How can knowledge matter?

Understanding the discrepancies between division of knowledge and influence in urban governance networks

Keywords: governance networks, urban ecosystem services  Contact: antonija.bogadi@gmail.com
Technical University Vienna, Centre of Regional Science. Department of Spatial Planning
Where are the discrepancies between the actors’ influence and the knowledge in governance networks? Where is both knowledge and influence accumulated?
Exposure to information exchange, perceived influence, level of knowledge utilisation and actor’s traits

- Perceived actor's influence
- Actor level of knowledge utilisation
- Exposure to informal communication
- Exposure to information exchange
- Formal authority
- Actor's perceived competence
- Actor's ability to help
- Actor's availability
1. It is the environmental project that has implemented the research (new knowledge) about urban ecosystem services into urban green infrastructure project, and the flow of that new knowledge can be tracked from the execution of the project to the research.

2. The environmental projects have been executed within the urban governance networks. Based on the three characteristics of networks, these projects should match the criteria that (1) many actors are involved and they practice frequent contact between them, (2) project is implemented and is stable over time, and (3) that they are dealing with the complex issues, so decision-making process is complex.

3. When reconstructing their actions, the risk that respondents forget or rationalize their behavior is apparent. This possible weakness with the interview study is minimised by choosing projects where no more than two years have passed since the knowledge utilisation process started.
There is a diverse range of stakeholders involved in the ES implementation within the urban governance network. The governance network includes actors working at different ecological scales and local and national levels of decision-making. I focus on actors engaged within:

1. Civil society organizations (nonprofits, informal community groups, grass roots community organisations, local activists, homeowners, concerned citizens) that serve any of the following functions: conserving, managing, monitoring, advocating for, or educating their friends, neighbors, or public officials about the local environment,
2. Government departments and agencies, local authorities,
3. Universities, research institutions,
4. