Government Forms as Friction

Identifying Opportunities for Innovation at the Intersection of Staff and Public Needs

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This paper explores the friction inherent in forms as they flow between government institutions and people. Drawing on two case studies–a street vending permit form and a building permit form–we explore how forms are a nexus of different goals, needs, processes, and constraints for the delivery of government services. We show how reducing some types of friction through digitization creates other types of friction. Here friction is both destructive and generative: moments of friction crystallize conflicting needs between government constituents and institutions, and also point towards holistic opportunities to improve the delivery of government services. This paper expands the ethnographic lens to focus on both government staff and the public, while also exploring the friction ethnographers encounter as they work in complex bureaucratic settings. Keywords: Forms, organizational ethnography, bureaucracy, materiality, service delivery

INTRODUCTION: FORMS AREN'T BORING, WE SWEAR!

Maria sits in a small office, staring at her phone. In front of her is a form for a street vending permit, which she had to apply for to sell tamales outside a busy public transportation hub in San Francisco. The form's design is relatively simple: each page has a singular focus, and the text is at fifth-grade reading level. Moreover, Maria is fairly comfortable using her phone. After all, it is the main technology she uses to get things done, from finding directions in Google Maps to staying in touch with her son in Mexico.

Maria advances to a page asking her to input her Business Account Number, which she received after she registered her business with the city. As she reads the information on the page, she purses her lips and taps her finger on the table.

It is widely known that this form has many issues. It is why we have brought Maria in to participate in research; she filled the form out several months ago to obtain a permit, but we have asked her to fill it out again to learn what she struggled with along the way. For a start, the form specifies that answers must be in English, even though Maria's native language is Spanish. It is very long and can take over an hour to complete. But when we ask Maria what she is struggling with, her answer is more specific. She cannot remember her Business Account Number: it is a random

string of numbers, and it was one of many steps she had to complete before she filled out the original form.

Like many people who encounter technology that is not equitably designed, Maria is fearful of moving forward. She worries that if she clicks on a button, she might make a mistake or mess something up, ruining her chances of getting a permit. With encouragement, she scans the form and finds text that might help her remember her Business Account Number. It reads, "Your BAN is a 7-digit number. If you don't know it, you can find your BAN."

Maria knows the blue underlined text is a hyperlink; it is one of many digital conventions she has learned over the years. She clicks on the text, and suddenly a tab opens. A new world unfolds. Before her is a dense spreadsheet with many rows and columns, filled with small gray text. The words and data are unfamiliar and overwhelming. There is no mention of the street vending permit and no clear place for her to input her information.

Maria blinks and scoots away from her phone. Her brow furrows, and her eyes dart from her phone screen to our faces. "What is this?" she asks. "What do I do?"

Maria's struggle is a common one. It is emblematic of the challenges people face as they try to find and apply for government services—actions commonly mediated through government forms. Unbeknownst to Maria, in clicking on the hyperlink, she has stumbled upon an open data portal that lists all of the BAN numbers in the city and their associated information ("Registered Business Locations – San Francisco" n.d.). Although the street vending permit is administered by the Department of Public Works, the database is maintained by DataSF, a group within the Office of the City Administrator who are stewards of databases and data best practices throughout the City and County of San Francisco. Furthermore, the data itself is owned and managed by the Treasurer & Tax Collector, the agency with which Maria registered her business. In other words, the database Maria was directed to was never intended to be used by the general public. It is one of many disparate technological solutions and processes that have been cobbled together under the guise of one simple form.

It is easy to see forms as boring, mundane, and tedious. Historically, documents like forms have "because of their very ordinariness, [remained] analytically invisible" (Hull 2012, 253). Bruno Latour has even called bureaucratic records "the most despised of ethnographic objects" (Latour 2011, 54). But forms, as we show in this paper, are anything but ordinary. Within a form, each question represents competing needs and goals—for the people filling out forms and the institutions processing them. For example, what happens when people do not know how to fill out parts of a form? What do they do, and who do they turn to? Conversely, what happens when the institutions that process forms run into issues? How do organizational structures and technological systems facilitate (or block) the flow of data and services across government bodies?

