Tying Website Performance to Mission Achievement in the Federal Government

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Introduction

As the World Wide Web (WWW) continues to expand, both in size and in how it is accessed, so does the federal government's dependence on it as a gateway for reaching the American public, who increasingly relies on the Web to obtain information. The role of the WWW in how federal agencies interact with their customers has changed dramatically over the years. Federal websites are fairly extensive, containing a wealth of information targeted to a variety of audiences.

While agencies have been utilizing the Web to disseminate information for years, little, in comparison, has been done to understand and evaluate how effective these websites are when it comes to agency mission achievement. However, with the costs associated with federal websites, it is imperative that each agency ensure that its website makes a meaningful contribution toward achieving its mission.

As with most things, that is easier said than done. The government placed greater emphasis on this task, having issued an assortment of documents, each addressing the topic in different ways, but did not develop a concise guide to address the most important aspects of mission achievement assessment and how webmasters can apply it to their own sites, leaving this undertaking largely undefined and webmasters at a loss of direction. In an effort to help webmasters with various tasks, the Web Manager's Advisory Council, a group of web managers from all areas of the federal government, created task groups to develop guidance that contained as much detail as possible, while remaining general enough to apply to any federal site.

Among these task groups was the Performance Measures and Mission Achievement (PMMA) task group [1], which developed a detailed single-source guide to show how a website contributes to mission achievement [2]. The guide condenses the vast amount of information on this topic into a step-by-step process to showing mission achievement through website performance, while also meeting government performance measure commitments. It was designed for both web managers who are more advanced in their efforts, as well as for managers who are just beginning the process. Following the guide, every federal web manager should be able to demonstrate how their respective website contributes to their agency's mission.

Performance Measurement as a Requirement

General performance measures are not new to the federal government. Since the early 90s, various government initiatives have emphasized the importance of measuring performance of federal programs. Each initiative addresses performance measures in a slightly different manner. Some added additional requirements, building on previous initiatives and improving areas that were lacking, while others reinvented the idea of government performance measurement. But each edict has one thing in common: holding federal programs accountable to the American public.

In 1993, the Government Performance & Results Act mandated that federal performance be measured and results reported publicly, in an effort to make all agencies accountable to the American public. This Act, which is considered to be the most significant advance in bringing accountability to government programs [3], mandated that federal performance be measured and results be reported publicly.

Since 1993, the federal government has added additional requirements, which have built upon the Government Performance & Results Act. This includes the Program Assessment Rating Tool (PART), which was introduced in the fiscal year 2004 budget. PART assesses a program's effectiveness and demands that federal programs show results in order to earn financial support. The Office of Management and Budget Circular A-130, Management's Responsibility for Internal Controls called for the institution of

performance measures that monitor actual performance as compared to expected results.

There is no lack of information when it comes to *what* agencies need to evaluate. The problem is that the federal government does not provide much guidance in terms of *how* agencies can evaluate their programs. This is especially true for measuring website effectiveness.

How to Show Mission Achievement

Determining how to show mission achievement through website performance is not easy, especially with the lack of guidance available. Web managers are familiar with common web performance metrics that cover visitor traffic (including visits and page views). And while such information is valuable, these types of broad measures alone cannot be used to demonstrate mission achievement.

Before a website manager begins this process, s/he should understand that not all aspects of a federal website must demonstrate mission achievement. It is acceptable to provide features on a website that do not relate to an agency's mission.

Another thing to keep in mind is that agencies do not need an extensive amount of metrics in order to show mission achievement. Well-developed, quality metrics will provide much more valuable information than a report full of every metric the manager could think of.

Since there is much to consider before jumping into actual performance metrics, the PMMA task group decided that the easiest way to prove mission achievement is to break the process up into steps. These steps are:

- Review and understand agency mission statement
- Identify mission categories
- Identify related business models
- Map existing web services to business models
- Develop metrics that compliment business models

Each step leads into the next. By working through each step, web managers will be able to determine which aspects of the site are most important and will be able to match metrics to these specific areas.

Step 1 – Understand Mission Statement

The key to showing mission achievement is to first have a comprehensive understanding of the agency mission statement. It is important to note that, although the topic here is "mission achievement," the goals and purpose of an agency are not solely detailed within the agency's mission. Other important documents covering strategic planning and vision also contain pertinent information about an agency and should be included in this process. The web manager should review these documents and highlight words and phrases that are most important to the agency.

