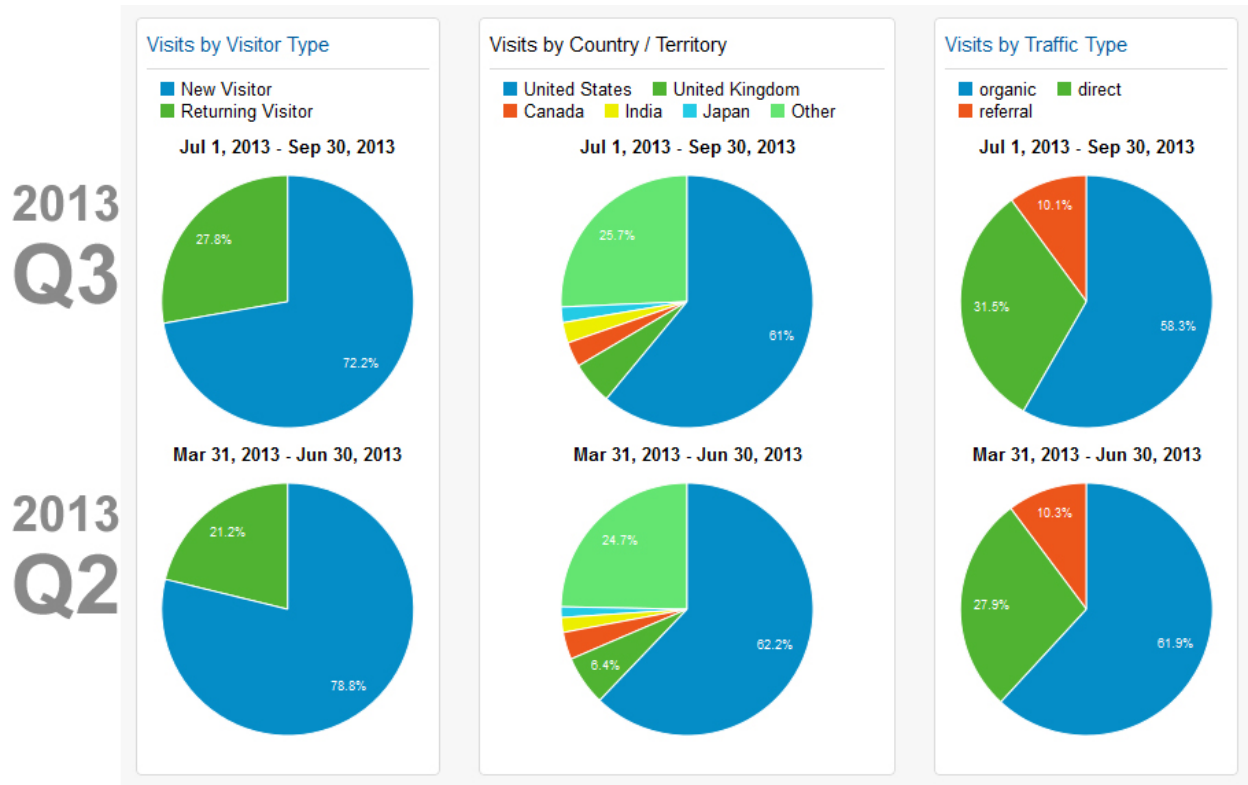


Figure 6: Visitor Type, Traffic Type and Visits by Country (2013 Q3 vs. 2013 Q2)

By putting all the graphs side by side, we can draw a conclusion regarding visitor traffic. Visitor loyalty continues to increase as demonstrated by Visitor Type. This measure relates directly to visits by Traffic Type. Since visitor loyalty is increasing, it only makes sense that these visitors are no longer using a search engine to access the site; instead, they are coming to the site directly either by typing the URL or by using a bookmark on their browser. The international audience has begun to settle at the current demographic.

FIU Factor

FIU continues to maintain and develop the system. These efforts consist of module development, design changes, data population and feature enhancements. Many of the improvements made to the D&D KM-IT are actually created from information gathered in the quarterly analytic reports.

Out of the 2,356 visits recorded by Google Analytics (GA), 399 (or 17%) were made from the FIU Network (see Figure 7). The percentage from FIU is even lower when we combine the visits

captured by the Google Webmaster Tool (GWT). The right side of Figure 7 shows the combined visits by GA and GWT of 8,229, of which 399 were from the FIU network (or 5%).

