Conducting Web-Based Surveys of Government Practitioners in Social Sciences: Practical Lessons for E-Government Researchers


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Abstract

Although the use of surveys in social science research is not new, growing computerization and widespread availability of Internet access has made it increasingly possible to conduct these surveys online. However, populations in the social sciences – and particularly in e-government – are not always well defined, and their boundaries are fuzzy. Therefore, additional challenges need to be considered in the research process, extending from the initial planning stages to the survey administration and beyond. Based on the existing literature and our experience conducting a national Web-based survey on information sharing with public health and criminal justice practitioners, this paper highlights some of these challenges and presents a series of lessons useful for digital government research. The lessons highlight aspects related to the nature of Web-based surveys, as well as particularities of working with government practitioners.

1. Introduction

Surveys are conducted by many organizations in both private and public sectors. In general, most survey research is resource consuming, whether this is time, money, or personnel [2]. This is especially true if primary data collection is involved, where researchers are not limited by what others have done. Thus while the project itself will take longer from start to finish than if secondary data analysis is done (using an already existing survey data source), the quality of the data to the specific project will be improved.

Digital government research requires that researchers engage with government practitioners about the work they do. Although this can be done through qualitative mechanisms, in order to be able to generalize digital government researchers need to reach beyond to a broader but representative population, which has great challenges (distributed, difficult to identify comparability, dynamic, etc.). Web-based surveys are a way to overcome some of the challenges of this environment, especially in terms of surveying government professionals about their work.

This paper is based on our experience conducting a Web-based survey about government information sharing. Information is a valuable resource in government, with information sharing being key if government is to work effectively across organizational boundaries [22]. Information sharing could be defined as “building systems, instituting formal standards, and changing business processes to allow organizations to share data and information with many other organizations” [12, p.121; 3, 8, 14]. Agencies at the federal, state, and local levels must bring information together and integrate it so that it can be used to solve important public problems, but the information needed to plan, make decisions, and act is often held by multiple organizations, maintained in disparate formats, and used for widely different purposes [7, 6]. It therefore becomes very important for digital government researchers to examine the ways in which these complex phenomena occur. One way this can be done is through a survey. Based on the existing literature and our experience conducting a national Web-based survey of information sharing in public health and criminal justice, this paper highlights some advantages and challenges to this type of research and offers a series of lessons useful for digital government researchers.

The paper is organized in five sections, including the foregoing introduction. Section Two showcases some advantages and disadvantages of Web-based surveys as derived from the existing literature. Section Three provides an overview of the digital government project we are using to exemplify the use of Web-based surveys. Section Four describes our own experience conducting a Web-based survey with government employees. Finally, Section Five presents our conclusions and proposes some
“lessons” based on the existing literature and our experience doing a Web-based survey.

2. Web-based Survey Research

The use of surveys for social science research is not new. Most commonly, surveys are administered in print via the postal mail, face-to-face (in person), or by telephone. However, growing computerization and widespread availability of Internet access has made it increasingly possible to conduct these surveys online. Researchers can send out the survey via e-mail and have respondents complete and return it in the same way, or the survey can be administered via the World Wide Web, essentially creating an online version of a print survey.

2.1. Advantages of Web-based surveys

There are a number of benefits that Web-based surveys provide (see, for example, [1] [2] [17] [21] [26] [27] [28]). They are discussed below.

- **Lowering the cost of administering.** It would be extremely costly to administer a geographically-disparate survey in person, where potential respondents are located in multiple states or countries. Online administration is cheaper than either in-person administration or doing a mail-based survey; both options require printing out the survey instrument itself, with the latter also including the cost of mailing it to potential respondents and having them mail it back.

- **Automated data entry.** Data files, usually in Excel/CSV or sometimes in SPSS format, can be downloaded as needed directly from the survey vendor. Although some manipulation of these files is often necessary prior to beginning of analysis, the data entry itself is not required. For a survey with hundreds or even thousands of variables and respondents, it would be extremely time-consuming to enter results by hand into Excel or other statistical software package. Moreover, the automated data entry capability of Web-based surveys reduces possible coding errors during manual entry of the traditional paper-based survey.

