An New Dog With the Same Old Tricks: The Government's Open Data Initiatives

Monica Savukinas *

TABLE OF CONTENTS

* J.D., The George Washington University Law School, May 2017.

I. INTRODUCTION

Throughout modern history, prizes have been a key motivation behind the development of numerous technologies that today we take for granted. For example, in the late 1700s, the French government used a prize contest to push innovators to develop a new food preservation technology to better feed Napoleon's army.[1] The winner received 12,000 franc and the resulting technology eventually led to the modern process of canned foods.[2] The use of cash rewards for innovation has not been limited to governments. In 1919, Raymond Orteig, a New York hotel owner who was born in Paris, offered $25,000 for completion of the first successful transatlantic flight from New York to Paris.[3] In 1927, Charles Lindbergh won that prize in the Spirit of St. Louis.[4]

Since 2009, the number of Open Data Initiatives (ODIs) sponsored by government agencies has increased dramatically.[5] These activities have seen a resurgence in recent years thanks, in large part, to President Barack Obama's actions to make additional funds available for ODIs and to push Congress to create statutory authority for agencies to host these initiatives.[6] Common goals cited in support of these events, besides the development of new technologies, are to obtain a broad range of participants, to be of low cost to the government, increased private investment, education and captivation of the public, and increased competition.[7] These contests have been particularly successful in highly technical fields, such as the National Aeronautics and Space Administration's (NASA) Lunar Lander Challenge.[8]

---

1. *See* DEBORAH S. STINE, CONG. RESEARCH SERV., R40677, FEDERALLY FUNDED INNOVATIVE INDUCEMENT PRIZES 1 (2009).

2. *Id.*

3. *See* Tim Brady, *The Orteig Prize*, 12 J. AVIATION/AEROSPACE EDUC. & RESEARCH 45, 46 (2002).

4. *Id.* at 58-59.

5. *See About*, CHALLENGE.GOV, https://www.challenge.gov/about [https://perma.cc/DX4Y-3SFU] (last visited Apr. 7, 2017) (stating that since 2010, over 740 competitions were launched with more than $250 million award in prizes).

6. *See* Gottlieb & Rawicz, Federal Inducement Prizes, 15-9 Briefing Papers 1 (2015); *but see* Office of Mgmt. & Budget, Exec. Office of the President, *Information for Agencies Memoranda*, https://www.whitehouse.gov/omb/information-for-agencies/memoranda [https://perma.cc/U6WL-QAJG] (no mention of the use of challenges or prize contests in memoranda issued by the Trump administration).

7. *See* OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES ON GUIDANCE ON THE USE OF CHALLENGES AND PRIZES TO PROMOTE OPEN GOVERNMENT 1-2 (Mar. 8, 2010) [hereinafter Guidance on the Use of Challenges and Prizes], http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-11.pdf [https://perma.cc/QJH3-Y7UY]; NATIONAL ACADEMY OF ENGINEERING, CONCERNING FEDERALLY SPONSORED INDUCEMENT PRIZES IN ENGINEERING AND SCIENCE 1 (April 30, 1999), http://www.nap.edu/catalog/9724.html [https://perma.cc/FJ5Q-RY83]; Stine, *supra* note 1, at 2.

8. *See* Stine, *supra* note 1, at 16-17 ("For the Lunar Lander Challenge, twelve private teams spent nearly 70,000 hours and the equivalent of $12 million trying to win $2 million in prize money.").

The most common example of an ODI is a prize contest. Simply put, in a prize contest, the government offers a set award, typically a monetary sum and occasionally a government contract, in return for achieving a set goal with pre-determined criteria.[9] There are two categories of prize contests – recognition prizes and incentive or inducement prizes.[10] Recognition prizes award work done in the past for a purpose other than the contest itself, such as the Nobel Peace Prize.[11] Incentive or inducement prizes award work done specifically for a set contest or goal.[12] This note focuses on and uses the term "prize contests" in reference to an incentive or inducement prize.

In recent years, several agencies have begun to host and sponsor events known as hackathons as part of this push for ODIs.[13] Hackathons go by many names, such as codeathons, developer days, apps challenges, hackfests, hackdays, or codefests.[14] Hackathons are typically shorter than prize contests, as they are generally held in a single weekend.[15] Hackathons can be used to push for innovation within an agency,[16] or to spur innovation in the private sector overseen by the agency.[17]

Another innovation strategy gaining in popularity is for agencies to work directly with developers to provide the necessary tools for private innovation.[18] These tools include open data and Application Programming Interfaces (APIs).[19] An API is like the buttons on a calculator – it is the

---

9. *See* Steven L. Schooner & Nathaniel E. Castellano, *Eyes on the Prize, Head in the Sand: Filling the Due Process Vacuum in Federally Administered Contests*, 24 FED. CIRCUIT B.J. 391, 399-400 (2015).

10. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 3 ("Experts often make a distinction between 'recognition' prizes that honor past achievements, and 'inducement' or 'incentive' prizes that encourage participants in the competition to achieve a particular goal").

11. *Id.*

12. *Id.*

13. *See generally Hackathon for Combat Feeding Mobile Apps*, U.S. DEP'T DEFENSE, http://combatfeedinghack.devpost.com/ [https://perma.cc/JF9A-BMUB] (last visited Apr. 9, 2016) (hosted by the Department of Defense); *GSA Digital Innovation Hackathon*, GEN. SERVS. ADMIN., http://open.gsa.gov/Digital-Innovation-Hackathon-Fall2015/ (last visited Nov. 6, 2015); *International Space Apps Challenge*, NAT'L AERONAUTICS & SPACE ADMIN., https://2016.spaceappschallenge.org/ (last visited Apr. 9, 2016); *Earth Day Hackathon*, Gen. Servs. Admin, http://open.gsa.gov/EarthDayHackathon/ (last visited Apr. 9, 2016) (co-hosted by six agencies).

14. *See* ZACHARY BASTIAN, THE POWER OF HACKATHONS: A ROADMAP FOR SUSTAINABLE OPEN INNOVATION, WASHINGTON, DC: WOODROW WILSON INTERNATIONAL CENTER FOR SCHOLARS 1 (2013), https://www.wilsoncenter.org/sites/default/files/power_hackathons.pdf; Melissa Phipps, *Collaboration Meets Competition: The Power of the Hackathon*, Gen. Assembly Blog, https://blog.generalassemb.ly/collaboration-meets-competition-power-hackathon/ (last visited Oct. 11, 2015).

15. *See* Bastian, *supra* note 14, at 1; Phipps, *supra* note 14.

16. *See* Earth Day Hackathon, *supra* note 13 (GSA Simplying Sustainable Procurement hackathon to "[m]ake it easier for contracting officers to determine whether products on the web meet federal sustainability requirements.").

17. *Id.* (USDA hackathon to "[d]evelop a prototype of a tool that allows users to quickly and easily access shade scores for any neighborhood in the United States.")

18. *See Reports and Research: Data*, FCC, https://www.fcc.gov/reports-research/data (last visited Jan. 20, 2015).

19. *See id.*

interface that allows a user to submit inputs and then returns an output. In addition to his support for ODIs, President Obama has also pushed federal agencies to increase the availability of open data.[20] In a 2013 executive order, President Obama specifically ordered agencies to make resources, such as data, open and available in a machine readable format usable to the public in order to "fuel entrepreneurship, innovation, and scientific discovery."[21]

This notes analyzes the Federal Communications Commission's (FCC's) use of ODIs and open data as part of the government's push for innovation at federal agencies. It begins with a discussion, including benefits and deficiencies, of three innovation tools – prize contests, hackathons, and open data. Next, Part III discusses the White House's innovation policy and goals, both for the federal government at large and specifically for the FCC. The latter portion includes a brief overview of the structure and history of the FCC, with a particular focus on the FCC's technical resources. Part IV discusses the implications of the FCC's use of these innovation tools on the technology and communication sectors, arguing that the FCC should increase its use of prize contests, hackathons, and open data to encourage innovation.

II. RECENT INNOVATION TOOLS: NEW NAMES, SAME OLD CONCEPTS

While the monikers for recent innovation tools, such as hackathons, might be relatively new, the concepts are no different than in the days of Napoleon and Lindbergh. The core motivator behind the creation of these tools is the exchange of innovation for a reward – whether it be cash, publicity, or a government contract.

