



# NEXT GENERATION WEB METRICS FOR GOVERNMENT

APPLYING THE ACSI METHODOLOGY  
TO MEASURE AND MANAGE PERFORMANCE  
OF GOVERNMENT WEBSITES

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## TRADITIONAL WEB METRICS DON'T MEASURE UP

While the federal government's use of the Web has grown at a phenomenal rate through E-government activities, web metrics that measure the success of government websites have not kept pace. Since website traffic has been a popular measure for determining success, traditional web metrics focused primarily on counting. Some of the traditional metrics counted the number of hits, number of pages viewed, and the number of unique visitors. Supplied with only basic usage statistics, federal government web managers have been confronted with the question of how to use this data to make valid budget and investment decisions.

In an effort to get more out of the data that government websites generate, clickstream and log file analysis tools have been developed to consolidate massive amounts of data from various sources likely to produce informative web metrics. Although these tools identify which pages of a site visitors viewed and the path that they took to view them, they cannot provide insight into how satisfied visitors were with the ease of navigation or the quality of the information they found, nor their likelihood to return or refer the site to a friend or colleague.

Despite the fact that they attempt to consolidate and evaluate website traffic, clickstream and log file analysis tools merely provide summarized data rather than true insight that federal government web managers could use to make prudent investment decisions regarding enhancing their websites. In addition, these types of analyses neither accurately measure the current success nor predict the future efficacy of websites. Federal government web managers no longer have the luxury to try untested ideas to improve the services they offer citizens. They need the tools to achieve measurable results, to fulfill the requirements of the Government Performance and Results Act (GPRA), and to report their progress to the Administration and Congress.

## THE WEB DRIVERS POWERING E-GOVERNMENT PROGRAMS

Over the past few years, the Web has emerged as an efficient means for government agencies to provide better services at lower costs to a growing number of citizens. Many factors have contributed to the federal government's increased reliance on the Web to deliver products and services: the lower cost structure of the Web, the consistent accuracy of the information provided, and the convenience to the public.

### *Lowering Costs*

Traditionally, federal government agencies have provided government products, services, and information to citizens through in-person encounters, via the mail, and the telephone. In most cases, citizens have had to complete and submit paper forms requesting services. Using a paper-based system required citizens to take time to research the service, request the appropriate form, wait for the requested form, complete the form, send the form back to the agency, and wait for the form to be processed and approved by the agency. This meant that both citizens and government agencies have spent considerable time on non-value-added activities rather than on the actual product or service requested.

By taking advantage of the Web, government agencies can focus scarce public resources on providing services rather than processing paper, reduce the number of errors associated with

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paper-based processes, and save direct costs associated with printing paper-based forms, distributing them through the mail, and reducing the number of manual activities required to process these forms.

#### *Providing Consistent Information*

In addition to driving costs down to provide citizens with higher-quality services, federal government agencies are able to utilize the Web to consistently disseminate information. As a result, citizens, who are located around the United States and even globally, can access a federal government agency's website and receive the same, high-quality and accurate information. On the other hand, if these same citizens call the agency's call center and ask the same question, there is a chance that they might receive different information. The fact that an agency's website operates as a centralized source of information nearly guarantees that citizens receive a consistent quality of information no matter where they are located. By providing a single-point of contact to citizens, federal government agencies can more easily manage and deliver a consistent quality of information to each citizen.

#### *Delivering Services Conveniently*

Federal government websites give citizens access to services and information 24 hours a day, seven days a week. By removing time and geographic boundaries, the federal government has empowered citizens to access products, services, and information where and when it is most convenient to them.

### NEXT GENERATION WEB METRICS FOCUS ON CUSTOMER SATISFACTION

Given that traditional web metrics are relatively primitive, focusing more on counting than measuring, they are clearly unable to determine either the direction or magnitude of customers' experiences and satisfaction. As a result, web metric tools must be augmented with a more powerful methodology to accurately measure and drive website success.

One critical weakness of traditional web metrics is that they are not based on a sound methodology with proven cause-and-effect linkages to citizens' future behaviors. As a result, next generation web metrics must be based on a credible and precise methodology that accurately measures how well federal government websites are performing and allows for performance comparison across an agency's online and offline service delivery channels, as well as across different government agencies. Essentially, this methodology will provide the solid foundation for next generation web metrics to measure and monitor the success of federal government websites and to provide their web managers with the type of actionable information they need to make it simpler for citizens to receive high-quality services from federal government agencies, while reducing the cost of delivering those services.

