Technology Use in Local Governments: Trends and Managerial Perceptions

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Technology Use in Local Governments

1. Study Description
2. General Findings & Trends
3. Managerial Perceptions
4. Challenges and Opportunities
5. Discussion

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Why this research matters

- National random sample of local governments
- Responses from managers, not IT specialists
- Managerial perspectives
  - Technology use
  - Outcomes
  - Influence from external actors
- Longitudinal data

Study Description

- Sponsor: Institute of Policy and Civic Engagement – UIC
- Two surveys: 2010 and 2012
- Sample:
  - Random sample of 500 cities ranging in size from 25,000 – 250,000
  - Five individuals in each city: City Manager, Director of Finance, Deputy Police Chief, Director of Parks and Recreation, Director of Community Development
  - 2010 response rate: 37.9%
  - 2012 response rate: 34.8%

2010 – General Findings

- Nearly all local government departments use email to communicate with citizens and external stakeholders. As of 2010, 54% of respondents' departments have adopted social networking technologies such as Facebook and Twitter while few use wikis (4%) or online chat (7%).
- Local government managers report that technology adoption has led to an increase in interaction between local governments, citizens, and stakeholders and to a lesser degree improvements in government services, public policy-making, and citizens' trust of government.

2010 – General Findings

- A majority of the managers agree that the Internet helps to make people feel connected to the city (78%), online initiatives increase citizen contact with people in their department (67%), and reduces the amount of face-to-face time spent with clients and citizens (57%).
- Managers indicate that web-based technologies can and are being used by local governments to increase civic engagement.

2012 – General Findings

- The majority of local government departments use e-mail (99%), online newsletters (82%), web surveys or polls (69%), and text messaging (66%) to communicate with citizens and external stakeholders.
- Most departments have adopted social media technologies such as Facebook (91%) and Twitter (74%) while a few use electronic polling during face-to-face meetings (12%) and wikis (8%).
- The frequency of social media use varies across department type, with mayor's offices and parks and recreation departments reporting significantly more social media use than community development and finance departments

2012 – General Findings

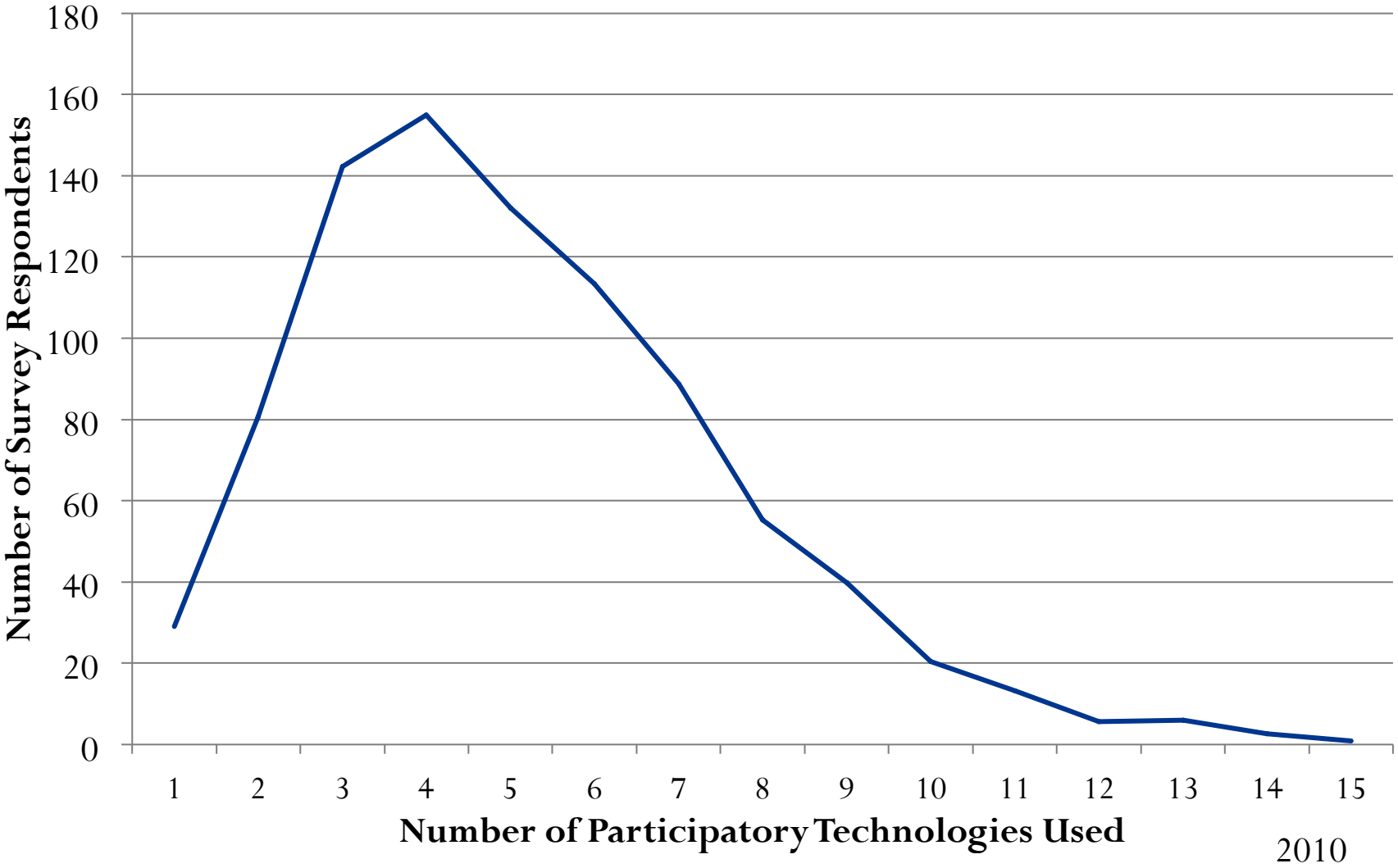
- GIS software is the most commonly used Open Source Software in local governments – reported by 80% of respondents.
- Improving information dissemination to external stakeholders and citizens and increasing access to government services are the two greatest perceived impacts of electronic information and communication technologies.
- Managers generally have positive perceptions of city website quality; however, they tend to think that there should be more information on the website that is relevant to citizens and external stakeholders.
- The most commonly offered online services reported by local government managers are online requests for services that the department is responsible for delivering (70%) and online completion and submission of job applications (66%).

What technologies are local governments using?

To the best of your knowledge does your organization use these technologies to facilitate participation? (2010)
To the best of your knowledge does your organization use any of these other technologies for any purpose? (2012)

	2010	2012		2010	2012
E-mail	93%	99%	Blogs	16%	32%
Online newsletters	68%	82%	Voice over IP (e.g. Skype)	n/a	31%
Web surveys or polls	48%	69%	Discussion forums	21%	27%
Electronic polling during face-to-face meetings	11%	12%	Really simple syndication (RSS feeds)	15%	26%
Video sharing tools (e.g. YouTube)	18%	46%	Online chats	7%	14%
Audio webcasts	21%	44%	Text messaging	23%	66%
Video Webcasts	41%	n/a	Wikis	4%	8%
File sharing tools (e.g. DropBox)	n/a	35%	Social Networking Sites	52%	n/a
Work coordination tools (e.g. Google Calendar, MS Project)	n/a	47%	Document collaboration tools (e.g. Google Docs)	n/a	20%

