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## An environment conducive to bureaucratic innovation?: Exploring the potential for public entrepreneurship within FEMA

Jason D. Rivera<sup>a,\*</sup>, Mark R. Landahl<sup>b</sup><sup>a</sup> SUNY Buffalo State, Department of Political Science (Public Administration Division), 1300 Elmwood Ave, Buffalo, NY 14222, USA<sup>b</sup> Frederick Community College, Mid-Atlantic Center for Emergency Management, 7932 Opossumtown Pike, Frederick, MD 21702, USA

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## ABSTRACT

The ability of emergency management organizations to perform effectively in the eyes of the public has been argued to stem from organizational culture, and a proclivity to overcome path dependent effects that may inhibit changes to enhance service provision. One mechanism argued to be effective in overcoming organizational path dependence and ineffective service provision is public entrepreneurship. Several contextual characteristics of public entrepreneurship are necessary to spur innovation. This study examines the presence of contextual factors shown to encourage public entrepreneurship within FEMA, which are also applicable to local urban governance. FEMA has long been argued as ineffective and resistant to organizational change. Using a sample of FEMA employees, this study finds that most FEMA employees perceive the organization to be open to public entrepreneurship; however, this perception is influenced by individual's personal characteristics. In addition to findings, this study offers recommendations for future research and implications in the area of public entrepreneurship within emergency management.

Over the last twenty years, disaster researchers have made countless recommendations to the Federal Emergency Management Agency (FEMA) in an attempt to aid the agency in enhancing its effectiveness and efficiency in service provision. These recommendations are offered with the specific intention of making disaster response and recovery practices more equitable and efficient across social groups within American society. However, despite these recommendations, when disasters strike, especially large-scale disasters, there are typically anecdotal accounts documenting the continuing adherence to past service provision practices by FEMA that have been publicly viewed as ineffective, inefficient, or even discriminatory towards vulnerable communities. Although emerging literature on the equity of FEMA disaster recovery resource allocation is beginning to provide statistical evidence that helps to dispel some of these anecdotal accounts about discriminatory practices, the continued reliance on questionably effective service provision practices is problematic (Rivera, 2014).

According to Rivera (2014), FEMA's reliance on past service provision practices, regardless of their success or efficiency, can be attributed to the role that path dependence and positive feedback play within the organization's choice of actions in disaster situations, in addition to day-to-day operations. Operating within this theoretical orientation, organizational changes that may enhance service provision efficiency are inhibited (Wendt, 1999), even in the face of apparent service failures, by complementary institutional arrangements (North, 1990a,b; Pierson, 2004), the ways in which organizational personnel filter information on existing or new operational approaches and ideologies on the implementation of services (North, 1990a,b; Denzau & North, 1994; Arthur, 1994), and competency traps that emphasize the use of inferior organizational practices and procedures over more superior alternatives (Levitt &

\* Corresponding author.

E-mail address: [riverajd@buffalostate.edu](mailto:riverajd@buffalostate.edu) (J.D. Rivera).<https://doi.org/10.1016/j.jum.2019.03.001>

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March 1988).

To break this cycle of continued inefficient, and sometimes ineffective service provision by bureaucratic organizations, Pierson (2004) argues that one of two conditions must be met within the political environment. First, an environment of learning and/or innovation must be fostered, not only within the broader political arena, (Lindblom, 1959; Heclo, 1974; Hall, 1993), but more importantly within organizations themselves (Rivera, 2014). According to Schnellenbach (2007) and Rivera (2014), this has the potential to occur through the fostering of organizational/work environments that encourage public entrepreneurs to develop and implement innovative mechanisms that enhance service provision to clients. Second, that competition must exist between bureaucratic entities that provide similar services to the same potential clients. In this way competitive pressures in the market can push suboptimal organizations and institutions to change their practices to become more effective or lead underperforming organizations to be replaced by more effective organizations (Alchian, 1950). According to Pierson (2004), without either of these two conditions, but preferably both at the same time, public organizations affected by path dependence and positive feedback are unlikely to change their practices.