At its most basic level, a form is a series of questions someone must fill out to access a government service or receive a government benefit. The answers to those questions are processed by government staff, and the form's information takes on a life as it flows through the institution, often from department to department. While forms share similarities with surveys, they differ in that form data is not quantified or examined scientifically; rather, form data is transactional and used to achieve an end.

As social scientists, we can improve people's experience with forms using methods like usability testing and observation. But improving the content and design of forms only scratches the surface and ignores the deeper, more complex elements that go into developing and processing questions and data. As Matthew Hull notes in his review of the anthropological literature on Documents and Bureaucracy, "Anthropologists have tended to use documents only as discursive, reading the content with their critical interpretive faculties, but they have seldom stopped to consider what their material form might say about that content or about bureaucratic practice at large" (Hoag and Hull 2017, 22). In other words, ethnographers have seldom looked beyond the words embedded in forms, limiting the scope of possible learnings to the form itself.

This paper argues that we should move beyond this narrow textual lens to see forms as material objects enmeshed in complex networks of power and social relations (Bowker and Star 2000; Appadurai 1988; Mol 2002; Strathern 1996). Here, the focus is not on what forms represent but on what they do—how they move through organizations, embody values and power, and constitute new lived realities (Gupta 2012; Cohn 1996). As Hull notes, "Documents are not simply instruments of bureaucratic organizations, but rather are constitutive of bureaucratic rules, ideologies, knowledge, practices, subjectivities, objects, outcomes, even the organizations themselves" (Hull 2012, 251). Seeing forms as material objects encourages us to focus on the active work that goes into making and performing the ideas, technologies, and relationships that make up forms and their related government services.

Because forms permeate organizations and touch on the lives of the public, they necessitate the kind of contextual, relational, and cultural lens that ethnography takes (van Eijk 2022). As ethnographers, we must examine the broader context in which forms operate, the institutions that use them, the technologies used to create and process them, the laws and policies that shape them, and the people who contribute and interpret the data. Doing so shifts the focus away from improving words and towards improving service delivery more holistically (Evans 2016; Lambert 2019; Australian Government Department of the Prime Minister and Cabinet 2020).

Overall, this paper takes the friction inherent in forms—as they flow between government institutions and people—as its starting point. Drawing on two case studies of forms in the San Francisco government—one focused on the street vending form we discussed earlier, the other focused on a building permit form—we explore how forms are a nexus of different goals, needs, processes, and constraints

for the delivery of government services. We show how reducing some types of friction through digitization creates other types of friction. Here friction is both destructive and generative: moments of friction crystallize conflicting needs between government constituents and institutions, and also point towards holistic opportunities to improve the delivery of government services.

While research about government services typically focuses on end users (those who fill out forms and receive services), this paper expands the ethnographic lens to also include government staff (those who create and process forms, and who also enable service delivery). We argue that we cannot improve service delivery by solving the problems faced by end users alone. We must also attend to the challenges experienced by and between government staff, and ultimately we must explore solutions that address problems for both groups. However, this approach is not without friction, as ethnographers themselves encounter unique challenges conducting research in hierarchical, bureaucratic institutions. Therefore, this paper broadens how we think about and design ethnographic studies in government (and other bureaucratic) contexts.

USING ETHNOGRAPHY TO UNPACK THE FRICTION IN GOVERNMENT FORMS

Writing and record-keeping have long played a central role in bureaucracies and governments in the form of calendars, memos, plans, reports, and more (Hull 2012; Britan, Cohen, and Others 1980, 23). The term *bureaucracy* itself is derived from the French word for "writing desk" and the Greek suffix for "power of" ("Bureaucracy" 2023). While early anthropologists focused on the role of documents in rural, non-Western settings (Hull 2012), other historians and sociologists turned their eye toward the role of words and numbers in Western settings. For example, Hacking shows how counting and statistics enabled governments to have power over populations by making bodies and other aspects of life visible and measurable (Hacking 1990). Similarly, Foucault's work shows how the rise of institutions and technologies for data collection promoted the exercise of power at the level of populations and individuals (Foucault 1990; Foucault and Others 1977), such that "every aspect of human life—health, sexuality, work, morality, our very conceptions of truth—became… products of one or another form of professional or administrative discourse" (Graeber 2015).