A. Prize Contests: An Old Dog with Same Old Tricks

Prize contests are tools that governments across the globe and private parties have used for centuries to spur innovation.[22] Some examples include the Government of the French Republic's prize to develop a better way to preserve food for soldiers and the Orteig Prize for the first non-stop flight from New York to Paris, which was awarded to Charles Lindbergh.[23]

---

20. *See generally* Office of the Press Secretary, Exec. Office of the President, *Executive Order – Making Open and Machine Readable the New Default for Government Information* (May 9, 2013), https://obamawhitehouse.archives.gov/the-press-office/2013/05/09/executive-order-making-open-and-machine-readable-new-default-government- (hereinafter *Executive Order on Open Data*); *but see* https://www.whitehouse.gov/, White House, (no memoranda related to open data issued by the Trump administration based on a lack of relevant results for the search term "open data").

21. *Id.*

22. Stine, *supra* note 1, at 1.

23. *Id.*; Schooner & Castellano, *supra* note 9, at 392.

1. Authority and Guidance for Prize Contests Are Not Straightforward

While prize contests have been used for centuries,[24] most of the current statutory authority related to these contests is not straightforward. In 2007, President George W. Bush signed the America COMPETES Act into law.[25] The purpose of the Act was "[t]o invest in innovation through research and development, and to improve the competitiveness of the United States."[26] This Act appropriated funds to select agencies for various initiatives, including prize contests.[27] Early in his presidency, President Obama vocalized his support for prize contests as a tool for innovation.[28] In March 2010, the White House Office of Management and Budget (OMB) issued a memorandum to the heads of executive departments and agencies, outlining how agencies could implement prize contests.[29] This included a description of how departments and agencies could host prize contests without direct statutory authority.[30] The Trump administration has issued no guidance, positive or negative, on the use of prize contests.[31]

In 2010, President Obama signed the reauthorization of the America COMPETES Act into law.[32] This Act amended the Stevenson-Wydler Technology Innovation Act (Stevenson-Wydler Act) to specifically grant authority to all departments and agencies to conduct prize contests.[33] The

24. Stine, *supra* note 1, at 1.

25. *See* America Competes Act, Pub. L. No. 110-69, 121 Stat. 573 (2007).

26. *Id.*

27. *See generally id.* at Title II (National Aeronautics and Space Administration), Title III (National Institute of Standards and Technology), Title IV (National Oceanic and Atmospheric Administration), Title V (Department of Energy), Title VII (National Science Foundation).

28. *See generally* Tom Kalil & Robynn Sturm, *Congress Grants Broad Prize Authority to All Federal Agencies*, WHITE HOUSE: BLOG (Dec. 21, 2010), https://obamawhitehouse.archives.gov/blog/2010/12/21/congress-grants-broad-prize-authority-all-federal-agencies. [https://perma.cc/AVL3-3AD]

29. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 1.

30. *Id.* at 5-10 (explaining how authority might exists in one of the following: grants and cooperative agreements, necessary expense doctrine, authority to provide non-monetary support, procurement authority, other transactions authority, agency partnership authority, public-private partnership authority).

31. *See generally* White House, https://www.whitehouse.gov/. (last visited Nov. 25, 2017).

32. *See generally* John P. Holdren, *America COMPETES Act Keeps America's Leadership on Target*, White House: Blog (Jan. 6, 2011), https://obamawhitehouse.archives.gov/blog/2011/01/06/america-competes-act-keeps-americas-leadership-target.

33. America Competes Reauthorization Act of 2010, Pub. L. No. 111-358, § 105, 124 Stat. 3989, (2010) ("In General.-The Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3701 et. seq.) is amended by adding at the end the following: Sec. 24 Prize Competitions . . . . (b) In General.-Each head of an agency, or the heads of multiple agencies in cooperation, may carry out a program to award prizes competitively to stimulate innovation that has the potential to advance the mission of the respective agency." (quotation marks omitted)).

America COMPETES Act expired in 2013 and has not been renewed,[34] but the Stevenson-Wydler Act still stands as amended.[35] The Stevenson-Wydler Act provides broad guidance on how to set-up and run a prize contest, including different contest structures,[36] participant eligibility,[37] liability,[38] intellectual property,[39] and funding.[40] The language in these sections is vague and provides little guidance to agencies. For example, the intellectual property section contains two sentences stating that an agency needs a participant's written consent to gain an intellectual property (IP) interest in a submission and that an agency may negotiate for a license to use IP developed for a competition.[41]

In administering a prize contest, agencies and departments can rely either on the Stevenson-Wydler Act,[42] or one of the other authorities outlined in the OMB's 2010 memorandum.[43] In forming and implementing these contests, agencies are given wide latitude so as to develop a contest that fits with the goals and resources of that particular agency.[44] The agency does not necessarily need to fund or administer the contest.[45] Rather, agencies are able, and encouraged, to work with third parties in administering contests.[46] Given the wide range of discretion and the varying goals and interests of government agencies, contests have ranged anywhere from a few days with no prize money,[47] to a multi-year contest with a $900,000 grand prize.[48] Since

34. *See* Jon Groteboer, *Update on America COMPETES Reauthorization Act of 2015*, Harv. Off. Sponsored Programs: Blog (June 8, 2015), http://osp.finance.harvard.edu/blog/update-america-competes-reauthorization-act-2015 (noting that the House of Representatives passed a reauthorization of the Act in 2015).

35. *See* The Stevenson-Wydler Technology Innovation Act of 1980, 15 U.S.C. § 3719(b) (2016) ("Each head of an agency, or the heads of multiple agencies in cooperation, may carry out a program to award prizes competitively to stimulate innovation that has the potential to advance the mission of the respective agency.").

36. *See* 15 U.S.C. § 3719(c).

37. *See* 15 U.S.C. § 3719(g).

38. *See* 15 U.S.C. § 3719(i).

39. *See* 15 U.S.C. § 3719(j).

40. *See* 15 U.S.C. § 3719(m).

41. *See* 15 U.S.C. § 3719(j).

42. *See generally* 15 U.S.C. § 3719.

43. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 5-10.

44. *Id.* at 3; 15 U.S.C. § 3719(c-d).

45. Stine, *supra* note 1, at 21-22; 15 U.S.C. § 3719(m)(1) ("Support for a prize competition…may consist of Federal appropriated funds and funds provided by the private sector for such cash prizes. The head of an agency may accept funds from other Federal agencies to support such competitions.").

46. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 5; 15 U.S.C. § 3719(m).

47. *See Developing with Accessibility*, FCC, https://www.fcc.gov/events/developing-accessibility (last visited Apr. 9, 2016) (two-day event hosted by the FCC in 2012 to "promote the concept and practice of developing applications within accepted accessibility guidelines, thereby mazimizing their usability for everyone, including persons with disabilities").

48. *See Power Beaming Challenge*, NAT'L AERONAUTICS & SPACE ADMIN., http://www.nasa.gov/offices/oct/early_stage_innovation/centennial_challenges/beaming_tether/ (last visited Mar. 1, 2016) ("NASA and the Spaceward Foundation awarded $900,000 to LaserMotive LLC of Seattle, WA for their winning performance in the Power Beaming Challenge competition at the NASA Dryden Flight Research Center" after holding competitions in 2005, 2006, 2007 and 2009).

agencies are given broad discretion over how to organize their ODIs,[49] it is up to the agency to determine whether a long-term event is more appropriate, or whether the agency's needs are better served by a short-term event.

B. Prize Contests Benefits Are Clear for the Government, Yet Uncertain for Participants

The prize contest benefits to the government are quite clear. One of the most important benefits is that the investment risk of innovation shifts from the government to the private sector while providing the government access to new talent, entrepreneurs, and technology.[50] Under a prize contest, the government only awards a prize if and when a participant achieves the objective.[51] Under a standard government contract, however, the government awards the prize before the contractor even begins the work.[52] Since prize contests typically do not have any educational or experiential requirements, the government has the opportunity to hear from relatively unknown participants that otherwise would be shut out from a government contract.[53]

While the benefits of prize contests to the participants are not as certain, there are some known benefits outside of the government. For starters, it is clear that the private sector benefits from increased investment in innovation, typically at a value above the prize itself.[54] Further, if there is a winner, he or she typically receives some type of monetary benefit.[55] However, sometimes this sum may barely cover the participant's expenses.[56] Besides monetary benefits, there are intangible benefits for the winner, such as free publicity,

---

49. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 3-5.

50. *See Prizes and Challenges*, White House Off. Soc. Innovation & Civic Participation, https://obamawhitehouse.archives.gov/administration/eop/sicp/initiatives/prizes-challenges (last visited Apr. 9, 2016) (listed benefits include: "Pay only for success and establish an ambitious goal without having to predict which team or approach is most likely to succeed. Expand the government's reach to citizen solvers and entrepreuners of diverse backgrounds, skillsets, and experience").