Distribution of the number of participative technologies used



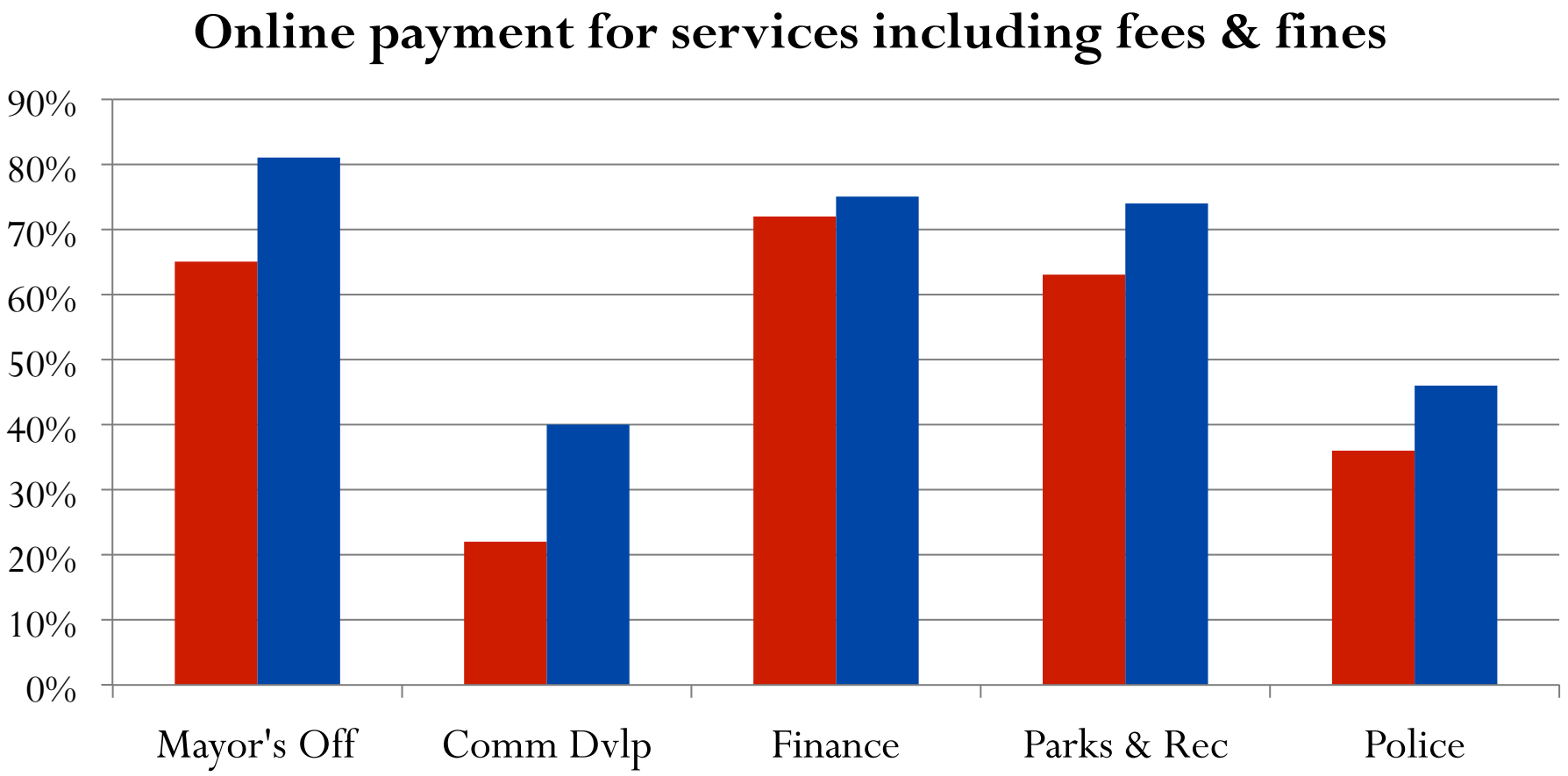
What services are local governments providing online?

Online services in local government

	2010 Yes	2012 Yes	%Yes Increase
Online payment for services including fees and fines	409 (50%)	415 (61%)	+11%
Online delivery of local government records or department information to citizens who request information	487 (58%)	377 (59%)	+0%
Online requests for services that your department is responsible for delivering	580 (70%)	496 (72%)	+2%
Online completion and submission of job applications	493 (63%)	472 (72%)	+9%

Trends

Online services provided by local governments, by organization



Chi square: p< .000, 2010

Chi square: p< .000, 2012

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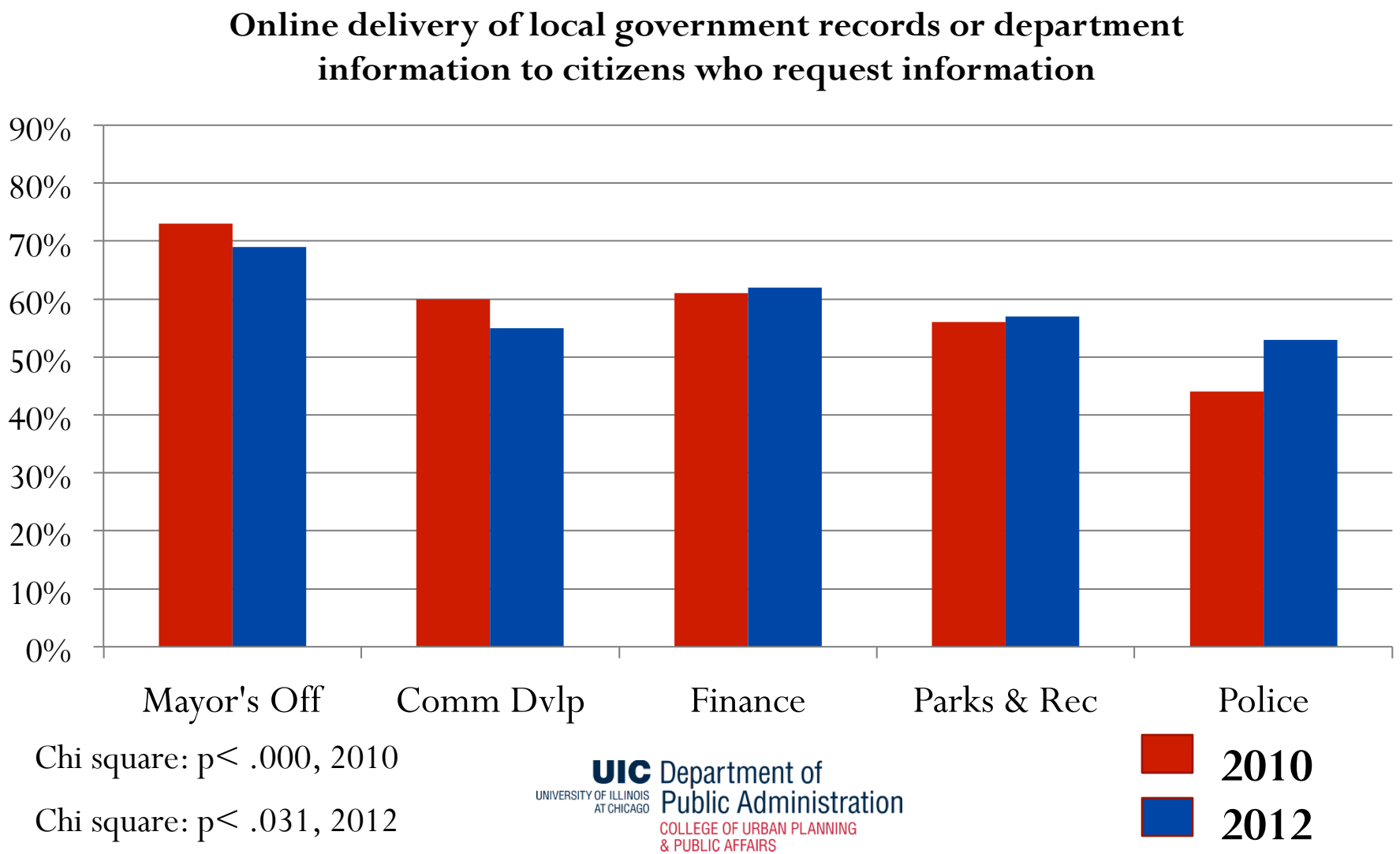
Trends

Online services provided by local governments, by organization



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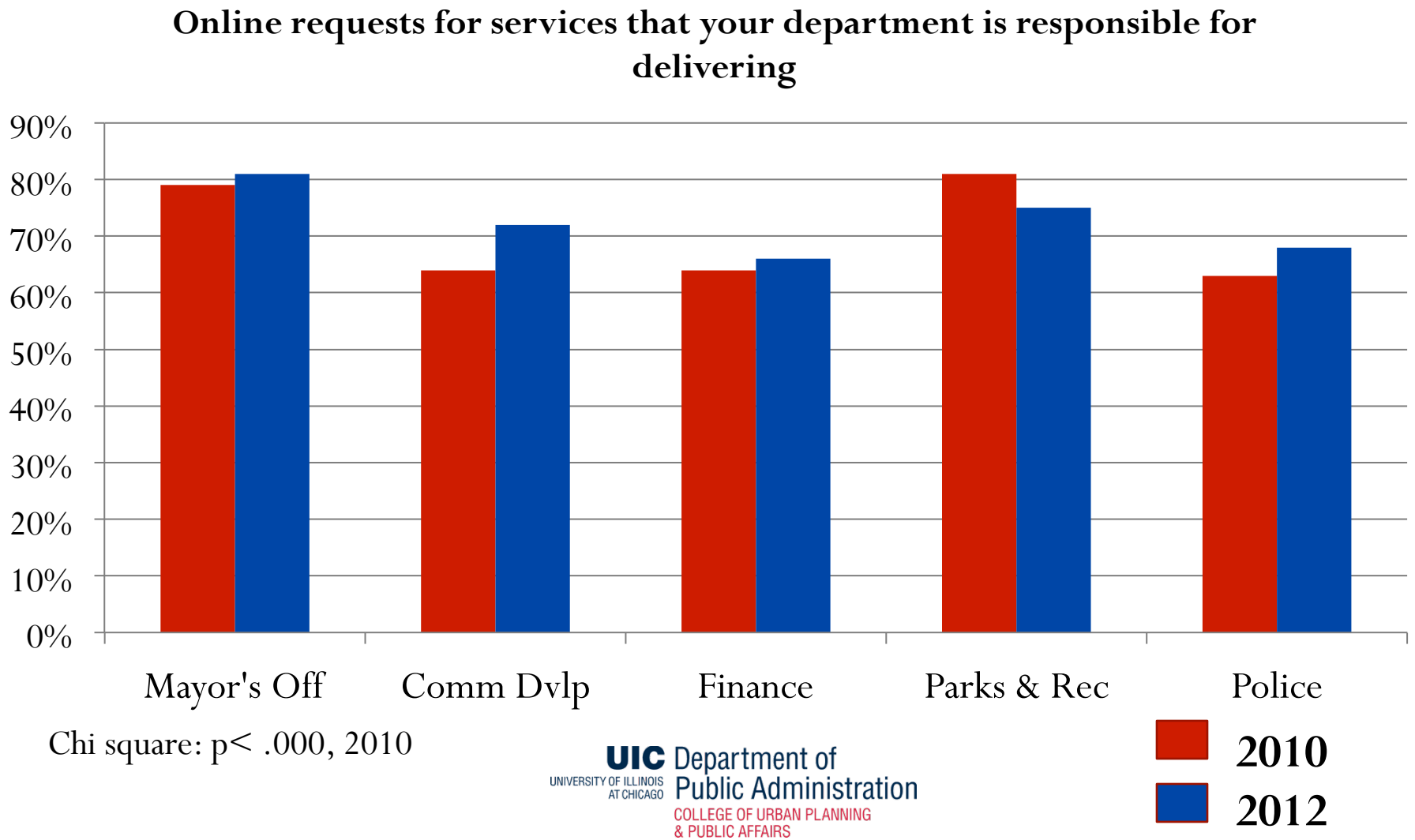
Trends

Online services provided by local governments, by organization



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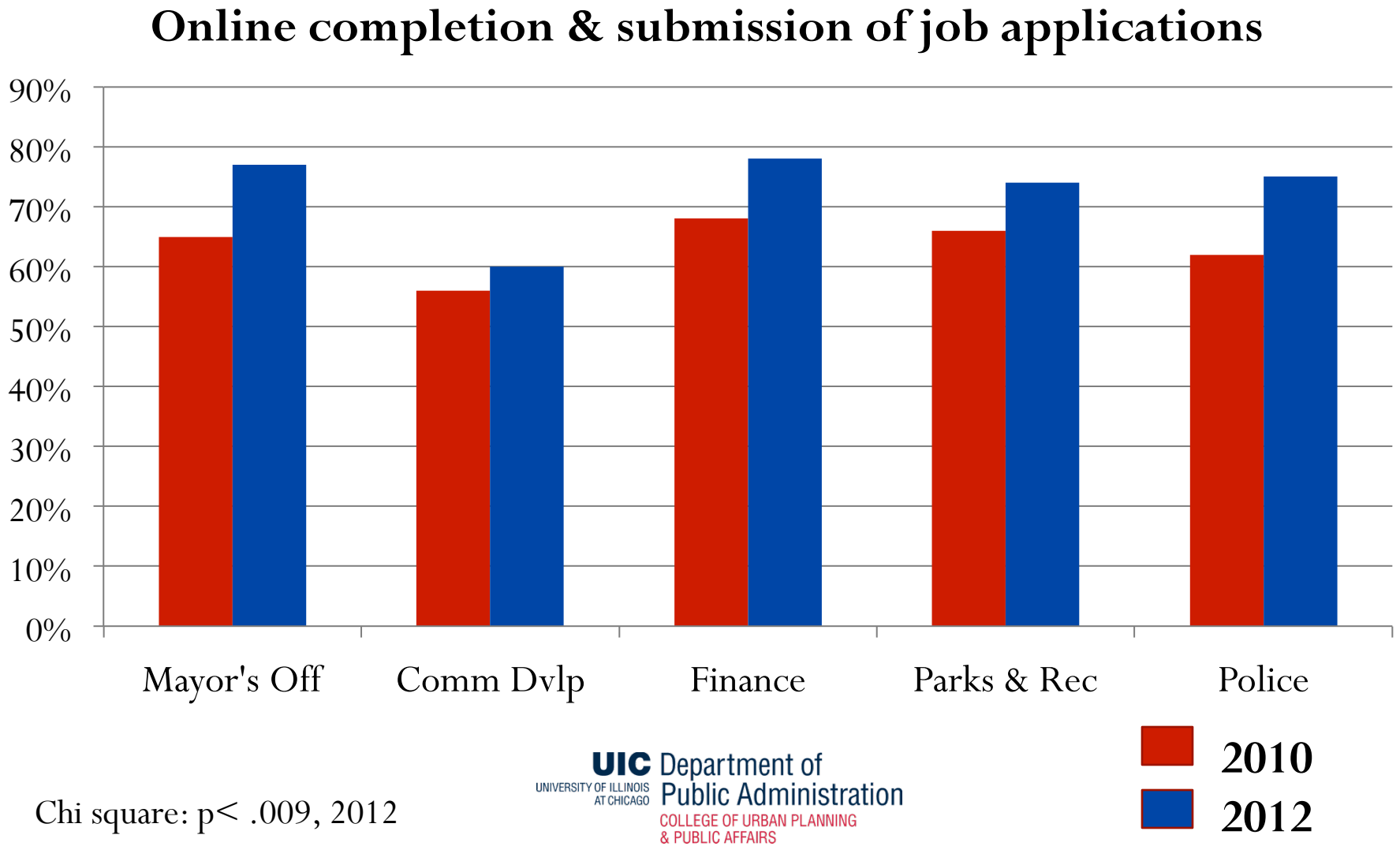

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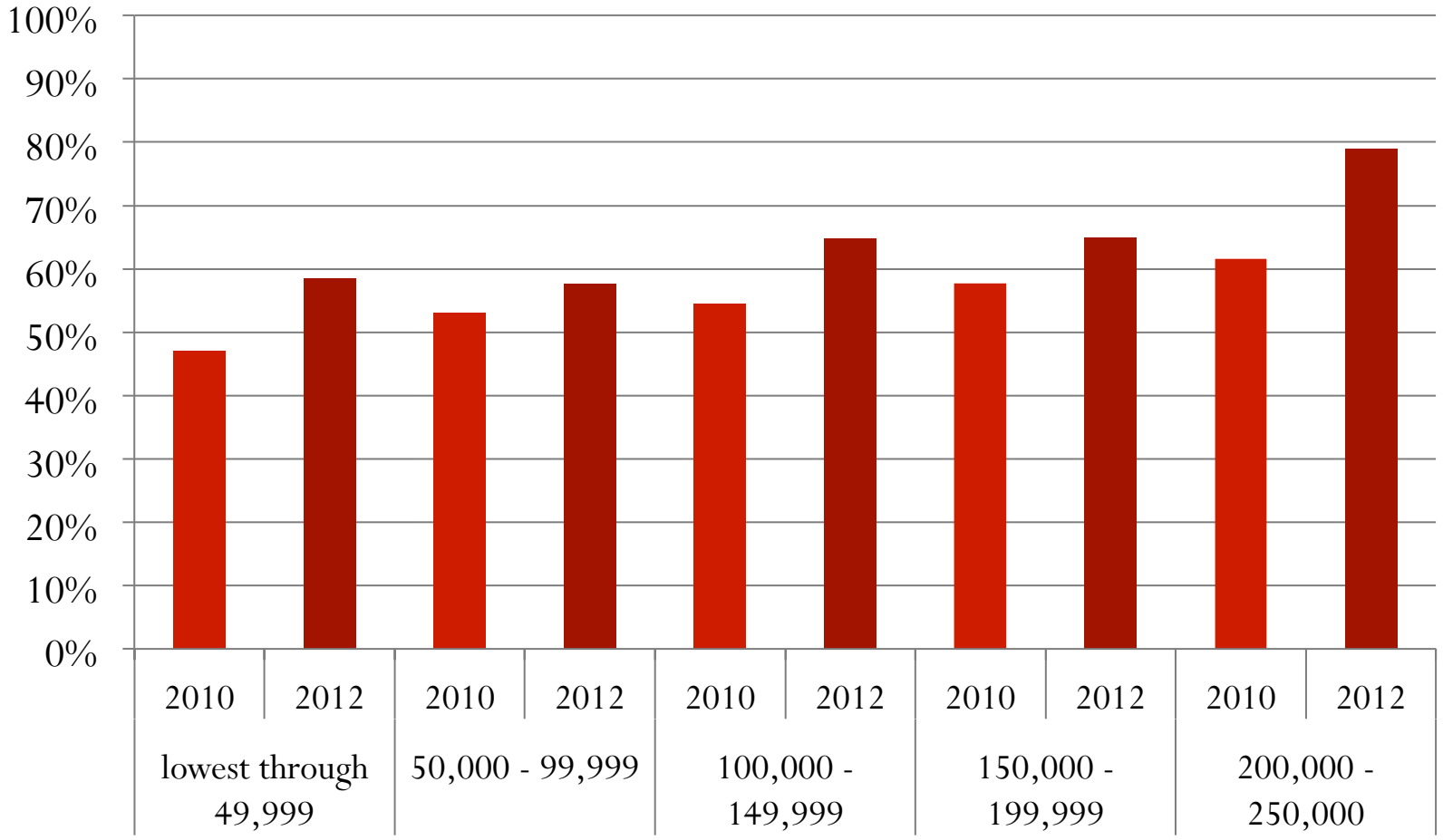
Online services, by city size

