How to Measure Success

A Practical Guide to Answering Common Civic Tech Assessment Questions

March 2015

NETWORK IMPACT

Introduction

Now widely recognized as a distinct practice field, civic tech is still largely experimental and far-flung. In this environment, innovators and investors are increasingly keen to measure results so that they can focus their efforts. Demonstrating impact is one way to distinguish between promising innovations and not-so-fruitful experiments. As many practitioners now realize, careful assessment can pinpoint winning strategies for engaging people and effective pathways to desired outcomes.

This guide includes advice for designing and implementing assessments that are particularly suited to civic technology. The goal is to provide civic tech project teams (the managers and project leads, tech developers, graphic designers, online coordinators and partners) with top line suggestions for measuring their platform's performance using tools and approaches that are both effective and practical. The guide is based on extensive field research and consultations with civic tech thought leaders and project teams. An early draft was reviewed by experts in the field who helped to shape its content. A deeper dive into civic tech outcomes can be found in the companion publication, Assessing Civic Tech: Case Studies and Resources for Tracking Outcomes, which we co-published with the John S. and James L. Knight Foundation.

Our advice is also intended to encourage field-level convergence around a common set of measures. Independent efforts have produced an array of "home-grown" metrics that do not always equate. Despite the range of purposes that civic tech is designed to serve, some measures are broadly relevant across the field. Convergence around these metrics will allow innovators and investors to compare results and the field as whole to map its impact.

Civic tech is a growing field that harnesses technology to spur civic engagement, improve cities and make government more effective. This guide includes advice for civic tech designers and managers about how to monitor and assess the impact of their innovations. Civic tech innovations range from open government tools that improve public data access and service delivery to platforms that empower residents to connect and collaborate around civic issues.

Background

In 2012, the Knight Foundation engaged Network Impact to conduct a scan of the field of civic tech assessment and provide technical assistance to several grantees. Based on this experience, Knight asked Network Impact to produce a practical guide to assessment for organizations engaged in civic tech work. Network Impact is especially grateful to the following organizations for generously sharing their stories and insights: Code for America; Change by Us; Living Cities; Participatory Politics Foundation; CommonPlace; E-Democracy; Community PlanIT; and ACTion Alexandria. Network Impact is also grateful to the following individuals for reviewing a working draft of this guide and contributing to its content: Beth Kanter (Beth's Blog), Tamir Novotny (Living Cities), Frank Hebbert (OpenPlans) and Maria O'Meara (Writer).

About Network Impact

Network Impact accelerates and spreads the development and use of networks to support positive social change. We conduct research, build tools and provide strategy and evaluation advice to social-impact networks, foundations, and the emerging field of network builders. Find us at: www.networkimpact.org

Terms and Definitions

The term "platform" is used throughout this guide to refer to any civic tech project, whether it is a mobile app or a multi-feature website.

Additional definitions are listed below:

- **Assessment:** Any activity designed to clarify the relationship between project activities and outcomes.
- **Performance measurement:** Assessment that is designed to drive an ongoing cycle of project improvement.
- **Outcomes:** The changes or benefits to end users and society that result from a project in the short/medium and/or long term.
- **User-centric data:** Data tracked using a unique identifier that links a user's online activity, the results of any research that describes changes in that user's knowledge, attitudes or behavior; and any other relevant information about users, such as demographic or geo-tagged data.

New to user-centric data?
See the User-centric Data section in Additional Tools & Resources.

Table of Contents

I. Getting a Plan in Place

Some civic tech designers start with standard web metrics and refine their assessment along the way. Others develop custom assessments from the get go. Either way, it's important to develop a plan so that you can systematically measure your platform's performance and chart its impact over time.

What are the basic elements of an assessment plan?

Your assessment should measure progress toward the outcomes you want to achieve, so a clear statement of goals is a good place to start. Depending on your larger objective, desired outcomes for users may include stronger bonds between neighbors, increased civic participation, engagement by low income or other hard to reach populations or enhanced trust between residents and government.

Your assessment plan should also identify measures and methods for capturing patterns of platform activity and lay out a strategy for documenting how platform activity leads to outcomes for users and others. When you begin, think about how your platform works towards change for the people and places it engages. Then, consider ways in which your platform has the potential to generate impact and on which types of users. Improved quality of civic life, greater government accountability and a stronger participatory democracy are some of the larger objectives that civic technologies seek to accomplish.