51. *See* Schooner & Castellano, *supra* note 9, at 399.

52. *See* Schooner & Castellano, *supra* note 9, at 393-94.

53. *Id.* at 402.

54. *See generally* Nat'l Econ. Council et al., A Strategy for American Innovation: Securing Our Economic Growth and Prosperity 12 (2011), https://obamawhitehouse.archives.gov/sites/default/files/uploads/InnovationStrategy.pdf ("Under the right circumstances, prizes have a number of advantages over traditional grants and contracts. Prizes allow the sponsor to set an ambitious goal without selecting the team or approach that is most likely to succeed, to increase the number and diversity of minds tackling tough problems, to pay only for results, and to stimulate private-sector investment that is many times greater than the cash value of the prize.").

55. *See* Gottlieb & Rawicz, *supra* note 6, at 2 ("Government payout occurs only if an acceptable solution is presented.").

56. *See* Schooner & Castellano, *supra* note 9, at 400-01 ("For example, the winner of the Goldcorp Challenge reported that…the values of the prize barely covered their expenses…").

reduced barriers to entry,[57] access to government resources, and networking.[58] Further, the winner can receive prestige and recognition at an accelerated pace that cannot be quantified.[59] Some contest winners even receive government contracts.[60] For small entrepreneurs, winning one of these contests could be the jumpstart they need to launch a successful business. While losing participants could also gain some of these intangible benefits, they almost certainly lose their monetary investment. [61]

1. Legal Uncertainity: The Great Unknown of Prize Contests

For winning and losing participants alike, one drawback to prize contests is the lack of legal precedent related to these events. There is no clear legal procedure to challenge a decision and no certain liability structure exists.[62] An example of this problem is the Federal Trade Commission's (FTC's) Robocall Challenge.[63] In 2012, the FTC held a prize contest, called the Robocall Challenge, in which the agency asked participants to develop technology that could identify and block robocalls.[64] The FTC offered $50,000 in cash participant with the winning solution.[65] The FTC ultimately split the award between two participants - Serdar Danis and Aaron Foss.[66]

---

57. *Id.* at 394-95, 401.

58. *See* Stine, *supra* note 1, at 7 (benefits to competitors of a Department of Defense competition included "access to DOD-paid and validated laboratory grade testing in close-to-operatinal conditions, and to DOD civilian and military professionals who provided direct feedback and real-time techicial assessments. Competitors were also able to interact with other teams, which enhanced collaborative discussions and networking opportunities on topics of common interest.").

59. *See* Schooner & Castellano, *supra* note 9, at 400-01 ("For example, the winner of the Goldcorp Challenge reported that… 'it would have taken [our company] years to get the recognition in North America that this [single] project gave us overnight.' SpaceX, the 2004 winner of the XPrize competition, quickly morphed from an upstart, relatively unknown rival into a feared maverick, capturing a significant market share from the well-established aerospace industry titans.").

60. *Id.*

61. *Id.* at 395 ("For every ebullient prizewinner, contests breed potentially unlimited losers, many of whom invested heavily in their efforts."); Gottlieb & Rawicz, *supra* note 6, at 2 ("there usually are more losers than winners.").

62. *See* Schooner &Castellano, *supra* note 9, at 396 ("[T]here is no evidence that the U.S. government has anticipated prize contest disputes, let alone provided an obvious, well-defined, or straightforward means for contestants to obtain judicial or administrative review or, more broadly, any form of due process to resolve those disputes."); Gottlieb & Rawicz, *supra* note 6, at 6 ("The authors of this paper have not seen the adoption of any such appeal procedures in agency prize contests under the Stevenson-Wydler Act.").

63. *See generally* Frankel v. U.S., 118 Fed. Cl. 332 (2014) (holding that CFC had jurisdiction to hear a challenge to the winner of a prize contest, but lacked jurisdiction to award the injunctive relief sought).

64. *See FTC Robocall Challenge*, Devpost, http://robocall.devpost.com/ (last visited Jan. 20, 2015).

65. *Id.*

66. *See generally FTC Announces Robocall Challenge Winners*, FTC (April 2, 2013), https://www.ftc.gov/news-events/press-releases/2013/04/ftc-announces-robocall-challenge-winners.

David Frankel, who entered the challenge, but did not win, filed a protest with the Government Accountability Office (GAO), arguing that the FTC did not abide by the rules of the contest.[67] The GAO ultimately dismissed Mr. Frankel's claim for lack of jurisdiction because "the Contest did not involve an award or proposed award of a contract."[68] Mr. Frankel next brought a breach of contract claim before the United States Court of Federal Claims (CFC).[69] While the CFC agreed that it had jurisdiction to hear Mr. Frankel's breach of contract claim, the Court found that it lacked jurisdiction to award the injunctive relief sought by Mr. Frankel.[70] The CFC held that because the Robocall Challenge was not a "procurement," Mr. Frankel could not obtain injunctive relief.[71]

By denying Mr. Frankel injunctive relief, the CFC made it difficult for Mr. Frankel, and future contest participants, to recover significant damages.[72] As discussed above, it is common for the monetary incentive to be insignificant when compared to the prestige and free publicity that comes with winning.[73] With no definitive legal structures in place to challenge the FTC's selection of a contest winner, participants may think twice about investing their time and resources in such contests.[74] This limitation could further deplete the number of participants in such contests,[75] and make it less likely that a prize contest will showcase the best and brightest work.

C. Hackathons: A New Dog with the Same Old Tricks

While a "hackathon" might sound novel, it is basically a shorter, less lucrative prize contest. Similar to the resurgence in prize contests, hackathons have gained popularity in recent years, particularly in the technology sector.[76] There is not a strict definition for a hackathon, but there are some basic characteristics.[77] For example, whereas in a prize contest almost all of the work takes place at separate sites over a period of days to months, hackathons take place at one site typically from one day to no more than a week.[78] Hackathons started informally in the 1990s, and began to gain wider attention

67. *Frankel*, 118 Fed.Cl. at 334.
68. *Id.*
69. *Id.*
70. *Id.* at 335 ("Having reviewed plaintiff's complaint, defendant's motion [to dismiss], and the briefing on that motion, this court believes that it has jurisdiction to consider plaintiff's breach of contract claim, which also appears to state a claim under RCFC 12(b)(6), but lacks jurisdiction to consider plaintiff's requests for injunctive relief.").
71. *Id.* at 336-37 ("the Federal Circuit…rejected the argument that section 1491(b)(1) grants this court protest jurisdiction over non-procurement disputes." (citing Res. Conservation Group, LLC v. U.S., 597 F.3d 1238, 1244-45 (Fed.Cir. 2010)) (citations omitted)).
72. *See* Ralph C. Nash, *Breach of Contest Rules: The Court of Federal Claims has Jurisdiction*, 28 Nash & Cibinic Rep. 148, 148 (2014).
73. *See* Schooner & Castellano, *supra* note 9, at 400-01.
74. *See* Schooner & Castellano, *supra* note 9, at 398 ("At worst, hiding the jurisdictional ball may dissuade future participation in prize contests.").
75. *See id.*
76. *See* Phipps, *supra* note 14.
77. *See* Bastian, *supra* note 14, at 1.
78. *See* Phipps, *supra* note 14.

at the latter end of that decade.[79] Since that time, technology companies have sponsored both internal and external hackathons to spur innovation.[80] While hackathons typically have some type of monetary reward, they also provide the possibility that a big investor will see an idea and sponsor it.[81] In recent years, hackathons have expanded from the technological field into politics, minority achievement, sports, the media,[82] and cross-border transactions.[83]

1. Hackathons Have All The Benefits of Prize Contests

Like prize contests, hackathons have the ability to attract a wide variety of participants, including small, entrepreneurial players who otherwise might not have the opportunity to compete for such prizes.[84] Further, hackathons allow governments to see and evaluate a broad range of ideas that might otherwise be absent from policy considerations[85] and to engage and educate the public.[86] In order for a government hackathon to be a successful event, a hackathon must have "organizational support, open data, careful planning and managed expectations."[87] Agencies can host hackathons on their own,[88] in partnership with other agencies,[89] or as a public-private partnership.[90] A

79. *Id.*

80. *Id.* (stating that Facebook's Like button, timeline feature, and gender identification options were there result of internal hackathons, and that Google, Yahoo!, and Foursquare have held external hackathons open to attendees inside and outside of the company).

81. *Id.* ("The most well-known story of hackathon startup success is GroupMe, which was born out of TechChrunch's Disrupt NYC hackathon in 2010. The company went on to be acquired by Skype for $85 million just a year later.").