Online payment for services including fees and fines



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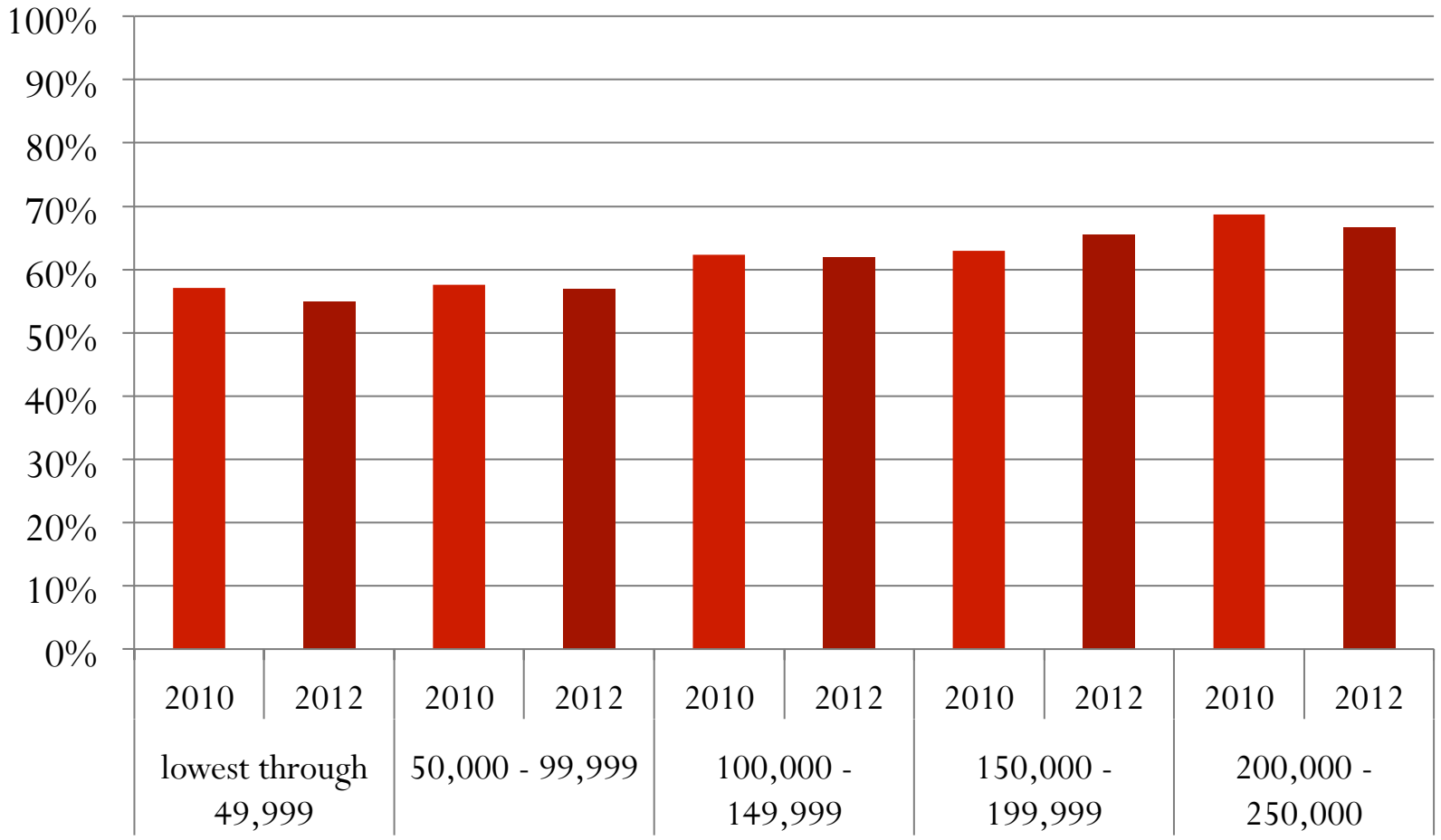
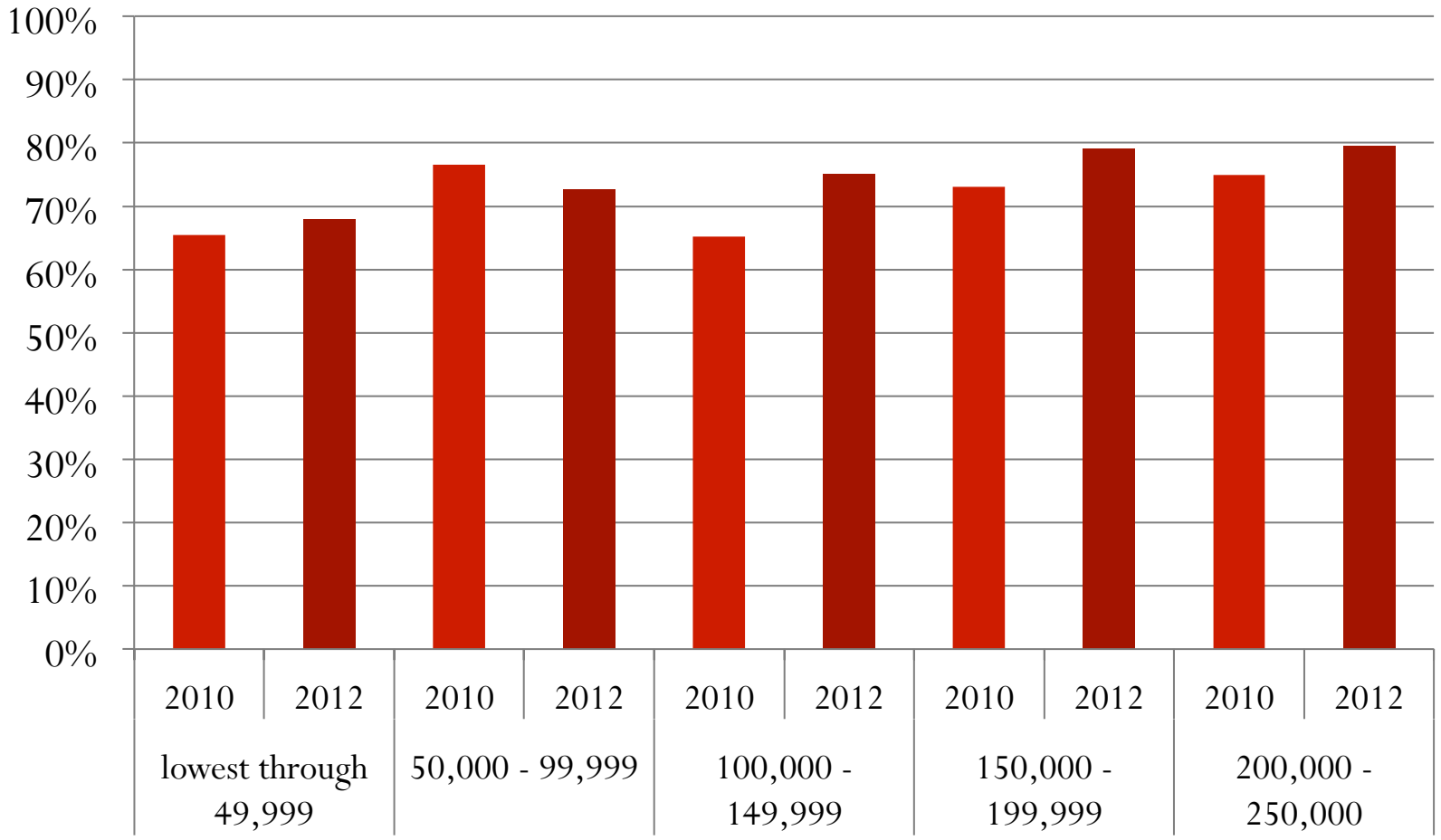
Online services, by city size