Example: To show that IRS.gov contributes to IRS mission achievement, the web manager should gather the IRS mission statement, vision, and goals, as well as any other important documents or publications containing information on IRS goals. By reviewing these documents, the web manager would see that the IRS focuses on educating taxpayers about their tax obligations, ensuring that all taxpayers pay their fair share of taxes, and that the agency concentrates on minimizing the amount it spends when collecting tax payments [4]. Key topics from this step are "education," "compliance," and "fiscal performance and cost containment."

Step 2 – Identify Mission Categories

Since the number of topics from the mission statement and supporting documents can be quite large, the PMMA task group decided to group topics into mission categories to help generalize the process to all federal agencies. The mission categories are based off of the "modes of delivery" as described in the Federal Enterprise Architecture's Business Reference Model [5]. The "modes of delivery" detail the different ways in which the government carries out its purpose. This organization lends itself easily to the categorization of mission statements.

The modes are divided into two areas: government service delivery and financial vehicles. Government service delivery modes involve how agencies provide services to citizens, while financial vehicle modes involve monetary transactions. Categories of government service delivery modes are: knowledge and creation management; public goods creation and management; regulatory compliance and enforcement; and direct services for citizens. Financial vehicle modes include: federal finance assistance; credit and insurance; and transfers to states and local governments.

Example: The IRS web manager identified three topics in step one. By referring to the guidance provided on mission categories, s/he would be able to map each of the three topics identified to a specific mission category. The topics match as follows:

Education	→	Knowledge & Creation Management
Compliance	→	Direct Services to Citizens
Fiscal Performance & Cost Containment	→	Regulatory Compliance & Enforcement

Step 3 – Identify Business Models

Each mission category relates to various business models. The PMMA task group created a matrix that allows web managers to easily map mission categories to the business models with which they are most often associated. The matrix also indicates how often each model is used to support a mission category (indicated by: H-High, M-Medium, L-Low).

It is important to note that some mission categories may share the same business models. When this happens, the web manager should pay special attention to the models that are repeated, since those are the ones most relevant to the agency's mission. The web manager does not need to use all business models identified in this step. S/he should use the frequency of use indicators to decide where to start.

For certain agencies, business models that are used infrequently among federal agencies may be more relevant than ones that are marked with medium or high. In this case, the web manager should focus on the more appropriate model, regardless of general usage frequency.

Example: The three mission categories identified in the previous step relate to eight different business models: interactive tools, targeted education, e-commerce, reduce costs, recruitment, non-financial transactions, print forms available, and news / information. With so many models, the web manager may feel overwhelmed and unsure where s/he should start. Within this list though, three models appear multiple times: targeted education (3), interactive tools (2), and e-commerce (2). Since these occur multiple times, the web manager should focus on these three models, at least at the beginning of the process. Then, if the web manager wants to explore more options, s/he can return to the full list.

Step 4 – Match Web Services to Business Models

Once the web manager has identified the business models on which s/he should focus, the next step is to evaluate existing website services and determine which services compliment each business model. These services will be the ones that the agency evaluates, using results to show how the site contributes to mission achievement. Web service types can include general information, publications and forms available for download, and customized tools designed to help the customer obtain specific information, among others. As previously stated, not all services on the website will directly support the agency's mission.

Example: The IRS.gov web manager should focus on each model separately. Beginning with targeted education, s/he should compile a list of all items or areas of the site that are related to educating taxpayers. This can include providing electronic versions of forms, publications, instructions online, as well as tax tips.

For interactive tools, the manager should determine what, if any, tools are on IRS.gov. Current interactive tools include: withholding calculator, alternative minimum tax assistant, and the refund status tool.

Finally, there's e-commerce. IRS does not currently engage in e-commerce activities on its website. However, it does provide access to e-file partners and free file alliance companies; hence, the site encourages e-commerce. And this type of activity enhances the IRS's ability to collect tax revenue. Therefore, the IRS web manager should evaluate how the site is impacting tax collection.

