

# Organizational Perspectives of Open Innovation in Government

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## Abstract

This study seeks to explore the factors and conditions that influence the adoption and implementation of open innovation practices in public sector agencies. It examines the implementation of a web-based crowdsourcing platform used to solicit public input in solving problems encountered by agencies. Theoretical development is based on open innovation literature in private firms and draws on classic innovation literature from both the private and public sectors. Qualitative data is collected through interviews and analyzed using a combination of deductive and inductive coding. The expected outcome is the deeper understanding of the influencing factors and conditions, as well as the various characteristics of these practices.

*Keywords:* open innovation, crowdsourcing, public sector innovation, contests

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## Introduction

The promotion of openness and transparency in government has been an area of focus for the Obama administration, as detailed in the President's memorandum upon taking up office in January 2009 (White House, 2009). As part of the Open Government Initiative, the web-based crowdsourcing platform (challenge.gov) was developed to facilitate the solicitation of citizen input in solving problems encountered by the various agencies. Problems are formulated as competitions (referred to as contests and challenges) and offer rewards to the winning submission(s).

As an emerging practice it is important to understand the characteristics of the various contests and challenges, how they fit into the existing organizational structure of hosting agencies, and what environment and conditions promote their use. The specific research questions are: i) How is the crowdsourcing platform challenge.gov being used by the various federal agencies? ii) What factors influence the decisions to use this platform within the various agencies?

## Conceptual Development

Openness in innovation refers to the practice of embracing outside participation as well as sharing with others on the outside (Chesbrough, 2011). Organizational boundaries are opened up to allow knowledge in-flows and out-flows, and create an atmosphere for combined innovation activities involving partners, customers, suppliers (Enkel et al., 2009). The opening up of organizational boundaries is enabled by the internet which allows the easy flow of information and the connection of widely dispersed experts and enthusiasts (Chesbrough, 2003).

Crowdsourcing refers to the practice of outsourcing to crowds. As an alternative to outsourcing to specific suppliers or consultants, firms make the details of their problems publicly available, and invite potential solvers to submit solutions. Solutions are usually solicited using a 'broadcast search', and are open to anyone who feels they are qualified to do so (Jeppesen and Lakhani, 2010). The crowdsourcing application being investigated can be classified as an instance of open innovation where ideas from outside the organization are used to solve internal problems.

Open innovation in the public sector represents an emerging area of research where distinguishing theories are yet emerge. This study combines literature from three main areas: open innovation from the private sector; and classical innovation from both private and public sectors. It proposes that factors influencing the decision to implement open innovation practices in public sector agencies operate at three distinct levels: organizational, project, and individual. The proposed factors have been selected due to their prominence in the literature and are examined below:

#### Organization Level:

- Bureaucracy and red-tape: degree of emphasis on following rules, level of freedom employees are allowed in performing their duties, level of decision-making autonomy (Damanpour, 1991)
- Alignment with mission and goals of the organization: Crossan and Apaydin (2010)
- Organization commitment: includes support from the top, recognition of innovation efforts, resources for innovation (Borins, 2001) senior management support, funding, innovation champions, revised internal processes, metrics and incentives (Chesbrough and Crowther, 2006).

#### Project Level:

From observation and empirical analysis of all the projects hosted on the platform to date, distinct differences have been observed along certain dimensions (discussed later in preliminary findings). However it is not known what the effect of these differences have on the decision to implement and it is proposed that they be investigated further:

- Use of intermediaries: private contractors or external partners who participate in the planning or execution of the contest either through hire or mutual collaboration
- Type of Task: Varies based on the objective and complexity of the task at hand

#### Individual level:

- Employee attitudes (Not-Invented-Here Syndrome): refers to internal resistance to outside knowledge (Chesbrough and Crowther (2006); Chesbrough (2011); Huston and Sakkab (2006)).
- *Employee perception of benefits*: innovations stand a chance of not being accepted if employees do not see the benefits. A similar concept (relative advantage) is used in the Diffusion of Innovations literature (Rogers, 1995) signifying the perceived benefits of the innovation over the previous one that it is replacing.

Research and practice on open innovation and crowdsourcing in the public sector are emerging, and some of the influencing factors may not be identified in existing literature. The propositions above therefore form a starting point for the investigation, and it is expected that other factors will emerge from the empirical data collected.

## Methodology

The investigation took the form of a multiple case study examining 28 open innovation projects across 17 agencies utilizing the challenges and prizes format. Stratified purposeful sampling was used to ensure proportional distribution of cases based on the type of task being crowdsourced. For each case, semi-structured interviews were conducted with one or two persons responsible for the administration or execution of the project. Interviews elicited responses about the decision to use the challenge format and organizational processes surrounding use of this approach. A combination of deductive and inductive analysis has been employed to identify the main enablers and barriers to practicing open innovation activities. To date some preliminary analysis has been conducted on the interview data which will be followed by a combination of more in-depth qualitative and content analysis. Maintaining a chain of evidence in addition to member checking is being employed to ensure accuracy of findings.

## Preliminary Findings

The first phase of empirical analysis involved categorization of the 143 contests hosted on the platform from inception in September 2010 to December 31 2011 based on attributes such as type of task, objective, and target audience. The list of contests was later updated to include those posted up

until August 2012. One of the more striking findings was the level of disparity in the types of tasks targeted. For example, a large number seemed to revolve around public engagement with messages related to awareness and education campaigns. Many of these challenges had minimum requirements on specialized skills and the task could be accomplished by members of the general public. On the other end of the spectrum there were some highly technical tasks requesting submission of proposals or prototypes of the operational solution to specific problems. The target audience was generally individuals and groups with very specialized training or skills. Also noted was that a large number of contests employed third-party intermediaries to run or host the contest, while others were run exclusively by the host agency.

The following represents a preliminary categorization of tasks hosted on the platform:

- i. *raising awareness of public services and issues* –included mainly creativity contests such as video, poster, and slogan contests aimed primarily at helping agencies spread the word on a particular issue.
- ii. *providing a technical or tangible solution to a problem* – sought proposals, designs, prototypes, models leading to the creation of an actual product (e.g energy saving light bulb, combat vehicle).
- iii. *providing tools or methods to facilitate/improve provision of government services* – mainly solicited development of software applications to help citizens access government services.
- iv. *generating research on a particular topic*– submission of white papers, conference papers, education initiatives, which made a general contribution to knowledge on a topic without necessarily tackling a specific problem.

The second phase of analysis involves deductive coding of interview data based on the proposed framework, as well as inductive coding to allow emergence of new factors. Analysis is focused on identifying determinants which influence the decision of an agency to use an open innovation approach to solve a problem. The analysis is currently at a very early stage and is expected to continue over the next few months. Preliminary results have so far provided support for some of the factors suggested in the literature such as the importance of management support, organization commitment, nature of the problem or task, and perception of benefits. Other determinants emerging inductively from the data so far include: origin of initiative (top-down vs bottom-up), and presence of a project champion.

## Limitations and Contributions

With the platform barely two years old, current users may be viewed as early adopters. At this point it would be impossible to predict whether current trends being investigated will hold true after more years of operation.

The expected contributions include: i) development of a framework to represent enabling conditions for open innovation practices in public sector agencies ii) taxonomy of developed to represent the various dimensions of implementation. iii) recommendations on what constitutes an enabling environment including conditions under which it is most appropriate. In addition, implementers and administrators of the platform have indicated a keen interest in the findings and recommendations.

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