For example, Living Cities and their technology partner OpenPlans created an evaluation plan for their #VizLou project that outlined key evaluation questions and identified top data collection approaches and methods. Their preliminary questions included: How do potential end users engage with local government at the outset of the project? Does the tech solution increase/change this engagement and, if so, how? To answer these questions, they looked at usage data in combination with the results of focus groups with users and conversations with local civic leaders. They also asked: How and to what extent did the tech solution and the process that produced it make relevant parts of local government more responsive to the input of low-income young adults? To answer this question, they asked local government representatives to share their perceptions of the impact of the platform. The exact questions and data collection methods evolved as the project progressed, but their initial plan gave them a good starting point.

Assessing Civic Tech: Case Studies and Resources for Tracking Outcomes includes examples of how civic tech teams developed their outcome assessments, with findings about the impact of their platforms. Complete evaluation reports that detail civic tech evaluation plans and findings can be found in Additional Tools & Resources.

ADDITIONAL RESOURCES

Find Civic Tech Evaluations and Case Studies here.

Developing a Theory of Change – Civic tech innovators typically start with a vision of change they want to see in the world and some ideas about how their platform will contribute. A "theory of change" is simply an explicit statement of how change is expected to occur. Developing a theory of change (ToC) can be useful for platform design as well as for evaluation. A ToC can also help you explain your work to partners and funders.

When is the best time to create an assessment plan?

It's never too early to begin thinking about how you will track your platform's performance. As many civic tech developers can attest, building assessment into development plans early makes life much easier down the line. Living Cities integrated assessment planning into the beginning of their development process for #VizLou. This allowed them to include target audiences in their platform planning and gather baseline data about how those potential users interacted with local government before they tried #VizLou. When Community PlanIT partnered with the Boston Public Schools Office of Accountability to engage a wide range of community stakeholders on K–12 school reform, they worked with Public Agenda to design an evaluation plan to assess the game's effectiveness. Community PlanIT and Public Agenda combined analysis of platform data, including user demographics, with qualitative research that included interviews with game players, developers, Boston Public School administrators, and city administrators with knowledge of the project, during and after the game. They focused their research plan on exploring whether the game "facilitated meaningful deliberation and engagement on K-12 reform" and how the deliberation process in the game helped or hindered "deliberation, democratic decision making and collective action around K-12 school reform." The findings from this evaluation then informed future game development[1].

How should you adapt your plan along the way?

Platforms evolve and so should your assessment activities. Are patterns of user activity shifting? Are users benefitting in new ways? Based on new information, revise your plan to reflect what you have learned and to incorporate evolving strategies. Civic tech platforms follow some typical phases that provide a basic roadmap for adapting your plan. (See Phases of Platform Development Figure 1 on page 7.) Many civic tech designers focus on metrics for user recruitment and participation first, then they expand their data gathering once enough time has passed for outcomes to occur or for patterns of use to become evident.

For example, when CommonPlace launched its first closed online community in Falls Church, VA, in 2011, their goal was to drive civic engagement through the use of 21st century tools. The CommonPlace team was interested in connecting users to local government services and community organizations so they designed features and a monitoring dashboard to capture user activities and connections. The data they collected allowed them to assess their role as a bridge between residents and their community institutions. Over time, they became more focused on tracking and potentially leveraging the connections and social bonds that were created between users as a result of platform use. In order to collect the data they needed to assess these new potential impacts over time, they developed a user survey to assess

[1] Exploring New Modalities of Public Engagement An Evaluation of Digital Gaming Platforms on Civic Capacity and Collective Action in the Boston Public School District: http://engagementgamelab.org/wp-content/uploads/2011/03/Engagement_Game_Lab_CPI-Eval_6.11.12.pdf

changes in users' relationships with other users as a result of the platform. CommonPlace plans to send the survey to users when they join a CommonPlace site, and then after at least 12 months of platform use.

DoSomething sifts through millions of data points in order to translate them into the key metrics they need to track progress toward outcomes. In order to monitor core activities, they look at aggregate data such as the total number of youth that take action through campaigns, as well as results of campaigns (e.g., the number of pairs of jeans collected for homeless youth). Based on these data, they have created Key Performance Indicators (KPIs) which they use to make their campaigns even more successful. For example, they realized through testing that asking a user to challenge or invite five friends leads to the highest overall engagement. As a result, DoSomething incorporates the five-friend challenge into campaigns and tracks how many users do it. In another example, when DoSomething decided to promote youth volunteering, they began to look at their data differently in order to identify their most engaged users and then find other users like them. This shift from aggregate data collection to more in-depth analysis of user behavior is common to many civic tech projects that focus first on creating a user base and then on analyzing user-centric data to improve results. To round out their data collection and analysis, DoSomething also surveys users to gauge impact. For a campaign on preventing teen pregnancy, external research showed that teens were more likely to delay sexual activity if they could talk about it with their family and friends, so DoSomething knew that's what they needed to test for. A post-campaign user-survey showed that "one in two teens said that taking the Pregnancy Text made it more likely that they would talk about the issue of teen pregnancy with their family and friends."