Step 5 – Select Appropriate Performance Metrics

Now that the web manager has made it through the first four steps, s/he is ready and prepared to start thinking about performance measures. Having completed the other steps in the process, the web manager will be more familiar with the agency's overall mission and goals and s/he will be able to more easily identify metrics that will show mission achievement.

The PMMA task group recommends that web managers use Victor Basili's Goal Question

Metric approach. Using this method, the manager first sets a goal for each model. Then s/he derives questions for each goal. And then finally, s/he will develop metrics for each question (most likely there will be multiple metrics used to answer one question).

Once the manager has a metric in mind, s/he should ask the following two questions. 1. What will be done with this information? 2. What kind of action will be taken based on this information? If the answer is "nothing" or "none," the metric is not worth tracking. It is important that the information collected be of value to the organization. If it is not, a different measure should be selected instead.

After a metric is selected, time must be spent to define the metric—what it covers, what should be collected and how, and to define what results mean. All of this should be done prior to implementation; however, it may be necessary to collect some information for a baseline before the agency can define results.

Example: Targeted Education

Goal: Reduce costs as a result of providing educational and instructional materials online.

Question: How do the costs for providing targeted education online compare with other materials?

Metric: The amount of money saved by not mailing hard-copy information.

Things to consider: Which materials should be included in this measure? How much would it cost to send out each of the materials in this measure?

Data to collect: The number of downloads per each type included.

Savings: For each material, the cost of mailing the item multiplied by the number of downloads associated with each item.

Example: Interactive Tools

Goal: Reduce costs of processing paper versions by providing online tools for frequently requested items.

Question: How much money is saved by customers using online tools instead of filing paper requests?

Metric: The amount of money saved by customers using online tools as compared to using paper versions.

Things to consider: Which tools should be included in this measure? How much would it cost to process hard copies of the items included in this measure?

Data to collect: The number of completed transactions per each tool included.

Savings: For the number of times each tool was used, multiply the cost of the online tool and the cost of processing hard copies, separately. Calculate the difference.

Example: E-commerce

Goal: Streamline and reduce the costs of the collection of tax returns through increased use of e-file.

Question: What are the direct cost savings from processing electronic returns?

Metric: The amount of money saved by processing an e-file return instead of a paper return.

Things to consider: What aspects are involved in processing both e-file and paper returns? How much does it cost to process a print return? How much does it cost to process an e-file return?

Data to collect: The number of e-filed returns.

Savings: For the number of returns e-filed, multiply the cost of processing a paper return and an e-filed return, separately. Calculate the difference.

Next Steps

The process is not complete once the web manager has selected metrics related to agency-specific goals. Although selecting these metrics was the assigned task, there are several other things that should be considered. First, all terms associated with each metric must be clearly defined. These definitions should be agreed upon and deemed official. This is key because loosely defined terms may lead to misinterpretation.

Limitations for each metric should be identified and clearly explained. If a web manager does not fully understand the limitations associated with each metric, the reported result may not be

accurate and misinterpretation will most likely occur. While some limitations may have a small impact on data, others may contribute to an agency's inability to collect certain data.

Cookie usage is one of the most pressing limitations for federal websites. A cookie is a small text file placed on a customer's computer hard drive by a web server. This file allows the web server to identify individual computers—permitting a company to recognize returning users, track online purchases, or maintain and serve customized web pages.

There are two types of cookies that can be used on a site: session cookies and persistent cookies. Session cookies have a short life-span; they are placed on the user's computer when s/he lands on the site and expire shortly after the visit concludes. Persistent cookies remain on the customer's computer for much longer. The length of time is defined by the website, but could be 30 or more years.

The federal government generally prohibits the use of persistent cookies on all government websites. Federal agencies may be granted permission to use persistent cookies on their websites if they can demonstrate: "a compelling need to gather site user data; ensure appropriate and publicly disclosed privacy safeguards for handling site data, as well as information collected through cookies; and obtain personal approval by the agency head [6]." While the first two requirements are relatively easy to demonstrate, the third one is not easy to obtain. Within the federal government there is a negative connotation associated with any cookie use, which makes it almost impossible to acquire personal approval for cookie usage from the head of an agency. Without persistent cookies, federal agencies cannot collect certain data for metrics, including visit frequency, unique visitors, and first-time versus repeat visitors, among others.