Online delivery of local government records or department information to citizens who request information



Online services, by city size

Online requests for services that your department is responsible for delivering



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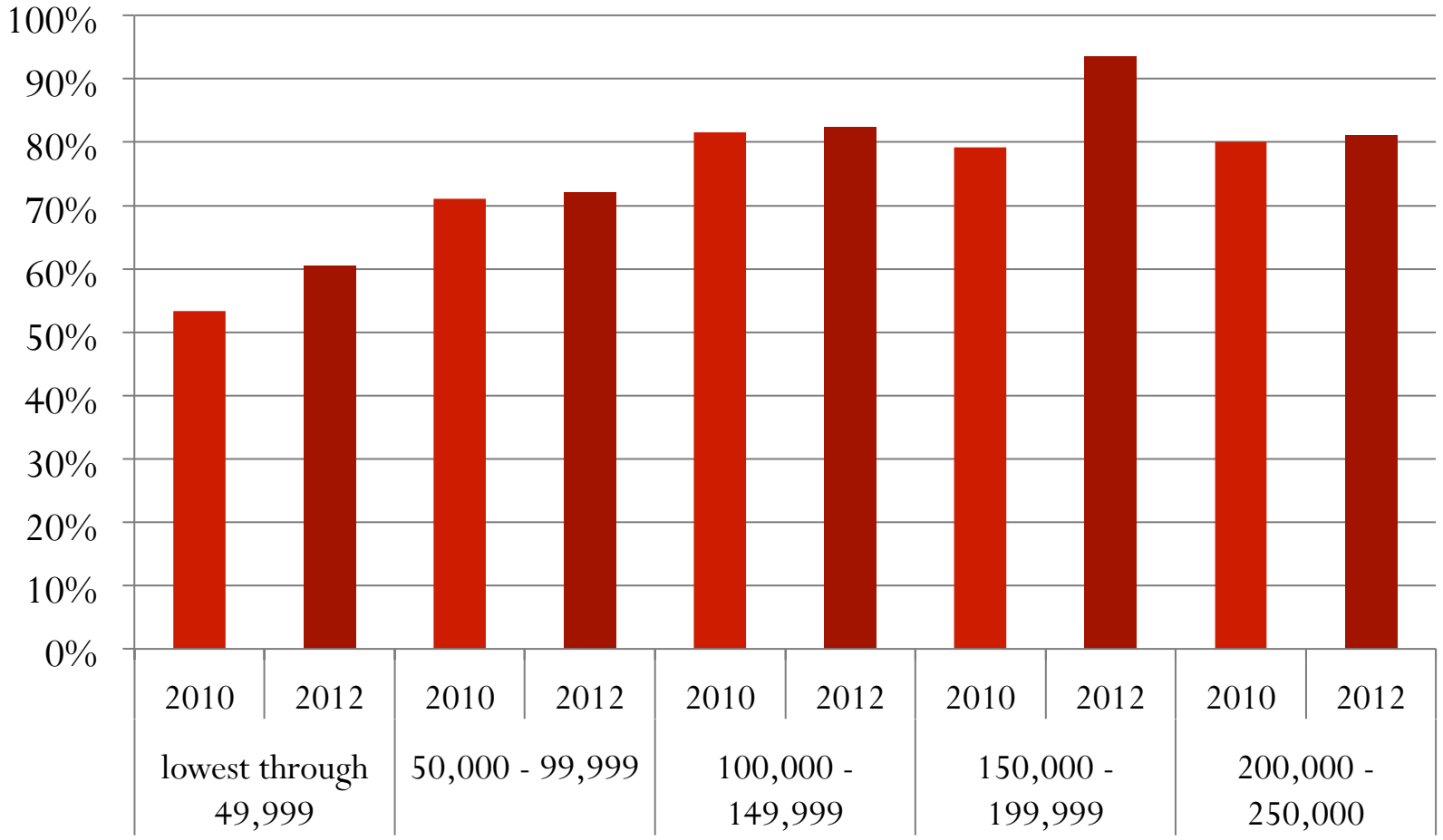
Online services, by city size

Online completion and submission of job applications



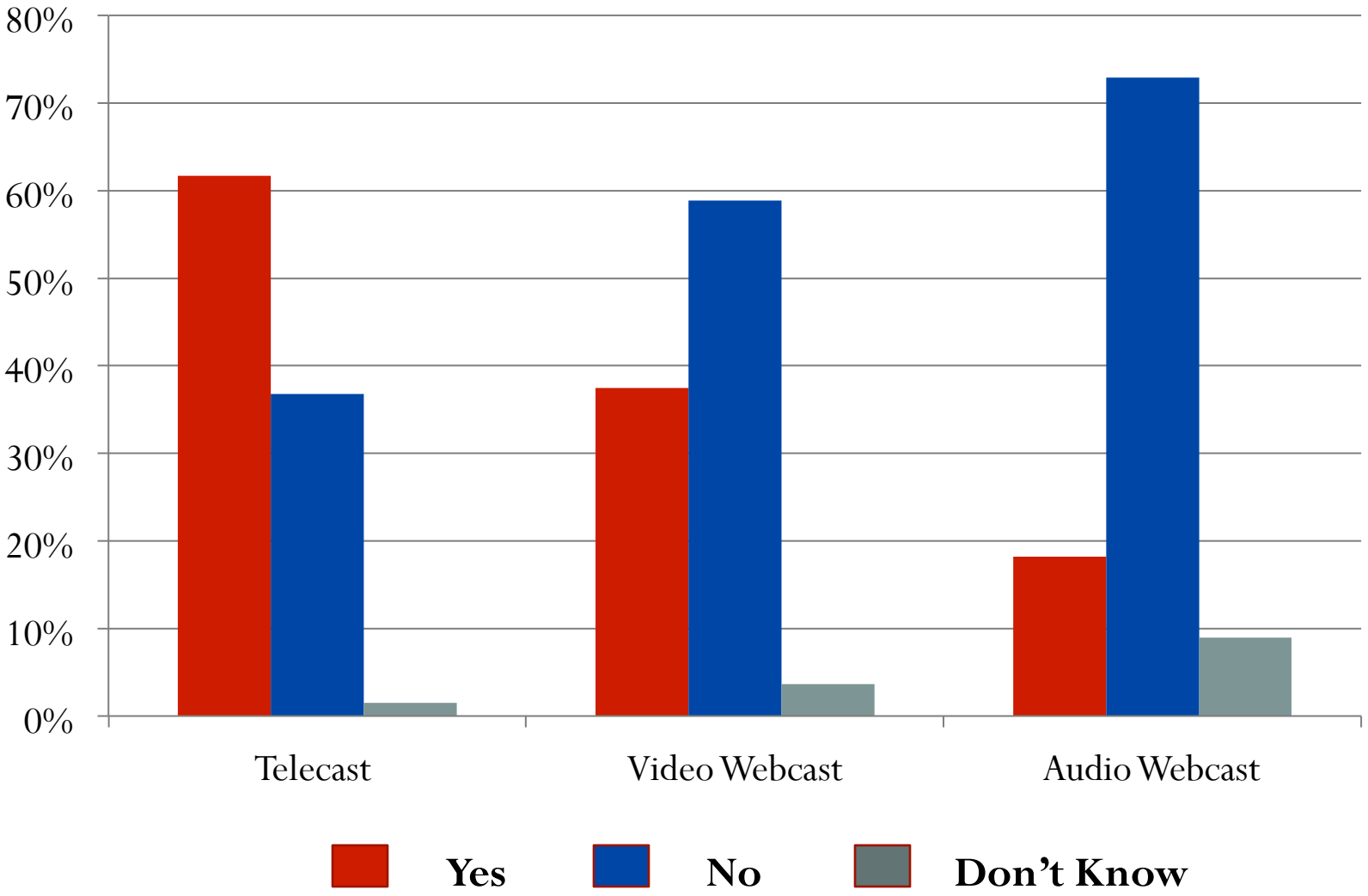
Chi square: p< .000, 2010

Chi square: p< .000, 2012

Difference in online service provision 2010 to 2012

	lowest - 49,999	50,000 - 99,999	100 - 149,999	150 - 199,999	200 - 250,000
Online payment for services including fees and fines	11.5%	4.5%	10.4%	7.2%	17.4%
Online delivery of local government records or department information to citizens who request information	-2.2%	-0.6%	-0.4%	2.6%	-2.1%
Online requests for services that your department is responsible for delivering	2.5%	-3.9%	9.8%	6.0%	4.5%
Online completion and submission of job applications	7.1%	1.1%	0.8%	14.4%	1.1%