82. *Id.* ("Last year a group in Pakistan held a hackathon to solve political issues. At Startup Weekend Oakland earlier this year there was a hackathon for black male achievement. Public Broadcasting's POB series has regular hackthons to reinvent documentaries on the Web. A Spartan hack event in August is designed to help improve the sport of obstacle course racing.").

83. *See* Alexander Panetta, *Teams of Computer Coders Gather to Tackle Canada-U.S. Border Snags*, Toronto Metro News (Feb. 25, 2016, 4:44 PM), http://www.metronews.ca/news/canada/2016/02/25/teams-of-computer-coders-gather-to-tackle-canada-u-s-border-snags.html (weekend hackathons in Chicago and Toronto to develop "software that slashes through the red tape that gums up trade across the Canada-U.S. border").

84. *See* Stuart Minor Benjamin & Arti K. Rai, *Fixing Innovative Policy: A Structural Perspective*, 77 GEO. WASH. L. REV. 1, 13 (2008).

85. *See* J. Brad Bernthal, *Procedural Architecture Matters: Innovation Policy at the Federal Communications Commission*, 1 TEX. A&M L. Rev. 615, 615 (2014).

86. *See* Stine, *supra* note 1, at 1-2.

87. Bastian, *supra* note 14, at 4.

88. *See generally*, *Hackathon for Combat Feeding Mobile Apps*, *supra* note 13 (hosted by the U.S. Army Natick Soldier Research, Development, and Engineering Center).

89. *See generally Earth Day Hackathon*, *supra* note 13 (co-sponsored by six agencies).

90. *See generally Canada-US Hackathon: Get North America Trading Again*, ILL. INST. TECH. IDEA SHOP [hereinafter *Canada-US Trading Hackathon*], https://crossborderhackathonchicago.splashthat.com/ (last visited Apr. 9, 2016) (organized by the Department of Homeland Security, State Department, the US Chamber of Commerce, Dickinson-Wright, and Northof41.org with corporate sponsors such as Amazon, Salesforce.com, IBM, and Microsoft).

public-private partnership could increase the size of the prize[91] or the resources at the event itself,[92] both of which could increase participation in the hackathon.

2. But, Hackathons Come with a Unique Set of Baggage

While hackathons share many of the benefits and drawbacks of prize contests, they have their own unique set of problems.[93] Even though hackathons are typically a low-cost investment, they may involve more cost and planning than a traditional prize contest.[94] Prize contest participants can have a vast geographic background.[95] A hackathon, however, requires a physical location, as well as resources and supplies, including reliable wireless access, data, and even snacks.[96] Without standardized datasets, it is difficult to achieve, much less sustain, a working and beneficial product.[97] A more detailed discussion of how the push for the FCC to use open data to solve this problem follows in the next section. Despite the costs incurred by the host of a hackathon, it may still be a more cost-effective strategy than investing internal resources to develop the needed technology.[98]

Hackathons also pose a problem for the government in that, unlike prize contests, they do not necessarily shift the investment risk away from an agency. It is not uncommon for hackathons to be one-off projects that lose steam once the event ends.[99] At the end of a hackathon, it is possible, and common, for no one to achieve the end goal of creativing a viable solotion to the particular challenge.[100] Whereas if no one succeeds in a prize contest, the government can simply never award the prize. Equally troublesome is the fact that the government is unlikely to get back the costs incurred from the space and resources provided in a hackathon, even if no one achieves the stated objective.

---

91. 15 U.S.C. § 3719(m)(1) ("[F]inancial support for the design and administration of a prize competition or funds for a cash prize purse…may consist of Federal appropriated funds and funds provided by private sector for-profit and nonprofit entities.").

92. *See Canada-US Trading Hackathon*, *supra* note 89 ("We have also assembled a top notch list of corporate partners . . . to have the most cutting edge platforms for teams to utilize as part of their project submissions . . . .").

93. *See App Contests are Stupid*, Chief Seattle Geek Blog (Jul. 2, 2013), https://schrier.wordpress.com/2013/07/02/apps-contests-are-stupid/.

94. *See* Bastian, *supra* note 14, at 5 ("Planning a hackathon is impossible without hardworking staff and support from Agency leadership.").

95. *See* Stine, *supra* note 1, at 17 ("A measure of diversity is seen in the geographic distribution of participants (from Hawaii to Maine) that reaches far beyond the locales of the NASA Centers and major aerospace industries.").

96. *See* Phipps, *supra* note 14.

97. *See App Contests are Stupid*, *supra* note 93; Bastian, *supra* note 14, at 1.

98. *See* Bastian, *supra* note 14, at 9 ("[A]mbitious goals are hampered by the reality of overstretched budgets and limited resources.")

99. *See* Stine, *supra* note 1, at 2.

100. *See* Bastian, *supra* note 14, at 8-9 ("it is unlikely that a working application can be developed in a weekend.").

An additional issue with hackathons may be the difficulty in attracting top talent. Hackathons are commonly hosted in a set, physical location where participants must be present to participate.[101] If there are significant time and travel costs, it is unlikely that entrepreneurial startups would have the money to travel to the event. Additionally, since the monetary reward is typically less lucrative than prize contests,[102] there is less incentive to spend time and resources in participating. Some larger, annual hackathons allow for remote participation, but that is not always an option.[103]

A further challenge is that there is little to no statutory authority for hackathons.[104] As discussed above in the Robocall Challenge litigation, participants may be discouraged from participating if there is no due process structure in place.[105] Besides due process concerns, hackathons have the additional problem that there is no clear authority for the government to award a prize in the first place. While hackathons can be analogized to short-term prize contests, and thus fall under the America COMPETES Act amendment to the Stevenson-Wydler Act,[106] there is no guaranty that a Court will share this view.

Another legal hurdle to hackathons are intellectual property concerns. Even if the agency relies on the Stevenson-Wydler Act for authority, the Acct only provides two broad statements on how to handle IP issues.[107] If the government does not rely on this Act for authority and there is no IP agreement in place, it is unclear who would own the rights to the resulting product – the sponsor or the individual.[108] Government sponsored hackathons generally require that any submissions be "open source," and cite to the open

101. *See* Phipps, *supra* note 14.

102. *Compare* Stine, *supra* note 1, at 2, 16-17 ($2 million in prize money for the Lunar Lander Challenge), *with Hackathon for Combat Feeding Mobile Apps*, *supra* note 13 ($6,000 in prize money for a DoD hackathon).

103. *Compare* THE WHITE HOUSE OFFICE OF SCI. & TECH. POLICY, IMPLEMENTATION OF FEDERAL PRIZE AUTHORITY: FISCAL YEAR 2014 PROGRESS REPORT 242 (2015), https://www.whitehouse.gov/sites/default/files/microsites/ostp/NSTC/fy14_competes_prizes_-_may_2015.pdf (NASA International Space Apps Challenge had sixty-nine teams compete virtually in 2014), *with Canada-US Trading Hackathon*, *supra* note 89 (requirement that teams be present at venue).

104. *See* Bastian, *supra* note 14, at 5 ("One structural issue is that, unlike other challenges and prizes, hackathons have no specific statutory authorization.")

105. *See* Schooner & Castellano, *supra* note 9, at 398.

106. *See generally* THE WHITE HOUSE OFFICE OF SCI. & TECH. POLICY, IMPLEMENTATION OF FEDERAL PRIZE AUTHORITY: FISCAL YEAR 2013 PROGRESS REPORT 32-35, 106-08 (2014), https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/competes_prizesreport_fy13_final.pdf [https://perma.cc/Y2B8-WNE9] (lists the following events involving hackathons as falling under authority of America Competes Act: Department of Energy Apps for Vehicles, National Science Foundation Mozilla Ignite).

107. *See* 15 U.S.C. § 3719(j) (2012) (government cannot gain an IP interest without participant's written consent, and government may negotiate for a license to use the IP).