As such, this research examines employee responses for the presence or absence of Pierson's (2004) first condition to overcome path dependent organizational effects that decrease organizational efficiency over time within a bureaucracy, the potential for innovation. Within the context of FEMA, this study observes whether employees perceive it as an organization that allows them to innovate in the pursuance of organizational goals tied to reducing losses and enhancing recovery from disasters. Understanding whether FEMA as an organization is open to innovation is profound especially when one thinks of the effects of recent urban disasters such as Hurricanes Katrina, Sandy, Harvey and Maria. Moreover, public entrepreneurship is of importance in the wake of the new 2018–2022 Strategic Plan released by FEMA. The plan identifies the strategic goal to reduce the complexity of FEMA and identifies the objective to develop “organic process improvement capabilities among our staff, recruiting and retaining a diverse workforce, providing communication channels for employees to propose innovative ideas to leaders, and establishing a culture that reinforces that employees at all levels are expected to lead, collaborate, and innovate” (FEMA, 2018, p. 33). Although a variety of reasons could be listed, the most important relates to the potential effects of innovation on service provision in the disaster context that can reduce long-term negative effects on devastated communities. The unique characteristics of each disaster make innovation a critical component of organizational success. More broadly, this research also has various applications to the urban governance context in which public entrepreneurship is becoming increasingly important for creating more efficient and responsive systems (Bartlett & Dibben, 2002; Delabbio & Zeemering, 2013; Feiock & Carr, 2001; Smith, 2012).

As innovation within an organization itself is important for change, a discussion of the potential role that public entrepreneurs have in organizational innovation follows. The 2015 Federal Employee Viewpoint Survey (FEVS) provides variables identified as important for innovation and public entrepreneurship within an organization. These provide the opportunity to construct an index variable of organizational openness to innovation. This index allows for the assessment of openness to innovation and public entrepreneurship within FEMA. Through the discussion of findings, recommendations are provided to guide future researchers in the area of innovation within the emergency management context as a means of better understanding the importance of this organizational dynamic.

## 1. Public entrepreneurs and key contextual characteristics

Over the last forty years several studies have attempted to explore the role of public entrepreneurs in overcoming path dependence in bureaucratic institutions. Several studies argue that public entrepreneurs overcome issues of institutional path dependence by introducing innovation into their respective organizations/institutions, which subsequently enhances the operation of the organization (Behn, 1998; Osborne & Gaebler, 1992; Peters, 1996; Roberts & King, 1996). Along these lines, innovation within public bureaucracies can transform respective organizations to be more responsive units that work more efficiently and effectively with their constituents and/or clients (Mack, Green, & Vedlitz, 2008). It is important to understand how public entrepreneurs are defined, and what organizational conditions are needed for these individuals to actively innovate within their respective organizations.

### 1.1. Public entrepreneurs

According to Mack et al. (2008) and Schneider, Teske, and Mintrom (1995), transformative organizational change within a stable policy environment cannot occur without the presence of individuals who advocate and attempt to introduce changes within the organizational system. As such, entrepreneurs work to alter an organization's pre-existing patterns of resource allocation and services through creative action as a means to better meet consumer demands as they change across time (Schumpeter, 1928, 1934). Although Schumpeter's (1934) definition of an entrepreneur specifically refers to innovators within the private sector, similar consumer dynamics exist within the public sector. Across time, the public's, clients' and/or constituents', interests shift, requiring governmental institutions to shift along with these broader societal interests. If not, the organization/institution runs the risk of becoming outdated or ineffective from the perspective of the public (Klein, Mahoney, McGahan, & Pitelis, 2010). As a result, the public-sector entrepreneur emerges as a medium through which innovation within bureaucratic governmental organizations plagued with issues of entrenchment, path dependence and embeddedness can change (Osborne & Gaebler, 1992). Additionally, a public entrepreneur is also not a policy entrepreneur described by Kingdon (2002) nor Roberts and King (1996), but an individual that attempts to enhance an organization by developing its efficiency and effectiveness at delivering services and creating value (Bernier & Hafsi, 2007).

Although there are a number of studies that have contributed to the development of the concept of public sector entrepreneurship, Morris and Jones (1999) provide one conceptualization of the public entrepreneur that will be used within the confines of this study.

According to [Morris and Jones \(1999\)](#), a public entrepreneur is an individual concerned with introducing innovations as a means of enhancing efficiency, subsequently better serving the interests of the public. Under this definition, elected officials, bureaucratic employees, nonprofit managers, and private citizens are all capable of being classified as public entrepreneurs if they work to encourage and innovate the ways public entities operate ([Mack et al., 2008](#)). As such, several studies of public-sector entrepreneurship within public administration and political science focus on the histories and biographical characteristics of specific legislators, bureaucrats, and other government leaders that have been regarded as entrepreneurs ([Mack et al., 2008](#)). Similar to many private sector entrepreneurship studies, the examination of public individuals is a mechanism for observing the individual characteristics that influence a public servant to be more or less entrepreneurial.