Next, the web manager should determine how often data for each metric should be collected. Sometimes, it will make sense to assess metrics monthly; while other metrics may only need to be assessed on a quarterly or yearly basis. For some metrics, it may be useful to collect data for a few different timeframes. This type of analysis may show different trends, or it may help determine what drives a certain trend.

Prior to data collection implementation, the agency should determine what will be done if a metric shows negative results. It is important to determine the consequences for poor performance early on, instead of putting it off until it occurs. Establishing a plan for how to handle negative results will help an agency quickly respond to (and hopefully recover from) poor performance results.

The Education Process

With the implementation of any new program, there should also be an education process. Education of both employees who work on the website and management who will use the results to make decisions or present the information to others is essential when it comes to website performance metrics. Many people assume they know what the different metrics mean, but many times they do not have a good understanding of the terms, associated limitations, or interpretation issues that may exist.

"Web hits" are a prime example of why education is important. Many people do not know what a web hit is. They assume that it is the leading metric that shows how many people come to a site in a given timeframe. What they do not realize is that hits and visits are not synonymous. A hit is any element called by a web browser when requesting a webpage. This includes images, animation, audio, video, downloads, documents, and the page itself, among other items. One single page may produce 30 or more hits each time it is requested. It turns out that this inflated number has no significant use outside of showing the web manager what the server workload is like during a given timeframe.

When developing metrics, it is of the utmost importance to spend time educating everyone who will be using the information. This process is essential because misreported or misinterpreted data may lead to poor decisions, and will highlight a lack of understanding among the agency.

Developing a Report

Results from selected metrics should not be reported individually, but instead in a comprehensive report. The type of report is up to the agency. The report could be a single page, a detailed report that includes charts and graphs, a dashboard-style report, a balanced scorecard-style report, or any other style that matches the information presented. Incorporating all website performance metrics into one report will help the audience see the global view of the website and

how each aspect contributes to mission achievement.

It is always important to keep your audience in mind when deciding on the report style. It may be necessary to develop a few different reports, each tailored to a different audience. For example, agency executives who need this information may want a short report, perhaps a dashboard, while the web manager will most likely want as much detail as possible, requiring a very different report.

In any and all reports, data reported should be presented in a simple and clear manner. Graphics and charts that are used in reports should be carefully considered; while some graphics look visually interesting, they may not truly reflect the results and may mislead the audience, which could lead to poor decision-making.

In addition to the results, the report should also include a statement of intent, definitions for all metrics and associated terms, and explanations of all data collection and interpretation limitations. Someone who fully understands the metrics should also provide some analysis of the results to help with interpretation. These additional areas will help reinforce the education initially provided and will help ensure that decisions and actions taken based on the information in the report will be appropriate to the results shown.

Conclusions

Although the idea of linking website performance measures to mission achievement sounds daunting, breaking the process into steps makes the task more straightforward. Each step also builds the web manager's understanding of how the website relates to the agency's mission; this will help the web manager select the best metrics possible.

When it comes to showing mission achievement through performance measures, there is much more involved than just selecting metrics and collecting data. Agencies must thoroughly understand the metrics they select, the data collection method they use, and any (and all) data collection and interpretation limitations that exist. In addition, the agency should spend time educating end users of the results; everyone should understand what can and cannot be determined from the information collected.

Education is, and should be, a permanent part of this process. After an initial explanation of the selected performance measures package, the agency should continue to remind users of definitions, limitations, and interpretation issues by including explanations in all reports produced. This is the best safeguard in ensuring that results will not be misinterpreted or misused.

Finally, agencies should continuously evaluate and reevaluate performance metrics. If the agency's focus changes, the performance metrics should change to accommodate the new focus. Web managers should also examine the metrics on an annual basis to determine if the information derived from the metrics is what was originally intended. This will certify that statements included in performance reports are accurate.

By developing performance metrics that demonstrate mission achievement, agencies will not only be able to assess the resources spent on websites, but will also prove themselves financially responsible to the American public. In turn, this information will help raise the public's confidence in the federal government as a whole.

Notes and References

[1] The PMMA task group is an interagency group created by the Web Managers Advisory Council.

[2] The full guide is available on the First Gov website: http://www.firstgov.gov/webcontent/improving/evaluating/mission.shtml

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