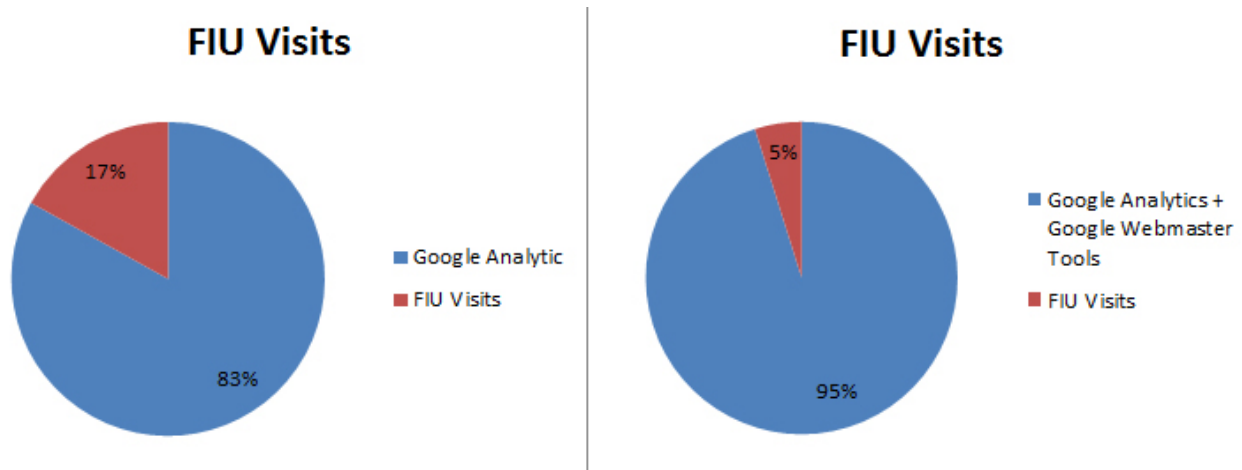


Figure 7: FIU visits to D&D KM-IT during Q2

This number is staying within the expected range. Last quarter, FIU visits with GA measured 18% and with GA and GWT combined were 5%, which amounts to a 1% differential between quarters.

User growth

D&D KM-IT closed out Q2 with 464 registered users and 52 registered Subject Matter Specialists (SMS). By the end of Q3, the site had 521 registered users and 63 registered SMS. That's a 12.28% increase for registered users and a 21.15% increase for SMS (See Figure 8). It is worth mentioning that a bulk of the registrations during this quarter were generated during a Nuclear Utility Conference in Hollywood, FL. The Applied Research Center attended this conference and was able to showcase D&D KM-IT as one of its projects. The demonstration at the booth generated remarkable interest and resulted in a registration boost to the system. From this experience and other conference involvement, there is no doubt that a physical presence at these technical conferences has boosted D&D KM-IT popularity and it has proven beneficial to the project overall.

