Tony Parham: Fostering Innovation DNA in the Commonwealth of Massachusetts

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Abstract

States across the United States are creating a new position—Chief Innovation Officer (CINO)—to spur innovation in the public sphere. In this paper, we highlight the challenges and opportunities faced by CINOs in planning, designing, managing, and implementing innovation projects. Based on our interview with Antonio ("Tony") Parham, Government Innovation Officer (GIO) for the Commonwealth of Massachusetts, we outline how Mr. Parham and his office manage the process of innovation. This paper contributes to the literature on managing the process of innovation in the public sphere and illustrates that managing innovation is more than employing "the right technologies." CINOs need to take deliberate efforts to (1) understand the need for innovation, i.e., listening to their *customers* (residents, visitors, employees, businesses, and municipalities); (2) motivate stakeholders to take an active role in driving innovation; and (3) support customer-driven innovation. As states are in the early stages of creating this new position, we need further research to evaluate the success of innovation officers in harnessing a culture of innovation DNA in the public sphere.

Keywords: Innovation, Information Technologies, Streamlining Government, Public Value, Service Delivery, Transforming Government

Introduction

As states across the United States (US) continue to experience shrinking resources (e.g., budget cuts), increasing workloads (e.g., downsized organizations), and rising citizen demands (e.g., diverse citizenry), there is no doubt that public agencies need to innovate. In the hopes of fostering a culture of innovation in the public sector, states are creating a new position—Chief Innovation Officer[1] (CINO, pronounced like "chino"). While several states are creating this position, their nomenclature, scope, and job responsibilities may differ (Raths 2013). For instance, Maryland created the position of CINO with an emphasis on developing plans to implement the governor's signature initiatives such as health care, whereas as Massachusetts created the position of a Government Innovation Officer with an emphasis on improving the internal functioning of government. Despite such differences in nomenclature, it is clear that forward-thinking states are creating this position to transform the functioning of public agencies, develop a culture of innovation among public employees, and involve citizens in the process of governance to co-create innovation (Badger 2012; Kopytoff 2013).

Insightful states across the US have begun to consciously undertake an effort to manage innovation and involve stakeholders in the processes of innovation. By creating this new position, states are sending signals to their citizens that they are taking measures to transform the internal functioning of government, involve stakeholders in the processes of governance, and create services that meet their demands (Mulholland 2011). Although CINOs are gaining prominence across states as change and innovation agents, much of the current discussion in the popular discourse focuses on their roles and objectives (Badger 2012; Funkhouser 2012; Kopytoff 2013). While it is critical to understand the impetus behind the creation of these

[1] Note: In this paper, CINO refers to Chief *Innovation* Officer, which is the most common abbreviation for the role, so as not to be confused with CIO, which typically refers to the "Chief *Information* Officer."

positions and their mission, it is equally, if not more important, to understand: How do these innovation officers manage the process of innovation? What are the key challenges and obstacles facing these officers in transforming the function of public agencies? What are the key metrics to evaluate their performance in achieving their objectives?

In this executive profile, we feature Antonio ("Tony") Parham, Government Innovation Officer (GIO) for the Commonwealth of Massachusetts. We highlight the work Mr. Parham and his office are doing to manage the process of innovation and, more specifically, how he moves an idea (concept) to innovation (implementation). Discussing how Mr. Parham and his office manage the process of innovation is important for several reasons. First, many cities and states across the US are creating this new position. Second, scholarly literature in public management has focused on driving innovation within organizations; however, CINOs are tasked with spurring innovation across agencies. Third, it is sometimes the case that CINOs do not have direct authority over specific public agencies, yet they need to effect change in those agencies and cultivate a culture of innovation via influence and "matrixed management" (Bartlett and Ghoshal 1990). For these reasons, it is critical to understand how CINOs function and fulfill their assigned roles.

Drawing on the experiences of Mr. Parham, we highlight key issues and challenges confronting innovation officers at the state level. Since assuming office in 2012, Mr. Parham has spearheaded several innovation projects across agencies to streamline services, optimize operations, and engage stakeholders in the processes of governance. The efforts undertaken by Mr. Parham and other state chief innovation officers have implications for policy makers and scholars of public management.

The rest of the paper is organized as follows: We begin by discussing the growing need for innovation and the creation of CINO in the public sector. Next, we introduce the work being done by the Commonwealth of Massachusetts and our featured executive, Mr. Parham. Many CINOs seemingly confront similar challenges, thus it is important to highlight efforts undertaken by Mr. Parham and his office in Governor Deval Patrick's administration. We argue that managing the process of innovation in the public sector is more than employing "the right technologies." CINOs need to take deliberate efforts to (1) understand the need for innovation, i.e., listen to their customers (residents, visitors, employees, businesses, and municipalities); (2) motivate stakeholders to take an active role in driving innovation; and (3) support customer-driven innovation. As states are in the early stages of creating this new position, we need further research to evaluate the success of innovation officers in harnessing a culture of "innovation DNA"[2] in the public sphere.

