HOW PERFORMANCE INFORMATION AFFECTS RESOURCE ALLOCATION DECISIONS: EVIDENCE FROM AN EXPERIMENT

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Why of interest?

- Era of governance by performance management
- Focus of Obama administration
- Difficult to assess whether and what type of difference performance regimes are making unless we study how data is used
Outline

- What do we mean by performance information use?
- Why do people use performance information?
  - Evidence from cross-sectional survey of public officials
  - Altruism, leadership
- How does data framing affect resource allocation decisions?
  - Evidence from experiment
How do we use performance systems?
Types of responses: 4 Ps

- Passive
- Perverse
- Political
- Purposeful
Passive use of data

- Passive:
  - Do the minimum to comply with requirements
  - Do not actually use data
  - Correlated with cynicism about reforms
Perverse use of data

- Effort Substitution/goal displacement
- Cream-skimming/parking
- Hiding numbers
- Output distortion
- Ratchet effects
- Churning
- Cheating
Political uses of data

- Process of selecting measures means shaping a program narrative
- Exploit ambiguity of data
- Data tells us what happened
- Program officials still need to interpret and explain:
  - why performance did or did not occur
  - the context of performance
  - how implementation occurred
  - an understanding of outside influences on performance
  - how to choose which program measure is a priority
  - what to do next
Implications for Decisionmaking

- Performance information use reflects political process, does not replace it
- Performance information use does not lead to clarity
- Ability to structure dialogue tied to power
Purposeful use of data

- Use data to improve program performance
- Goal-based learning
  - efficiency improvements
  - better targeting of resources
  - more informed strategic decisions,
  - tying indicators to rewards/sanctions in contract arrangements
What fosters performance information use?
The Right Context

- Simple function that is easy to measure
- Clear link between measures of actions, and measures of outcomes
- One-dimensional – relatively few measures that do not conflict with one another
- Stakeholder support – clear agreement about purpose
Other factors

- Learning forums
- Mission-based culture/supportive culture
- Resources
- Administrative stability
- Administrative capacity
Cross-sectional surveys evidence

- Studies using survey-based data
- Self-reported performance information use – taps purposeful construct
- Local government employees
- Results from Moynihan and Pandey (in press) and Moynihan, Wright and Pandey (2010)
### Study 1: Ordinal regression of reported performance information use for decisions

#### Table 2: Results of Performance Information Use Model

<table>
<thead>
<tr>
<th></th>
<th>Ordered probit</th>
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<tbody>
<tr>
<td></td>
<td>Marginal effects</td>
<td>P score</td>
</tr>
<tr>
<td><strong>Individual beliefs</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public service motivation</td>
<td>.038</td>
<td>.001</td>
</tr>
<tr>
<td><strong>Job attributes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reward expectation</td>
<td>.005</td>
<td>.595</td>
</tr>
<tr>
<td>Generalist leader</td>
<td>-.346</td>
<td>.000</td>
</tr>
<tr>
<td>Task-specific experience</td>
<td>.006</td>
<td>.290</td>
</tr>
<tr>
<td><strong>Organizational factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Information availability</td>
<td>.146</td>
<td>.000</td>
</tr>
<tr>
<td>Developmental culture</td>
<td>.051</td>
<td>.001</td>
</tr>
<tr>
<td>Flexibility</td>
<td>.042</td>
<td>.024</td>
</tr>
<tr>
<td>Budget staff take adversarial role</td>
<td>.023</td>
<td>.338</td>
</tr>
<tr>
<td><strong>External factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citizen participation</td>
<td>.011</td>
<td>.062</td>
</tr>
<tr>
<td>Professional influence</td>
<td>.066</td>
<td>.063</td>
</tr>
</tbody>
</table>

Ordinal Logistic Model: N = 1132; Wald Chi2 = 432; Psuedo R2 = .116 (cut points: 1 = 1.828; 2 = 2.627; 3 = 3.287; 4 = 4.209; 5 = 5.260)
Marginal effects and P values calculated obtained with Stata’s “meoprobit” by Cornelissen (2006)
Controls: population size, region, homogeneity, income, government size
Intrinsic vs. extrinsic motivation