Broadcasting public meetings



Public meetings: TV & Web

		Telecast	
		Yes	No
Video Webcast	Yes	37.5%	1.7%
	No	22.6%	33.4%

- A substantial number (33%) of respondents report that their cities do not broadcast public meetings to constituents.
- The highest proportion of cities (37.5%) use both forms of dissemination and the smallest number (1.7%) employ only video webcasts.
- Television remains the leading mode of broadcasting key decision meetings in local government.

Is there a difference in the adoption of e-services and communication technologies in local governments?

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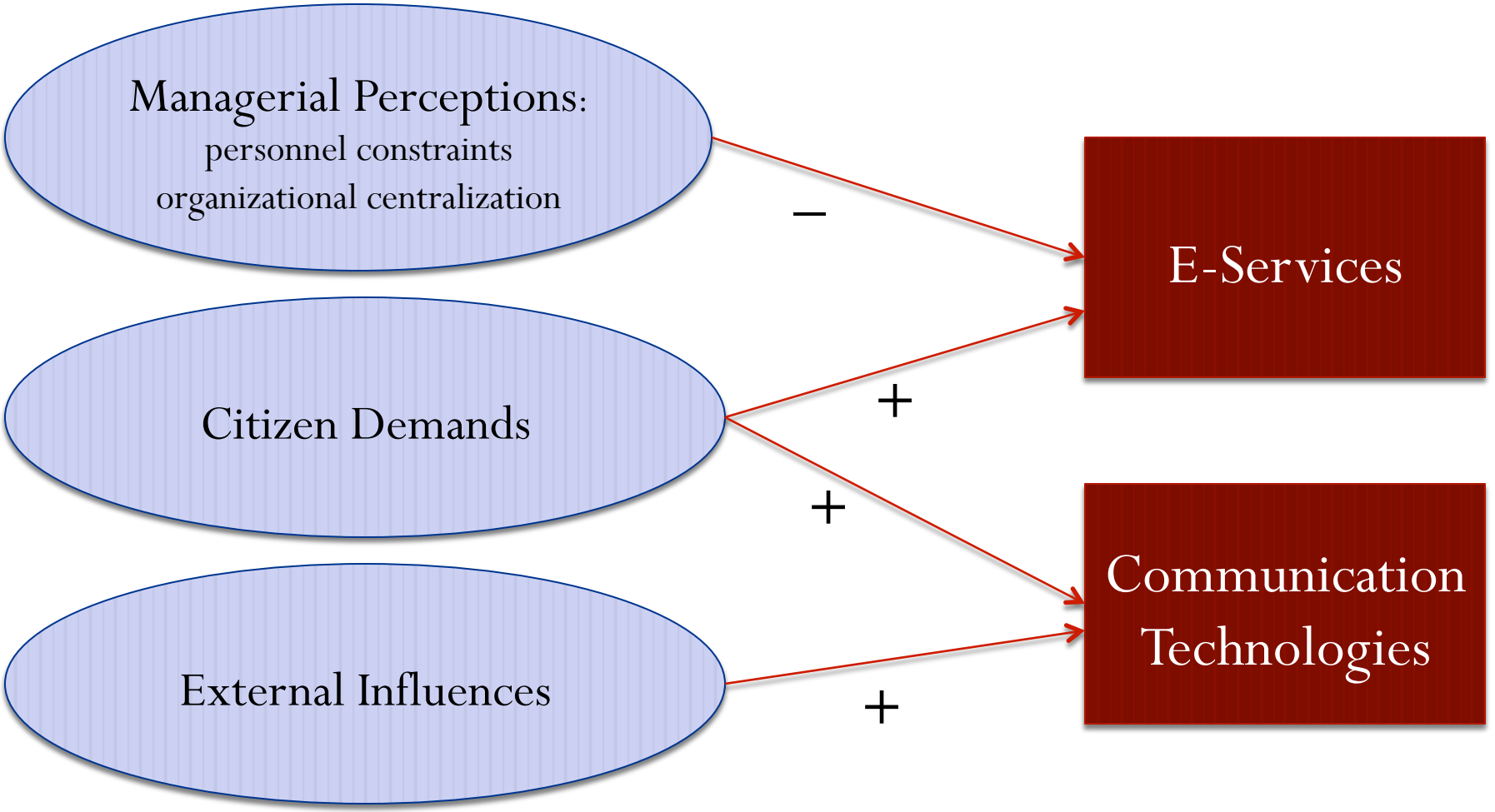
Adoption of E-services and Communication Technologies

- **E-services**: enable electronic delivery of services
- **Communication technologies**: enable one and two-way communication with citizens

1. What factors explain the adoption of e-services in local governments?
2. What factors explain the adoption of communication technologies in local governments?
3. Are there different predictors for adoption e-services and communication technologies?
   - Organizational Factors: Personnel constraints, organizational centralization
   - Citizen demands
   - External Influences

Li and Feeney, 2012

Adoption of E-services and Communication Technologies



Li and Feeney, 2012

How do local government managers perceive e-government activities?

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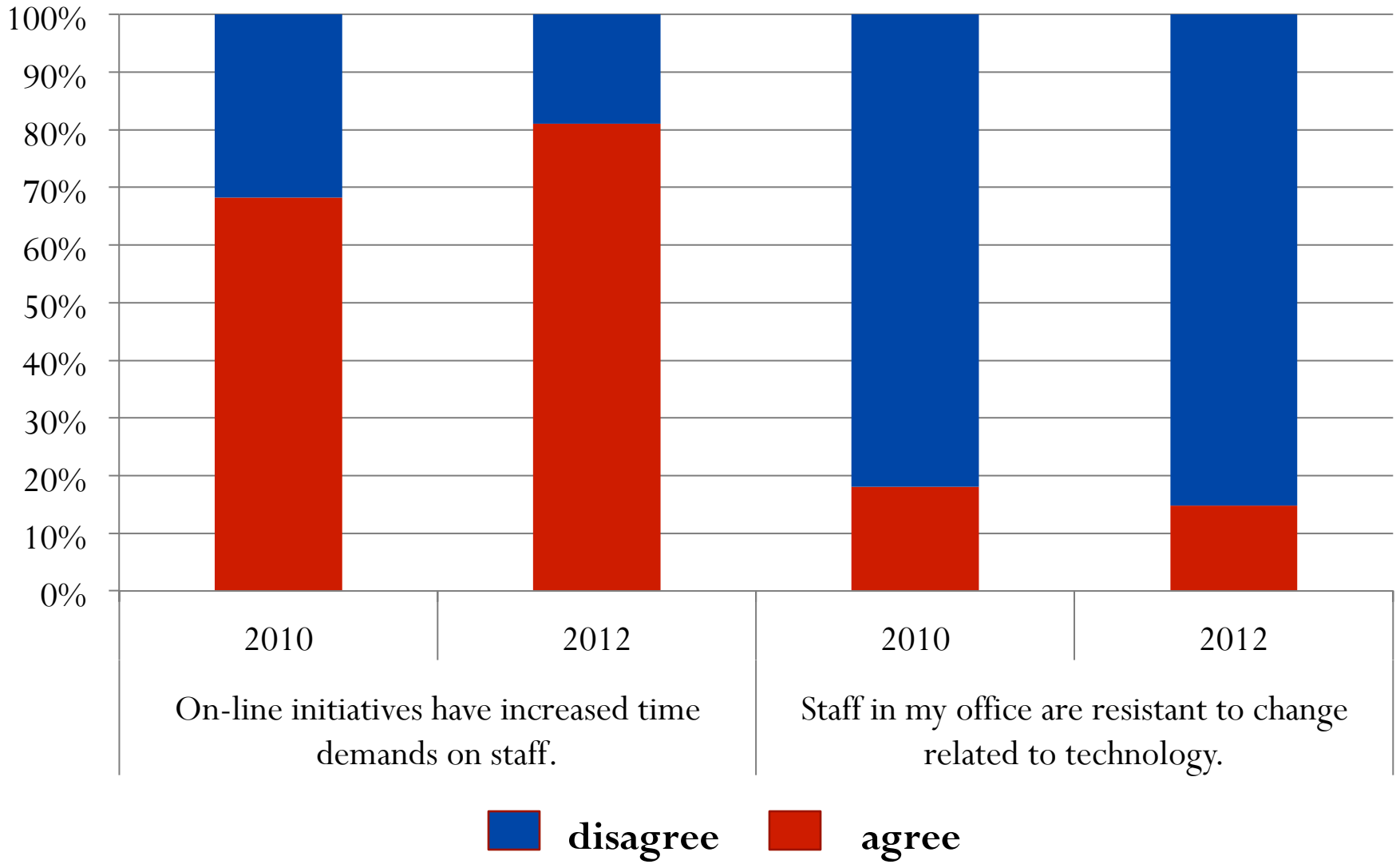
Trends