The Changing Nature of Innovation in the Public Sector

State agencies are shifting from "innovating for citizens" to "innovating with citizens." Traditionally, public agencies were the sole providers of public goods. Today, we are increasingly witnessing public agencies reaching out to their customers to solicit feedback and even engage them in co-creating solutions to address social problems. For instance, in March 2012, Maryland's Department of Health and Mental Hygiene (DHMH) in collaboration with the Chesapeake Regional Information System for Our Patients and the Baltimore-based Abell Foundation announced the Maryland Health Data Innovation Contest. The contest invited participants across the globe to submit innovative ideas for ways to use information technologies (IT) to address issues such as smoking rates and heart problems. The participants were

[2] For more discussion on "innovation DNA", please see: http://www.tkgweb.com/blog/?p=1164&preview=true.

encouraged to submit ideas to address health issues for the Million Heart initiative[3]. The DHMH announced that it would provide participants with access to more than 16 health related databases (Mulholland 2012).

Advancements in information and computational technologies have drastically lowered the cost of information sharing. State agencies are increasingly sharing information about their operations to allow public scrutiny (Picciotto 2000; Roberts 2004), inform citizens about government functioning (Noordhoek and Saner 2005), and offer easy access to government information (Vicente, Torres, and Royo 2007). While offering information about operations of public agencies is considered a quintessential condition to exercise authority (Picciotto 2000), many agencies are also saving costs of operations. For instance, by publishing information online, the Texas State Administration was able to negotiate a contract for its copier machine lease and saved more than $33 million in three years. Moreover, since the launch of its transparency website, the Texas comptroller was able to identify inefficiencies in his administration and has saved more than $4.8 million (US PIRG Education Fund 2012).

As state agencies are offering more information and data to citizens, citizens are increasingly interested in addressing social issues. For instance, over the past few years, we have witnessed the rise of civic hackers—an army of high tech savvy coders committed to solving social problems without necessarily working for the government (Badger 2012). Additionally, people outside the realm of the public sector increasingly understand the socio-economic value of data (Noveck 2011). The increased availability of information has created opportunities for people to participate in the processes of governance and to co-produce solutions for solving complex social problems (Bovaird 2007; Clark, Brudney, and Jang 2013; Whitaker 1980). At present, it is certain that this new trend is changing the nature of public service delivery.

[3] A US national program to prevent 1 million heart attacks and strokes by 2017.

Individuals outside the public sphere are willing to devote resources such as time and skill to design services they expect to receive (Smith and Hunstman 1997).

State agencies are taking proactive measures to engage citizens in the process of innovation and to create services that meet their demands. However, it would be misleading to assume that both state agencies and citizens are experts in engaging with each other. It is worthwhile to remember that traditionally, state agencies were not designed to allow outside people into their fortress (Badger 2012). In other words, state agencies are not used to sharing their resources with stakeholders—both within and outside the public sphere. Thus, it is normal for public agencies to hit roadblocks when they move away from their traditional model. Despite good intentions and desires, state agencies may default to their status quo of working in silos and performing routine duties. Moreover, from a policy perspective, it is a long-standing concern that bureaucracy is entrenched in outdated systems—rules, regulations, and IT.

Creation of the CINO in the Public Sector

Changing the structure, nature, process, and culture of public agencies, or of any organization, is difficult. To fundamentally alter the functioning of public agencies, it is important to entrust an individual with the responsibility. This reasoning helps understand the creation of the CINO in the public sphere. With the increasing need to improve service delivery in an ever changing environment, many municipalities and states are creating the position of CINO to spearhead and manage the process of innovation (Badger 2012; Funkhouser 2012; Raths 2013). The CINO is entrusted with three key responsibilities: (1) leveraging new technologies to streamline government services, (2) converting data-intensive working of public agencies into challenges to solve, and (3) engaging citizens in policy processes to address complex social problems (Badger 2012; Ruths 2013).

The concept of the CINO was first developed in business communities in the 1990s. This person was entrusted with the responsibility of managing the innovation process within a firm, where s/he looks for new opportunities and strategies to do business (Funkhouser 2012). This concept of creating a CINO in the public sector gained prominence in 2008; however, the scope was limited to education reform and sustainability. As the recession hit the US, the focus of CINOs changed to managing the processes of innovation to address budget cuts, develop strategies to spur growth and economic development, and create employment. Moreover, many municipalities and states realized the importance of fundamentally transforming the role of public agencies to do business and meet the demands of its citizenry. As Jay White (working at the Ash Center for Democratic Governance and Innovation, Harvard Kennedy School) notes, CINOs can work on a range of activities from creating new ways of doing government procurement to using social media in the public sector (Raths 2013).