Much has changed in the world of institutions and bureaucracy since Hacking and Foucault's seminal work. The shift to digital practices in governments has heralded many changes: in the way organizations are structured, the types of expertise they embody, and the technologies they deploy. At first, this manifested as the digitization of historical documents and records, as well as the "digital replication and mimicking of frequently ineffective and even broken paper-based processes" (Scholl 2020). More recently, digitization in government has enabled the

transformation of services like electronic tax returns, digital payments, online voting, and more. However, there is still a sense that digitization has not been used to its full potential to streamline, improve, and innovate many existing services (Pahlka 2023; Scott 1998).

The ethnographic literature on governments and bureaucracy often focuses on the experiences of people who are the recipients of services, or on the experiences of anthropologists working for governments (MacClancy 2017; US General Accounting Office 2003). Studies have documented how people with lower levels of education and digital literacy struggle to adhere to the expectations and norms of bureaucracy, and how this often excludes them from receiving government services (Lefevre and Gazy 2022; Singh 2017; Hull 2012; Sharma 2006; Cody 2009). This is exacerbated by the design of government resources, which are sometimes developed without input from end users or adherence to usability best practices (Chisnell 2023).

Less ethnographic literature, however, focuses on the experiences of people who provide services and work in governments. The experiences and lifeworlds of the people who constitute bureaucracies are critical for understanding how forms are created and processed. However, the experiences of government workers have at times remained absent from the anthropological gaze, as they are deprioritized relative to the experiences and challenges of those who receive or are impacted by government services—or relegated to the realm of service design.

Despite this absence, some work in institutional and organizational anthropology does focus on the knowledge practices and power dynamics of institutions and corporations (Cefkin 2009). Here, anthropologists are invited to "study up," to examine the "culture of power" that pervades capitalized organizations instead of focusing singularly on those who are powerless (Nader 1974). For example, Knorr Cetina shows how scientific institutions have distinct power relations, social networks, technologies, and ways of communicating (Cetina 1999). Institutions, in other words, are not monolithic and homogenous.

This approach prompts us to explore the power dynamics within organizations, broadening the focus beyond the power dynamics between organizations and the people they serve. Like other social units, organizations are diverse; they reflect years of history and culture and are inhabited by people with different backgrounds and abilities. As such, some people who work in organizations occupy positions of power, "having discretionary authority, the ability to delay, or privileged knowledge about the bureaucratic process" (Hoag and Hull 2017). Others are marginalized due to their backgrounds, intersectional identities, or position in the organization (Garsten and Nyqvist 2013).

Such power dynamics are impacted by the advent of digital technologies, which require new forms of expertise and new working knowledge of technologies. For example, as governments adopt digital records, they often struggle to enact change among their staff. This can lead to conflicts between government workers from different "epistemic cultures" (Cetina 1999), who are forced to adapt their long-term

practices and values, often with little instruction or upskilling (Solanki and Tewari 2016). This creates friction within organizations as employees navigate power dynamics and conflicting goals and desires (Hoag and Hull 2017; Perna 2021). For example, Iszatt-White shows how road maintenance workers are resistant to the health and safety regulations designed to protect them, largely because the regulations are imposed in ways that feel unnecessarily strict and inflexible (Iszatt-White 2007). Similarly, Arvidson shows how NGO development workers display somewhat surprising "authoritarian manners, bossy attitudes towards clients and hierarchical thinking" because they are caught between altruistic organizational values and on-the-ground demands (Arvidson 2009).

As they face the advent of new digital technologies, government workers are challenged to adapt their processes for administering services. But such a process is not without friction. New technologies do not just replace older ones. Instead, digitization supplements and transforms existing practices, rearranging labor (Disalvo n.d.). For example, Solanki and Tewari show how high-level officers in an Indian Bureaucracy struggle to digitize work due to low digital skills. This, in turn, causes them to delegate digital work to subordinates, who themselves struggle to make old paper workflows and data formats fit with newer digital practices (Solanki and Tewari 2016). Digitization, in this case, does not simply streamline processes: it creates new problems and leads to more labor. This exemplifies "data friction," in which the movement of data between people, organizations, and machines creates costs in time, energy, and human attention (Edwards et al. 2011). This may explain why some digital processes result in the proliferation rather than the removal of paper (Sellen and Harper 2003).