PHASES OF DEVELOPMENT

Match Your Assessment Approach to Phase of Platform Development[2]

Civic tech platforms follow some typical phases that provide a good roadmap for focusing your plan.

Phase 1 – Launch and Test Minimum Viable Product (MVP): Once a platform has launched and a critical mass of users has been reached, project teams monitor and analyze patterns of platform activity to determine whether users are joining at a desired rate and engaging with the platform as intended. Results of assessment in this phase may prompt further adjustments to platform design and functionality.

Phase 2 – Demonstrate Effectiveness: At this point, the platform is operating as intended and enough time has passed for anticipated outcomes to occur. This is when you are explicitly testing to identify what changes in users or their communities can be attributed to use of the platform. Different research designs using data from multiple sources (e.g. online and offline data gathering, qualitative and quantitative research) can be adopted to establish a chain of outcomes.

Phase 3 – Identify and Monitor Key Performance Indicators (KPIs): Once the effectiveness of the platform is demonstrated, it will not be necessary to test for every desired outcome on a continuous basis. In Phase 3, project teams analyze the results of Phase 2 research to identify KPIs. KPIs are performance measures that track most closely to desired outcomes. From this time forward, KPIs are monitored on an ongoing basis serving as signals that you are making the progress you anticipate and informing continuous platform improvement. An example of KPI's used by DoSomething.org can be found on page 6.

Phase 4 – Replicate/Scale: In this phase, a civic tech platform that has demonstrated effectiveness is replicated in other settings. Assessment is principally designed to identify and compare results from various settings to better understand what contextual factors influence results. Metrics that track the process of scaling, such as number of re-uses or adaptations, document the scope and scale of platform diffusion.

Figure 1: Phases of Platform Development

Phase 1

Test platform minimum viable product

Monitor platform activity to determine whether users are joining at a desired rate and engaging with the platform as intended.

Phase 2

Demonstrate platform effectiveness

Gather and analyze data from multiple sources to determine whether the platform is producing desired results and how.

Phase 3

Identify and monitor key performance indicators

Track KPIs to inform platform refinements, emphasizing the platform's strongest features or functions.

Phase 4

Replicate/Scale

Analyze data in aggregate to find consistencies and comparisons across varied settings to identify and address contextual factors. Track scope and scale of uptake.

[2] Technology specialists will be familiar with product design and development cycles such as agile design, or lean start up methodology and its Minimum Viable Product (MVP) strategy. Developmental stages identified here overlap with these cycles but focus on phases that are particularly relevant to civic tech assessment.

II. Learning More About Your Users

Users are the foundation of your platform. Knowing who they are, where they are, and how to reach them is essential in measuring your platform's effectiveness. Many civic tech projects have preferred users in mind: residents of a particular locality or residents who play a particular role in their community. Some projects are looking for a mix of users and hope to promote interaction between them. For example, people of different races or ethnicities, generations or sectors. In order to chart platform experiences and outcomes for specific types of users, you'll need to be able to identify them. Gathering data about users can help you do that.

What's the minimum amount of information needed directly from users in order to analyze platform data?

Though platform goals may vary, you will need a way to track individual users' activity. An important part of this process is building your capacity to house user-centric data that connects each user's online and offline actions. Platforms should capture email addresses (or mobile numbers for mobile apps) for all users, since these can be used as unique identifiers. This information will also allow you to reach users for surveys, focus groups or interviews. As you think about other data must-haves, remember that asking for more information than you need and can justify will erode trust and credibility with users.

What is the best way to get information about user demographics and other characteristics?

Asking users to fill out lengthy profiles or registration forms can be a barrier to participation, but many organizations have found creative ways to capture information. As you think about how much information you'll need, consider your key stakeholders. The Social Networking and Planning Project (SNAPP), an effort to use social media to engage residents around transportation planning in Austin, gleaned meaningful information from residents in aggregate through sentiment and other analysis. However, the project's evaluation noted that, in interviews, city officials cited the anonymity of the comments gathered by SNAPP as a factor in their decision not to act on the data fully. Evaluators noted that additional analysis would be needed to examine the representativeness of participation and the degree to which the online views echo the broader population.[3]

ADDITIONAL RESOURCES

Find more on User-centric Data here.

[3] Evans-Cowley, Jennifer S. and Griffin, Greg, Micro-Participation: The Role of Microblogging in Planning (February 12, 2011). Available at SSRN: http://ssrn.com/abstract=1760522.

STOP RIGHT THERE!

Where are you going with my data?