- Sense of public service motivation mattered
- Possibility of extrinsic reward did not create an incentive to use data
- Implication: performance information use as extra role behavior
- Findings from new survey data finds that perceived social impact has even stronger effect
Specialist vs. generalist leaders

- Task-specific knowledge provides context in which to interpret and apply data
- Leadership role
  - Task-specific leaders more likely to use data than generalist leaders
Study 2: Transformational leadership

- Approach to leadership consistent with performance:
  - Articulate an appealing vision of the organization’s mission and future
  - Model behavior consistent with vision, inspiring role model
  - Challenge old assumptions
Propositions

- Transformational leadership behaviors will have an indirect, positive effect on performance information use through its influence on goal clarity.
- Transformational leadership behaviors will have an indirect, positive effect on performance information use through its influence on organizational culture.
Key measures

- Transformational leadership
  - Asked department heads/assistant city managers on extent to which city manager demonstrates transformational leadership:
    - articulates his/her vision of the future.
    - leads by setting a good example
    - challenges me to think about old problems in new ways
    - says things that make employees proud to be part of the organization.
    - as a clear sense of where our organization should be in five years.
  - Aggregated responses by organization
Structural Equation Model

All paths reported as standardized coefficient

* $p < 0.05$
Experimental approach

- How does performance information matter to decisions?
- How does the framing of performance information affect decisions?
- Respondents given surveys with scenario – make budget recommendations
- Series of vignettes for different programs
- Half vignettes are control, half are treatment
Theoretical background

- Research on decision frames from psychology and behavioral economics
- Performance information is strategically selected and presented – does this work?
Does the Addition of Performance Data Matter?

- Control: no data; treatment: addition of data without clear correlation to resources

- The Department of Land and Water Resources is responsible for monitoring and maintaining the water quality of lakes in the county, including two major lakes that are popular for swimming and other water sports during the summer. Estimates of water quality are based on pH levels, pesticides, nitrates and other chemicals in the water.

<table>
<thead>
<tr>
<th>Year</th>
<th>Program funding (in USD)</th>
<th>Number of days water quality of major lakes deemed unsafe</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>174,000</td>
<td>12</td>
</tr>
<tr>
<td>2008</td>
<td>179,000</td>
<td>14</td>
</tr>
<tr>
<td>2009</td>
<td>182,000</td>
<td>11</td>
</tr>
</tbody>
</table>
Does the Addition of Performance Data Matter?

- Control: no data; treatment: addition of data with clear relationship to resources

The Department of Social Services delivers a program called the Home Downpayment Initiative. Using a mix of federal, state, and local resources, the program seeks to increase the homeownership rates among low-income and minority initiatives. To do so, it provides financial assistance to first-time homebuyers for downpayment and closing costs.

<table>
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<tr>
<th></th>
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<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Downpayment funding</td>
<td>723,000</td>
<td>747,000</td>
<td>769,000</td>
</tr>
<tr>
<td>Number of families purchasing homes</td>
<td>36</td>
<td>38</td>
<td>46</td>
</tr>
</tbody>
</table>
Is outcome data more powerful than output?

- **Control: output data; treatment: outcome data**
- The Department of Health Services offers a program called Health Check, which is a preventive health check-up program made available for anyone under the age of 21 who is currently enrolled in Medicaid. Health Check provides a head-to-toe medical exam, immunizations, eye exam, lab tests, growth and development check, hearing check, nutrition check, and teen pregnancy services. The goal of the program is to prevent the incidence of more serious and more expensive health situations.

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<tr>
<th></th>
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<th>2008</th>
<th>2009</th>
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</thead>
<tbody>
<tr>
<td>Health Check funding</td>
<td>232,000</td>
<td>244,000</td>
<td>269,000</td>
</tr>
<tr>
<td>Clients treated</td>
<td>1232</td>
<td>1401</td>
<td>1325</td>
</tr>
</tbody>
</table>

*Estimated savings due to preventive care*  
383,000  402,000  389,000
Adding conflicting information

- **Treatment:** addition of conflicting outcome information that suggests lower performance

The Department of Social Services runs a job training program for citizens facing long-term unemployment. The training involves taking a six-week course designed to improve various skill-sets such as basic computer skills, and also offers and career counseling. The goal of the program is to help to place individuals in secure employment that pays a living wage.