- **Less latency.** Respondents can receive access to a Web-based survey faster via e-mail than postal mail and do not need to mail their completed surveys back, so data is more immediately available after survey completion. Similarly, it is also faster to send reminders to participants about completing the survey via e-mail than via postal mail. Problems that arise during the course of administration, such as responses mistakenly being submitted too soon or having missing data due to technical difficulties can be quickly assessed. This allows researchers to look at data even before the survey is closed to new responses and to contact respondents if there is a problem with their survey.

- **Better controlling the survey population.** Although some Web-based surveys are open to any who choose to participate, researchers can also control their sample list by restricting completion to certain individuals who have been invited. Each potential respondent receives a unique survey link that will be used to track their access and progress, making it possible to view their status (e.g., link clicked, partially completed, submitted etc.) in real time. This allows for the keeping of detailed records of every person in the sample during the entire administrative process, instead of needing to wait until the end. Furthermore, Web-based surveys provide opportunity to access unique populations such as online groups in cyberspace [28]. It also helps to reach groups that normally are difficult to identify and survey [26].

2.2. Disadvantages of Web-based surveys

There are also a number of challenges and limitations of online surveys (see, for example, [1] [2] [17] [21] [28]). Following, we discuss some of them.

- **Errors:** There are several potential errors that cause biased results in Web-based surveys. Umbach [26] mentions four potential errors that affect the results of Web-based surveys negatively: coverage error, sample error, measurement error, and nonresponse error. First, coverage error occurs in Web-based surveys when there is a disparity between the general population and the sample population. This might happen due to not defining the sample population appropriately or not having accurate knowledge about respondents’ Internet use. Second, sampling error occurs in Web-based survey because it is not
possible to have a perfect random sample due to the uncertainty of Internet access among the population. If the survey is open to a general population, the actual sample of respondents may not be representative depending on who chooses to complete it. This causes self-selection bias. Third, measurement error happens because of people’s mode differences between a Web-based survey and a traditional paper-based survey. In addition, formatting differences also cause measurement error. The survey could appear visually different depending on a participant’s web browser, monitor size, and display settings, creating an unwanted difference separate from intentional format choices. Finally, nonresponse error occurs when the characteristics of respondents are different from the survey sample.

- **Lower response rate.** Web-based surveys may have lower response rates than paper-based ones [1]. People who are not comfortable with computer technologies may not be willing to respond to a Web-based survey for fear of encountering technical problems. In addition, while people can see the length of a survey in the traditional paper-based format, they generally do not have this ability in Web-based survey. As a result, respondents may become impatient while taking the survey and stop taking it or be hesitant to start it in the first place if they do not have a general idea of the time commitment involved based on the survey length.

- **Potential lost of data and responses.** There is a higher risk to lost data in Web-based surveys than traditional paper-based surveys [1]. Storing the data on computers or using the online survey tools incurs the risk of lost data due to intentional or inadvertent deletion or corruption and system failure. In addition, any technical problems that occur could result in lost or missing responses, possibly without the researcher knowing about them.

- **Information Security.** Also, although more a consideration than a true limitation, it is important to keep in mind information security requirements when it comes to the storage of confidential data. Web-based surveys require planning for both the logical (digital) security of electronic data files as well as the physical security of any printed material (i.e., data results, respondent information) and the media on which the electronic files rest (e.g., PCs, servers, or USB drives).

- **Confidentiality.** Similarly, the confidentiality of participants is also key, especially when those participants are government practitioners who could potentially be involved in sensitive projects. This is a difference between online administration and other types of administration, where participants may have more assurances of anonymity. Complete anonymity is impossible when an invitation system is used to control who the respondents can be; although the researchers can tie specific responses to specific individuals, care must be taken to ensure that outsiders are not able to do so.