According to Bill Schrier, former Chief Technology Officer for the city of Seattle, in general, CINOs perform a combination of five key functions: provide internal agency services, act as a trusted advisor to the executive branch, promote open and transparent government, improve government business processes, and engage, connect, and encourage new community start-ups ("Why Your City Needs a Chief Innovation Officer" 2013). In other words, public agencies are using CINOs to leverage emerging and new technologies to promote innovation in the public sector (Howard 2012). It is expected that these innovation officers will tap into the entrepreneurial skills within and outside the public sphere to create unconventional solutions to address social challenges. For instance, ideas like building a one-stop shop for issuing business permits is creative, but even better is to streamline the number of licenses required for business to reduce redundancy without compromising quality. Thus, CINOs will not only harness

technology to digitalize but also think about new ways to re-create government services (Raths 2013).

However, to achieve fundamental change in status quo thinking in public agencies, CINOs need to develop a partnership with the people both within and outside the public sphere. As Maryland ex-CINO Bryan Sivak noted, "I'm not a subject expert in 99% of the issues. The people who do those jobs, who live and breathe them, do know what's happening. There are thousands and thousands of people asking 'Why can't we do this this way?' My job is to find them, help them, get them discovered, and connect them" (Howard 2012). Thus, CINOs should make the effort to tap into the knowledge of the crowd, learn from people, and support customer-driven innovation. It is important for CINOs to find and support ideas for innovation. Oftentimes, employees or citizens may have ideas to improve a service, but they might lack resources to change the status quo. If leveraged effectively, CINOs can tap into the knowledge of stakeholders (e.g., employees, citizens, businesses) and help move an idea from concept to implementation.

GIO: Commonwealth of Massachusetts

Innovation has been a hallmark of Governor Deval Patrick's administration -- in the state's economy as a whole and in the operation of the state government itself. Governor Patrick invests in innovation in the Massachusetts economy because he believes in enabling and encouraging industries, which are using their brainpower to help stimulate Massachusetts's economy. On March 20, 2012, Governor Patrick issued Executive Order (EO) No. 542 to create the position of Government Innovation Officer (GIO). The executive order authorized the Office of the Government Innovation Officer (OGIO) to work closely with the Commonwealth Chief Information Officer (CCINO) and executive agencies to: (1) improve internal government

efficiency; (2) use cross-boundary collaboration to provide valued services to the stakeholders, i.e., people, businesses, and local government; (3) identify, finance, and govern the execution of high impact business change projects; (4) forecast and monitor cost of change initiatives; (5) identify technology-infused business savings initiatives to improve government efficiency; (6) conduct statewide innovation competition to solicit proposals for innovative use of technology and solicit proposals that use data made available online through CCINO's open data initiative; (7) evaluate proposals based on cost, saving, and service improvement; (8) organize pilots of best ideas and make recommendations to the Office of the Governor as to how such pilots should be implemented in the state government; and (9) prepare annual reports to outline the activities and milestones achieved by the GIO. Additionally, the OGIO is required to work with the Governor's Council for Innovation (an advisory body established through EO No. 542) to advance the use of IT and improve the efficiency and effectiveness of services delivered to Massachusetts residents, while encouraging agencies to operate and deliver at a lower cost (Patrick 2012).

In July 2012, Governor Patrick appointed Antonio ("Tony") Parham as the first GIO of the Commonwealth of Massachusetts. The governor's administration noted that the GIO will find innovative ways to change, streamline, and optimize government service delivery. Overall, the GIO will work with executive agencies to cut costs, improve the performance of employees, identify new ways of doing businesses, encourage start-ups to create jobs, promote innovation competitions, and engage the public to create services that meet their demands. Moreover, as technology and the economy continue to evolve, it is critical to leverage new technologies to enhance the public experience and deliver services at a lower cost ("Governor Appoints First Government Innovation Officer" 2012).

Executive Profile: Antonio ("Tony") Parham, GIO, Commonwealth of Massachusetts

Mr. Parham is an experienced executive with a track record of leading high profile initiatives. He is a strategic planner and self-starter and proficient at creating business plans, developing partnerships, creating new ventures, assembling high performance teams, managing extended virtual teams, and leading program management. He is an insightful leader, strategic management consultant, digital marketing and e-business maven, executive coach, product manager, business partner liaison, and charismatic public speaker.

As GIO for the Commonwealth of Massachusetts, Mr. Parham advises the Governor, Secretary for Administration and Finance, the Commonwealth Chief Information Officer, executive branch leaders, and other stakeholders on identifying, funding, and managing the execution of high impact business change projects. As the first GIO for the commonwealth, he is accountable for improving internal government efficiencies and for improving the experience of outside stakeholders such as residents, businesses, and local governments.