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<tr>
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<th>2008</th>
<th>2009</th>
</tr>
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<tbody>
<tr>
<td>Job training funding</td>
<td>344,000</td>
<td>363,000</td>
<td>366,000</td>
</tr>
<tr>
<td>Clients placed in jobs for 6 month period or longer</td>
<td>72%</td>
<td>74%</td>
<td>75%</td>
</tr>
<tr>
<td><em>Average hourly pay of job placements</em></td>
<td>$8.15</td>
<td>$8.03</td>
<td>$7.25</td>
</tr>
</tbody>
</table>
Comparison relative to target

- Treatment: add a target that makes actual performance look worse
- The Mental Health section of the Department of Health Services funds a work placement program. The goal of the program is to help those with mental health problems find and maintain voluntary or paid employment. The program partners with local non-profits and a select number of for-profit providers that offer employment for the program’s clients. Program administrators seek to match available positions with client skills and interests, and offer regular consultation with employees and employers to assess progress.

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<th>2009</th>
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<tbody>
<tr>
<td>Work placement funding</td>
<td>79,000</td>
<td>81,000</td>
<td>84,000</td>
</tr>
<tr>
<td>Number of clients placed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in positions for six months or</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>more (Target)</td>
<td>35</td>
<td>42</td>
<td>50</td>
</tr>
<tr>
<td>Number of clients placed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in positions for six months or</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>more (Actual)</td>
<td>31</td>
<td>33</td>
<td>36</td>
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</table>
Procedural frame

- Treatment: addition of procedural indicator that undercuts mission-based indicator

The County Sheriffs Office provides a number of law-enforcement services, including the Traffic Stop program. This program provides resources for law enforcement officials to stop motorists on county roads. The primary mission of the Traffic Stop Program is to encourage seat-belt use, while reducing speeding and drunk-driving.

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<th>2008</th>
<th>2009</th>
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</thead>
<tbody>
<tr>
<td>Traffic Stop Program budget</td>
<td>278,677</td>
<td>284,467</td>
<td>291,352</td>
</tr>
<tr>
<td>Number of drunk-drivers apprehended</td>
<td>141</td>
<td>138</td>
<td>148</td>
</tr>
<tr>
<td>Revenue from tickets issued</td>
<td>27,462</td>
<td>32,481</td>
<td>31,672</td>
</tr>
<tr>
<td>Percentage of stops featuring African-Americans (9% of county population)</td>
<td>22%</td>
<td>21%</td>
<td>24%</td>
</tr>
<tr>
<td>Seat-belt usage of drivers and front-seat passengers</td>
<td>83%</td>
<td>84%</td>
<td>87%</td>
</tr>
</tbody>
</table>
Threshold effects

- Treatment: performance data pass a memorable threshold (200)

The County Tourism Board seeks to increase visits from those who live outside the county, and to increase the use of recreational and cultural opportunities by both locals and outsiders. It collects data from local hotels, restaurants, and other businesses that depend on tourists. In the last number of years, the number of tourists visiting the county has stayed relatively flat at about 100,000, and the Board has focused its marketing budget on “quality, not quantity,” by increasing the dollar amount that each tourist spends.

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<th>2008</th>
<th>2009</th>
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<tbody>
<tr>
<td>Program budget</td>
<td>120,898</td>
<td>124,490</td>
<td>131,289</td>
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<tr>
<td>Average daily dollar amount spent by tourists</td>
<td>178</td>
<td>184</td>
<td>195</td>
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</tbody>
</table>

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<tr>
<th></th>
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<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program budget</td>
<td>124,294</td>
<td>127,196</td>
<td>135,329</td>
</tr>
<tr>
<td>Average daily dollar amount spent by tourists</td>
<td>183</td>
<td>188</td>
<td>201</td>
</tr>
</tbody>
</table>
Implications

- More work to be done
- Performance data often matters
- Framing of performance data matters