Like all good relationships, your relationship with your users is built on trust. It is absolutely essential to have a solid privacy policy in place and the technology to keep data secure. Be upfront about what data you're collecting. Your users need to know that you can, and will, protect any information they provide. Whenever you gather personal information, ask permission and make sure that users know how their information will be utilized. More on ethical use of data in Additional Tools & Resources.

Data ethics – the ethical standards that underpin the collection, storage, use and transfer of data in civil society - is justifiably becoming a more central concern of funders, technologists and users.

Strategies for Gathering User Information

You can gather information about users in different ways. Some approaches require low or indirect user engagement. Others ask users for information directly.

Indirect user engagement strategies

Offer social media logins – Many people prefer using a social media login, which means clicking a button that allows you to login to a platform through other profiles that you have already established, for example, through Facebook, Twitter, Yahoo or Google. Social media logins allow users to enter a platform without having to fill out a new profile. At the same time, they give you permission-based access to basic user data, such as name and verified email address or gender and location.

Ways to do it: AskThem offers a Facebook login. Living Cities' #VizLou platform used Twitter logins to improve ease of registration and MTV used Facebook logins to verify players in Fantasy Election '12. A chart of what data you can obtain from different social networks is in this blog post from SilverPop, an online digital marketing company.

Good to know: Janrain, which tracks trends in social media logins, including which social networks are the most effective for different audiences, reports that 77% of online users prefer logging in with an existing social media account.

ADDITIONAL RESOURCES

Sources for Proxy and Comparative Data for Analysis

Use proxy data – Other data sources can help you fill in the blanks about your users, especially if you know where they are located.

Ways to do it: If you know a user's location, you can use census block income data as a proxy for individual household income. The Civic Health Index and voter rolls, which contain information about voting and civic engagement behavior, may help you understand user characteristics and actions. For example, CommonPlace has looked at the use of voter rolls to help fill in some profile data for users, which can have the added benefit of revealing offline civic engagement actions (e.g., voting).

Use available technology and permissions to learn your users' locations – Depending on what you're trying to accomplish, you may want to target users in specific locations. As users' habits tend toward allowing and integrating more geo-location, consider these options for capturing their location.

Ways to do it:

- **Laptop/Desktop** – Once a user has enabled access to their location via their browser, the browser returns latitude and longitude coordinates of varying precision based on its own location database.

- **Mobile Phone** – Provided a user has granted your app access to location services, you can geolocate them through wifi triangulation or cell phone tower triangulation.

- **Using Social Media Posts** – More and more users are geolocating their social media posts.

Good to know: If you do have to ask, having the nearest intersection and city or zip code is usually sufficient for geo-coding a user's location and is not as intrusive as asking for their address. (As a failsafe for cities where there may be multiple duplicate addresses or intersections, ask for zip code as well as intersection).

Direct user engagement strategies

Design data collection features that are tied to a goal or purpose – If a request for information makes sense in the context of what people are using the platform for, they may be more likely to respond.

Ways to do it: If users want to communicate with their local elected officials, pair a question asking for street address or zip code with information about the user's city council, senate or congressional district, like AskThem does on their homepage. DoSomething.org includes birth date on their registration form to ensure that they are registering only youth, which they define as 25 years old and younger. (See Figures 3.)

Good to know: Civic app developers agree that when it comes to forms, less is more, but they also report that the best way to figure out what works is to test it with your users. Repeated industry testing has confirmed that sign-ups increase with fewer fields in a form. But an A/B testing of sign-ups also found that, when comparing an original long form with 17 fields to a "light" version with 14 fields and an "uber" short form with even fewer fields, it was the middle option that performed best.

Figure 3: AskThem explains reason for requesting information

Try quick polls for critical information rather than relying on full user profiles – Including a one or two question quick-poll when users register can capture useful information such as users' zip code or age range.

Ways to do it: Quick polls can be emailed to users upon registration or appear as a pop-up window on your platform at any time, including mobile platforms. A number of survey and polling options offer apps, plugins and code, and many can even show results to users in real-time.

Good to know: Quick polls are designed to capture instant information on a particular issue and aren't generally perceived by users as a barrier. But they can come off looking like ads if they aren't displayed effectively and if the rationale behind the questions isn't clear. Like most data collection, quick polls should only be used to collect data for an explicit purpose that is easy for users to understand.

Collect information on users in stages – Once users understand the value your platform has to offer, they are more likely to provide more of their personal information.

Ways to do it: Community PlanIT realized that up-front data collection was presenting a barrier to recruitment, so they changed their strategy and pegged information collection to stages in their citywide deliberation games. When players complete the first stage of game play and want to move to the next, they are asked to provide a little more information about themselves such as birth year, education, race/ethnicity, zip code, and any past participation in planning processes. Community PlanIT uses the information that they gather about players to produce a post-game data visualization that all players can access. Game activity results displayed through these visualizations are publicly available and can be searched by age, gender and stake in the community. Other examples of staging include asking for more information once a user has posted a specific number of times.