Mr. Parham has 30-plus years of experience in business and technology leadership across a wide range of business sizes, from start-ups to large enterprises. Educated at the Massachusetts Institute of Technology (Bachelor of Science Degree in Computer Science and Master of Science Degree in Management from the MIT Sloan School of Management) and the University of Southern California (Master of Science Degree in Computer Science), he has had a career that has bridged the private, not-for-profit, and public sectors.

Managing Innovation in the Public Sector: Opportunities & Challenges

Managing the process of innovation in the public sphere is not easy. To plan, design, and implement innovation projects, leaders and employees in public agencies should depart from traditional models of delivering services. It is important to understand that innovation is not about discovering new ideas, but developing new ways of doing businesses. We interviewed Mr. Parham about his role as an innovation officer and change agent in helping public agencies streamline services and enhance stakeholder experiences while upholding fiscal realities.

Assessing and Identifying the Need for Innovation

The first step toward transforming the status quo of public agencies is to identify needs and share ideas (Schneider, Teske, and Mintrom, 1995). Change agents must take efforts to deliberate with agency leaders and understand their customers, mission, and goals. Oftentimes, innovation officers have to understand the needs of different agencies and find common issues to collectively address the problem. In some instances, to address an issue, innovation officers may have to work with multiple stakeholders (e.g., businesses, citizens, and public officials) as one individual or agency may lack complete expertise. Whatever the case may be, innovation officers often work with individuals, agencies, or sectors to identify areas for innovation. Thus, they must develop strategies to create consensus among diverse stakeholders (Ansell and Gash 2008).

Understanding diverse perspectives and identifying areas for innovation is seldom easy. One effective strategy may involve listening to their customers and/or stakeholders (e.g., public, employees, businesses, and other agencies). Change agents have to be cognizant of the reality that different agencies or even different departments within an agency may have different needs for innovation. As Mr. Parham noted, *"When I started in July 2012, I did a 'listening tour' and had conversations with the leaders of the eight Secretariats in the Executive Branch, and a*

selection of the leaders of the 141 Executive Branch agencies. We dialogued to find out the missions, goals, objectives, what is working, what was not working, etc…. I received many suggestions from these leaders."

It is critical to understand and identify public agencies' needs, customers, and challenges that they face. During his meeting with key leaders and decision makers, the GIO office received more than 200 comments and suggestions to improve both internal and external functioning of the agencies. However, addressing all the comments and feedback is beyond the scope of any single person. It is important to identify key areas for improvement and then develop a plan of action. Thus, the next logical step is to prioritize projects. Innovation officers can develop several measures to choose innovation projects. Based on his dialogue with key leaders, Mr. Parham identified a list of 11 initial projects. These projects were selected based on their feasibility, cost, scalability, and return-on-investment. As Mr. Parham noted, *"We had a list of several hundred projects but picked 11 of the lowest hanging fruit."* Out of these 11 projects, the Administration and Finance (ANF) has approved eight projects for inclusion in the Governor's FY14 budget (Patrick 2014). Picking the lowest hanging fruit is often a strategy used by innovation managers so as to get quick wins and build credibility within the organization (Desouza 2011).

Creating Guiding Innovation Principles for Public Agencies

Public agencies perform a myriad of activities, differ in their scope, and have different missions and stakeholders. However, to encourage innovation spirit and develop a shared vision, it is beneficial to provide a set of guiding principles. To achieve their objective, change agents must create a shared identity that will play a critical role in motivating people and agencies for change (Fleingstein 2001). By creating a shared identity, change agents can help facilitate the

process of innovation. In other words, leaders can use shared identity to create trust and facilitate deliberation among stakeholders (Ansell and Gash 2008).

Soon after completion of his listening tour, Mr. Parham proposed the GIO's "10 A's" to guide agencies to fulfill the goals of EO No. 542 and to enhance stakeholders'—intra, inter, and extra agency—experiences. The 10 principles are: (1) any time: information and transactions 24/7/365; (2) anywhere: access beyond brick and mortar offices; (3) any device: from landlines to mobile devices and beyond; (4) audience specific: customer's language, not "government-speak"; (5) audience engaged: dialogues, not monologues; (6) all with "one voice": continuity, consistency, and coordination; (7) apparent: simplified transactions and interactions; (8) agile: perfect systems are never ready, deploy what works now, iterate quickly; (9) alert: notify customers pro-actively, unless they opt out; and (10) accessible and open: assistive-technology ready, transparent (GIO's "10 A's" n.d.).

Communicating these principles helped to build a shared vision across public agencies. Moreover, as these principles diffuse across agencies, they will constantly remind public employees of their goals and objectives to help them serve more efficiently and effectively. Additionally, employees within and across organizations can share their ideas and improve stakeholder experiences. This will also help stakeholders' request services that better meet their demands. For instance, after reviewing these principles, customers might query about the availability of particular services on their mobile devices. These queries will help agencies better understand the needs of their customer group, have a deeper dialogue with customers, and even invite them to collectively address issues. Thus, developing guiding principles will harness a sense of shared vision and commitment within and across public agencies.

