

Technology Capacity in Small to Medium Sized Cities: Lessons from and in Public Management Research

ALT-Title: American cities aren't ready for the Twitter Presidency

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About me

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Research Areas

Public Management

Sector distinctions, mentoring, nonprofit management, red tape, e-government

Science & Technology Policy

Women in science, mentoring, collaborative networks, evaluation, e-government

**Imperfect prediction, despite
being imperfect, can be
valuable for decision-making
purposes**

- I. **Paper:** *Are small cities online? Content, ranking, and variation of U.S. municipal websites*

- II. **National Study of Technology in Local Governments**

- III. **Discussion of Public Management Research**

part I:

Are small cities online? Content, ranking, & variation among U.S. municipal websites

Who Cares?



Donald J. Trump @realDonaldTrump · 9h

Iran is playing with fire - they don't appreciate how "kind" President Obama was to them. Not me!

16K replies 33K retweets 99K likes

- Agenda setting is happening on Twitter



Dean Heller

@DeanHeller

Follow

We have heavy call volumes in all offices & staff are answering as many as possible. Continue calling or contact here bit.ly/2jyNbiP

RETWEETS

15

LIKES

20



3:03 PM - 2 Feb 2017

- Constituents demand responsiveness

- People are mobilizing online



U.S. government worse than all major industries on cyber security: report

TECHNOLOGY NEWS | Thu Apr 14, 2016 | 2:42pm EDT

U.S. government worse than all major industries on cyber security: report

- Capacity matters for security, public relations, trust, and so on

E-government: What we know

Most e-government research focuses on

- Federal government
- Single states
- Large cities
- Citizen perceptions

(Bearfield & Bowman, 2016; Mossberger & Wu, 2012; Youngblood & Mackiewicz, 2012; West 2008)

E-government: What we know

Small cities are less likely to be online

- Less technological infrastructure
- Less expertise
- Fewer resources
- Fewer incentives
- Fewer mandates

Research Questions

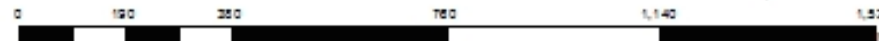
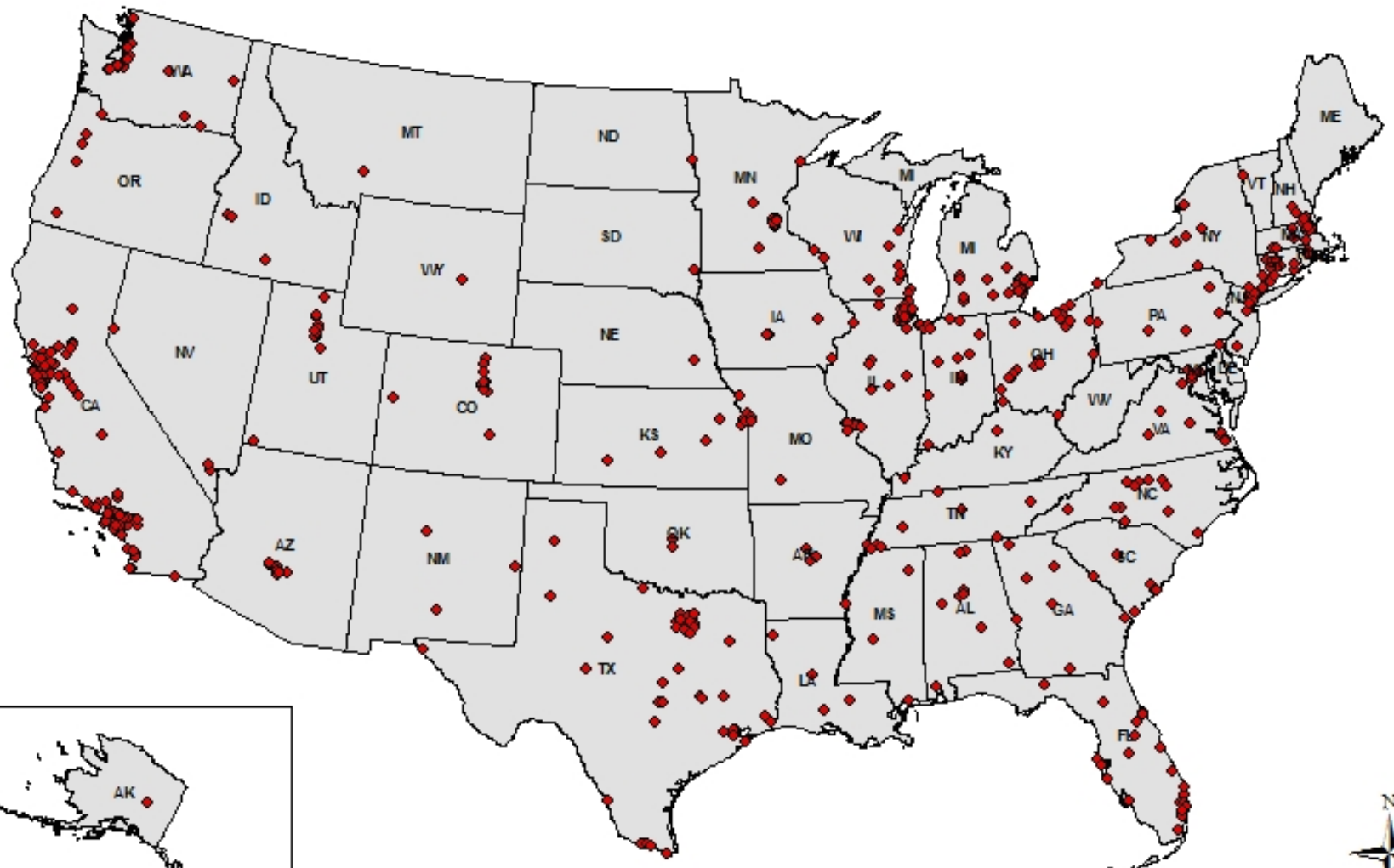
- 1. To what extent are small cities online?**
- 2. How has this changed from 2010 to 2014, if at all?**
- 3. Is there variation across cities? And if so, what explains that variation?**

part II:

*National Study of Technology in
Local Governments*

**National study of
technology use in 500
US municipalities,
population
25,000-250,000**

500 Cities



Surveying **5** department heads in each city:

Mayor's Office

Community Development

Finance

Parks & Recreation

Police

**Surveys in 2010,
(2011), 2012, 2014, &
2016**

**Website coding in
2010 & 2014**

The survey data have
been used **across years**,
by **function**, & paired
with **Census** data, city
finance data, & **website**
codes

part I:

*Are small cities online? Content,
ranking, & variation of U.S.
municipal websites*

Research Questions

- 1. To what extent are small cities online?**
- 2. How has this changed from 2010 to 2014, if at all?**
- 3. Is there variation across cities? And if so, what explains that variation?**

Most common city website features 2010 & 2014

Council Agenda	478
Index of Law / City Code	473
Mayor's contact info	469
Online List of Jobs	469
Search Bar	453
Voting Information	394
Payment Transaction	351
Privacy Statement	297
Voting Registration	294
Council Meeting Videos	267
Online Job Applications	229
Facebook	220
RSS Feed	218
Twitter	215
Recreation Online Registration	209
District Maps	191
Search Provider	172
Site Contractor	156
Major Speech	143
Police Report Submission	132
Non English Translation	106
You Tube	102
Employee Directory	87
Department Descriptions	71
Mayor's Blog	58
Page Date	32

Index of Law / City Code	484
Council Agenda	477
Mayor's contact info	469
Search Bar	467
Online Job Applications	466
Payment Transaction	426
Voting Information	380
Facebook	370
Council Meeting Videos	350
Twitter	350
Voting Registration	312
Privacy Statement	285
Online List of Jobs	276
Recreation Online Registration	275
District Maps	245
RSS Feed	234
Site Contractor	226
Police Report Submission	219
NonEnglish translation	199
You Tube	195
Major Speech	178
Employee Directory	150
Search Provider	146
Department Descriptions	124
Mayor's Blog	53
Page Date	18

Ranking of cities with most website features **2010** & **2014**

Change in city website features 2010 & 2014

Online Job Applications	237	Major Speech	35
Facebook	150	Voting Registration	18
Twitter	135	RSS Feed	16
Non English translation	93	Search Bar	14
You Tube	93	Index of Law / City Code	11
Police Report Submission	87	Mayor's contact info	0
Council Meeting Videos	83	Council Agenda	-1
Payment Transaction	75	Mayor's Blog	-5
Site Contractor	70	Privacy Statement	-12
Recreation Online Registration	66	Voting Information	-14
Employee Directory	63	Page Date	-14
District Maps	54	Search Provider	-26
Department Descriptions	53	Online List of Jobs	-193

Change in city website features 2010 to 2014

Most Improved Cities 2010-2014



What explains
variation in city
website features?

Website Features

E-Services

Engagement

Information

Transparency

Utility

Website Features: Predictors

population (+)

form of government (Council
Manager⁺)

technical capacity (+)

Website Features: Predictors

centralization (-)

work routineness (-)

personnel constraints (-)

risk-taking (+)

external stakeholder influence (+)

external site provider (+)

What are the
limitations &
contributions of this
paper?

For Researchers

- **Baseline, generalizable information**
- **Importance of political factors**
- **Importance of external providers**
- **Change in website ranking is fast**
- **We lack data on quality of features**

For Practitioners

- **Most common features are basic**
- **Many websites lack basic information**
- **Need for active sites**
- **Low capacity for active sites**
- **Potential market for providers**

part III:

Public Management Research

Our research assesses
managerial roles in
technology adoption & use,
*with a smattering of other
management topics*

Findings include knowledge
about **ICT adoption,**
managerial roles, barriers &
determinants of technology
adoption & use

Broad Findings

- Technological capacity is low in smaller cities but critical for adoption
- Managers believe e-government improves outcomes
- Trust in technology is increasing
- Managerial perceptions & personal use are predictors of technology adoption
- Organization culture, mandates, and technological capacity drive adoption, sharing, & use
- Politics matter for adoption & use

**Data also contribute to
research on work life balance,
citizen participation in
decision making, diversity in
orgs, person-organization fit,
& red tape measurement**

Outputs include more than 25 publications, 5 dissertations, 6 international presentations, 4 annual reports, & at least 22 collaborators

Challenges **Opportunities**

Challenges

- **Funding / Data Access**
- **Surveys / Research Design**
- **Managerial focus**
- **Relevance & Timeliness**

Opportunities

- **Open data**
- **Interdisciplinary methods**
- **Relevance & Timeliness**

Interested, Interesting, Doable

Learn more about this work at: <https://csteps.asu.edu/>

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Request papers at [Research Gate](#)



Dissertations

Adrian Brown: E-Government: Enabling Engagement or Reinforcing Tradition, 2016

Rashmi Krishnamurthy: Use of social media for internal and external collaboration: Evidence from US local governments, 2016

Gustavo Oliveira: Use of social media for citizen engagement by local governments in the US, 2014

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Fusi, Federica, and Feeney MK. Accepted. Social Media in the Workplace: Information Exchange, Productivity, or Waste? *American Review of Public Administration*

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