Good to know: The project team at Community PlanIT found that users who were already engaged were more likely to share information in order to keep on playing.

Try a user survey – It's not always necessary to have demographic information about users right away, so consider conducting annual surveys to learn more about users' characteristics, knowledge, attitudes, and behaviors and to get feedback on platform features and functionality.

Ways to do it: Front Porch Forum surveyed their users in 2008, 2013 and 2014 to gather information about users' offline actions and perceptions. ACTion Alexandria has surveyed users on a range of topics, including their relationships in the community and perceptions of e-government issues, such as online community collaboration and problem solving. NJ Spotlight, a nonprofit news site, knew that for their coverage of state policy issues to make a difference they needed to build a user base of influencers, so they targeted policymakers, government officials, community leaders, advocacy groups and interested citizens. A user survey confirmed that they were reaching their target audience[4]:

Good to know: Offering incentives like gift cards can help increase response rates with some populations. For more tips on boosting survey responses, see this helpful blog post from SurveyMonkey — To Reward or Not to Reward.

ADDITIONAL RESOURCES

Sample Survey Questions related to Demographic Characteristics of Users – A collection of survey questions that have been used in other civic tech surveys.

Applying Evaluative Thinking to Data Collection and Surveys – This series of bulletins offers guidance on how to use surveys and interviews for evaluation purposes, including practical tips on questions to consider before launching a survey.

[4] Case Studies: How Four Community Information Projects Went from Idea to Impact
http://www.knightfoundation.org/media/uploads/publication_pdfs/14170_KF_KCIC_complete.pdf

III. Tracking Recruitment

How are you recruiting users? Through partnerships with local nonprofit organizations? Online advertising? Offline outreach through direct mail, events, promotions or volunteers? Social media referrals and email? A combination of all of the above? To strategize the best way to target recruitment efforts, you need to figure out which of the methods you are already using are most effective.

How do you measure online recruitment?

You can use resources like Google Analytics to track online recruitment, including top referral sources, social media activity, which users reach your site from a mobile device versus desktop, how many people return after a first visit, and email click-throughs. Additionally, unique URLs that point to the same website can be sent to different media channels such as Twitter or Facebook to see which gets the most click-throughs by potential new users. Online data will help you track your numbers through common recruitment metrics like Join Rate (the percentage of users who visit and then register) and Churn Rate (the rate at which users are gained and lost). Online and social media tracking tools can also be helpful if you combine information such as referral data with conversion data, for example, to determine which path to your site brings in the most users who then become members.

What about measuring offline recruitment?

To capture recruitment efforts like non-digital advertising, word of mouth, and referrals from partners, include a question during registration asking how the visitor first heard about you. Using promotion codes on coupons, fliers, or direct mail pieces is another good way to track offline efforts. Down the road, build questions into user surveys and focus groups to find out which recruitment strategies work with which users, and why. Both Front Porch Forum and CommonPlace have used paper fliers to recruit users in neighborhoods. CommonPlace also took an additional step and identified influential members of the community that might serve as early adopters, then reached out to them offline to see if they would join and serve as ambassadors for the platform. Once these ambassadors joined, CommonPlace sent out recruitment emails that mentioned them by name and then tracked how many new members joined as a result.

ADDITIONAL RESOURCES

Find more on Social Media Monitoring & Analysis here.

How many users do you need to start looking for participation patterns and outcomes?

It all depends...

Many teams focus on recruitment until they feel that they have reached a critical mass which they define in different ways. Some organizations define critical mass as the point at which the number of users and activity on the platform is self-sustaining without the need for staff to drive more activity.

For example...

Front Porch Forum works to get 200 households signed-up in each forum, regardless of how wide a geographic circle they need to draw to reach that number. E-Democracy waits until they have 100 users before launching a new neighborhood forum to become active and it broadens the sense of community ownership.

How do you know you are reaching the people you want to reach?

Different strategies work for different kinds of people. For example, mobile referrals may work well for people under the age of 30; email or Facebook may be better for reaching people over 50. To see what works with whom, segment your recruitment results by user category (e.g., by users' age). You can also ask active users what strategies worked best for them through surveys or focus groups. Users who believe that you are providing value are an incredible asset. Invite their feedback early and often!

Who's doing it...

City officials in Louisville, KY, wanted input from a wide range of constituents for Vision Louisville[5], a plan to re-imagine the future of the city in the next 25 years, but they were afraid they would not reach low-income millennials from West Louisville through more traditional approaches. To build a tool that millennials would actually use, Living Cities and its technology partner, OpenPlans, reached out to organizations doing leadership and job training with target users. In partnership with these organizations, they set up focus groups and user testing sessions to help them design a tool that would give those target constituents an opportunity to engage policymakers with their ideas and suggestions. Some lessons from those sessions can be found here. Living Cities also reached out to users and community leaders for stories about users who had "bounced" or stopped using the platform to understand issues in the software and its use that affected participation drop offs. Living Cities is evaluating #VizLou and continuing to explore ways to connect civic technology communities, local governments and low-income communities.

What to do...

Track Geographic Penetration Rate

- Place-based platforms need to be sure that users represent the community they've targeted, so they measure how many people have registered in a neighborhood, city, or state. The geographic penetration rate is the proportion of all platform users to all potential users in a local geography based on U.S. Census or other community statistics. For example:

$$\frac{\text{Total Users in Ventura, CA}}{\text{Total Households in Ventura, CA}}$$

- Segment your results by user demographics and compare your users to census or other data to analyze subsets within a community. A common target used by many place-based platforms is a penetration rate of between 10-20% of households in a given area.

Who's doing it...

E-Democracy strives for a geographic penetration rate of 10% in each new forum community to ensure they have participation from a critical mass of neighbors in each area. Their strongest forums reach 30%+. CommonPlace uses its geographic penetration rate as a sign of traction in the cities where they host communities, and they track their rate over time with a goal of 20%. In Falls Church, VA, where they have been active for over a year, their rate is over 25%. In Vienna, VA, where they are approaching the one-year mark, they are already over 14%.

IV. Tracking Participation

There are two good reasons to track users' participation once they join your platform. The first is to identify strategies to move users from lower to higher levels of engagement – for example, from simply logging on to contributing content. The second is to figure out what patterns of user activity produce the outcomes you're looking for. Are government officials who are super-users more responsive to questions from their constituents? Do neighbors who connect on your platform build closer bonds offline? Do people who participate actively in platform discussions about an issue go on to vote on that issue? Tracking user participation helps you answer these questions.

How can you track participation patterns for different users?

- **Create benchmarks to gauge levels of user participation, then track changes in user behavior over time:**

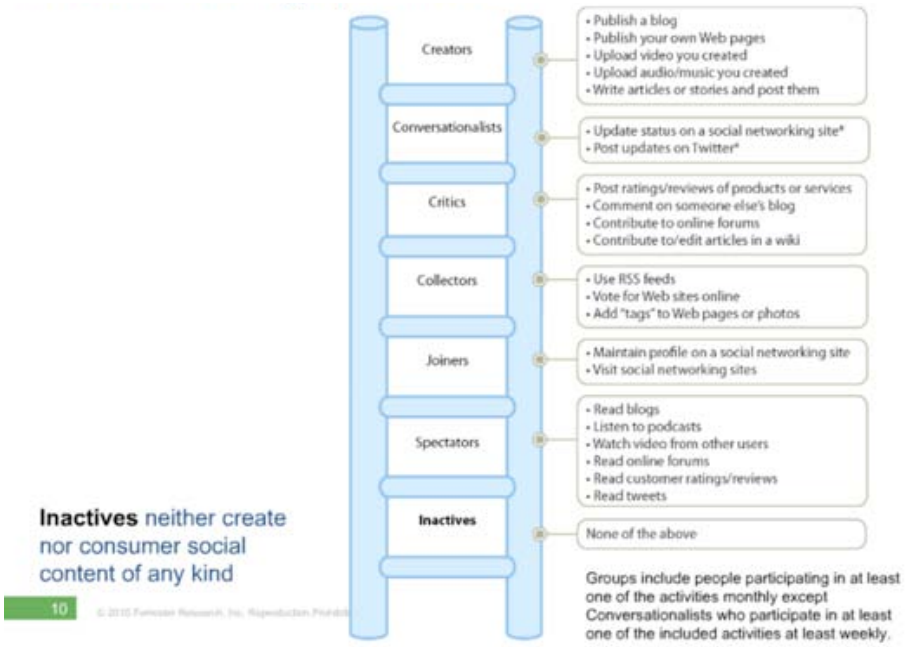
- **Identify a scale based on desired user activity levels** then track percentage changes over time. Or compare your figures to the commonly used benchmark, the 1% rule in which 1% of participants actively creates new content, 9% of participants engages with new content by commenting, re-tweeting and so on, and 90% of participants view content without interacting. Front Porch Forum estimates that 20% of its members post frequently, 30% post occasionally and 50% never post, a sign that their user engagement levels are comparatively high. *The New York Times* has been experimenting with different ways to track reader engagement[5]. For a recent slideshow app, they assigned specific levels of engagement to various activities within the app, and then tracked user activity paths through those activities to determine how many users were moving from less engaged to more engaged (see Figure 4.) They defined users who only viewed slideshow images as least engaged, those who filtered for specific characteristics as more engaged, and those who shared results on social media as most engaged.