Through a review of the literature on entrepreneurship, [Mack et al. \(2008\)](#) categorized several general personal characteristics found to be influential in an emerging public entrepreneur. These general categories include whether the individual is generally an innovator ([Corder, 2001](#); [Doig & Hargrove, 1987](#); [Kelman, 2005](#)), a leader ([Kingdon, 2002](#); [Lambright, 1994](#); [Miller & Moe, 1983](#); [Waddock & Post, 1991](#); [Weissert, 1991](#)), and/or a team builder ([Borins, 2000](#); [Chubb & Moe, 1990](#); [Doig & Hargrove, 1987](#); [Lonti & Verma, 2003](#); [Nyhan, 2000](#); [Page, 2003](#)). Moreover, [Mack et al. \(2008\)](#) also note that individual risk-taking ([Gabris, Grennell, Ihrke, & Kaatz, 1999](#)), persistence ([Borins, 2000](#); [Kingdon, 2002](#); [Mintrom, 2000](#)), credibility ([Gabris et al., 1999](#)), and intuition ([Carnevale, 2001](#)) are some of a variety of innate qualities that individuals possess that make them more or less successful of emerging as a public entrepreneur.<sup>1</sup>

Finally, research has also pointed to various demographic characteristics that influence public entrepreneurship, such as age ([Mitchell, 2001](#); [Osborne & Gaebler, 1992](#)), education ([Schneider et al., 1995](#); [Feiock & Carr, 2000](#)), race ([Schneider et al., 1995](#)), gender ([Mitchell, 2001](#)), and years of public service ([Osborne & Gaebler, 1992](#)).<sup>2</sup> In reference to years of public service, [Osborne and Gaebler \(1992\)](#) maintain that years of public service are directly related to whether an individual attempts to be entrepreneurial. Specifically, they argue the younger the individual to public service, rather, if an individual is new to the public sector, they will be more inclined to be entrepreneurial. Additionally, in reference to the educational level of employees, [Feiock and Carr \(2000\)](#), in addition to [Schneider et al. \(1995\)](#), have observed that higher levels of education positively influence the level of entrepreneurial behaviors practiced by respective individuals. Finally, in reference to personal characteristics such as age, gender and race, currently there is no consensus on how these specific characteristics affect innovation within public organizations ([Mack et al., 2008](#); [Mitchell, 2001](#)).

In addition to the individual characteristics that are important to the emergence of a public entrepreneur, many of the same studies also highlight challenges to the conventional wisdom concerning innovation within the public sector. Traditionally, in the US context, innovation is viewed in the public sector as originating from above. Proponents of this perspective argue that in government agencies, leaders attempt to make their respective bureaucracies more responsive to the public by developing innovative ideas at the top and implementing the new ideas through the use of permanent public servants ([Borins, 2001a](#)). However, a majority of more recent studies that highlight individuals' characteristics important for becoming a public entrepreneur also observed that innovation has the potential to occur at all levels of an organization - from agency leaders to street-level bureaucrats. As a result, it is not only important to understand individuals' characteristics that encourage innovation, but also the organizational environments in which these individuals operate that provide the opportunity for innovation ([Borins, 2001b](#)). This opportunity for innovation provides the ability for public entrepreneurship to emerge regardless of individual personal attributes. If an organization is not open to innovation, public entrepreneurship will have difficulty developing ([Borins, 2001b](#); [Mack et al., 2008](#)).

## 1.2. Key organizational characteristics that encourage public entrepreneurship

The opportunity for entrepreneurship to emerge within public organizations is embedded within situational institutional environments ([North, 1991](#); [Moon, 1999](#); [Klien, 2000](#); [Williamson, 2000](#); [Klein et al., 2010](#)). As such, without an organizational environment that allows for innovation, public-sector entrepreneurship is not possible. Moreover, [Shapiro and Sokol \(1982\)](#), [Krueger and Brazeal \(1994\)](#), and [Licht and Siegel \(2006\)](#) all argue that the environmental characteristics that increase the likelihood of entrepreneurial practices to occur within an organization contribute to the perception among respective employees that innovation is welcome. As such, prior studies on organizational settings and public entrepreneurship yield several organizational factors required for the emergence of public entrepreneurship and that contribute to the perception that a particular workplace is open to innovation.<sup>3</sup>

One organizational factor suggested as critical for the manifestation of public entrepreneurship within an organization is managerial support of innovation. According to [Grady \(1992\)](#) managers need to be supportive of lateral thinking and risk taking among bureaucratic personnel. In a study of senior managers in state and local governments by [Zegans \(1992\)](#), the author highlights the importance of managerial support in creating an organizational climate that fostered comfortability in employees coming forward with ideas. Moreover, managers stressed that one way to accomplish this was through the empowerment of their workforce. In this regard, empowerment involved overcoming employees' fear of reprisals for taking initiative, helping employees gain confidence in their professional skills, and providing credible support to employee initiatives ([Zegans, 1992](#)). Although [Zegans \(1992\)](#) findings

<sup>1</sup> Other innate qualities that have been found to be associated with public entrepreneurship are assuredness ([Schneider and Teske, and Mintrom, 1995](#)) and energy, spirit, faith, trust, judgement, and character ([Carnevale, 2001](#)).

