Creating a Digital Application to Serve as a Guide in the Government Acquisition Process
(Technical Topic)

Increasing Accountability Measures in Government Acquisition
(STS Topic)

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Nicholas Smith

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Technical Project Team Members: Kelechi Nwanevu, Daniel Xu, Shannon McGrath, Parker
Hamlin, Amber Ecelbarger, Agni Esmeralda

On my honor as a University student, I have neither given nor received unauthorized aid on this
assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

Signature _____

Approved _____ Date _____
Kathryn A. Neeley, Associate Professor of STS, Department of Engineering and Society

Approved _____ Date _____
Gregory J. Gerling, Associate Professor, Department of Engineering Systems and Environment

Introduction

The government contracting industry was responsible for 560 billion dollars being spent in the fiscal year 2018, according to the US Government Accountability Office. Every year the government seeks thousands of civilians to conduct jobs of varying length, to supplement government operations (Nissen 1997 p. 87). Government contracts result in goods and services being provided to the average citizen from the government hiring a third party. Government contracting has been proposed as a superior alternative to traditional bureaucratic production of collective goods and services (Lowery 1982 p. 517). To initiate the process for a small business or corporation to fulfill a government contract, a "request for proposal (RFP)" must be documented. An RFP is a request from a government entity to public contractors, for a specific project, product, or services (Wiedman 1977 p. 714). Throughout the process of a contract being awarded, there are issues surrounding the legacy systems, lengthy documents, and specificity of contract requirements. Both the government and civilian employees recognize the difficulty in the acquisition process, but due to bureaucracy and lack of accountability, little progress has been made to better the acquisition process.

An RFP is a tool to acquire the highest quality solution based upon requirements established by the government. However, in the process of acquiring a high-quality solution, the RFP process itself does not focus on the quality of the user experience. Specifically, there are few accountability measures like market competition, award incentives, and agile processes to ensure the RFP is completed correctly. The government lacks the infrastructure to provide feedback on the submitted RFP informally or heuristically. If the RFP process continues as is, the government will continue to lose productivity to poor communication. Additionally, the quality of products and services will decrease due to a lack of communication between the

government and public contractors. An improvement in the process can result in fewer full-time employees (FTEs) being used in government contracting offices and a more efficient use of citizens' taxes. My technical topic will focus on government contracting user experience design to synchronize government acquisition strategy. To stabilize the situation, a task manager application can be created specifically for the RFP. My STS topic will focus on accountability and its place in the government acquisition process.

Technical Topic: Creating a Digital Application to Serve as a Guide in the Government Acquisition Process

The government tends to conduct research for the next generation, while operating with technology from the previous generation. The acquisition process is a complex, meticulous, and long process that could span multiple years (Brown & Brudney 1998 p. 336). Due to security, the government tends to limit the adoption of new technological innovations that have not been properly tested in the private sector. This discourse in the inevitability of technological advancements leads to a great deal of discussion and organizational standstills (Neeley 2008 p. 250). Not only is the technology from the previous generation, but a lot of people working on the RFP carry antiquated ideals. As the baby boomer generation leaves, institutional knowledge will be locked away in the memories of the experienced. In an attempt to pass down this knowledge to onboarding employees, guides have been constructed to smooth the transition and establish regulations in the RFP process. However, these guides are populated with information over 200 pages long. The government acquisition guides lack any sense of interaction, team status, or conditional feedback depending on a project (Brown & Brudney 1998 p. 338). Consequently, a lot of onboarding members do not get the opportunity to analyze the whole process and are forced to learn principles on the job (Nissen 1997 p. 88). Hence, failing to address the need for a

better task manager and user guide for onboarding members will lead to government workers not being aware of the correct policy in the acquisition process.

The government has attempted to improve the government acquisition process in the past by using technological solutions. Grubb, Gordon, and Crowley designed a software programming method to form government contracts. This method primarily focused on prepopulating documents that were necessary for the government acquisition process, by asking the user one-time for a series of information that transcends multiple forms (Grubb, D. R., Gordon, C., & Crowley, N. (1993)). This method is similar to Google remembering your address, phone number, and email. However, working with the government introduces multiple challenges related to confidentiality when attempting to prepopulate proposals. It should be noted, that the prepopulating does not solve the underlying problem of teammates and individuals keeping each other accountable. An application approach will differ from previous efforts, due to its intention to serve as an accountability measure, and not a tool to complete RFPs. Another challenge is keeping the user's attention with the application. Through requirements gathering, the design must combat the pain points of the past: length of information, lack of interaction, and no accountability measures.