3. The MIII project: A Brief Overview

This section briefly describes a project titled “Modeling the Social and Technical Processes of Interorganizational Information Integration” (MIII) and highlights one of its components that consisted in administering an online survey. Our survey, based on a digital government study conducted by The Center for Technology in Government and supported by a grant from the National Science Foundation1, is the culmination of the 6-year-long MIII project that began using a case study methodology to create the ground work for understanding information sharing across government agencies and across government levels. Its purpose was to develop and test dynamic models of information integration in multi-organizational government settings. The study employs a multi-method research approach, a powerful way to examine complex social phenomenon, especially those which are not yet well understood [11]. A sequential exploratory research design was selected for the project, in which qualitative data collection and analysis would be succeeded by quantitative data collection and analysis, with an objective that the quantitative analysis would be used to test theory that emerged from the qualitative findings [11]. Following a systematic and rigorous qualitative analysis process using grounded theory techniques [15, 16, 25], the research team identified critical factors and processes involved in sharing information across levels and agencies in government and across organizations from different sectors. The research team also identified how those factors and processes varied for different types and degrees of information sharing. [13, 22]. Specifically, system dynamics modeling (emphasizing the temporal and feedback aspects of the process) and social process modeling (emphasizing the way collaboration and shared meanings are developed) were used to produce

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models representing the social and technical processes and factors at work. During the third phase, which we discuss in-depth for this paper, an online (Web-based) quantitative survey was administered to more fully explore the relationships among the factors in these empirically grounded process models and test their generalizability.

4. The MIII survey: Our experience and lessons learned

The goal of our quantitative survey was thus to test the a high-level information sharing model that was developed out of the case studies, in conjunction with aspects of information sharing from other similar models (i.e., knowledge networking in the public sector [10]). In this section, we discuss the step-by-step process by which we undertook survey development and administration. Although some of the information presented is general to large-scale survey projects of this type, we also include our specific experiences as they relate to each step.

During the entire development and administration process, a key element was the collaboration between academics and government practitioners. Although we do not elaborate on this relationship until Section 4.7, its importance is highlighted throughout Section 4 as a whole. Without the participation of these individuals, our survey would not have been as successful as it was; their time and input were invaluable to the entire project.

4.1. Selection of Web-based survey environment

After the choice is made to conduct a Web-based survey, researchers must decide what type of environment to use for actual administration. There are three primary environments that can be selected. The survey could be created and hosted internally (the researchers do everything), created and hosted externally (an outside vendor does everything), or created internally and hosted externally (an outside vendor does the hosting and has created the software in which to design the survey, but the researchers will build it themselves). We opted to choose the latter type of environment.

Here it helps to have a research team member with IT experience who can talk to the survey technical support people if needed. Certain issues or bugs may be more technically complex to handle, making it useful to have someone who can speak that language. Even if this team member is not a programmer, it is a plus if they at least know basic HTML and web design, since part of the survey design process is the visual look of the instrument in a Web browser.

Based on the Center’s recent experience with using online survey tools for research, plus some additional investigation into other available survey tools, we found eight possible options for vendors. All were compared on cost and various functionalities, including the availability of e-mail address list management (invitations) and an automated reminder system; in general, most of the features offered were the same between companies. In the end we decided to use Survey Gizmo (www.surveygizmo.com) after evaluating them through their free version. The Enterprise account level enabled us to access both telephone and e-mail technical support, gave us up to 50,000 responses per month, and allowed us to create an unlimited number of surveys. Of note, other online surveys conducted by the Center have used another tool: Survey Monkey (www.surveymonkey.com).

4.2. Sampling

In creating our sample, we had two major challenges: delimiting a population of government professionals from which to sample and collecting current contact information for sampled individuals. A goal of social science research is to have final results which are representative of a population, so random sampling measures are most-often employed to obtain a representative sample. However, we were unable to use a random sampling method because, as many other digital government research projects, our complete population was unknown; while the sample included government practitioners in the criminal justice and public health policy domains, no complete list of all these individuals is in existence. As such, we employed a combination of purposeful sampling techniques.

We also had difficulties in finding valid e-mail addresses for some sampled individuals. This was especially tough because the sample included government workers whose jobs may be dependant on the current political climate, resulting in turnover. Because we would be contacting participants via e-mail, it was extremely important that we had up-to-date contact information for each of them. Given these two considerations, our sampling strategy primarily followed the five steps listed below:
1) Create the initial sample contact list drawn from previous Center case studies and Google searches.
2) Update the sample list to include individuals from all 50 states, at both state and local levels of
government, for both criminal justice and public health agencies.

3) Update the sample list to check for current e-mail addresses or that the correct individuals were listed for government positions.

4) Take recommendations from sampled individuals to include others in our contact list.

5) Work with relevant professional government associations as much as possible.