<sup>2</sup> Other demographic characteristics include current ([Lonti & Verma, 2003](#)) and previous ([Osborne & Gaebler, 1992](#)) occupations.

<sup>3</sup> It should be noted that the following contextual factors are not exhaustive, but what has been identified throughout the literature as being necessary for innovation to emerge within a public organization.

were confined to more local level bureaucracies, [Borins \(2001b\)](#) observed similar manifestations of managerial support within the U.S. Department of Labor (DOL). This produced an environment in the DOL where employees felt comfortable in bringing innovative ideas to management in an effort to reduce the presence of sweatshops within the garment industry.

Another conditional factor important to the emergence of public entrepreneurship are rewards and/or incentives for innovation. Within the private-sector, rewards for successful innovation typically amount to stock options or other relatively large monetary incentives; however, these types of rewards are not typical in the public sector ([Borins, 2001b](#)). According to [Borins \(2001b\)](#), the public-sector equivalent to stock options is merit pay; however, the amounts are typically small in comparison to private-sector compensation. As a result, within the public-sector innovation is more traditionally rewarded through recognition or awards ([Borins, 2001b](#)). According to [Mack et al. \(2008\)](#), entrepreneurs within the public sector are typically rewarded through achievement of status and visibility within both their specific organizations and professions. As such, they develop reputations and networks of contacts that help influence and motivate others that have indirect influences on the ability of public entrepreneurs to leverage their innovation for higher-level positions. This may yield monetary rewards in the form of higher salaries or less tangible rewards such as prestige.

[Borins \(2001b\)](#) also points out that diversity within an organization is important to innovation. By diversity, [Borins \(2001b\)](#) is not necessarily referring to racial and/or ethnic diversity of bureaucratic personnel; however, if race does seem to be an influential factor in innovation, as some scholars have observed ([Schneider et al., 1995](#)) a more diverse bureaucracy as outlined within representative bureaucracy literature may have an effect ([Saltzstein, 1979](#); [Selden, 1997](#)). What [Borins \(2001b\)](#) is more specifically referring to is whether the organizational environment allows for various communication, interaction, and collaboration across different working groups within an organization. According to [Kanter \(1988\)](#), individuals that are most likely to develop creative thinking are those that can bring the richest set of ideas to a given problem. In this way, working groups that are composed of people with a wide range of professional backgrounds and skills, provide the opportunity to be exposed to a diversity of perspectives to solving organizational and/or programmatic problems ([Borins, 2001b](#)). Moreover, the effect of diversity is even more enhanced when organizations provide the opportunity for personnel to communicate and collaborate with individuals and groups from outside the organization. Thereby, further broadening the exposure to alternative perspectives, which can enhance the universe of innovative ideas ([Borins, 2001b](#)).

As a result of the previous studies discussed, this particular study questions how open to innovation FEMA is perceived to be by its own employees based on the organization's specific characteristics. Additionally, this research questions whether the perception of the organization's openness to innovation among employees is influenced by various personal characteristics indicative to FEMA employees. As such, this study will contribute to understanding whether FEMA, from the perspective of employees, is an environment that potentially supports public entrepreneurship.

## 2. Data, methods, and analysis

This research is concerned with observing whether FEMA is perceived by its own personnel as having an environment conducive to the presence and development of public entrepreneurship. To answer this question, data generated by the 2015 Federal View Point Survey (FEVS) is used in the forthcoming analysis.

### 2.1. The survey instrument & respondents

The FEVS is an annual survey that has been administered since 2011 to all federal government employees. It seeks to measure their perceptions concerning federal agency management of the workforce. Moreover, this survey asks questions of respondents that directly relate to contextual factors found to encourage innovation within public-sector organizational environments. The survey was administered online in two waves, with six-week administration periods between April 27th and May 4th, 2015.

As this research is specifically concerned with FEMA, respondents from the agency were extracted from the FEVS data. The survey was administered to 13,745 FEMA employees; however, only 1,513 completed the entire survey – yielding a response rate of 11.01 percent. [Table 1](#) highlights the descriptive statistics of the FEMA sample. As [Table 1](#) illustrates, the sample of FEMA personnel captured by the FEVS is not representative of the population of FEMA personnel.<sup>4</sup> Although this occurs across all the demographic variables, it is pronounced in reference to employees' tenure with the federal government, the age of respondents, educational attainment, and supervisory status. As a result, sampling weights are used on the demographic variables in the forthcoming analyses to correct for the disproportionality of the sample in relation to the population of FEMA personnel ([Pfeffermann, 1993](#)).