The methodology behind the American Customer Satisfaction Index (ACSI) provides the solid foundation needed for next generation web metrics to accurately measure citizens' satisfaction with a federal government website and to ultimately impact that site's ability to deliver high-quality services at a lower cost. The ACSI is the only uniform, national, cross-

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industry measure of satisfaction with the quality of goods and services available in the United States. In 1999, the federal government selected the ACSI to be a standard metric for measuring citizen satisfaction. According to the Federal Consulting Group, the ACSI has been used by over 55 federal government agencies to measure customer satisfaction with more than 110 services and programs, including many websites. Government agencies have used their "ACSI results for: internal strategic planning; performance improvement strategies; further analysis of customer needs; and for justification of budget requests."<sup>1</sup>

The powerful mathematical models used by the ACSI methodology do not relegate customer satisfaction to the realm of anecdotes, assumptions, personal experiences, inferences, or even simple correlations. Rather, its methodology allows federal government web managers to quantitatively measure customer satisfaction levels and to confidently identify specific areas for improvement. Year after year and quarter after quarter, the ACSI demonstrates that a definite link exists between measurement of customer satisfaction and performance.

Why is customer satisfaction so closely linked to performance? The answer is fairly simple: satisfied customers reward an organization by recommending it to others and by using it in the future. Applying this concept to federal government agencies, citizens' satisfaction enhances trust in government and has a huge effect on which service delivery channel citizens choose to use first when requesting services from a federal government agency in the future. While government agencies might not be susceptible to the same competitive pressures that exist in the private sector, a government agency in essence competes with itself to deliver its services through the least expensive and most efficient service delivery channel. This means that if a citizen has a poor experience researching, requesting, and receiving services through an agency's website, the citizen might be required to resort to a less convenient, higher cost channel such as a call center or an in-person visit to access the same government services. Therefore, it is critical to understand citizens' satisfaction and the impact that satisfaction has on their future behaviors such as likelihood to return to or refer a government agency's website services.

As an example of the channel competition described above, consider citizens who have had a bad experience at [www.IRS.gov](http://www.IRS.gov) and are unable to find the appropriate tax form that they need to complete an annual tax return. While it is very unlikely that these citizens will move to another country or decide not to pay taxes, the same individuals are likely to request the form from the IRS's more costly telephone-based service center or from a field office.

Many public and private sector organizations make the mistake of treating satisfaction as a simple binary concept. Simple in the sense that traditional surveys ask only one question; binary in the sense that customers are categorized as either satisfied or dissatisfied using a so called "Top Box" approach—often in percentage terms (e.g., we have 80% satisfied customers). This approach is flawed because it does not provide reliable and valid information. This is also why many public and private organizations fail to find any relationships between quality and satisfaction and between satisfaction and performance.

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<sup>1</sup>"Frequently Asked Questions," *Customer Service.gov*



Unlike other methods that attempt to measure customer satisfaction, the ACSI methodology's cause-and-effect system isolates the effects of any one change in a quality component to determine its impact on customers' overall satisfaction and their subsequent future behaviors. The sophisticated ACSI methodology uses patented mathematical models to determine the customer satisfaction scores and derive the impact that satisfaction improvements have on customers' future behaviors.

The ACSI methodology's unique approach is very different from traditional surveys that focus on customers' self-rated importance. One of the major pitfalls associated with self-rated importance is that what customers typically say is most important is not necessarily correlated with customer satisfaction as well as actual future behavior. Therefore, relying too heavily on citizens' self-rated importance could lead federal government managers to make budget and investment decisions on the basis of flawed information.

The ACSI methodology not only predicts customers' future behaviors, but also provides the causal linkages necessary for federal government managers to make informed budget and investment decisions, as well as to develop solid action plans. Using the predictive capabilities of the ACSI methodology, federal government managers will have the means to better prioritize their budget dollars and to allocate resources to the areas that will yield the highest return in terms of satisfying citizens. From the citizens' perspective, the ideal government agency allocates public resources in such a way that it provides higher quality services to a greater number of citizens at the lowest possible cost.

## NEXT GENERATION WEB METRICS UTILIZE PROVEN METHODOLOGY

The application of the ACSI methodology to government website measurement makes many things possible. By using the ACSI's unique and proven methodology, federal government web managers can measure what they cannot see and put these unobservables into cause-and-effect systems where the relevant can be separated from the trivial. In addition, generalizations can be drawn from a small sample to a target population, thereby allowing visitors' site experiences to be accurately inferred.

But it is the quality of information—its relevance, accuracy, precision, and usefulness—that will separate the winners from the losers. Raw data may have nuggets of value, but like crude oil, it must be processed to become useful. The next generation of web metrics will provide refined data in which noise is sharply reduced, precise statistical generalizations can be made using smaller sample sizes, and causal patterns can be established. Ultimately, federal government web managers will demand better diagnostics to evaluate and prioritize site improvements.

As stated earlier, most web metric tools available today focus on the popularity of a site by counting the number of page views, unique customers, or items sold on the website. But counting is not measurement, and the recording, aggregating, sorting, and displaying of survey data is not information. Using a web metric based on a proven methodology like the ACSI takes measurement to the next level and truly determines customers' overall satisfaction

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as well as their satisfaction with specific website elements such as 'ease of navigation' and 'content'. In addition, the predictive nature of the ACSI methodology gives federal government web managers insight in determining customers' likelihood to return to the website, refer it to a friend, and complete transactions online.