Perceptions of outcomes of on-line initiatives and e-government capacity



Trends

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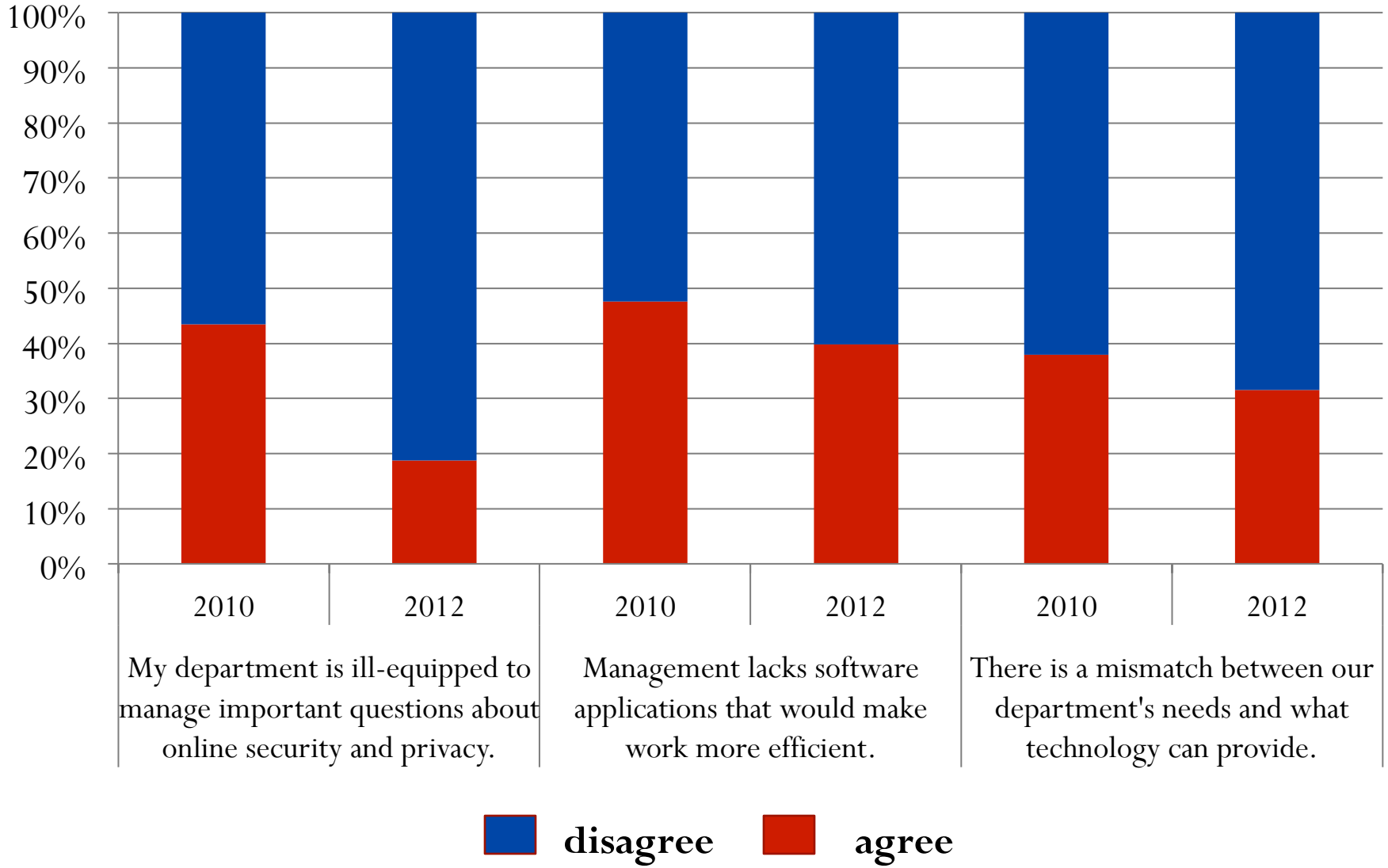

Manager perceptions of ICTs

- Perceived impacts of information communication technologies:
  - Increase access to government information
  - Improve information dissemination to the public
  - Enable feedback on service quality
  - Increase interaction between government and citizens
- Local government managers have positive perceptions of on-line initiatives, but perceptions vary by department type
  - Respondents in Mayor's offices and Parks & Recreation report significantly higher positive perceptions than those in finance departments

What are the perceived outcomes of e-government initiatives?

Outcomes of E-government

In your opinion, to what extent do electronic information and communication technologies lead to the following outcomes?

Decision Making
Improve governmental decision-making.
Lead to better policies.
Revitalize public debate.

Democratic Governance
Distort political information and facts.
Undermine democratic practices.
Increase conflict with citizens.

Participation
Improve information dissemination to external stakeholders and citizens.
Increase opportunity to interact and collaborate with other government officials.
Increase access to government services.
Enable feedback on service quality.
Enhance citizen trust of government.
Improve efficiency and lower costs of the department.

Feeney & Welch, 2012

“To a great extent” electronic information & communication technologies lead to the following outcomes

Decision Making Outcomes	2010	2012	Change
Improve governmental decision-making.	30%	40%	10.6%
Lead to better policies.	28%	37%	9.0%
Revitalize public debate.	32%	25%	-6.5%
Democratic Governance			
Distort political information and facts.	16%	15%	-0.8%
Undermine democratic practices.	5%	6%	0.5%
Increase conflict with citizens.	7%	8%	0.6%
Improve efficiency and lower costs of the department.	28%	32%	4.1%

“To a great extent” electronic information & communication technologies lead to the following outcomes

Participation Input	2010	2012	Change
Improve information dissemination to external stakeholders and citizens.	44%	49%	4.9%
Increase opportunity to interact and collaborate with other government officials.	44%	45%	0.8%
Increase access to government services.	46%	47%	0.5%
Enable feedback on service quality.	43%	47%	4.3%
Enhance citizen trust of government.	26%	26%	-0.6%
Improve efficiency and lower costs of the department.	28%	32%	4.1%

Outcomes of e-government

1. Local government managers overwhelmingly report that e-government initiatives improve outcomes.
2. Increased complexity – the multiplication of channels and frequency – can be negatively associated with outcomes. Hence, while managers may feel good about the quantities of technologies and the extent to which they are applied, there is a point at which there they also perceive overload.
3. Positive perceptions associated with e-government initiatives are significantly related to technology use in the department, and managers' age and job tenure.

Feeney & Welch, 2012

What types of social media are being used by local governments?