Helping Agencies Implement Innovation Projects

Once the key areas for improvement are identified, the next logical step is to design plans and strategies to implement these innovation projects. Innovation is more than developing new ideas. It also includes the deliberate actions undertaken to generate, promote, and implement an idea (process, product, or service) to change the existing practice. Although the process of innovation is non-linear, it follows through several phases: (1) idea generation, (2) process selection, (3) experiment prototypes, and (4) implementation and diffusion (Desouza 2011; Sørensen and Torfing 2011). During the process of moving an idea from concept to implementation, innovation officers work with partners, initiate the project on a small scale, test its feasibility, iterate several versions, receive stakeholder feedback, and finally launch the product in the marketplace. For instance, during dialogues with the Executive Office of Housing and Economic Development, Mr. Parham and other Commonwealth leaders realized that businesses were finding it hard to get appropriate information from state agencies. As Mr. Parham explained, *"Seventeen agencies were involved…businesses were confused as to which agency to contact first, and the information provided to businesses was sometimes written in 'government speak' language which may not have been easy to understand."* Thus, there was the need to simply provide easy access to information portals to help businesses and agencies. To achieve this goal, Mr. Parham worked with key agency leaders to identify common needs and created a one-stop business portal—*www.mass.gov/business*—to help businesses get relevant information more easily.

In another instance, during dialogues with the Executive Office of Health and Human Services (EOHHS), Mr. Parham realized that due to the limitations of existing systems, EOHHS was not maximizing its reimbursement from federal agencies. As Mr. Parham noted, *in EOHHS, "a significant portion of their revenue comes from federal funds. They would perform a service*

and submit a 'receipt' to federal agencies to get FFP [Federal Financial Participation] but they were actually 'leaving money on the table' because they were not able to report all of the activities that were eligible for reimbursement…A one-time $1 million investment to upgrade the EOHHS data warehouse reporting capabilities created a one-time increase of $11 million in FFP, plus $7 million annually in increased FFP going forward." To build this new system, Mr. Parham *had "a series of dialogues, created a business case, submitted it to Administration and Finance, and moved forward"* to execute the project.

Furthermore, agency employees can help identify areas for innovation. For instance, Mr. Parham has worked with agencies to deploy the innovation crowdsourcing tool iCatalyst to collect insights from the various audiences about what is working, what areas can be improved, and how they can be improved. The human resources (HRD) used iCatalyst to gather HR professionals across Executive Branch identify obstacles and issues that needed attention. HRD asked HR professionals to discuss: *"What is the top HR or workforce challenge your agency is facing?....Eighteen solid ideas came out of this. The HRD's senior leadership selected the top four…. Three of the ideas serve to confirm and prioritize some topics that were already being considered. But the fourth idea it was a brand-new insights which was a valuable and significant discovery for HRD leadership"*

It is important to note that moving from the idea to the implementation stage is not always easy and typically progresses through several phases. During the interview, Mr. Parham also indicated that it is important to evaluate the feasibility and impact of innovation projects by developing early prototypes as early proofs of concept to decrease the risk of execution.

Supporting and Allocating Resources to Innovation Projects

To initiate and sustain innovation projects, change agents must mobilize resources (Fleingstein 2001). Despite working in an uncertain environment, for efficient outcomes, change agents must allocate resources to undertake deliberate actions and transform the institutional status quo (Van Der Steen and Groenewegen 2009). Proving funding support is crucial to kick-start an idea. It is fair to argue that without resources, no good idea can move beyond the concept stage. For innovation officers to foster a culture of change, they must garner support to help individuals move and implement their ideas. Thus, initiating and implementing a new idea or product is contingent upon the availability of resources.

To implement innovation projects, agencies must allocate resources to their employees or to people who are in charge of implementing innovation. To kick-start innovation projects, Mr. Parham was able to provide seed funds for agency projects or request funds from ANF. Occasionally, however, an agency self-funded a proposed project, when it was convinced of the value in the innovation. For instance, *"In the EOHHS situation, after the agency saw the value of the proposed enhancements to the data warehouse reporting subsystem, they paid for the enhancements of new system, they paid for it all themselves."*

In addition to finding support to fund innovation ideas, it is also useful to provide incentives for individuals or groups to come up with ideas. However, incentives do not always need to be monetary. For example, according to Mr. Parham, *"The recognition which individuals receive for having contributed valuable ideas serves as an incentive. Indeed, the iCatalyst innovation crowdsourcing platform has a built-in 'leaderboard' concept, which displays the most highly ranked contributors at the top of the list. This leaderboard is visible to all who are participating in the iCatalyst challenge. At the end of the challenge, the executive sponsors of the challenge award simple inexpensive prizes to the persons who submitted the top*

contributions. For example, in HRD's challenge, the prizes included one week's use of the parking spot of the chief human resources officer, a free bus pass, coffee gift cards, etc.…. Also the chief human resources officer made a personal phone call to each of the persons who submitted ideas into the iCatalyst system." Parham further noted that, while there is pre-existing legislation, which allow for significant monetary compensation, the Commonwealth has yet to implement such monetary rewards. Thus, it is clear that public agencies can come with innovative ways to encourage and compensate their employees for suggesting innovative ideas.