In the construction of the application, there are three main functions to combat the pain points: search/filter, task manager, and schedule. The search/filter provides the user with an opportunity to locate any individual on the application by name, department, position, username, skills, document title, or team name. This allows a user to locate an expert in a certain field to prevent any bad habits or poor terminology from being used. The filter returns a list of people that fit your needs to help complete an RFP, which reduces the amount of searching and word-

Figure 1: A mockup of the Search/Filter feature in the application. The user can filter to find a specialist for any category in the RFP. They can also search to identify what team members specialize in (Created by author).

of-mouth needed to find someone for a three-sentence response (See Figure 1). The task manager

aspect of the application is essential to keep government workers accountable. On the

application, the task manager will show which documents the employee is working on while

keeping a status bar to check their progress. Only their manager or senior will be able to see their

task progress. The schedule feature will allow a user on the application to schedule a meeting

with someone else to discuss a document. Apart from this, the application must be aesthetically

pleasing and engaging. As the application develops, there will be a level system, a way to

acknowledge the completion of a step in the RFP, to quantify user experience similar to a game.

Additionally, there will be individual features depending on the user to make them feel

individualized, such as, avatars, usernames, and strengths. The avatars and usernames provide a

personalized icon that the user can create. The strengths will allow other team members to see

what each individual specializes in. This will take many iterations of mock-ups, wireframes, and

presentations, but ultimately the mobile application combats a large pain point for the

government. The lack of accountability hinders competition and the quality of the product.

Science, Technology, and Society (STS) Topic: Increasing Accountability Measures in Government

The government acquisition process is rigid and upgrade resistant (Brown & Brudney 1998 p. 341). This is due to the multiple layers of bureaucracy and the need for confidentiality in certain documents (Brown et. al 1998). Poor habits, such as accountability in submitting documents, have grown old due to the process being rigid. To improve accountability, there must be an understood definition of the word in the context of government acquisition. Accountability is the buzzword of modern governance (Bovens et. al 2019 p. 11). Every organization wants to have a good accountability system to promote enhanced performance. However, accountability is a difficult concept to grasp, especially when it leads to conflict with peers. This conflict leads to disgruntled employees and additional money needed to provide an equal good. As time progresses more money is being spent on how to handle the inevitable conflict that will arise in the workplace (Berrios & Mckinney 2017, p. 560). The government is not immune to this progression and the need for training. Berrios presents the conundrum in his article stating, "Accountability in contracting presents a Catch-22: The biggest selling point for contracting-out is saving money, but to achieve greater accountability and effective oversight typically requires additional resource investment." (Berrios & Mckinney 2017, p. 567). Figure 2 below shows the number of steps that take place with accountability indicators. Furthermore, there lacks any communication of information from the contractor to the private company until the good or service has been delivered due to the contracting out infrastructure. This goes against market standards of establishing a minimal viable product and working towards a common goal. At the current moment, the only check on accountability in the initial stages is market competition

Figure 2: A flowchart of contracting in civilian systems that shows a high-level progression with the top 4 items and a lower level progression with the bottom flow chart (Berrios & Mckinney 2017, 568).

between different private companies bidding (Hansen 2003). Once a contract is awarded, there is

a lack of monitoring. With the current system as displayed in Figure 2, the real accountability is

a retrospective adjustment rather than a proactive adjustment.

Bovens elaborates on accountability as a virtue and accountability as a mechanism. As a

virtue, accountability serves as a behavior to drive an individual's actions. As a mechanism,

accountability is an institutional relation or arrangement in which an agent can be held to account

by another agent or institution (Bovens et. al 2019 p. 11). For my STS research, accountability

will take the mechanical sense, as this is the predominant usage in the social, political, and

administrative context. However, we must be cognizant that intrinsic accountability is still useful

in teamwork and the delivery of a product.

The duration of the current government acquisition process can take more than 6 months

which is a blocker on a good or service being provided. With 2.1 million government workers a

slight incremental increase can provide a drastic change in government efficiency (Berrios &

Mckinney 2017, 561). This impact is too large to turn a blind eye on an institutional process that

shapes the modern citizen. Providing a modern-day application will reduce the informal peer

accountability system, with a tangible task manager that checks progress. This also prevents information from being passed down with quirks and nuances that transform into poor habits on RFPs. Researchers at MITRE initiated research into this antiquated government process and pain points within it. Upon realizing that change is needed and for my STS research, there must be a way to identify if the application makes a difference. If information technology is going to be used as a solution to government contracting, then there needs to be a way to measure performance (Blasi 2002). An additional measure of accountability could increase competition and lead to better negotiation on requirements.

Conclusion

To increase accountability and the quality of services by the government, my capstone group will be providing an application to assist the contracting process. The anticipated deliverable is the design of a government acquisition application that can be used to monitor and keep track of the private company's progress in completing requirements. An application provides accessibility, ease-of-use, and user engagement. STS research reinforced the idea accountability has an external and internal factor for an individual. Both contribute to a team's ability to be accountable. If both of these projects are successful, then the government can spend significantly less money on administrative fees and reallocate that money to healthcare, welfare, and the prosperity of America. Harnessing intuitive design to help acquisition personnel succeed will reduce legacy systems, incorporate task management, and provide a better user experience through the improved display of the application.

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