Overall, sampling was an extremely iterative process, with constant updates to ensure that our contact information was up-to-date and correct. This was necessary because of the transient nature of an already undefined population of government employees; we wanted to be as thorough as possible in making sure that our sample would be complete. This thoroughness, although a time-consuming and expensive activity in terms of resources, was nonetheless necessary to ensure that sampling was done well and that the resulting contact list would be adequate.

4.3. Instrument design

Because our survey was going to be conducted online, instrument development not only needed to take into account good practices concerning the creation of questions but also how the material would translate from a paper version to a Web-based one. We also had the challenge of determining how to focus our respondents on thinking of a single cross-boundary information sharing initiative when answering survey questions.

Item design. The survey included two kinds of questions; those that captured demographic data about the individual and about the initiative on which the respondent focused their responses, and those that captured reactions to the theoretical model. Most of the design time was spent on the model questions. These questions were written as Likert items, where a participant is asked to evaluate his/her level of agreement or with a statement (Bryman). This scale of agreement typically includes 5 levels (though more can be used as well) ranging from “strongly disagree” to “strongly agree”, including a “neutral” option in the middle. In deciding how many points to include on the scale, our research team reviewed journal articles published in the areas of public administration and information science to see what other studies used (see, for example, [23, 19, 20]). In general, the larger the scale the more precise the responses. While it is possible to collapse categories (e.g., a response of 1 or 2 could become a single category) during the post-administration data cleaning stages if no qualitative difference between answers is found, you cannot go backwards and add more categories out of fewer (i.e., turn a 5-point scale used in the survey into a 7-point scale during the cleaning stage). We decided to use a 7-point scale to maximize possible variation while still giving us the flexibility to collapse the size if needed.

Translation from paper to Web. While this was a broad concern that informed our decision-making process along the way, it was not difficult to implement. Our biggest changes here were to eliminate wordiness in response choices where possible, but otherwise the text stayed the same in translating the survey from paper to Web. Generally, the need to make the online survey visually accessible was handled by selecting colors, fonts, and font sizes that would be both pleasing to the eye and easily readable.

Establishing a specific initiative focus. It was also a challenge in crafting the wording to ask about a cross-boundary information sharing initiative on which the respondent had worked – the opening question to the survey. Typical government practitioners are involved with many initiatives, especially those who have been working in their field for a number of years, but we needed to get them focused on one project. Similarly, these types of large-scale projects do not normally end and instead move into a new phase, so we needed to make respondents think about a single, current (at the time of survey-taking) phase. In order to retain participant focus while they worked through the survey, we chose to use the Survey Gizmo functionality that allowed “piping” of responses; after choosing an initiative that they would use for their responses and entering its name into the survey, that initiative name appeared at the top of all subsequent survey pages.

4.4. Invitation letter design

It was very important to the research team to create an interesting yet informative invitation letter, a critical step in establishing a relationship with government practitioners and securing their “buy in”. We looked at how other survey invitation letters were crafted before drafting ours, paying close attention to their choice of wording. The goal of this letter was to provide some brief background information about the research project in a way that would appeal to the interest of our sample and entice them to complete the survey. As mentioned previously, some individuals were on our contact list because of a prior relationship with the Center and the MIII project (i.e., they were a part of the qualitative focus groups/interviews), but the vast majority were unconnected. Thus it became important to
familiarize them with the Center and this particular research being done.

Invitation letters are a common component of any survey research project. However, delivering them online via e-mail is a major difference between other methods and creates additional challenges. An individual who receives an unwanted piece of printed mail can throw it out. Similarly, unwanted e-mail (“spam”) can be deleted after its read, deleted prior to being read, or deleted ever before it reaches a user’s inbox. Thus it was essential that we take steps to ensure that members of our sample actually received our initial invitation e-mail and entice them to read it and choose to participate. We also sent all contact e-mails from an academic server (.edu domain), as it would be less likely to be deleted by government spam filters than e-mails coming from a .com or .net address.

4.5. Survey administration process

We were very cognizant of the importance of both thoroughly testing the instrument and the administration process prior to releasing the full survey. As such, the survey went through three complete stages from start to finish: pre-testing, pilot testing, and full administration. These three stages took approximately seven months (October 2007 – April 2008) from start to finish; this does not count the time spent on sampling, instrument design, invitation letter design, and building the survey into the online tool.