Managing Expectations While Navigating Bureaucratic Systems

Public agencies are filled with processes, rules, and regulations. Despite good intentions, oftentimes public employees find themselves trapped in legacy bureaucratic systems (Gore 1993). For public officials to perform efficiently and creatively, they must be liberated from government red tape, cumbersome procedures, and political control (Gore 1993; Kettl 1997). When public employees work in a free environment, they are more likely to adopt innovative strategies for managing and executing policies (Kettl 1997).

While it is reasonable to argue that removing public employees from all of the shackles of legacy bureaucratic systems will encourage innovation, that is not always easy or feasible. These legacy systems are a function of a complex web, and public employees must possess knowledge and expertise to navigate through constraints to innovate. As Mr. Parham explained, *"Working in the public sector is much more challenging than in the private sector. Although they have similar needs, there are many more constraints in the public sector in terms of various constitutional issues, and regulatory requirements*." Consider the case of procurement: *"The agency has various procedures or laws that make things more challenging."* Additionally, public agencies are (of course) accountable to tax payers. As pointed out by Mr. Parham, *"There are*

significant visibility dimensions. We must make sure that everything is appropriate and visible to constituents." These constraints can complicate innovation in public agencies, but there is an ongoing effort to improve existing processes.

Even if organizations are willing to take risks, innovators and change agents face resistance from a subset of employees. It is difficult to get everyone on board to be innovative. As Mr. Parham explained, *"It is sometimes difficult to get people's attention to get things done. In any organization (whether in the public sector or private sector), you find change-ready people, change-resistant people, and people in the middle."* Mr. Parham noted that, *"People who are perceived as change-resistant are often just so focused on their existing responsibilities that they don't have the bandwidth to explore alternative methodologies. Intellectually, they know they need innovation but they may not perceive the organizational capacity to experiment."* Thus, ideally, public agencies should find ways to devote a part of their resources to plan, design, and implement innovation projects.

Learning from Other Sectors

Public agencies and change agents must reach out to other agencies to learn about their experience in managing innovation. By reaching out to peers, agencies and change agents can understand how other agencies addressed obstacles, learn what worked well, and avoid falling into the same traps. What happens if you don't have peers to reach out to? It would be wrong to assume that change agents work in isolation. Change agents are constantly co-evolving and learning as they interact with other public employees, political groups, residents, visitors, and the business community (Van Der Steen and Groenewegen 2009). Thus, institutional constraints or lack of peer support are not limiting factors for innovation officers, who are constantly engaging in deliberation with stakeholders from multiple sectors.

As Mr. Parham noted, *"The existence of a CINO on a state level is a new thing. I believed I was the second person in the country with this state-government title."* However, the lack of peer support did not stop Mr. Parham from achieving and learning about managing innovation. In addition to dialoguing with forward-thinkers within the Commonwealth state government, he also spoke with municipal innovation personnel, such as the Boston Mayor's Office of New Urban Mechanics. He looked for lessons from private sectors. He explained, *"I did have the benefit to dialogue with individuals in multiple sectors."* He also benefitted from the Governor's Council for Innovation, which, he noted, *"are twelve individuals, selected by the Governor, who are experts in innovation and advise the Governor and the GIO on these topics."* Additionally, Mr. Parham also reached out to private sector CINOs. He explained, *"Informally, I compared notes with others, including current and former CIO's from across the country (such as those from NASCIO, the National Association of State Chief Information Officers) and an informal network of CINOs across various industry sectors."*

Mr. Parham's approach offers several key lessons to innovation officers and change agents. First, change agents should develop a network of peers to learn about managing innovation. Second, they should be willing to cross boundaries and reach out to other sectors to learn about similar efforts. Reaching out to people outside the public sphere will offer new perspectives and approaches to solve issues. Third, it is important to know and leverage all resources at their disposal. In the case of Mr. Parham, he works closely with the Governor's Innovation Council to learn about strategies to meet his objectives. Fourth, change agents should use both formal and informal channels to learn about managing innovation. Thus, a dearth of peers with similar titles need not hinder change agents from developing their support system. Moreover, it is always beneficial to reach out to multiple sectors and learn about their

experiences in carrying out similar efforts. Deliberation with people outside one's traditional realm will offer new perspectives.