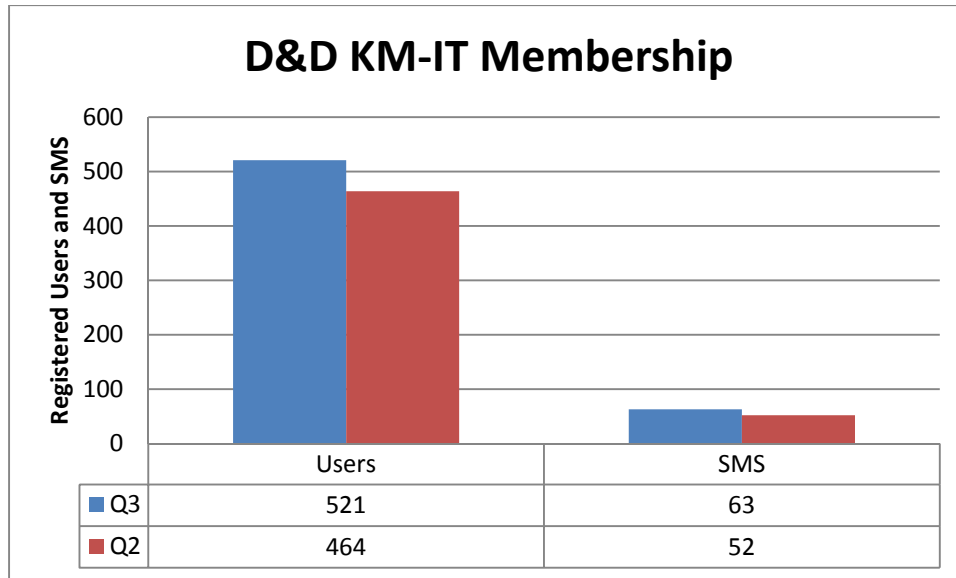


Figure 8: D&D KM-IT Membership

Analysis

During the second quarter, D&D KM-IT faced some challenges as discussed in detail in the Q2 report, *2013Q2_Web Analytics Narrative for dndkm.pdf*. Despite these challenges, the website managed to maintain its traffic and actually showed some improvement in visitor loyalty from the international audience. During this quarter, the site started to move on a positive trend as demonstrated by the summary figure (Figure 1). There, we argued that Pageviews, Pages/Visit, Avg. Visit Duration and Bounce Rate are closely related and that the positive increases on each of these measurements indicate a positive trend.

Another observation is that the impressions to the site by search queries and search results are down when compared to previous quarters but it has not affected the direct visits to documents and the site in general. It seems that after reviewing the impact of the new Google Algorithm changes, the site has prevailed. In fact, the visits to the site are now more efficient and productive as evidenced by the fact that the Bounce Rate dropped by 14.68%. The site results on search engines are more meaningful. Returning visitors are clicking more pages than before when they reach the site and are spending more time exploring on the site.

In summary, the site is healthy. Returning visitors, which sustain the site, remains in a positive trend. Site content continues to increase, providing more available information to the D&D community.

About This Report

This report was developed by Florida International University's Applied Research Center. It uses Google Analytics (GA) as the main data collection source with the combination of the Google Webmaster Tool for a closer look at direct document visits, keywords and queries performed on the site. This report is being generated on a quarterly basis, starting with Q3 of 2012. Prior to this, monthly reports were generated and a yearly report has been completed for February 2011 to February 2012.

A summary raw export from GA is found in the Appendix of this document. It is important to note that the Google algorithm varies based on search patterns, region and other "secret" Google parameters. With that said, it is difficult but possible to duplicate these results.

Terms

Visits: The number of visits to the website.

Visitors: The users visiting the website.

Pageviews: The total number of pages viewed. Repeated views of a single page are counted.

Unique visitors: The number of unduplicated (counted only once) visitors to the website over the course of a specified time period.

Pages / Visit: The average number of pages viewed during a visit to the website. Repeated views of a single page are counted.

Avg. Visit Duration: The average time duration of a session.

Direct Traffic: Typing the address of the website URL or clicking on a previously saved bookmark.

Bounce Rate: The percentage of single-page visits (i.e. visits in which the person left the website from the entrance page).

% New Visits: An estimate of the percentage of first time visits.

Referring sites: Other websites that link to the website discussed in this report.

Clickthrough Rate (CTR): The number of clicks on an ad divided by the number of times the ad is shown, expressed as a percentage.

Appendix

On the following page is the report exported from Google Analytics as supporting documentation.

DOE

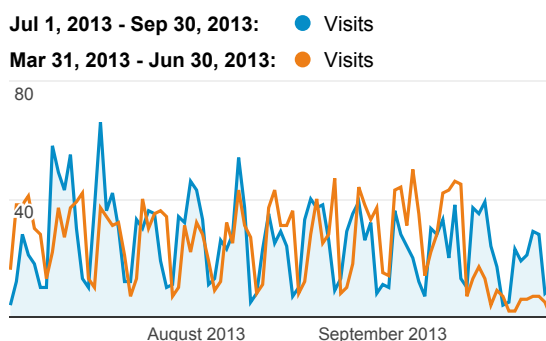
Jul 1, 2013 - Sep 30, 2013
Compare to: Mar 31, 2013 - Jun 30, 2013