108. *See* Bastian, *supra* note 14, at 6-7.

source definition by the Open Source Initiative,[109] but not all hackathon rules are clear on what open source means. Would the outcome be different if the individual is an employee of the sponsor? To avoid potential conflicts, it is important that the agency specify that the product is not solely owned by the participant.[110]

D. Open Data: A Modern Necessity to the Success of Prize Contests and Hackathons

In order to host a successful prize contest or hackathon, open data is key. President Obama's May 2013 executive order on open data policy defines open data as "publically available data structured in a way that enables the data to be fully discoverable and usable by end users."[111] The White House's open data policy requires that agencies publish their data online, with a presumption in favor of openness, and continue to improve the quality of data provided.[112] However, at the time this note was published, the Trump administration has not issued agency guidance regarding open data.[113] While a federal open data policy has numerous benefits, including operational efficiencies, cost reduction, improved services, and increased public access to information,[114] open data is particularly relevant to ODIs and hackathons because participants often rely on government data.[115] For example, the Department of Energy's Apps for Vehicles contest specifically called for the use of vehicle open data to develop apps that "improve vehicle safety, fuel efficiency, and comfort."[116]

---

109. *Compare International Space Apps Challenge*, *supra* note 13 (legal section states that "[y]ou agree that any original content . . . is freely available without restriction or is licensed as open source as defined by the Open Source Intitiative"), *and* Gen. Servs. Admin., *Government-wide Earth Day Hackathon*, Challenge.gov, https://www.challenge.gov/challenge/government-wide-earth-day-hackathon/ [https://perma.cc/3ZKV-82M8] (last visited Apr. 9, 2016) (requiring the final submission be open source code and explaining the requirements of the Open Source Initiative), *with Hackathon for Combat Feeding Mobile Apps*, *supra* note 13 (rules section stating that IP release should be "those typical of open source" with no additional explanation).

110. *See* Bastian, *supra* note 14, at 7.

111. *See* OFFICE OF MGMT. & BUDGET, MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES ON OPEN DATA POLICY-MANAGING INFORMATION AS AN ASSET 1, 5 (2013) [hereinafter Memorandum on Open Data Policy], https://obamawhitehouse.archives.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf [https://perma.cc/E4RK-MCKU].

112. *Id.*; Bastian, *supra* note 14, at 4.

113. *See generally* White House, https://www.whitehouse.gov (last visited Sept. 30, 2017).

114. *See* Memorandum on Open Data Policy, *supra* note 111, at 1.

115. *See generally* Bastian, *supra* note 14, at 3-5 ("Consumable, web-ready data is the lifeblood of any hackathon.").

116. *See* Cristin Dorgelo & Ian Kalin, *DOE Vehicle Data Challenge Fuels Innovation*, White House: Blog (Apr. 11, 2013), https://obamawhitehouse.archives.gov/blog/2013/04/11/doe-vehicle-data-challenge-fuels-innovation [https://perma.cc/T4QF-QXBV].

Important criticisms of open data conern security and privacy issues.[117] While open data can be highly useful, data containing personally identifiable information (PII) must be protected by the government.[118] The Privacy Act restricts the government's access to and dissemination of personally identifiable data,[119] but this may not be enough to quell the concerns of privacy activists.[120] For example, the Consumer Finance Protection Bureau (CFPB) has a public database of consumer complaints, which contains narratives submitted by consumers.[121] To ensure that the narrative is scrubbed of PII before publication, it goes through one computer review and two human reviews.[122] While this process helps ensure the protection of PII, there is still the potential for typos, coding error, or programming error.

Another issue with moving to open data is the cost. President Obama's executive order concerning open data did not make any statements related to funding.[123] The OMB's open data policy memorandum requires the use of internal agency resources to execute these goals.[124] While it concedes that these goals may require additional resources, it instructs agencies to consider the downstream cost benefits that should result.[125] The resources needed are not only financial, but also include technical staff with knowledge to oversee such projects.[126]

---

117. *See* Bastian, *supra* note 14, at 6.

118. *See* Memorandum on Open Data Policy, *supra* note 110, at 10.

119. *See* Bastian, *supra* note 14, at 6 (citing *The Privacy Act of 1974*, U.S. Dep't Justice, https://www.justice.gov/opcl/privacy-act-1974 [https://perma.cc/YR3E-TY2U] (last visited June 29, 2013)).

120. *See* David Perera, *Privacy Act protections obsolete, say critics and lawmakers*, FierceMarkets (Aug. 1, 2012), http://www.fiercegovernmentit.com/story/privacy-act-protections-obsolete-say-critics-and-lawmakers/2012-08-01 [https://perma.cc/B44F-9ATX] (reporting on criticisms that the Privacy Act is outdated and "leaves data mining unregulated for privacy); *see also* Sandra Fulton, *Beware the Dangers of Congress' Latest Cybersecurity Bill*, Am. Civil Liberties Union: Blog (June 27, 2014), https://www.aclu.org/blog/national-security/beware-dangers-congress-latest-cybersecurity-bill?redirect=blog/national-security-technology-and-liberty/beware-dangers-congress-latest-cybersecurity-bill [https://perma.cc/B6P5-UPER] (criticizing the Cybersecurity Information Sharing Act of 2014).

121. *See generally* CONSUMER FIN. PROT. BUREAU, NARRATIVE SCRUBBING STANDARD, CFPB OFFICE OF CONSUMER RESPONSE (2015), http://files.consumerfinance.gov/a/assets/201503_cfpb_Narrative-Scrubbing-Standard.pdf [https://perma.cc/WC47-A3FC].

122. *Id.* at 3.

123. *See Executive Order on Open Data*, *supra* note 20.

124. *See* Memorandum on Open Data Policy, *supra* note 111, at 12.

125. *Id.*

126. *See id.*

III. FEDERAL INNOVATION POLICY: STAYING AFLOAT IN THE MODERN WORLD

Federal agencies have broad goals that are cast over a wide variety of stakeholders.[127] Throw in the complications of politics, and it is not difficult to understand why federal agencies are failing to develop the latest mobile application or the newest surgical device. Throughout President Obama's second term, however, he used the federal government as a renewed source to encourage innovation.[128] While President Donald Trump established a White House Office of American Innovation (OAI) in March 2017 to further encourage innovation, it is not clear how this policy will be executed under the current administration.[129]

A. President Obama Encourages Agencies to Use ODIs for Innovation

As part of President Obama's effort to increase an open and transparent government, the executive office encouraged the use of ODIs, such as prize contests, as a way for agencies to push innovation.[130] As of 1999, there was only one explicit prize contest sponsored by a US government agency: the Department of Commerce's Malcolm Baldrige National Quality Award.[131] But all of that started to change in 2009 when the White House put out a white paper on a strategy for innovation, stressing the need for investment in technological research and advancement.[132] The Department of Commerce's white paper specifically called for the use of prize contests to encourage innovation in the face of difficult problems.[133] Shortly thereafter in 2010, the OMB followed up to this white paper with a memorandum to government agencies on how to establish prize contests in support of innovation.[134]

---

127. *See* Steve Denning, *How to Make Government Innovative Again*, FORBES: BLOG (Mar. 6, 2012, 1:27 PM EST), https://www.forbes.com/sites/stevedenning/2012/03/06/could-government-invent-a-130mph-driverless-car/#455db2bb320f [https://perma.cc/8RXW-K32L].

128. *See generally* Guidance on the Use of Challenges and Prizes, *supra* note 7.

129. *See Presidential Memorandum on The White House Office of American Innovation*, White House (Mar. 27, 2017), https://www.whitehouse.gov/the-press-office/2017/03/27/presidential-memorandum-white-house-office-american-innovation [https://perma.cc/8RSH-97TR] (the memorandum establishes the OAI and briefly states its mission and responsibilities, but provides no other guidance as to how the policy will be carried out).

130. *See* John Kamensky, Inducement Prizes, Contests, and Challenge Awards, IBM CTR. BUS. GOV. (Jan. 5, 2011, 10:41 A.M.), http://www.businessofgovernment.org/blog/business-government/inducement-prizes-contests-and-challenge-awards.

131. *See* Concerning Federally Sponsored Inducement Prizes in Engineering and Science, *supra* note 7, at 3.

132. *See* EXEC. OFFICE OF THE PRESIDENT, A STRATEGY FOR AMERICAN INNOVATION: DRIVING TOWARDS SUSTAINABLE GROWTH AND QUALITY JOBS 3 (2009), https://files.eric.ed.gov/fulltext/ED511653.pdf [https://perma.cc/J3UL-8KNP].

133. *Id.* at 17-18.

134. *Id.* at 3-11 (providing broad guidance on, *inter alia*, how to fit the prize to the goal, choose partners, locate the necessary legal authority, and manage IP concerns).