4.5.1. Pre-test. The goal of our pre-testing process was to get early feedback about the first implementation of the web-based instrument. The survey was sent to 23 individuals to pre-test, including 3 members of the research team, and we received comments back from 9 of them. We discussed the comments and made some revisions to the survey questionnaire.

4.5.2. Pilot. Pilot tests are primarily used to ensure that survey questions operate well but also that the instrument as a whole is functioning as designed [2]; we also wanted to examine, using a small group of government employees, if the full administration process planned would be feasible with a large sample. The survey was piloted using 80 contacts, approximately 10% of our sample at the time of pilot administration. After eliminating individuals whom we were unable to contact (mainly due to missing or incorrect e-mail addresses, or because they left their position during the course of the pilot administration period), we had 70 contacts remaining. Five chose to opt-out between the time of sending out the initial survey link and sending the final reminder (5/70=7.1%). 20 people completed the survey in full, for a response rate of 28.6%. We also had 3 partial responses, so our rate for any responses was 32.9% or almost one-third. This became our goal for the full administration. Unfortunately our n from the pilot testing was too low to do any kind of statistical analysis, but we did use descriptive statistics to examine these results for basic trends. Again, our communication with public health and justice professional associations throughout the survey design and sampling processes was critical. This relationship helped us to refine our message to appeal to the government professionals we were surveying.

One of the major determinations made from this was that the Likert item questions were generally skewed towards the right (i.e., the higher end). On a scale from 1 (strongly disagree) to 7 (strongly agree), we consistently had means of 5 or 6. We thought that the wording used for the scale itself might be causing a response bias that would make respondents answer favorably and so we modified it during the post-pilot tweak period to being 1 (not at all) to 7 (to a great extent). This decision allowed us to retain the wording on nearly all of the individual question items and still use a single measurement scale for the entire instrument. Similarly, there seemed to be a self-selection bias, as respondents were mostly choosing initiatives that had succeeded, and this could also skew scale responses. To remedy this, we revised some of the language in the survey instruction text to encourage participants to think about ALL kinds of initiatives in which they were involved and not only ones with positive outcomes.

4.5.3. Full administration. The full administration of the survey began by e-mailing invitations to 815 contacts, 361 individuals in criminal justice agencies and 454 individuals in public health agencies. It contained a description of the survey project and background about the previous research leading up to the survey. Members of our sample were informed that the link to the survey itself would be mailed the following week and gave them the opportunity to opt-out if they so chose; similarly they could offer names of contacts who would replace them or suggest additional contacts to add. Thus this invitation e-mail served two purposes:

1) Provide the opportunity for sampled individuals to opt-out of the survey prior to receiving the link.


2) Check for working e-mail addresses: if the initial e-mail message delivery failed, we searched for an updated address and resent the invitation. A follow-up e-mail containing an individual’s unique survey link was sent approximately one week later. This ensured that a single survey would be tied to a single respondent. Reminders were e-mailed to non-completers two weeks, four weeks, five weeks, and six weeks after the survey link was first sent. In total, our final sample size was 617 government professionals. We had 71 opt-outs without replacements, for a rate of 11.5%. We had 173 completed surveys, for a rate of 28.0%. The remaining 373 individuals did not complete the survey, for a 60.5% non-response rate; this also included four individuals who started the survey but did not finish/submit it for whatever reason.

We were also generally satisfied with the final representation concerning the sample make-up (see Figure 1). Comparing the respondents who completed the survey with the non-respondents, the percentages were very similar by policy domain; this was also true when we compared the respondents who completed the survey with the entire sample. However, for both comparisons, we found that the percentages were very different by level of government. Accordingly, we can say that our final results will be representative among our sample as a whole, but not necessarily for the entire population of public health and criminal justice government employees at the state and local levels.

![Sample Statistics by Policy Domain and Level of Government](image)

**Figure 1. Respondents by Policy Domain**

### 4.6. Increasing survey response rate

A challenge with any survey is finding ways to increase the response rate as much as possible. With the MIII survey, as with many other digital government projects, this was especially necessary given that we were essentially “cold calling” our potential respondents. At every contact point -- beginning with the initial invitation letter, to the letter sent with the survey link, to the letter sent with each survey reminder, as well as to the instruction text for the survey itself – our goals were to draw these individuals further into the survey process by convincing them not to opt-out and to have them move deeper into the instrument itself once they clicked on a survey link. Ultimately we wanted them complete the survey and contribute to high response rates.