Ultimately, the digitization of forms and government processes represents opportunities for innovation. However, it also poses challenges to existing organizational structures and practices. Digitization, in other words, results in positive changes for some but negative changes for others. For example, a program to digitize land records in India—hailed as a successful e-governance model—had many negative consequences, such as increased bribes, longer transaction times, and a redistribution of land towards large players (Benjamin et al. 2007). Digitization's impacts are uneven, exacerbating some inequalities and benefiting some people more than others.

CASE STUDIES: FRICTION IN ACTION

In this section, we draw on two case studies to show how the digitization of forms creates new sources of friction and crystallizes conflicting needs, goals, and practices. We show how a holistic, ethnographic approach to the study of forms can illuminate the broader challenges and opportunities inherent in service delivery. Ultimately, we explore how digital forms, which attempt to alleviate some frictions,

often create new frictions—primarily because digitization focuses too narrowly on technological innovation instead of service transformation.

The first case study focuses on a new digital form created to enact legislation around street vending permits, which was discussed briefly at the beginning of this paper. By examining frictions between city staff and the public, we show how problems with literacy and information accuracy arise from frictions around (1) language requirements and capacity and (2) misaligned mental models about street vending.

The second case study focuses on a digital form created to improve a paper process for building permitting. By examining frictions between different groups of city staff, we show how struggles to adapt to new digital interactions and processes arise from frictions around (1) the value placed on digitization and (2) doing research with a limited scope.

Street Vending Permit Form

In the Spring of 2022, the City and County of San Francisco passed legislation to regulate street vending (SF Office of the Mayor 2022). The legislation was rooted in several core goals: reducing the sale of stolen goods, regulating space so that vendors would not block the public right of way, and improving trash and cleanliness on key streets. All people selling goods in public spaces were required to get a permit.

In Fall 2022, San Francisco Digital Services (the author's team) was tasked with helping the Department of Public Works (DPW) launch a digital street vending permit form. DPW planned to "work with community-based outreach teams to inspect and conduct street vending enforcement, requiring proof of ownership of goods for sale or an authorization to sell the goods to be presented at the time of inspection" (SF Office of the Mayor 2022). The timeline was quick and initially did not involve research activities to test the form with the public.

After the permit form launched online, the Digital Services team learned from the DPW that most applications were submitted by community organizations and city staff on behalf of street vendors. We hypothesized that street vendors might lack digital skills to engage with digital forms, as we knew street vendors tended to come from marginalized groups. We then conducted semi-structured interviews with a small number of city staff, community organizations, and street vendors to better understand the challenges the form posed. The interviews with city staff and community organizations explored the challenges with administering the program and helping street vendors. In contrast, the interviews with street vendors (which were conducted in English, Spanish, and Chinese) focused on their challenges obtaining permits and filling out the permit form. The research was holistic, in that it examined the needs and constraints of the various groups involved in end-to-end service delivery.

Diagnosing the Problem

Through our research, we learned about the challenges experienced by street vendors as they struggled to fill out the form—and how the practices of government staff compounded these challenges.

Low digital and government literacy made the form intimidating and challenging to fill out. Some street vendors struggled with the form user interface due to a lack of familiarity with digital and government conventions. For example, several participants were unfamiliar with hyperlinks and visual cues for required answers. Many street vendors also struggled to comply with San Francisco's business permitting practices, as they had never applied for a permit or registered a business. They were afraid of making mistakes; if they did something wrong on the form, they worried they could be fined or that their permit would be revoked.

The form's structure made it difficult for street vendors to input information about street vending practices. The form asked questions about location and hours in ways that did not make sense to street vendors, for example, asking them to specify intersections and describe distance in feet. As a result, city staff engaged in many rounds of back and forth with street vendors who struggled to fill out the form "correctly" the first time around. They often had to meet with street vendors in person to show them how to measure distance on Google Maps. (This was not a skill that many street vendors had. As an alternative, a community organization advised street vendors to use a physical tape measure.) The form's design, therefore, placed an increased burden not only on street vendors, but also on city staff and community organizations.