By 2010, a host of government agencies were using prize or challenge contests to develop and promote innovation, ranging from the development of astronaut gloves in a NASA contest to the creation of student-made videos promoting the environment sponsored by the Environmental Protection Agency.[135] In January 2011, Congress amended the Stevenson-Wydler Act.[136] Since that time, over 740 competitions have been launched with more than $250 million awarded in prizes.[137]

The same day that President Obama issued an executive order concerning open data,[138] an OMB memorandum outlining this open data policy was released, which stated that one goal of the order was to "increase public access to valuable government information."[139] The OMB's memorandum provide specific examples of the public benefits of open data, including the use of Global Positioning System (GPS) data in improving navigation systems and location-based applications.[140] The order requires that agencies use data standards to make data available to the public in machine-readable and open formats.[141] In evaluating its use of ODIs and open data, agencies should keep in mind that these tools were encouraged at the behest of President Obama, and the Trump Administrations' views on the use of these tools are unclear.

B. *The FCC's Increased Use of ODIs and Open Data: Steps in the Right Direction*

The FCC has not been prolific in its use of ODIs. In the White House reports to Congress on use of federal prize authority for fiscal years 2011-

135. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 1.

136. *See* Gottlieb & Rawicz, *supra* note 6, at 1, n.7, ("America COMPETES Reorganization Act of 2010, Pub. L. No. 111-358, § 105, 124 Stat. 3982, 3989 (Jan. 5, 2011) (amending Stevenson-Wydler Innovation Act of 1980, 15 U.S.C.A. § 3701 *et seq*., by adding § 24, 'Prize competitions,' codified at 15 U.S.C.A. § 3719)").

137. *See About*, Challenge.gov, https://www.challenge.gov/about/ [https://perma.cc/HVS6-VBRL] (last visited Apr. 7, 2017).

138. *See Executive Order on Open Data*, *supra* note 20.

139. *See* Memorandum on Open Data Policy, *supra* note 111 ("Making information resources accessible, discoverable, and usable by the public can help fuel entrepreneurship, innovation, and scientific discovery – all of which improve Americans' lives and contribute significantly to job creation.").

140. *Id.*

141. *Id. at* 1-2.

2014, not a single FCC action is reported.[142] However, the FCC has used ODIs as a source for innovation since at least as early as 2011.[143]

1. The FCC's History and Structure is Not Conducive to Internal Innovation

The FCC was not created to develop telecommunication innovations, but rather to stabilize the telecommunications industry.[144] The FCC is guided by two statutes - the 1934 Communications Act and the Administrative Procedure Act (APA).[145] Congress enacted the Communications Act, which created the FCC and granted it authority "with respect to interstate and foreign commerce in wire and radio communication."[146] The FCC has a broad jurisdictional scope, but its procedures are more rigidly defined by statutes, such as the APA.[147] The APA sets forth policies that apply to various government agencies, including the FCC and that allow for meaningful participation prior to final decisions, known as "notice and comment" rulemaking.[148]

Since the 1996 Telecommunications Act, which sought to "promote competition[,] reduce regulation…and encourage the rapid deployment of new telecommunications technologies,"[149] the FCC has placed greater emphasis on innovation and prioritized it above other goals.[150] However, innovation is not the sole goal of the FCC.[151] Rather, the FCC, like most agencies, must concern itself with traditional government objectives, such as "public safety, universal access to communications, procedural fairness and consumer protection."[152] With the White House's push for innovation, and the FCC's competing goals, it is unclear as to how the FCC will successfully achieve its goal to increase innovation.

---

142. *See* IMPLEMENTATION OF FEDERAL PRIZE AUTHORITY: FISCAL YEAR 2014 PROGRESS REPORT, *supra* note 103, at 54-56, 197-201; IMPLEMENTATION OF FEDERAL PRIZE AUTHORITY: FISCAL YEAR 2013 PROGRESS REPORT, *supra* note 106, at 28-29, 109-10; THE WHITE HOUSE OFFICE OF SCI. & TECH. POLICY, IMPLEMENTATION OF FEDERAL PRIZE AUTHORITY: FISCAL YEAR 2012 PROGRESS REPORT 23-24, 80 (2013), https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/competes_prizesreport_dec-2013.pdf [https://perma.cc/2CFU-A6G6]; THE WHITE HOUSE OFFICE OF SCI. & TECH. POLICY, IMPLEMENTATION OF FEDERAL PRIZE AUTHORITY: FISCAL YEAR 2011 PROGRESS REPORT 23 (2012), https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/competes_report_on_prizes_final.pdf [https://perma.cc/FV2E-FK4X].

143. *See Open Internet Apps Challenge*, Devpost.com, https://openinternetapps.devpost.com/rules [https://perma.cc/3WXV-UEK5] (last visited Jan. 24, 2016).

144. *See* Bernthal, *supra* note 85, at 617.

145. *Id* at 635.

146. *See generally* Communications Act of 1934, 47 U.S.C. § 151 (1934).

147. *See* Bernthal, *supra* note 85, at 635-36.

148. *Id* at 636.

149. *See generally* Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (Jan. 3, 1996).

150. *See* Bernthal, *supra* note 84, at 623.

151. *Id.*

152. *Id.*

The FCC has limited internal resources to devote to analyzing and developing new rules and policies, particularly in technical fields, such as engineering and economics.[153] The FCC Commissioners are not required to have any technical background, and are frequently appointed for political reasons, rather than for their technological expertise.[154] For example, the current FCC Chairman, Ajit Pai, is an attorney.[155] The experience of the two other FCC Commissioners is primarily rooted in either the legal or policy fields.[156] Furthermore, Chairman Pai's staff has predominantly legal or policy backgrounds, with the exception of one economist, Jay Schwarz.[157]

A leadership staff with predominatly legal and policy backgrounds is by no means unique to the FCC and is quite common for other federal agencies, such as the FTC.[158] While the FCC Commissioners may not be engineers, they have extensive experience in the telecommunications industry.[159] And it has been established that technical expertise is not a necessary component to run a highly successful and innovative organization.[160] While the FCC Commissioners may not have technical backgrounds, there are other staff at the FCC that could provide this expertise. For example, the FCC's Strategic Planning and Policy Office contains

153. *Id.* at 637.

154. *Id.* at 637-38.

155. *See generally Ajit Pai: FCC Chairman: Bio*, FCC, https://www.fcc.gov/about/leadership/ajit-pai [https://perma.cc/N9AB-SU7Y] (last visited Apr. 7, 2017).

156. *See generally Mignon Clyburn: Commissioner: Bio*, FCC, https://www.fcc.gov/about/leadership/mignon-clyburn?qt-leadership_tabs=0#qt-leadership_tabs [https://perma.cc/YFN4-TGMP] (last visited Apr. 7, 2017) (public service and media background); *Michael O'Rielly: Commissioner: Bio*, FCC, https://www.fcc.gov/about/leadership/mike-orielly?qt-leadership_tabs=0#qt-leadership_tabs [https://perma.cc/3UJX-ZL9J] (last visited Apr. 7, 2017) (policy background).

157. *See generally Ajit Pai: FCC Chairman: Staff*, FCC, https://www.fcc.gov/about/leadership/ajit-pai?qt-leadership_tabs=1#qt-leadership_tabs [https://perma.cc/W5HV-LH9H] (last visited Apr. 7, 2017) (Chief of Staff Matthew Berry, Senior Counsel Nicholas Degani, Acting Media Advisor Alison Nemeth, Acting Wireless Advisor Rachel Bender, and Acting Public Safety and Consumer Protection Advisor Zenji Nakazawa are all attorneys; Policy Advisor Nathan Leamer has a policy background; and Acting Wireline Advisor Jay Schwarz is an economist).

158. *Maureen K. Ohlhausen: Acting Chairman*, FTC, https://www.ftc.gov/about-ftc/biographies/maureen-k-ohlhausen [https://perma.cc/R7W5-G3DP] (last visited Apr. 7, 2017) (legal background); *Terrell McSweeney: Commissioner*, FTC, https://www.ftc.gov/about-ftc/biographies/terrell-mcsweeny [https://perma.cc/8BP4-AT36] (last visited Apr. 7, 2017) (legal background).

159. *See Ajit Pai: FCC Chairman: Bio*, *supra* note 155 (nearly two decades of experience in telecommunications).