As part of our early survey planning, we had looked at published journal articles to see what other researchers were reporting by way of their response rates and survey techniques. This allowed us to have our own internal target for what we hoped the response rate would be, for both the pilot and then the full administration. We used four major steps prior to and during the administration of the full survey to maximize the number of completed responses:

1) **Pre-test:** After the initial survey instrument was created, a small group of University at Albany faculty, Center for Technology in Government staff members, and public health/criminal justice practitioners reviewed (pre-tested) it for content and clarity. Recommendations from these participants were used to revise the instrument. This included making edits to our wording for clarification purposes, breaking single questions into multiple questions, and changing response options.

2) **Pilot test:** Next, we engaged in pilot test administration. We selected 10% of individuals (n=80) from the contact list available in mid-October 2007 to develop our pilot sample. This was done by sorting our contact list in alphabetical order by first name, then selecting every 10th person from both the criminal justice and public health lists. The administration process was designed to mimic what we planned to do for the full survey. Invitations were sent out asking these individuals if they wished to participate. The following week a survey link was e-mailed. Reminders were sent at the start of weeks 3 and 4, then a final reminder the day before the survey was set to close. The survey instrument was revised based on comments from respondents, as well as on results from basic survey analysis that was done. We also learned that reminders were very useful.

3) **Full administration:** This was begun by sending out 815 invitations asking sampled individuals to complete the survey. The use of a survey invitation allowed us to eliminate members of the sample who wanted to opt-out and not complete the survey, as well as update our
contact list with either replacements (if someone else from an agency would be completing it instead) or recommendations for new contacts. We were also able to remove individuals we were unable to contact (i.e., non-contacts).

4) Reminders: Finally, the use of reminders was key in increasing response rate. Reminders were sent at the start of weeks 2, 4, and 5, then a final reminder sent two days before the official survey close date. (However we kept the survey open one extra week since a number of agencies were closed on the end date; this produced four additional completes.) After each point of contact with sampled individuals (the initial survey link plus the four reminders), we had a spike in the number of completed surveys on either the day of contact itself or on the following day (see Figure 2).

![Number of Completes by Day](image)

**Figure 2. Effect of Reminders**

4.7. Academic-Practitioner Collaboration

For our entire project, the partnership between academic researchers and government practitioners was critical. Engaging practitioners at the early project stages, from design onwards, ensured that key pieces were not missed when developing the models or in designing the survey items and companion text. Both parties have expertise and viewpoints that can be shared with each other and that each other can learn from [6].

“Buy in” from top government practitioners in a certain domain is important for encouraging the participation of others, both in survey research and in research projects more generally. As highlighted earlier in this paper, we spoke with the directors or heads of various national-level criminal justice and public health professional associations, some of whom agreed to pre-test the survey. Our hope was to obtain names and contact information for their members (to add to our sample list) and to have them publicize the survey through their channels (e.g., mailing lists, national conferences, etc.). This also took away some of the “cold calling” aspect once the invitations went out, since many potential respondents did have some advance knowledge. These organizational leaders played a role in legitimizing the survey. If they did not feel that it was an effort worthy of their time, they would not have agreed to offer pre-test feedback or to share its existence with the members of their organization. Therefore it was critical to obtain their support. However, like with any collaborative endeavor, there were also some costs [6].

5. Conclusions

As the area of digital government grows, it becomes incumbent upon academics and practitioners to work together to empirically examine this complex and multifaceted phenomenon. Surveys are excellent ways to gather essential data for empirical analysis, and Web-based surveys in particular are powerful alternatives to mail or telephone ones. However, in order to overcome the challenges of conducting Web-based surveys, researchers should consider the disadvantages of Web-based surveys mentioned above when designing and administering their own surveys. There are several general recommendations to maintain the quality of Web-based surveys in the literature (see, for example [9] [18] [24]). First of all, the target population of a survey should be analyzed carefully in order to assess their ability to access and participate in online surveys [24]. Second, the design of a Web survey should be “respondent-friendly.” This includes considering participants’ technological competencies and the congruence between the logic of how computers operate and respondents’ expectations for completing surveys [9]. Third, in order to increase the response rate, personalized e-mail cover letters, pre-notification to invite participating a survey, and follow-up reminders are important [18]. Last but not least, to ensure confidentiality and privacy of respondents—and to have less sampling error—the survey should not be open to the general public and passwords and PIN numbers are highly suggested [24].

