The Smart City and its citizens: governance and citizen participation in Amsterdam Smart City

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Picture: Waag Society 2013
Outline

- research overview
- research question
- main theories applied
- the case
- findings
- conclusions
- recommendations
Two global trends

Urbanization + Technological Innovation

UN (2015)
Problem:
- Smart city as a popular urban development model.
- Attracting interest of large technology and infrastructure providers.
- Cities seeking to attract external investments.
- Role of technology and human capital widely analyzed.
- Less attention to role of governance.
- Limited interest in the active role of citizens in smart city programs.

Research Objectives:
- Identify citizen participation typologies in smart city projects.
- Identify governance characteristics of participatory smart city initiatives.
- Link governance characteristics to citizen participation typologies.
Research Questions

Main Research Question:
Which governance characteristics are contributing to citizen participation in the development of projects within the Amsterdam Smart City initiative?

Sub-research questions:
What is the governance model of Amsterdam Smart City initiative?
Which typologies of citizen participation are being realized within Amsterdam Smart City projects?
“[…] investments in human and social capital and traditional (transport) and modern (ICT) communication infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance.” (Caragliu et al., 2011)
Governance

- Interdependence between organizations
- Resource-sharing
- Game-like interactions based on trust and negotiated rules
- Self-organization

Network Governance (Koppenjan and Klijn):
- Actors
- Networks
- Games
## Citizen Participation

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information</td>
<td>One-way flow</td>
</tr>
<tr>
<td>Consultation</td>
<td>Evaluate reactions</td>
</tr>
<tr>
<td>Partnership</td>
<td>Involvement in decision making</td>
</tr>
<tr>
<td>Standing</td>
<td>Invitation in legal review process</td>
</tr>
<tr>
<td>Consumer Choice</td>
<td>Choice of products</td>
</tr>
<tr>
<td>Control</td>
<td>Delegation of choices</td>
</tr>
<tr>
<td>Social Innovation</td>
<td>Collective action to satisfy needs outside market and state</td>
</tr>
</tbody>
</table>

Bishop and Davis (2002)

Moulaert and Swyngedouw (2010)
The case: Amsterdam Smart City
Amsterdam Smart City overview

Amsterdam Smart City Platform

Program Level

4 Founding Partners
Governance Model

Project Level

154 Project Partners
Governance Model
Citizen Participation

Living
- 16 Projects

Working
- 7 Projects

Mobility
- 11 Projects

Public Facilities
- 14 Projects

Open Data
- 6 Projects
Amsterdam Smart City Network
Amsterdam Smart City Governance

**Actors:**
- 4 Founding partners: Liander, Amsterdam Economic Board, Amsterdam Municipality, KPN.
- Sharing of financial resources and staff.
- Different resources: technical know how, networking, political sponsoring.
- Further actors currently involved on specific projects.

**Games:**
- ASC office as an arena for different stakeholders to meet and interact.
- Further interactions with partners organized around founding partners. Key role of Liander.
- Presence of un-linked or weakly linked projects.

**Networks:**
- Partnerships between diverse set of actors.
- Collaboration and information exchange between organizations facilitated by co-working.
## Project governance and participation

<table>
<thead>
<tr>
<th>1. Serious Gaming</th>
<th>2. CitySDK</th>
<th>3. Smart Citizen Kit</th>
<th>4. Ring-Ring</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Actors</strong></td>
<td>International Actors&lt;br&gt;Subset of AEB, Liander, C+L</td>
<td>23 International Partners.&lt;br&gt;Waag Society and Geemente</td>
<td>Waag Society, AEB, Participants, Environmental Agencies</td>
</tr>
<tr>
<td><strong>Games</strong></td>
<td>International Arena&lt;br&gt;Local Arena</td>
<td>International Arena&lt;br&gt;Local Arena</td>
<td>Local arena, workshops, meetings</td>
</tr>
<tr>
<td><strong>Networks</strong></td>
<td>Legal frameworks&lt;br&gt;Division of Tasks&lt;br&gt;Ex-ante evaluation criteria&lt;br&gt;Co-working</td>
<td>Legal framework&lt;br&gt;Virtual information exchange&lt;br&gt;Division of tasks</td>
<td>Lightweight contract&lt;br&gt;Diversity of actors&lt;br&gt;Flexible evaluation</td>
</tr>
<tr>
<td><strong>Cit. Particip.</strong></td>
<td>Mono-directional flow:&lt;br&gt;<strong>INFORMATION</strong></td>
<td>Mono-directional flow:&lt;br&gt;<strong>INFORMATION</strong></td>
<td>Co-production:&lt;br&gt;<strong>PARTNERSHIP</strong>&lt;br&gt;Bi-directional flow:&lt;br&gt;<strong>CONSULTATION</strong></td>
</tr>
</tbody>
</table>
Project complexity and participation

No. of partners
Contracts
Budget
Technology
Space

Max
Complexity

Min
Participation

Information -> Consultation -> Partnership -> Social Innovation
Conclusions

- Co-existence of different governance models.
- Allows experimentation of partnership models.
- Different typologies of citizen participation.
- Complex projects with large heterogeneous sets of actors, international components and external funding have more formalized rules and ex-ante evaluation schemes. Linked to Information typology of citizen participation.
- Smaller projects, based on strong interpersonal relationships, have less stringent legal requirements and flexible evaluations. Linked to Partnership typology of citizen participation.
- Localized project favour mutual knowledge and information exchange through informal channels not requiring legal frameworks: linked to Social Innovation.
Recomendations

- Citizen participation theory needs to be adapted to new settings of decision making.
- Network governance theory explains the playing ground for citizen participation.
- Intermediary organizations add a further layer to citizen participation and need further investigation.
- Technology and human capital are not the only ingredients for a smart city program. Urban managers should be attentive to the governance setting.
- Governance of smart city programs should adapt to local “culture”
Thank you

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