160. *See.,* Dylan Love, *Steve Jobs Never Wrote Computer Code for Apple*, Bus. Insider (Aug. 29, 2013), http://www.businessinsider.com/steve-jobs-never-wrote-computer-code-for-apple-2013-8 [https://perma.cc/3S69-ZM8N] (stating that Steve Jobs, former CEO of Apple, was not an engineer and did not write code).

economists and technologists who report directly to the Chairman on issues related to innovation and competition.[161]

While the FCC's leadership's expertise is comparable to that of most US agencies, it is different when compared to telecommunications agencies in other countries.[162] A 2010 study on various telecommunications regulatory agencies revealed that comparable agencies in Canada, France, Sweden, and the United Kingdom had at least a mix of lawyers, economists and engineers among senior managers.[163] At the FCC, however, there was only one engineer and no economists at the time of that study.[164] How is the leadership at the FCC supposed to drive innovation without any significant experience in technology themselves? One resource, according to the Obama administration, is ODIs.[165]

2. The FCC's Use of ODIs: A Steady and Cautious Start

The FCC began its response to President Obama's push for innovation with open data – a key component for the success of ODIs. In June 2010, the FCC launched the Data Innovation Initiative.[166] As part of this initiative, the FCC created the position of Chief Data Officer (CDO) to run a new team charged with handling data throughout the FCC.[167] As part of this process, the FCC has released public notices to seek input on what type of data should be created, what can be eliminated, and which datasets need improvement.[168] Currently, the FCC's data website has available for download over 40 specialized FCC databases, such as radio call signs and equipment authorization, over 150 datasets, and a searchable baseline inventory of spectrum and holders of commercial spectrum usage rights.[169] Additionally, the FCC has over ten APIs available for public use.[170]

---

161. *See Chief and Deputy Economists of the FCC*, FCC, https://www.fcc.gov/general/chief-and-deputy-chief-economists-fcc#block-menu-block-4 [https://perma.cc/T8VU-DE5E] (last visited Apr. 9, 2016); *Chief and Deputy Technologists of the FCC*, FCC, https://www.fcc.gov/general/chief-and-deputy-chief-technologists-fcc#block-menu-block-4 [https://perma.cc/UN98-RA2X] (last visited Apr. 9, 2016).

162. *See* Bernthal, *supra* note 84, at 638.

163. *See* J. SCOTT MARCUS & JUAN RENDON SCHNEIR, DRIVERS AND EFFECTS OF THE SIZE AND COMPOSITION OF TELECOMS REGULATORY AGENCIES 16 (2010), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1675705 [https://perma.cc/JV3P-BJPJ].

164. *Id.*

165. *See* A STRATEGY FOR AMERICAN INNOVATION: DRIVING TOWARDS SUSTAINABLE GROWTH AND QUALITY JOBS, *supra* note 132, at 17-19.

166. *See generally Data Innovation Initiative*, FCC, https://www.fcc.gov/general/data-innovation-initiative [https://perma.cc/85H7-2LNF] (last visited Jan. 22, 2016).

167. *Id.*

168. *Id.*

169. *See generally Data*, FCC, https://www.fcc.gov/reports-research/data [https://perma.cc/ZN8C-6LY5] (last visited Jan. 22, 2016).

170. *See Developers*, FCC, https://www.fcc.gov/reports-research/developers [https://perma.cc/9GHJ-2GLH] (last visited Jan. 22, 2016).

The FCC's first prize contest since the White House's push for innovation projects was the Open Internet Apps Challenge hosted in 2011.[171] This contest was developed by the FCC's first CDO, Greg Elin, as part of the FCC's new mission to increase development of APIs and engage developers.[172] The Open Internet Apps Challenge was a four-month event with a maximum $1,500 prize.[173] Since then, the FCC has hosted additional contests, both on its own and in partnership with other organizations as seen in Table 1, which shows a summary of recent FCC challenges.

Table 1

Name of Challenge	**Prizes**	**Sponsor(s)**	**Duration**	**Grand Prize Winner(s)**
Open Internet Apps[174]	$1,500	FCC	Feb. 1 – Jun.1, 2011	MobiPerf (University of Michigan & Microsoft Research); Detecting ISP Traffic and Discriminatio n and Traffic Shaping (Georgia Institute of Technology); Netalyzr: Illuminating The Edge Network (The ICSI Netalyzr Project)
Apps for Communities [175]	$100,000	FCC, James L. Knight Foundation	Apr. 14 – Oct. 3, 2011	Yak.us (Ryan Resella)
Chairman's Awards in Advancement in	Recognitio n	FCC	Annual awards since 2010	2015 winners include Blind Square, no CAPTCHA reCAPTCHA

171. *See generally* Colby Hochmuth, *FCC's data guru Greg Elin eyes new opportunity*, fedscoop, https://www.fedscoop.com/fcc-chief-data-officer-greg-elin-departure/ [https://perma.cc/C8YP-94GZ] (last visited Nov. 6, 2015).

172. *Id.*

173. *See generally Open Internet Apps Challenge*, *supra* note 140.

174. *Id.*

175. *Apps for Communities Challenge*, Devpost.com, http://appsforcommunities.devpost.com/ (last visited Nov. 6, 2015) (co-sponsored by the FCC and the James L. Knight Foundation).

Accessibility (AAAs)[176]			announced in June	(Google), Convo Lights, Beam Messenger, Video Meetings with BlueJeans (AT&T), Talking Guide (Comcast), OpenAIR (Knowbility)
Developing with Accessibility [177]	None[178]	FCC	Sept. 6-7, 2012	N/A
PDF Liberation[179]	Unknown	FCC, Sunlight Foundation [180]	Jan. 17-19, 2014	What Word Here

The first four challenges detailed in Table 1 deal with spurring innovation to benefit the public, rather than benefiting the FCC itself. The Open Internet Apps Challenge called for the creation of an app that measures a user's broadband provider's compliance with open internet.[181] The Apps for Communities challenge called for the creation of an app that makes "local public information more personalized, usable, and accessible for all Americans," particularly for those people "that are least likely to be online." [182] Additionally, the Chairman's Awards for Advancements in Accessibility is an annual event that calls for the creation of tools and the development of ideas to make technology accessible for individuals with disabilities.[183] Each year the FCC announces anywhere from four to seven specific challenges within this category, such as developing an alternative to

176. *Chairman's Awards for Advancements in Accessibility*, FCC, https://perma.cc/Z7JT-5SK (last visited Nov. 6, 2015).

177. *Developing with Accessibility*, *supra* note 47.

178. *Id.* (describing the goal as "increased collobration" rather than focusing on a specific result).

179. *PDF Liberation*, https://pdfliberation.wordpress.com/2014/01/21/hackathon/ [https://perma.cc/3FMC-BXCW] (last visited Jan. 22, 2016).

180. *Id.* (These were the main sponsors of the Washington, DC event. Additional sponsors for similar events in other cities included Knight-Mozilla OpenNews, Rally.org, Public Sector Credit Solutions, OpenGov, Smart Chicago, Pediacities – A Product of Ontodia, Inc., Artifex Software, Inc., Quandl, and Civic Ninjas).

181. *Open Internet Apps Challenge*, *supra* note 140.

182. *See Apps for Communities Challenge*, *supra* note 175.

183. *See Chairman's Awards for Advancements in Accessibility*, *supra* note 176.

the Completely Automated Public Turing Test to Tell Computer and Humans Apart (CAPTCHA), which "present[s] accessibility barriers to persons with visual or cognitive disabilities."[184] Similarly, the goal of Developing with Accessibility was to allow API developers to collaborate and share on ways to make APIs accessible to people with disabilities.[185]

On the other hand, the FCC's most recent challenge, PDF Liberation, could potentially benefit both the FCC itself, as well as public users of the FCC's data.[186] The goal was to develop an application that can easily convert the FCC's press releases, which are in PDF format, to a text format so that the releases can be easily searched and analyzed.[187] The event not only had multiple private sponsors, in addition to the FCC, but there were also various challenges that dealt with converting PDF files to a text format, ranging from IRS Non-Profit Reports to New York City Council and Community Board Documents.[188] The PDF Liberation challenge is an excellent example of the technical benefits that the FCC can reap from hackathons, particularly in the use of data development and standardization, and how that technology can be shared with other organizations.

IV. THE FCC'S ADOPTION OF ODIS: IMPLICATIONS FOR TECHNOLOGICAL INNOVATION

The resources used by the FCC to spur innovation can affect which sector sees innovation, such as private versus public, and how quickly that innovation occurs. In order to maximize public benefits and the growth of the US telecommunications sector, the FCC should increase the number of prize contests it sponsors with a focus on private-sector innovation, and limit its use of hackathons to short-term, internal goals. In order for these prize contests and hackathons to succeed, it is imperative that the FCC issue clear rules and guidance and continue its communication with private developers regarding open data.

A. The FCC Should Increase Its Use of Prize Contests for Private Innovations

To achieve its innovation policy goals, the FCC should increase the number of prize contests it sponsors. These prize contests should focus on innovation outside of the FCC, for the benefit of the public. While prize

184. *See FCC Extends Deadline for Nominations for the Fourth Chairman's AAA and Invites the Submission of Additional Information*, FCC (Feb. 24, 2015)., https://apps.fcc.gov/edocs_public/attachmatch/DA-15-252A1_Rcd.pdf.