Pageviews by Page

Page	Pageviews
/Technology/AdvanceSearch.aspx	
Jul 1, 2013 - Sep 30, 2013	1,052
Mar 31, 2013 - Jun 30, 2013	798
% Change	31.83%
/	
Jul 1, 2013 - Sep 30, 2013	863
Mar 31, 2013 - Jun 30, 2013	646
% Change	33.59%
/Default.aspx	
Jul 1, 2013 - Sep 30, 2013	778
Mar 31, 2013 - Jun 30, 2013	593
% Change	31.20%
/Vendors/ManageVendor.aspx	
Jul 1, 2013 - Sep 30, 2013	765
Mar 31, 2013 - Jun 30, 2013	178
% Change	329.78%
/Technology/Tech.aspx	
Jul 1, 2013 - Sep 30, 2013	646
Mar 31, 2013 - Jun 30, 2013	613
% Change	5.38%
/Technology/TechnologyDefault.aspx	
Jul 1, 2013 - Sep 30, 2013	403
Mar 31, 2013 - Jun 30, 2013	252
% Change	59.92%
/Technology/AdvanceSearch.aspx?Query=All	
Jul 1, 2013 - Sep 30, 2013	252
Mar 31, 2013 - Jun 30, 2013	132
% Change	90.91%

Visits



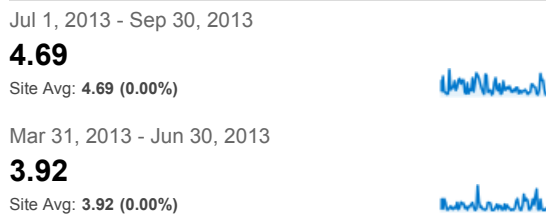
Visits



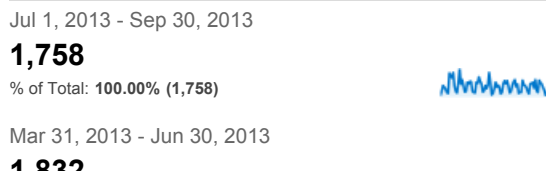
Pageviews



Pages / Visit

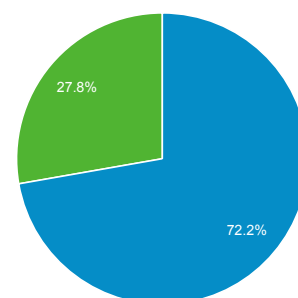


Unique Visitors

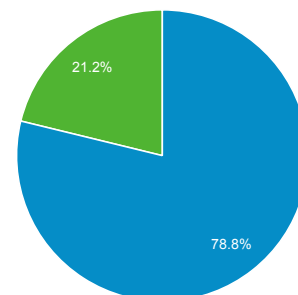


Visits by Visitor Type

■ New Visitor ■ Returning Visitor
Jul 1, 2013 - Sep 30, 2013



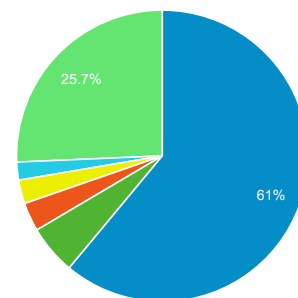
Mar 31, 2013 - Jun 30, 2013



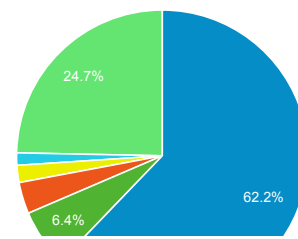
Visits by Country / Territory

■ United States ■ United Kingdom ■ Canada
■ India ■ Japan ■ Other

Jul 1, 2013 - Sep 30, 2013



Mar 31, 2013 - Jun 30, 2013



1,832
% of Total: 100.00% (1,832)



Bounce Rate

Jul 1, 2013 - Sep 30, 2013

60.57%

Site Avg: 60.57% (0.00%)



Mar 31, 2013 - Jun 30, 2013

70.99%

Site Avg: 70.99% (0.00%)



Avg. Visit Duration

Jul 1, 2013 - Sep 30, 2013

00:04:17

Site Avg: 00:04:17 (0.00%)



Mar 31, 2013 - Jun 30, 2013

00:02:38

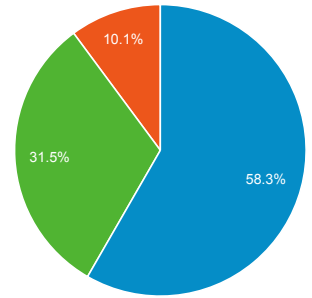
Site Avg: 00:02:38 (0.00%)



Visits by Traffic Type

organic direct referral

Jul 1, 2013 - Sep 30, 2013



Mar 31, 2013 - Jun 30, 2013