Low English fluency and literacy hampered street vendors' abilities to access services without help. Many street vendors struggled to fill out the form in English, as they were recent immigrants with varying levels of English fluency. This was exacerbated by the fact that the form was available in other languages, but specified answers had to be in English. This was because a small number of English-speaking staff had been assigned to process street permits, and they did not have the capacity to translate non-English forms. As such, city staff struggled to provide support to all street vendors who needed it—shifting the support burden to community organizations. In fact, community organizations played an outsized role in helping street vendors navigate city processes and bureaucracy. Because the form required fluency in English and a certain level of digital and government literacy, street vendors turned to community organizations to fill out the form on their behalf.

Sources of Friction

Taken together, these research findings show the two distinct types of friction that emerged between government staff and street vendors through the process of digitization.

Government capacity and limitations around language. In our research, we learned that street vendors were often recent immigrants with low levels of English proficiency. We observed firsthand how the ability to fill out the form in non-English languages would have improved the user experience. However, when we spoke to city staff, we learned that none spoke languages other than English, so their choice to only have the form in English was rooted in their own inability to process non-English language answers. There was no budget to hire multilingual staff, so as a result, the team could not offer non-English services. While staff could have relied on machine translation services like Google Translate, they worried this would introduce application errors, creating a worse user experience. They also worried about possible legal ramifications if decisions were made based on machine-translated text.

Misaligned mental models around location and hours. In our research, we observed street vendors struggling to input information about location and hours of operation into the form. While the form's user interface caused some of this, many of the issues transcended usability. For example, street vendors were not a static population; they were often used to switching locations and routes and adapting to foot traffic as needed. Similarly, they were used to changing their hours. The form, however, forced them to choose one location and set of hours. They struggled to input their information, filled out inaccurate information (selecting all hours 7 days out of the week) to give themselves flexibility, or filled out the form multiple times to claim multiple locations. When we spoke to city staff, we learned that they had tried to structure the form fields in a way (they hoped) would minimize back and forth with street vendors. They had included several open text fields to allow street vendors to input information in their own words. However, we learned that this had the opposite effect: many of the open text fields filled the street vendors with fear, as they worried that inputting the wrong information would lead to their application being rejected.

The Challenges of Digital Service Transformation

After we completed our research, we met with city staff and community organizations to provide recommendations. Overall, our research revealed that simple fixes to the form would not be enough to improve the permit experience for city staff or street vendors. More significant changes to how the program was administered and the data was collected and processed were needed. Staff would need to change how they processed data around location and hours. The city would have to amend its budget to hire new staff with different language competencies, which could easily take more than a year at the City of San Francisco. Ultimately, the form was a tool for enforcing bureaucracy—and in doing so, it became the nexus of

competing mental models, constraints, and practices, none of which could be improved with a quick fix.

Digital Building Permit Form

In March of 2020, the COVID-19 pandemic forced the city of San Francisco to bring the building permit submission process online. Before the pandemic, applying for a building permit was entirely analog: plans were submitted in person and reviewed on paper. This meant that the initial shelter-in-place order brought permitting and construction in the city to a halt. After some initial confusion, construction was deemed an essential activity (particularly for affordable housing developments and emergency services, like pipes breaking); the work could continue, but with the necessary permits.

San Francisco Digital Service was brought in to work with permitting partners across the city to launch a webform and digital review process in less than six weeks. As part of this process, the team conducted ethnographic research with staff who processed building permits and consulted with reviewers from each department.

As an outcome, Digital Services improved and streamlined the paper form and transformed it into a digital form. Initially, the team had hoped that the digital form could connect with the main piece of software used to track permits—the aptly named Permit Tracking System (PTS) administered by the Department of Building Inspection. Further work revealed that the technical hurdles were too great—there was not enough time and budget to extensively overhaul a bespoke legacy software system—so the form submissions were output instead as a PDF. In addition to building a digital form, Digital Services published extensive information to guide applicants through the new process.