185. *See Developing with Accessibility*, *supra* note 47.

186. *See generally* Kathy Kiely, *PDF Liberation: Why It Matters And How You Can Help*, Sunlight Found.: Blog, https://sunlightfoundation.com/2014/01/24/pdf-liberation-why-it-matters-and-how-you-can-help/ [https://perma.cc/K9HH-B87R] (Jan. 24, 2014).

187. *See generally PDF Liberation Hackathon – Federal Communications Commission Challenge*, GitHub (Jan. 17, 2016), https://github.com/pdfliberation/pdf-hackathon/blob/master/challenges/fcc-daily-releases.md [https://perma.cc/48BV-RUKE].

188. *See PDF Liberation*, *supra* note 179.

contests will not directly benefit the FCC, they will serve the FCC's mission by promoting innovation within the telecommunications industry.[189] For example, an app that can detect and block robocalls may not have much use *within* a government agency, but the public would certainly be interested in such a technology.[190]

Encouraging the development of desirable technology will help keep the US at the top of the international telecommunications industry.[191] One of the largest benefits of prize contests is increased private investment spending, typically above and beyond the value of the actual prize.[192] By rewarding and publicizing these private innovators, the US will ensure that private innovation in the telecommunications sector continues to thrive.

The FCC could sponsor prize contests both with broad and specific goals. An example of a prize contest with a broad goal would be one that awards a monetary prize for the most innovative telecommunications app. A contest with a specific goal, however, would award a monetary prize for developing a specific technology, such as an app that standardizes the various text message formats used by different cell phone developers and wireless service providers. While a specific prize contest has the benefit of developing technology with pre-determined usefulness, a broad prize contest could result in the development of technology that the FCC never considered. A balance could be found by hosting a broad prize contest every few years, with specific prize contests hosted when the FCC sees a real need for a specific technology that does not exist yet.

Agencies are authorized to work with third parties in funding and administering prize contests.[193] If its funds are limited, the FCC should work with third parties, such as private telecommunications companies, non-profits, and think tanks, to develop and administer prize contests. After all, these are the parties with the most technical expertise, and the FCC, and the public, could greatly benefit from stakeholder collaboration.

B. The FCC Should Increase Its Use of Hackathons for Internal Innovation

Given the limited benefit that hackathons can provide to government agencies, the FCC should limit using hackathons to issues *within* the FCC. One data problem that the FCC, and other agencies, face is that it has various data collections in all different formats, which can make comparisons

189. *See* Guidance on the Use of Challenges and Prizes, *supra* note 7, at 1.

190. *See generally FTC Robocall Challenge*, *supra* note 63.

191. Bernthal, *supra* note 84, at 625-26.

192. *See* Stine, *supra* note 1, at 16-17 ("For the Lunar Lander Challenge, twelve private teams spent nearly 70,000 hours and the equivalent of $12 million trying to win $2 million in prize money.").

193. *See id.* at 1 ("Encouraging the formation of a public-private partnership to fund and administer a prize.").

difficult.[194] Starting in 2000, the FCC requires the submission of "uniform and reliable data" from certain telecommunications companies,[195] but this does not account for data submitted from other parties, such as lobbyists and stakeholders, during notice and comment periods.

Hackathons are an excellent tool to help the FCC standardize its data since it allows for focused thought on one particular issue, such as PDF readability, at a low cost to the FCC.[196] In order to benefit from hackathons, the FCC needs to be vigilant in continuing to work on a solution within the agency after the hackathon, since hackathons typically result in a temporary, but not a definitive solution.[197]

One successful structure may be for the FCC to sponsor a hackathon, but to allow a private party more familiar with the particular technological hurdle to handle organizing the event, as was done in the PDF Liberation Challenge.[198] For example, the FCC could work with a third party that specializes in data analytics to develop a tool that standardizes international telecommunications data to the same standards as the FCC's internal data. Another option could be for the FCC to work in partnership with other agencies, as in the government-wide Earth Day hackathon.[199]

C. The FCC Must Provide Clear Rules and Procedures for ODIs

With the use of either prize contests or hackathons, the FCC needs to ensure that proper and detailed rules are in place, including an appeals structure to challenge the results. As evident in *Frankel v. United States*, there is currently no clear legal structure by which to challenge the results of these events since the CFC and the GOA both ruled that these contests are not procurements.[200] The FCC needs not only to create an appeals structure, but also to guarantee an unbiased judge as part of the appeals process. If the process appears to be nothing more than the agency covering its liability and protecting its decision, participants may be discouraged from investing so much time and energy into what they perceive to be a flawed and biased process.[201]

---

194. *See FCC Reform Agenda*, FCC (Feb. 2010), https://apps.fcc.gov/edocs_public/attachmatch/DOC-296363A1.pdf [https://perma.cc/77EZ-KG54] (data goals include standardizing and automating future data collections, linking and standardizing current databases to form a single system). *But see Measuring Broadband America*, FCC, https://www.fcc.gov/general/measuring-broadband-america [https://perma.cc/XB6X-3J2K] (last visited Apr. 9, 2016) (FCC efforts to collect and standardize fixed and mobile broadband data).

195. *Report and Order Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, 1, 3 (2013).

196. *See PDF Liberation Hackathon – Federal Communications Commission Challenge*, *supra* note 187.

197. Bastian, *supra* note 14, at 9.

198. *See PDF Liberation Hackathon*, *supra* note 179.

199. *See, e.g.*, *Earth Day Hackathon*, *supra* note 13.

200. *See Frankel*, *supra* note 63, at 332, 334.

201. *See* Schooner & Castellano, *supra* note 9, at 398.

In drafting rules and a structure for these events, it is critical that the FCC provide guidance on intellectual property rights.[202] What happens if a submission does not win, but the FCC uses the submission for another purpose? Does that participant have any right to ownership or compensation? If a participant does win, does she retain the right to sell or license the technology to other parties? Any ODI should have an IP section in its rules, with a detailed description of all terminology.[203] Some government ODIs, particularly hackathons, have relied on the Open Source Initiative requirements, which ensure protection of the government's interest while also encouraging collobration and openness.[204] These requirements are an excellent starting point, particularly for technology ODIs.

D. The FCC Should Continue Its Open Dialogue with Developers and Its Push for Open Data

A key component to ensuring the success of hackathons and prize contests is open data.[205] The FCC needs to ensure that there is sufficient open data in place for private parties to innovate – whether it be for a prize contest, hackathon, or independent interest. One way to ensure that open data is sufficient is to have an accessible, ongoing dialogue with participants.[206] Technology and data standards are constantly changing, which can require both developing new technology and putting to rest obsolete formats. Through the "Developer" section on its website, the FCC has already begun such a dialogue.[207] Given the importance of open data to the success of ODIs and hackathons, it is critical for the FCC to continue to monitor the data provided and to work regularly with the developer community in order to provide new data, update current data to new formats, and tp remove obsolete data.

V. CONCLUSION

The US is, and continues to be, a leader in the telecommunications field. While much of this innovation has developed in the private sector, the FCC plays a critical role in ensuring that there are sound policies in place to encourage continued innovation. While the FCC should continue hire more staff with technological expertise, particularly in the area of data, the FCC

202. *See* Bastian, *supra* note 14, at 6-7.

203. *See, e.g.*, *Earth Day Hackathon*, *supra* note 13.

204. *See generally The Open Source Definition*, Open Source Initiative, https://opensource.org/osd-annotated [https://perma.cc/UV7B-RYM2] (last visited Apr. 9, 2016) (requirements related to free redistribution, source code, derived works, integrity of the author's source code, no discrimination of persons or groups, no discrimination against fields of endeavor, distribution of license, license must not be specific to a product, license must not restrict other software, and license must be technology-neutral).

205. *See* Bastian, *supra* note 14, at 9.

206. *Id.* at 5 (an important consideton is "what types of information would be most useful and interesting to the public").

207. *See Developers*, FCC, https://www.fcc.gov/reports-research/developers [https://perma.cc/9GSK-6KFW] (last visited Jul. 27, 2017)

should also increase its use of hackathons and prize contests as a source of innovation. Open data is a key tool in that policy. It is increasingly important for the FCC to continue its open dialogue with the private telecommunications sector. While the FCC should continue that dialogue through its traditional tools, such as the notice and comment period, it should also expand that dialogue to discuss tools with whice developers, engineers, and economists – namely prize contests, hackathons and open data are more familiar. To aid in this process, the FCC should create an advisory committee composed of members with diverse backgrounds to advise the Commission on how best to use these tools.