Figure 4: The New York Times User Activity Paths

5 Creating a Metric for News Apps

You may also find that describing users by their behaviors will help you better understand which types of users are most critical to your work or most influential among other users. For example, to help organizations better understand and reach target users, Forrester Research, which examines consumer data and technology, uses a system called the "Social Technographies" ladder, which helps classify people by their social technology activity. (See Figure 5.)

Figure 5: The Social Technographics Ladder



- **Track top users** to see if certain groups or individuals are responsible for driving the most platform activity. Tracking top users and groups lets you craft strategies to target them directly or anticipate responses to their activity. CommonPlace tracks the percent of their citywide networks who are power users and compares membership totals across their different community sites and looks at the length of time users have been active. E-Democracy regularly tracks top posters in its forums, as well as users who generated the most additional activity.

- **Segment users, including top users, to track "share of voice"** based on demographic characteristics, like age, or on user activities and interests such as role or stake in the community. "Share of voice" is a group's share or weight of platform activity expressed as a percentage of the total amount of activity on that platform in a given time period. "Share of voice" is often defined in terms of activities such as posts, likes, votes or comments, and can be particularly useful if you are interested in promoting diversity and inclusion. For example:

$$\frac{\text{Total activity generated by low-income parents on lack of green space}}{\text{Total activity by all users on lack of green space}}$$

How can you pinpoint trends to improve performance?

- **Analyze patterns of user activity** to determine which ways of interacting with your platform are driving results. For example, DoSomething discovered that participation in games is tied to repeat activity. By tracking user data over time, they found that users who played their SMS games were four times more likely to take action on future campaigns. Quarterly reports on key metrics can be found on the DoSomething site.

- **Analyze issues and content**, such as a content analysis of posts, tweets or forum discussions, to identify emerging "hot topics" and other patterns of user activity. Over time, you may find that some issues are predictors of additional user activity. For example, users that are especially active on a particular issue, such as education reform, might also report through surveys that they have voted more on that issue. DailyKos moved to a system of watching levels of Facebook likes/shares to test which issues got the most traction. When an issue met a determined threshold, they sent information on that issue to more people. As a result, their action rates per email sent increased by more than 50%.[6]

- **Track staff contributions** – Tracking the contributions of staff and volunteers allows you to see what role they play in prompting activity. For example, E-Democracy and Civic Commons staff seed discussion topics. Tracking the results of those efforts highlights topics that are most likely to engage users and helps to establish the best times of day to post. The effectiveness of staff posts can be measured through their absence, as many groups find that activity levels drop significantly when moderators and staff are on vacation. And, on the flip side, if activity remains high after staff posts are removed, user participation and engagement levels are most likely sustainable without staff intervention. Assigning different roles to staff can also help to boost participation with some target audiences. For example, in order to help build trust and a sense of community online with hard-to-reach immigrant residents, E-Democracy engages and trains volunteers to serve the forum in specially designed roles. "Cultural Connectors" are volunteers from immigrant communities who are encouraged to share culturally relevant information, explain cultural issues/events to all forum participants, invite forum members to cultural events, and steer people away from existing stereotypes. "Inclusive Forum Engagement Leads" are also recruited from target communities and help seed diverse community content (i.e. Hmong or east African communities) to amplify the voices of those who live in the neighborhood but are generally unheard (not posting/replying).

ADDITIONAL RESOURCES

Find more on Content and Semantic Analysis here.

Find more on User Participation here.

[6] Bowers, Chris. You are much better than I am at figuring out what actions we should take. 2013: http://m.dailykos.com/story/2013/04/23/1204353/-You-much-better-better-at-figuring-out-what-we-should-take-action-on-than-I-am

How can you track connections between users?

If you're building bridges between users by connecting neighbors to each other or residents to government, tracking connections will help you document the spread and strength of these connections. An analysis of network data can tell you who's connecting to whom and who isn't but should be. You can also use network data to locate important people in a network, such as network hubs - users who are well placed to spread ideas or information widely through a network. Social Network Analysis (SNA) tools are available to help collect, analyze and visualize network data (see Additional Tools and Resources for more on network mapping). Such tools include network metrics that can be used to understand the overall structure of a network (e.g., the existence of sub-groups) and roles within the network (e.g., bridge spanners who link otherwise isolated sub-groups).

If you have demographic or other data about users, you will be able to segment results to see interactions between different categories of users and monitor these interactions over time. If you have information about the way people connect either online or offline, you may be able to detect patterns, such as users' most preferred ways of interacting on your platform and ways they later connect offline. If you have information about issues that users are discussing, you can map connections between users and issues.