Social Media

Does your organization use social media for any purpose? (2010)	Yes
Mayor's Office	94%
Community Development	81%
Finance	80%
Parks & Recreation	90%
Police	87%
Total	87%

Pearson Chi-Square 22.919; df=8; Asymp. Sig. (2-sided) = .003

Social Media

Frequency of Social Media Tools among Local Government Managers (2012)			
Facebook	91%	Skype	22%
Twitter	74%	Google Docs	19%
YouTube	53%	Flickr	12%
Google Talk, Blackberry Messenger, MSN, or other instant messaging tools	46%	MySpace	8%
LinkedIn	42%	Gov Loop	6%

Social Media

Use by organization type

	Mayor's Off	Comm Devlp	Finance	Parks & Rec	Police
Facebook	94.7%	89.0%	92.8%	94.2%	85.2%
Twitter	78.3%	73.4%	77.4%	77.7%	66.0%
YouTube	62.6%	44.9%	40.2%	61.7%	49.7%
Google Talk, Blackberry Messenger, MSN, other IM tools	40.2%	44.9%	47.1%	50.0%	49.3%
LinkedIn	49.6%	45.3%	26.7%	46.5%	37.7%
Skype	35.3%	20.9%	18.6%	21.9%	15.4%
Google Docs	22.6%	17.5%	9.5%	27.8%	12.3%
Flickr	22.2%	7.8%	10.3%	18.8%	2.9%
MySpace	7.8%	1.6%	4.7%	5.9%	18.6%
Gov Loop	8.6%	4.7%	3.5%	6.7%	5.0%

Social Media

Use by organization type city size

	less than 49,999	50,000 -99,999	100,000 -149,999	150,000 -199,999	200,000 -250,000
Facebook	92%	91%	92%	**92%**	93%
Twitter	71%	78%	84%	**88%**	83%
YouTube	50%	59%	63%	70%	**76%**
Google Talk, BBM, MSN, or other instant messaging tools	51%	51%	62%	66%	**67%**
LinkedIn	47%	49%	50%	**65%**	48%
Skype	27%	25%	26%	**46%**	30%
Google Docs	23%	19%	32%	**43%**	31%
Flickr	12%	14%	20%	**39%**	29%
MySpace	10%	11%	11%	**13%**	8%
Gov Loop	7%	8%	12%	**17%**	4%

Do local government managers use city websites? And if so, what predicts this use?

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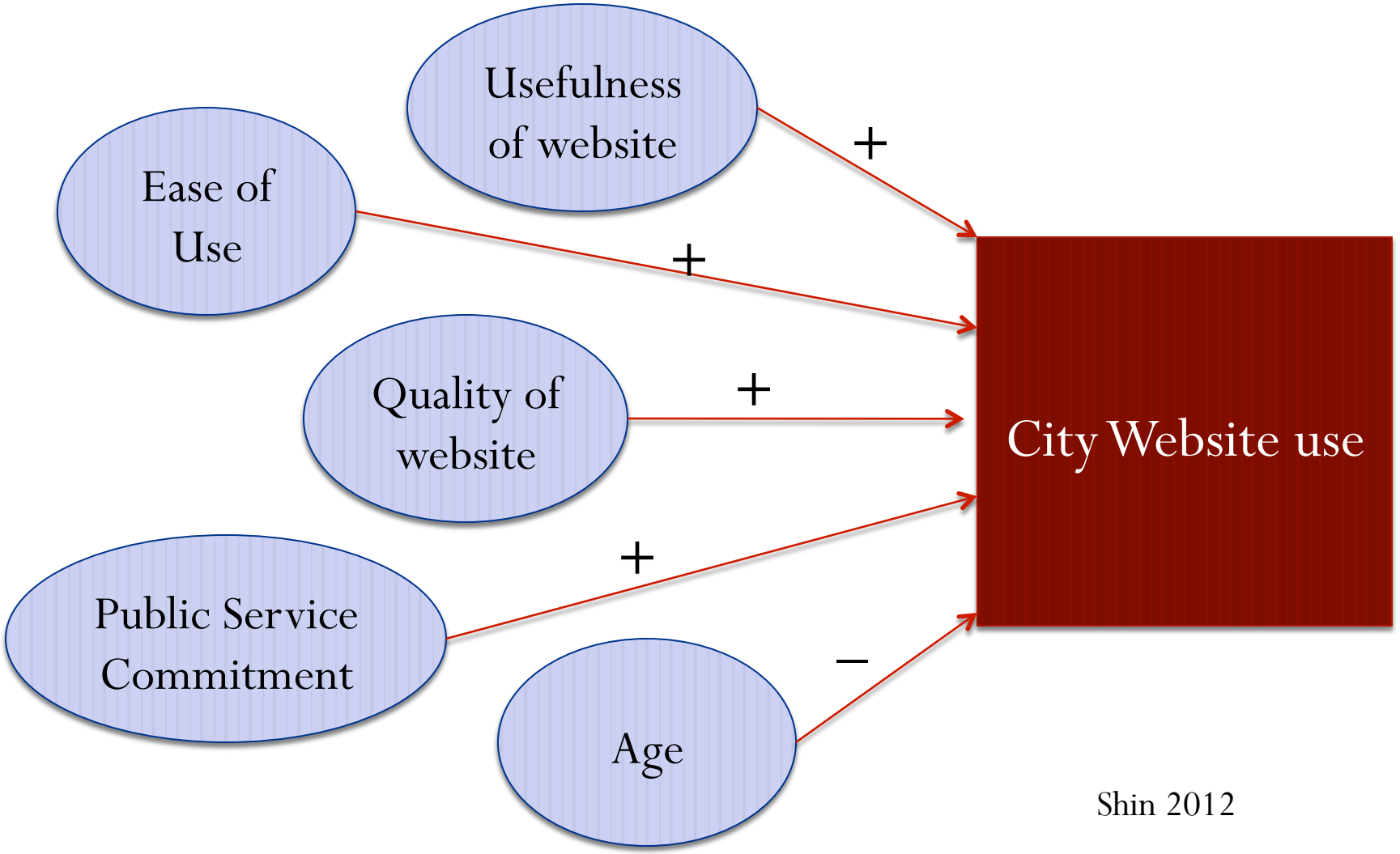
City website use

- Public managers in U.S. local governments regularly use their city website for day-to-day business with citizens.
  - More than 60% of respondents agree or strongly agree that they use city websites to get information when they respond to citizen phone calls.
  - Nearly 80% of respondents agreed that they regularly direct residents to the city's website.

Shin 2012

Predicting city website use



Shin 2012

How is e-government related to transparency and participation?

Transparency

- **Transparency** provides stakeholders with knowledge about the processes, structures and products of government.
- Website technology has become a substantial force within the socio-technical context public organizations.
- The norms of openness associated with the technologies may cause organizations to be more open than they would have otherwise
- There is a significant two-way relationship between technology and transparency
  - The organization's transparency preferences and needs drive website dissemination
  - Website technology is beginning to drive transparency levels of organizations.

Welch 2010

Participation

- **Participation** refers to the quantity, quality and diversity of input of stakeholders into government decision- making.
- In decision and policy-making contexts, members of the public tend to participate most frequently by giving feedback on service quality, followed by providing input on service priorities and long range plans.
- Local government managers report that the groups that participate most frequently in local government decision and policy-making are internal department staff, the Mayor's office, and other city departments, followed by individual citizens, neighborhood associations, and interest groups. Government organizations more frequently participate in local government decision and policy-making, as compared to the general public.

Transparency & Participation

- Greater transparency and participation are often considered to operate side-by-side. However, in the Internet age the change in the magnitude of information disclosure may outweigh the change in the level of participative government.

1. Participation is positively associated with transparency.
2. Transparency does NOT lead to participation.
3. Organizations that are under stronger influence from external stakeholders report higher levels of participation but in some cases higher levels of external influence dampen transparency.

Welch, IRAS 2012

Where do we go from here?

Challenges & Opportunities

- Local governments are increasingly providing services online, but e-service delivery varies significantly by department type
- Local government managers perceive positive outcomes from online initiatives, but those perceptions vary by department type
  - Identify online initiatives that might better serve particular departments

Challenges & Opportunities

- Public managers proactively use city websites, but use varies based on website quality and usefulness, and manager age and public service commitment
- Provision of e-services is expanding
- E-services and Communication Technologies as a complement or a substitute for other formats
  - Importance of increasing services without diminishing face-to-face interactions with citizens
  - Importance of television, paper, and billboards

Challenges & Opportunities

- Local governments are increasingly using Web 2.0 technologies to facilitate participation and discussion
  - Substantial opportunities to use wikis, online chat services, blogs, video webcasts, file sharing tools, online collaboration tools
  - Gov Loop currently not used by most respondents
- How do we increase civic participation and engagement?
  - Technology can increase transparency and information dissemination
  - Technology does not necessarily increase engagement
  - Participation increases transparency, but not vice versa

Take-a-way

- Technologies can provide the opportunity to increase capacity, efficiency, information dissemination, transparency, and communication
- Technologies can also threaten service to citizens in-person, exclude individuals, limit interactions with the public, and insulate managers from the public
- Civic participation and engagement are not necessarily outcomes of technology adoption in local government

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