Performance Measurement

For any innovation to be successful, it is important to measure its performance (Cavalluzzo and Ittner 2004). However, measuring *financial* return on investment is only part of the picture. To get a holistic understanding, public agencies must evaluate the success of the product or service on numerous fronts such as customer satisfaction, knowledge transfer, and process improvements. Developing metrics to evaluate the performance on several fronts is critical, and public agencies should not ignore this step. Moreover, as public agencies and change agents are undertaking innovation projects in times of resource austerity, they should not ignore performance measurement.

Agencies and change agents should develop metrics to evaluate their performance from early phases. As Mr. Parham explained, *"We were not handed specific success metrics in advance. We developed metrics as we went along… Certainly, a key metric is financial… But, we also look at projects to see if they will improve public satisfaction with our services."* Other important metrics are *"reach (social media), and how things are aligned with the Governor's and Secretaries' strategic goals."* Furthermore, it is important to understand the needs of each customer group. As Mr. Parham shared, the five top-level customer groups are: *"residents, visitors, employees, businesses, and municipalities. But there are numerous customer subsets."* He added, *"We try to understand their needs and their interactions with each other."*

A critical aspect of designing and implementing innovation projects is to evaluate their impact. As outlined above, while it is important to measure the fiscal health of the projects, public agencies should also develop other metrics to evaluate innovation projects. Understanding

how end users are using the new products or services will offer several valuable lessons to the organization. Additionally, agencies must adopt and develop metrics as they go along. Agencies should be aware that performance evaluation is an excellent mechanism to understand what worked, what can be improved in future iterations, and what should be avoided. This knowledge will also aid other agencies embarking on similar projects.

Fostering Innovation and Maintaining Entrepreneurial Spirit in Public Agencies

Public agencies are constantly encountering problems that cannot be effectively addressed by one agency, and oftentimes involves multiple sectors. These growing numbers of complex intractable social problems have intensified the need for innovation in the public sector. Leaders in public agencies have to come to a consensus that these complex problems cannot be addressed simply by "throwing more money or standard solutions at them" (Sørensen and Torfing 2011, p. 848). Thus, public employees should constantly: (1) search for new ways of doing business and (2) reach out to people outside their organizational boundaries to tackle these growing and complex challenges. As a result, public agencies should develop a culture of innovation to improve their operations.

While it may sound discomforting and terrifying, public employees in many states are fortunate to work under the leadership of innovation officers. The primary goal of innovation officers is to engage and deliberate with employees, organizations, and external stakeholders to instill the idea of innovation. In other words, these officers are tasked with the job of changing the status quo of public agencies, harnessing innovation without cost, and supporting customer-driven innovation (Mulholland 2011). As Mr. Parham noted, *"Part of my mission is to market the importance of innovation. In addition to the listening tour, presentations were given to many agencies explaining what is innovation, why it is important, and indicating how it can be*

achieved. Various communication methodologies (social media, award-winning blog, monthly newsletter) were also leveraged. Have a thoughtful and proactive method of getting the word out." The OGIO office undertook several efforts to communicate the spirit of entrepreneurship in the state. Mr. Parham conducted training sessions, adopted a social media outreach strategy, and propagated "innovation DNA" among commonwealth key leaders and the executive branch. Additionally, Mr. Parham also launched an innovation website (www.mass.gov/innovation) and blog to communicate various projects undertaken in the Commonwealth of Massachusetts. The *State Tech* magazine selected the blog as a "must-read state and local tech blog" (Daly 2013).

While Mr. Parham and his office have undertaken successful efforts to encourage entrepreneurial spirit across public agencies, he shared a valuable lesson: *"Begin with change-friendly people and build momentum…. Be persistent because a lot of things don't take hold the first time."* Additionally, it is important to look for innovation examples. For instance, he borrowed "*high powered innovation examples such as the White House Innovation Fellows Program and implemented it in Massachusetts (as the Commonwealth of Massachusetts Innovation Fellows Program)."* He noted that, "*in government, we sometimes get caught in status quo thinking. A part of my role is to bring a fresh eye and perspective to improve efficiency."*

Discussion

Based on our interview with Mr. Parham, several policy and research implications can be inferred for fostering a culture of "innovation DNA" in the public sphere. First, it is sometimes viewed that public agencies are not receptive to a culture of innovation and risk-taking. Thus, when cities and states across the US are creating the new position of a CINO, many are skeptical about the ability of these officers to implement innovative projects. As Robert Atkinson,

President of the Information Technology and Innovation Foundation in Washington, D.C., asked: "How do you plan to take on entrenched interests to drive core innovations as opposed to innovation around the edges?" (Raths 2013). While it is critical for innovation officers to design, plan, and implement innovation projects to change status quo thinking of public employees, it is important to understand that to move to this level, innovation officers sometimes need to start small. Indeed, it is best to have a *portfolio* of innovation projects, of various sizes and scope, to maximize the probability of portfolio success, since any specific initiative, may or may not be successful initially.