At first, the new digital building form seemed like a success. It solved significant pain points for permit center customers, who felt the online submission process was easier. However, it soon became clear that the new digital form was causing significant problems for staff. Suddenly, staff faced a huge backlog of applications (thousands of applications were submitted in just a few weeks), leading to serious workflow problems. This delay caused frustration for both city staff and permit applicants. After months of struggle with the digital process, the city created a COVID-safe way to accept paper applications and asked to take the digital form down.

Diagnosing the Problem

After the form launched, the team did further research to better understand the challenges staff experienced as they tried to use and process the digital form.

Staff struggled without in-person interactions, which were critical to ensuring data quality. With the paper form, significant interpersonal interactions occurred before the formal application process and helped improve the quality of the

application. Staff met with potential applicants to give them advice and guidance, much of which was undocumented. Importantly, the transition to a digital form eliminated these informal interactions to the detriment of both staff and applicants (Schrock n.d.). The information staff had provided verbally was not replicated online, and supplementary forms were not well documented. This increased the asynchronous back and forth between staff and applicants, making the overall process more burdensome and less efficient.

Staff struggled to adjust to new dynamics of interactions between staff and applicants. With the paper system, applicants carried their building plans from station to station in physical space. Applicants often sought out or avoided particular staff as a way to have their applications processed more seamlessly. The new digital process removed this "control" from applicants. They experienced a "black box" effect where interpersonal communication and updates were removed. This dramatically changed the experience, transforming a network-driven and relationship-driven process into an impersonal one.

With the paper system, applicants carried their building plans from station to station in physical space. This allowed them to know the status of the project and enabled them to hear and respond to comments from reviewers in real time. Applications through the new digital process removed this control from applicants. They experienced a "black box" effect, where they were unable to know the status of their submission or who was reviewing it. This dramatically changed the experience, transforming a network and relationship-driven process into an impersonal and uncertain one.

The digital form unintentionally changed (and broke) the existing service journey. With the paper process, the digital permitting form, colloquially called "Form ⅜," was physically passed from staff to staff, department to department, throughout the lifecycle of the permit application. It was a primary means of communication about the application and was the only place where certain types of communication were made (a stamp telling staff which fees to apply.) In the transition to the digital form, the output was a digital, unformatted PDF that did not function the same as form ⅜. Staff had to spend significant time parsing the PDF and struggled to find a place to enact communication. The problems with the output of the digital form created a waterfall effect, amplifying issues as the application traveled from department to department.

Sources of Friction

This experience points to two distinct types of friction—not between staff and applicants, but between staff and Digital Services.

The value placed on digitization (and the removal of paper). Digital Services' insistence on removing the paper form and foregrounding digital values

created significant friction for the staff who had processed the paper form. The Digital Services team had pre-existing ideas and values about what a "good digital service" was. Digital Services' believed that removing paper from the building permit would reduce the time required to manually input data, freeing up staff's time to do other work. However, this insistence on going digital meant that Digital Services broke the staff workflow. The team designed a great customer-facing form, but did not design the output in a way that was usable for staff. A genuinely transformative solution would have digitized the form while also redesigning and improving the staff workflow. Ultimately, Digital Services did not realize how eliminating the friction associated with paper led to additional friction and problems. (This is similar to the street vending example mentioned above, where open-ended responses intended to lower friction for street vendors inadvertently created new frictions when street vendors were worried about inputting the wrong unstructured data.)

Doing research with a limited scope. The team's limited focus on doing research with certain staff and customers did not accurately document the various types of friction involved in adopting a new digital process. The initial research on the paper form was focused on staff involved in submitting and reviewing applications, as this is what changes to a digital form would affect. As a result, the research did not include staff who were further downstream in the process—staff from inspections and records management—who would be the recipients of whatever changes were made to the paper form. Observing these staff would have made it clear how the new digital form created additional types of friction.