### 2.2. Conceptualization and measurement

The FEVS seeks to measure personnel perceptions about their respective work environments to create indices of employee engagement, satisfaction, and inclusion; however, the survey was not specifically designed to create an index for the perception of organizational openness to innovation. Questions within the survey asked respondents how much they agree or disagree with various statements based on a Likert scale coded from 1 (strongly disagree) to 5 (strongly agree). A series of ten questions within the survey queries respondents on perceptions concerning management and their work environments. These aspects contribute to understanding

<sup>4</sup> Descriptive statistics on FEMA's personnel was acquired through the U.S. Office of Personnel Management's March 2015 Diversity Cube ([U.S. OPM, 2015](#)).

**Table 1**  
Comparison of sample and population of FEMA personnel.

Variable	Sample (n = 1,513)	Population (N = 13,745) <sup>a</sup>
<b>Gender</b>		
Female	38.73%	46.34%
Male	61.27%	53.66%
<b>Minority Status</b>		
Minority	28.42%	31.18%
Non-Minority	71.58%	68.81%
<b>Tenure with the Federal Government</b>		
5 or Fewer Years	21.68%	48.65%
6–14 Years	43.95%	31.04%
15 or More Years	34.37%	13.43%
<b>Age</b>		
Under 40	18.44%	20.48%
40–49 Years Old	27.36%	20.04%
50–59 Years Old	36.35%	28.27%
60 Years or Older	17.85%	31.50%
<b>Educational Attainment</b>		
Education Prior to a Bachelor's Degree	30.40%	61.48%
Bachelor's Degree	31.86%	20.41%
Post-Bachelor's Degree	37.74%	16.80%
<b>Supervisory Status</b>		
Supervisory/Manager/Senior Leader	28.49%	10.09%
Non-Supervisor/Team Leader	71.51%	89.87%

an organizational context that encourages innovation. Questions concerning rewards for creativity, the presence of an empowering work environment, managerial support for creativity, and diversity (see [Appendix A](#)) reveal the presence of conditions necessary for innovation. As such, the dependent variable, *openness to innovation*, was created as a composite of the responses to these ten questions. These questions were used to construct this variable because they measure a variety of perceived organizational characteristics from employees that have been observed to contribute to innovation within public agencies ([Borins, 2001b](#); [Kanter, 1988](#); [Licht & Siegel, 2006](#); [Mack et al., 2008](#); [Zegans, 1992](#)). Openness to innovation was created through the use of a principal component analysis ([Hotelling, 1933](#); [Pearson, 1901](#)), which is a statistical technique that linearly transforms an original set of variables into a smaller set of uncorrelated variables. These represent the information from the original set of variables. It is transformed into a continuous variable, making it appropriate for application as a dependent variable in OLS regressions. This technique is typically performed in the creation of indices that are derived from a battery of Likert scale questions. The technique is applied in this manner across a wide range of academic disciplines ([Dunteman, 1989](#); see also [Costello & Osborn, 2005](#)). After the factors for this variable were extracted, one factor was retained for orthogonal rotation with an eigenvalue of 5.844. After rotation, the pattern matrix indicated that all ten of the variables used within the analysis were relevant within the factor, with all variables scoring between 0.63 and 0.8191. The perception of being rewarded within the organization mostly defined the factor (0.8191). As a result, this factor was used to create the continuous openness to innovation variable. The openness to innovation variable has a mean of 0.0124, a standard deviation of 0.9996, a minimum of  $-2.3665$ , and a maximum of 2.0067. Scores below 0 indicate a relatively negative perception of the organization's openness to innovation, whereas positive scores indicate a relatively positive perception of openness to innovation within FEMA. [Fig. 1](#) depicts the distribution of the openness to innovation scores within the sample of FEMA employees.

The histogram illustrates the dispersion of openness to innovation scores in the sample, with the majority, about 55 percent of the sample, scoring above the sample mean. Moreover, 55.72 percent of the sample had positive scores on the index. These results indicate that the majority of FEMA personnel perceive the organization to be an environment conducive to innovation, wherein conditions promote the manifestation of public entrepreneurship.