Now, what does all this mean? Without theory or structure, any manipulation of data is of limited value. Without validation by data, theory remains imaginary and abstract. Therefore, knowledge depends on a combination of both theory and data. This is true for websites and just about everything else. Take the measurement of satisfaction. Instead of relying on the answer to a single question as in traditional surveys, several questions are used—the responses to which are then calibrated with respect to the context in which they belong and in accordance to their purpose. For a website, the context might consist of elements like 'content', 'ease of navigation', and 'search capabilities'. The purpose might focus on a visitor's 'likelihood to return' to a site in the future. In other words, some knowledge of structure, i.e. the impact that ease of navigation has on satisfaction, and purpose can be combined with the responses from several questions for the best possible measure of the phenomenon in question, in this case 'customer satisfaction'. The advantages of this approach are more precision, more relevance, and much less random noise in the final results.

Another major advantage lies in the diagnostics of the system. How should federal government web managers decide what to fix or what to improve on their website? What is it that makes website visitors satisfied? Again, this is not different from decision making in general. All decisions assume some sort of causal system. A person ties his shoelaces with the assumption that one's shoes will stay on one's feet for at least some period of time in the future. This assumption is usually correct, because a person has theory and previous experience to rely upon, and there are not many outside factors that can disturb the relationship between tying shoestrings and keeping shoes attached to one's feet.

While empirical associations might imply that a relationship exists between two phenomena, they do not imply that an actual cause-and-effect relationship is present. Applying this to web metrics, federal government web managers need to understand that next generation web metrics should distinguish cause-and-effect systems from empirical associations.

## KEYS TO IMPLEMENTING NEXT GENERATION WEB METRICS

When evaluating next generation web metrics, federal government web managers should consider the following key implementation attributes:

**PROVEN METHODOLOGY:** Government agencies should first consider the amount of effort necessary to develop a statistically sound survey methodology to collect and process data for its web metric. Rather than reinvent the wheel by tasking a market research team to collect and analyze data, government agencies should consider the cost and reliability advantages of employing an existing measurement tool that is based on a proven methodology. Furthermore, federal government web managers should select a reliable methodology that has a proven track record and provides statistically accurate and precise results that managers can use to make actionable decisions that lead to success.

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**NON-OBTRUSIVE TO SITE VISITORS:** Government agencies should select a web metric measurement tool that collects information from site visitors without negatively affecting their experience. The impact on visitors' experiences should be considered along two dimensions. First, the data collection tool (e.g., survey) should be short and easy for site visitors to complete, yet capture completely their unvarnished feelings about a website. Second, the survey methodology should require only a small sample of the visitor population to provide actionable information that can be applied to a website's total visitor population. Therefore, federal government web managers should strongly consider the impact of the data collection method on all site visitors' experiences.

**CONTINUOUS, ACTIONABLE MEASUREMENT:** Government agencies should utilize web metric measurement tools that provide continuous measurements to track historical trends and the impact of ongoing site changes. Competitive advantage is most often achieved by continuously monitoring the customer base, and improving aspects of quality which have high rates of return. Not only should next generation web metrics help federal government web managers to prioritize and make wise investment decisions in terms of site improvements, but they should also give managers the power to measure the performance of their E-government programs over time.

**EASY IMPLEMENTATION:** Government agencies should consider the impact of implementing a web metric measurement tool on a website along the following two components: programming code and website performance. While the former deals with the amount of programming effort it would take to integrate the code to run a web metric measurement tool with existing website code, the latter focuses on website performance issues that might arise from running a data collection tool on a website. If improved customer satisfaction is the ultimate goal, the effect of these technical performance issues on site visitors' experiences is critical.

**BENCHMARKING CAPABILITIES:** Government agencies should utilize standardized web metrics that allow for benchmarking not only against other federal government websites, but also against private sector websites such as Yahoo! and Amazon. Furthermore, as the line between government service delivery channels continues to blur, government agencies should consider a measurement that is comparable across its various service delivery channels (e.g., in-person, call centers, etc.).

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## ABOUT FORESEE RESULTS

ForeSee Results is a top-rated web satisfaction management company. We utilize the methodology of the most respected, credible and well-known measure of customer satisfaction in the country, the American Customer Satisfaction Index (ACSI), to link customer satisfaction to measurable business results. We measure customer satisfaction and identify the impact that satisfaction improvements have on future behaviors. ForeSee Results is a privately held company located in Ann Arbor, Michigan.

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The Federal Consulting Group is the executive agent for the ACSI and Foresee Results and holds a generic clearance from the Office of Management and Budget that enables any agency to participate in ACSI surveys. Agencies can subscribe to the ACSI directly with the Federal Consulting Group through an easy to implement interagency agreement.

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