Examples of connectivity analysis include:

- **Rank users based on the number of their direct links (i.e. their degree centrality) to track the emergence of key hubs.** You can also identify users who serve as network bridges by measuring the extent to which users fall between any other two users on the shortest path between them (a metric called "betweenness centrality").

- **ACTion Alexandria's** evaluation team looked at ACTion Alexandria's Twitter follower data to see if ACTion Alexandria served as a bridge between people and organizations that would not otherwise be connected. Their analysis showed that the ACTion Alexandria account had the most connections after local government accounts and local media accounts. ACTion Alexandra had many of the same connections to nonprofits, government agencies, philanthropic organizations and individual residents that media and local government did. The analysis also showed, however, that ACTion Alexandria's role is different from media and government suggesting that ACTion Alexandria did in fact serve as a bridge between these different groups on Twitter. You'll find more in the evaluation report: ACTion Alexandria Summative Evaluation.

ADDITIONAL RESOURCES

Find more on Network Mapping and Analysis here.

- **Track the percentage of users who make more than a determined number of connections to other users** to see the degree to which all users are connecting to other users. For example:

$$\frac{\text{Number of users who have made 10 or more connections}}{\text{Total number of users}}$$

  This and other measures of network density can offer insight into the speed at which information diffuses between users in a network and the overall level of social capital in a network.

V. Assessing Progress Toward Intended Outcomes

How do you know if activity on your platform is leading to the outcomes you desire? Are neighbors connecting and collaborating to address civic issues? Are public decision-making processes more transparent, efficient and inclusive? Are residents and government officials more trusting of each other? Has the delivery of government services improved?

To find the answers to these important questions, you'll need to consider evidence from a variety of sources and analyze data gathered online and offline. Network Impact has co-published a guide to assessing outcomes with the John S. and James L. Knight Foundation. Assessing Civic Tech: Case Studies and Resources for Tracking Outcomes can be found at www.NetworkImpact.org/CivicTechEval

ADDITIONAL RESOURCES

Find more on Qualitative and Quantitative Data here.

Evaluation Methods and Tools:

- **Evaluative Thinking and Surveys** – This guide to designing and administering surveys includes an overview of how surveys fit into evaluation, as well as practical tips such as top questions to consider before launching a survey.
- **Resources and Tools for Evaluation of Online Communities of Practice** – This practical guide includes tips for developing effective online surveys.

TOP TIP

Whenever you begin to assess outcomes, take a step back and think about how your platform works towards change within the ecosystem of people and places around it. **Then...**

- Consider ways in which your platform has the potential to generate impact and on which types of users;
- Imagine how change might occur as a result of your efforts. This process known as a Theory of Change provides a solid foundation for assessment and can also help you describe your vision to partners and funders. (See Additional Tools and Resources for more information on Developing a Theory of Change);
- Design measures that focus on your primary civic tech objectives.

What are early signs that you are making progress toward intended outcomes?

These common precursors or "intermediate" civic tech outcomes may serve as early indicators you're moving in the right direction:

Users are more informed

- When users are more informed about their community, they can use that knowledge to make choices about how to civically engage. A metric that tracks increases in users' knowledge can serve as a useful indicator of progress.

Users are more confident

- When users feel more confident in their ability to influence conditions in their community, they may become more civically engaged. Measures of self-efficacy may be good indicators of progress as users move along a path from being passively informed to being actively engaged.

Interested in seeing complete evaluations and their reports? You will find a list of published evaluations in Additional Tools & Resources.

ADDITIONAL RESOURCES

Find sample user survey questions about these precursors as well as civic tech objectives in the Additional Tools & Resources: Sample survey questions.

VI: Additional Tools & Resources

Civic tech assessment is a rapidly evolving field, as practitioners experiment with new approaches and metrics. If you have comments or examples to share, let us know. We will be updating the online reference list – Additional Tools & Resources at http://www.NetworkImpact.org/CivicTechResources

Our online Additional Tools and Resources offers more detailed information on topics below and provides links to useful articles, examples and existing evaluation reports we found in our research.

- Developing a Theory of Change
- Network Mapping and Analysis
- Content and Semantic Analysis
- Qualitative and Quantitative Research and Data
- Sample Survey Questions
    - Demographic Characteristics of Users
    - Connecting Neighbors to Improve Civic Life
    - Increasing Civic Engagement
    - Promoting Deliberative Democracy
    - Supporting Open Governance
    - Fostering Inclusion and Diversity
    - Informing Users
    - Increasing Self-Efficacy
- More Resources from the Field
- More on the Ethical Use of Data