The Challenges of Digital Service Transformation

This was a seminal project for Digital Services—one that led to significant introspection and changes to the way the team worked. Overall, the experience revealed that, similar to the street vending example mentioned above, changes to the form were not enough to improve the building permit application experience. In fact, changes to the form alone created changes that *broke* the overall application process. To succeed, the project needed to make a wider variety of changes, namely to how various types of data moved between departments and systems (Radywyl 2014). A more ethnographic approach to discovery would have highlighted these broader changes; in other words, ethnography would have expanded the viewpoint and enabled the team to see a greater number of frictions.

CONCLUSION: WORKING THROUGH ETHNOGRAPHIC FRICTION

Taken together, these case studies highlight the sources of friction embedded in forms, be it friction between government constituents and staff, friction between different types of staff, or friction moving across or between different technologies and organizations. By examining friction as a generative force—as a mode of

engaging productively with challenges and conflict—these case studies highlight how reducing some types of friction creates other types of friction, be it the way location is asked and processed or the way forms take on various roles as they travel through government systems.

These case studies also highlight the challenges with improving service delivery. It is never enough to improve a form alone; true change requires re-envisioning government practices and systems, such as staff workflows, hiring practices, or re-engineering inter-departmental data flows between legacy technology systems. Determining these kinds of change requires the holistic, contextual view that ethnography is well-suited to provide.

However, as we noted early in this paper, conducting ethnographies in government contexts is not without its challenges. These case studies highlight how ethnography, while it plays a crucial role in exploring frictions in government, can also generate friction itself (Naik and Macarthur 2022). A critical question that emerges across both case studies is one of scoping. Faced with projects that, on the surface, are about forms but deeper down are about service transformation, how do we adequately scope research? How do we identify moments when improving the content of forms is not enough? What are the consequences of looking too narrowly at forms, at the expense of understanding the other and potentially greater sources of friction? As the building permit example shows, Digital Services could have benefited from viewing the service more holistically. The team was so focused on information collection that they made a great form that improved the customer experience but made the staff experience worse.

But the challenge is not just in scoping; it is also in doing ethnographic research in government contexts (Amagasa 2010). Although it has been a part of government practice for decades (Hoag and Hull 2017; MacClancy 2017), ethnography is not well-known or familiar, especially compared to the private sector. This is exacerbated when ethnographers work in digital teams, where ethnography as a discipline and subject is often unfamiliar to government employees. In our work, staff are often unfamiliar with being observed and uncomfortable with being asked to give opinions. Like many governments, the City of San Francisco is a hierarchical and power-laden bureaucracy in which staff are often unempowered to make change. They are forced to work with out-of-date, cumbersome technologies, which limits their ability to imagine better technical futures. They struggle to see how older technology imposes process constraints and to envision how new technologies can abolish and improve upon those constraints.

Beyond the challenges of working with staff in hierarchical environments, we have also experienced friction with our own positionality: as a Digital Services team that acts as a pseudo-consultancy throughout the city and does not administer services directly. When we try to use ethnography to change government services, we often find ourselves constrained in our ability to resource and scope projects. Many government programs, including street vending permits and building permits, are

highly complex processes involving touchpoints between multiple departments and technological systems. As a result, there is often a mismatch between the scope of research needed to capture important insights and our team's ability to create change. Researchers especially sit at one of the lowest rungs on the government hierarchy, caught between frustrated members of the public and city staff. In other words, our team is often put in positions where we make recommendations that no one is empowered to act upon.

How, then, can ethnographers position themselves to identify opportunities and create change when it comes to forms and government bureaucracy? For services that touch upon many different people, processes, and technologies, a long-term, relational approach can create a deeper understanding of constraints and build trust between government staff and constituents. Some guiding questions we can use to assess whether and how to take on projects are:

- In what ways will digitization result in change, and for whom?
  - What improvements can we make that benefit both government constituents and staff?
  - What benefits or drawbacks will digitization bring?
- How can we more proactively identify services with the right conditions for change?
  - What type of change is possible?
  - Are staff empowered to make more systematic change?

Government reform is never quick. Creating meaningful change requires slow, intentional work that lays the conditions for change itself. As ethnographers, we must play the long game: by investing in smaller projects that generate buy-in for larger projects, by exposing staff to different ways of working, and by identifying points of leverage and opportunity.

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NOTES

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