As Mr. Parham pointed out, public employees are not always resistant to change, but constantly find themselves buried in their day-to-day tasks and seldom have time and resources to invest in designing and implementing innovation projects. Despite good intentions and desires, many public agencies default to a safe position of the "status quo." It is important for public agencies to first identify the key issues they are facing, prioritize project(s) to invest, and design strategies to implement. It is important to build momentum and encourage innovation in the public sphere.

Second, public agencies should develop evaluation metrics to measure the performance of their new project from an early stage. In times of fiscal austerity, it is important for agencies and innovation officers to create a set of evaluation criteria to gauge the progress of innovation projects. Agencies should take efforts to collect the feedback of their stakeholders (employees, residents, businesses, and municipalities) throughout the process of implementing innovation projects. Understanding the need of their stakeholders is critical to develop products and services. Public agencies should take deliberate effort to reach out and engage with their customers. Use of social media platforms such as Twitter, blogs, YouTube, etc. are valuable

channels to reach out to people. Furthermore, by engaging stakeholders in the process of innovation, agencies can tap into knowledge of the crowd to solve complex challenges.

Third, as highlighted in this paper, cities and states are experimenting with this new position. However, as Mr. Parham shared, innovation officers should reach out to other sectors to learn about strategies and issues faced by individuals holding similar positions. For instance, Mr. Parham frequently got feedback from the Governor's Council on Innovation to design strategies for implementing innovation projects.

Fourth, changing internal functioning of an organization is difficult. Public agencies are buried in rules and regulations that create path dependence. Breaking through the shackles of bureaucracy is difficult, and requires a lot of effort on the part of the innovation officer. However, innovation officers should navigate through this complex system to change attitudes of public employees. To achieve this, they should have resources at their disposal to generate ideas and build prototypes. Once employees and agencies are able to understand the value of innovation, it is easier to motivate change. Thus, we need more case studies to illustrate how innovation officers moved an idea to the implementation phase. We also need to outline cases of innovation failure -- to not only help avoid similar traps, but also to encourage employees and agencies to understand that implementing innovation is difficult. As Mr. Parham noted, things do not take hold all the time, and it is better to fail fast and pivot. Understanding that failure is part of innovation culture is critical. However, it is also important to understand that agencies should develop clear evaluation metrics to quickly understand if a current strategy is effective.

Conclusion

In this paper, we outlined the work being done by Mr. Parham and his office to foster a culture of innovation DNA in the public sphere. After assuming office in 2012, he has undertaken several efforts to leverage IT and transform internal functioning of Massachusetts's government. Immediately after assuming office he carried out a listening tour to understand the need for innovation in public agencies across the state. Soon after completing his listening tour, he created the GIO's "10 A's" to guide and foster innovation across agencies, and then he selected a list of 11 innovation projects to streamline services, optimize operations, and improve experiences. Despite facing challenges, such as very busy public employees and fiscal constraints, Mr. Parham has been constantly engaged in deliberation and dialogue with public officials to convey the value of innovation. Additionally, he has also demonstrated that innovation officers can learn from multiple sectors to successfully manage the process of innovation in the public sphere.

We must caution against being premature in judging the success of CINOs. We still do not know much about the 'marginal' contribution that CINOs make towards driving innovation in the public sector above and beyond what normally takes place. Further research is needed to outline what are the key challenges faced by these officers in harnessing a culture of innovation in the public sphere. What are some of the key strategies adopted by the CINO? What are some of the key metrics to evaluate the performance of these officers? What are some of the areas where they have successfully implemented innovation? Is there any variation in the types of innovation projects adopted and implemented across regions? Do states with CINOs do more in the way of innovation than those that do not? What are some of the critical success factors for these roles? What types of innovation projects have been implemented by these CINOs? Are there some common characteristics to examine the effort undertaken by CINOs at different

levels? These are some of the unexplored avenues for future research. Exploring these research avenues will provide further insights into the roles of CINOs and help policy makers arrive at evidence-driven decisions to evaluate the value of creating this new position.

Additional research is needed to understand what kinds of challenges innovation officers across the US face and what are some of the strategies used by innovation officers to overcome challenges and obstacles. Cities and states are in the early stages of experimenting with this new position, and we need more research to evaluate the performance of these officers in fulfilling their objectives. It is important to remember that changing internal functioning of public agencies is not easy; it sometimes takes several iterations before an innovation can take hold. Thus, innovation officers need to work persistently and build momentum to foster a culture of innovation in the public sphere.

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