The MIII project, although extensive and time-consuming from start to finish, was an extremely worthwhile and unique initiative. We can pave the way for future digital government studies through our demonstration of how Web-based surveys using an unbounded population of government employees can be conducted in this field of research. Below, we offer a list of five “lessons learned” specifically from this digital government project.
1) Coordinate with professional organizations and government agencies. This is one of our most important lessons learned. Given the growth of e-mail communication, problems with spam and the resulting fact that government practitioners are less inclined to read (let alone respond to) e-mail from unknown senders, being able to get support from professional associations and government agencies is critical. These organizations do not need to endorse the survey, as none of them did for our project. However, if they feel the survey is relevant to their members or employees and that results will provide value to them as well, they are more willing to communicate the existence and purpose of your survey.

2) Create an interdisciplinary and diverse research team. Since digital government is an interdisciplinary field, it is extremely valuable to have a project staff with a wide variety of disciplinary backgrounds and skills. Include individuals with strengths in research methods, statistics, IT, project management, and writing for wide audiences. Even if practitioners are not on the team itself, get their feedback starting at early stages of the research process was very positive. Our work would not have been as successful as it was without having a varied mix of people involved.

3) Have a flexible plan and timeline. Although we created a timeline of work very early in the research process, doing Web-based surveys with government practitioners continually modified our initial timeline. It is important to be aware of both internal and external factors that may cause you to need extra time. For our project, at certain steps we needed more time to tweak our survey instrument or handle feedback from practitioners. Once we began building the instrument in the online tool, sometimes we hit technical difficulties. During pilot testing we ran into both Thanksgiving and Christmas on the calendar, which influenced our administration period. Although we had hoped to start the full administration by early to mid-January 2008, it was not until the end of January/early February 2008 that we could begin.

4) Have patience and understand the government context. Similarly, it’s important to recognize that this is a long process. It takes time to engage in new research that involves primary data collection with government practitioners. Team members may come and go, or other projects may pull resources away. Members of the sample may be in their position during one point of contact and gone to another government agency the next. Surveys can be a slow, frustrating, and often tedious line of work; while the outcome will ideally be the production of a rich data set that can provide any number of contributions to both academic and practitioner audiences, it can be hard to see the light at the end of the tunnel while you’re going through it.

5) Keep backups and have a contingency plan. This is not only a good practice for digital government research, but a good IT practice in general. You never know when the important file you need is discovered to have a mistake, been deleted, or have gotten corrupted, especially with Web-based surveys. Having backup versions for redundancy ensures that if something goes wrong, it can be fixed quickly. Because we handled general administration tasks manually, instead of relying solely on Survey Gizmo’s invitation manager, the project consisted of numerous data (spreadsheet) files to keep track of contacts at each stage of the process. If there was an error, backup files were key to sort out corrections.

In conclusion, the use of online surveys offers a powerful yet risky research mechanism. The ability to “survey” a large population of geographically, politically (i.e., multiple levels of government), and professionally diverse government professionals within a quick turnaround timeframe and with relatively little cost provides a lot of value. The risk comes in part from the ease and prevalence of the communication method: e-mail. While a Web-based survey may be easier to administer than a paper one, the fact is that the response rate and quality of responses may be significantly lower than from a paper version. Government professionals, like many others, are inundated with e-mail communication; a significant amount of it which folks consider to be “spam” or generally a nuisance for other reasons.

This forces digital government researchers first to build a relationship with key members of the relevant government professional communities. This also requires “making the case” for your research and why anyone should open another unsolicited e-mail and participate in another survey they do not have time for. Therefore, if possible an e-mailed survey link should not be the first time that the government professional learns about your organization and the research for which you’re collecting. Overall, Web-based surveys are valuable for digital government researchers, but potential challenges should be considered carefully.

6. Acknowledgments

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7. References