In addition to observing whether personnel within FEMA perceive the organization to be open to internal innovation, it is also important to note how this perception is influenced by demographics. An OLS regression was performed on the openness to innovation variable using the sample respondents' demographic characteristics as potential explanatory variables. [Table 2](#) depicts the results of the multivariate OLS regression. The regression analysis indicates several significant individual characteristics that influence employee perceptions of openness to innovation in FEMA. First, supervisory status shows a positive and statically significant correlation with perceptions that FEMA is open to innovation while holding all other variables constant. This relationship is statistically significant at the 0.01 level, and confirms previous research that has found a relationship between supervisory status and opportunities to be innovative ([Borins, 2001b](#)). Second, tenure within the federal government is also statistically significant, but is negatively correlated with the perception that FEMA is open to innovation while holding all other variables constant. The analysis indicates that as an individual's tenure with FEMA increases, their perception of the organization's openness to innovation decreases. Moreover, this relationship becomes more pronounced and statistically significant as an individual's tenure increases. Third, a statistically significant negative correlation was observed between FEMA an employee's undergraduate degree status and their perception of the organization being open to innovation while holding all other variable constant and in comparison to employees with less than a bachelor's degree. However, completing a post-graduate degree did not appear to have a statistically significant relationship with respondents' perceptions about the organization's openness to innovation.

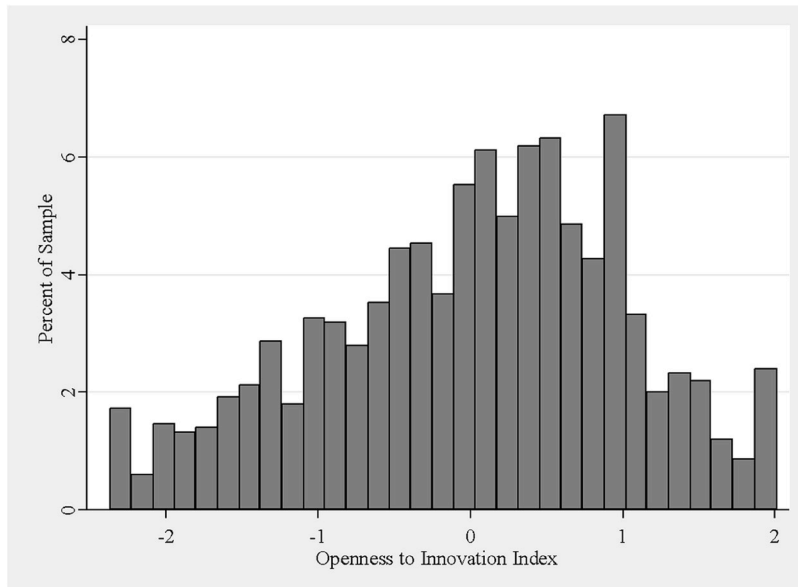


Fig. 1. Sample distribution of openness to innovation in FEMA scores.

Table 2

OLS regression of openness to innovation index and sample demographics.

Variable	Model
<b>Supervisory Status (Non-Supervisor as Reference)</b>	
Supervisor/Manager/Senior Leader	0.3003** (0.0545)
<b>Gender (Male as Reference)</b>	
Female	-0.0408 (0.0499)
Minority Status (Minority is Reference)	-0.0445 (0.05403)
<b>Federal Tenure (5 or Fewer Years as Reference)</b>	
6–14 Years	-0.1276* (0.0620)
15 or More Years	-0.1852** (0.0716)
Inclination to Leave Organization (No as Reference)	-0.8436** (0.0486)
<b>Age Groups (39 years and Under as Reference)</b>	
40–49 Years Old	0.0123 (0.0728)
50–59 Years Old	-0.1367 (0.0744)
60 Years or Older	-0.0811 (0.0857)
<b>Educational Attainment (Less than a Bachelor's as Reference)</b>	
Bachelor's Degree	-0.1371* (0.0628)
Post-Bachelor's Degree	0.0220 (0.0611)
Constant	0.5874 (0.0919)
R-squared	0.1971
Number of Observations	1,513

\* Significant at the 0.05 level.

\*\* Significant at the 0.01 level.

Robust standard errors depicted in parentheses.

### 3. Discussion and conclusion

The purpose of this study was to examine 2015 FEVS data to explore the perceptions of FEMA personnel related to the organization's openness to internal innovation. Developing this organizational attribute may enhance the ability of the agency to serve public interests. Through the development of an index designed to measure the level of a perception of openness to innovation in FEMA, it was observed that a little over half of FEMA employee respondents perceive the organization as an environment conducive to the manifestation of public entrepreneurship. Additionally, this study observed how employee perceptions of organizational openness to innovation are influenced by a variety of personal characteristics. Consistent with previous research, supervisory status (Borins, 2001b), tenure within the federal government (Osborne & Gaebler, 1992), and educational attainment (Feiock & Carr, 2000; Schneider et al., 1995) were strongly correlated to the perception that FEMA is open to innovation. Alternatively, evidence from this research cannot confirm, at least within the organizational context of FEMA, that an employee's gender (Mitchell, 2001), age (Mitchell, 2001; Osborne & Gaebler, 1992), or even minority status (Schneider et al., 1995) influences their perception of openness to innovation.

This study provides evidence contrary to the notion advanced by Rivera (2014), that FEMA is an organization that stifles innovation from within due to path dependence and positive feedback. However, if this is the case, then why does FEMA continue to utilize practices that are publicly perceived as being ineffective and inefficient? One potential answer to this question may lie in how innovation is conceived by employees within the organization. For example, FEMA employees may perceive the organization to be open to innovation; however, in the minds of the employee, innovation occurs within the bounds of pre-existing policies and procedures, not as a means of broadly altering organizational policies and practices. As a result, although public entrepreneurship is possible within FEMA to enhance service provision, innovations must occur within the established framework of standard operating procedures. This limits the scope of innovative ideas and their ability to affect *transformative* changes to internal policies and procedures that may enhance disaster response and recovery services. On this point, other evidence can be observed in the organizational structures adopted by FEMA in the response to Superstorm Sandy in 2012. According to the after-action report, FEMA (2013) developed an "Innovation Team" to aid in the response. FEMA defines this new unit as a "multi-sector, cross-functional group made up of people from various backgrounds, including nonprofit and international organizations, volunteer groups, businesses, and government, as well as concerned community members—to creatively solve problems for survivors." (p. 17). The mandate and implementation of such a team provides credence to the notion that innovation can and should occur within the day-to-day operations of FEMA.

An alternative answer to this question may also lie in the organization's proclivity to act on innovative ideas. It is one thing for an organization to allow personnel to be innovative in developing new methods for serving the public, but another for the organization to actualize these ideas in new practices. Although discussing when performance indicators are used by public organizations to affect change, Taylor (2014) maintains that when organizations give the perception that they are open to change but do not actually adopt new procedures to enhance service provision, there is a potential discrepancy between how employees at different levels of an organization perceive the utility of new ideas that challenge the status quo. As such, Taylor (2014) maintains that symbolic performance management occurs when an organization explicitly states the desired purpose to use performance management to learn (espoused values) but fails to put in place the necessary mechanisms to enable organization members to learn (artifact), or when most of them remain unconvinced of its value (basic assumptions). Organizations can espouse performance management values but not facilitate the use of the information, because they fail to provide the essential support mechanisms to integrate the performance management system with other key systems in the organization (p. 16).

As performance indicators are typically used as a mechanism for detecting and pointing out service provision inefficiencies upon which public entrepreneurship seeks to compensate, a similar situation may be manifesting itself in reference to innovation within FEMA. In FEMA, there may be rhetorical value for innovation communicated to employees to enhance service provision. Either within the confines of current policy and practices or to develop new policies that can transform the organization; however, the organization itself may not utilize the ideas generated. This may be either due to a lack of support that further develops these ideas, or because of differences in how innovation is perceived to be appropriate between middle-managers and/or workers and supervisors that could act on these innovative ideas (Henri, 2006). In the response to Hurricane Katrina, Perrow (2005) observed this phenomenon in FEMA's ability to "scramble, extemporize, and innovate", which was severely degraded (p. 7).

A third potential explanation to the public perception of ineffective practices in emergency management by FEMA may lie in the gap between expectations of the organization and what the organization is actually designed to accomplish. Greer (2015) and Rivera (2016), through their investigations of disaster recovery in the aftermath of Hurricane Sandy, point to the lack of the public understanding of the intended role of FEMA in the aftermath of disasters. Both scholars argue that this lack of understanding on the behalf of the public contributes to not only miscalculations in individual decision-making amongst disaster survivors, but it also adds to the way survivors and the broader public evaluate the actions of FEMA. As such, it is not only a matter of a lack of adjustment in organizational practices to match societal needs as Rivera (2014) argues, but a lack of understanding on the behalf of the public which discourages a more accurate evaluation of FEMA and its ability to provide services. It is also possible that this lack of understanding of the organization on the behalf of the public also makes the organization itself less inclined to alter practices based on public perception. This may be due to issues of embeddedness and filtering out of information created by the public that lacks an understanding of the organization itself (Rivera, 2014).

Although these potential theories may help to explain people's perception of FEMA's openness to innovation, a note should be made about this research's limitations. First, the 2015 FEVS was not specifically designed to measure federal agencies' innovation potential. As such, what innovation is and how respondents interpreted what innovation is could be subjective, which may have

resulted in some measurement error. Second, and related to the first point, the FEVS was not designed to measure whether individuals' innovative actions were acted on by leadership even though they were asked whether or not they felt they were rewarded, supported, and encouraged to come up with new ideas. As a result, there is no way to know how innovative actions by personnel within FEMA, or other federal agencies, relates to organizational behavior or change. Finally, as a matter of anonymity, the FEVS data does not provide geographic or regional identifiers to respondents. The result of this is that differences between regional offices or branches can not be identified, and therefore only provides for the analysis of FEMA as a whole as opposed to a differentiated agency (Benzer, Charns, Hamdan, & Afable, 2017; Kreindler, Dowd, Dana Star, & Gottschalk, 2012; Lawrence & Lorsch, 1967).

Keeping these limitations in mind, and based on the propositions generated from this research, future studies should attempt to address several dynamics. First, future public entrepreneurship research should seek to observe how public employees view the concept of innovation. Specifically, whether innovation is supported or conceived of as occurring within the confines of preexisting organizational policies or if it is organizationally transformative in the pursuance of more effective service provision. One way this can be achieved is by adding questions to the FEVS to address this dynamic; however, such questions should be asked at the local level as well. According to Wood (2004), in local-urban environments unelected bureaucrats and/or managers are one of the primary sources of innovation and change, not only in broad governance but also in emergency management. If this is the case, human resource departments situated in the local government context should begin tracking how unelected employees perceive innovation within respective bureaucratic environments.

Second, future research within the realm of public entrepreneurship should seek to determine the extent to which “symbolic public entrepreneurship” occurs within organizations, like that of symbolic performance management (Taylor, 2014; Yang & Padney, 2008), or symbolic communication within organizations (Larkey & Morrill, 1995). More specifically, future research should seek to examine the gap between the internal rhetoric in support of the development of innovative ideas, and the extent to which management and/or the organization supports and subsequently implements entrepreneurial ideas. Finally, research might be conducted to develop a baseline measurement to assess public understanding about FEMA, its mission, goals, and objectives. By understanding the true extent of the public misunderstanding concerning the organization, steps to better educate the public can be developed. These efforts may reduce the negative evaluation of FEMA by the public in the long-run.

Though this study specifically demonstrates the potential for public entrepreneurship within FEMA, the subsequent questions generated by the analysis have broad implications for understanding public entrepreneurship for emergency management. Understanding the confines and context in which FEMA personnel have the opportunity to develop innovative ideas is critical. These innovations can potentially save lives and enhance disaster recovery. In the long-term it has the potential to contribute to more efficient service provision and organizational performance. The same understanding can be applied to other governmental organizations at all levels of government. Providing public servants, the opportunity to be entrepreneurial, especially in the realm of emergency management, has the potential to benefit internal organizational effectiveness and enhance community resilience.

**Appendix A. Questions included in openness to innovation index from FEVS.**

Variable	Category of Variable	Question that Variable was Derived From (Responses in Likert scale 1 to 5)
JobInfo	Empowerment	I have enough information to do my job well.
NewWays	Empowerment	I feel encouraged to come up with new and better ways of doing things.
Talents	Empowerment	My talents are used well in the workplace.
PerEmpow	Empowerment	Employees have a feeling of personal empowerment with respect to work processes.
CommWorkUnits	Management Support for Cooperation	Managers promote communication among different work units.
CommAWorkUnits	Management Support for Cooperation	Managers support collaboration across work units to accomplish work objectives.
CreativeRewards	Rewards for Creativity	Creativity and innovation are rewarded.
Diversity 1	Diversity	Policies and programs promote diversity in the workplace.
Diversity 2	Diversity	My superior is committed to a workforce representative of all segments of society.
Diversity 3	Diversity	Supervisors work well with employees of different backgrounds.

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**Jason D. Rivera** is an assistant professor in the public administration program at SUNY Buffalo State. His main research focus is on disaster response and recovery with an emphasis on the experiences of historically marginalized communities. Jason also conducts research on representative bureaucracy, governance, and community development. He earned his Ph.D. in public affairs with a specialization in community development from Rutgers University – Camden.

**Mark R. Landahl** serves as the Homeland Security Commander at the Frederick County (MD) Sheriff's Office. In this capacity, he is responsible for all hazards agency preparedness, prevention, protection and liaison to allied local, state and federal agencies. In addition to his career in practice, he serves as an adjunct professor at several schools teaching courses in homeland and emergency management. He received his master's degree from the U.S. Naval Postgraduate School Center for Homeland Defense and Security and holds a graduate certificate in Law Enforcement Intelligence Analysis from Michigan State University. He earned his Ph.D. in Emergency Management from Oklahoma State University in 2015.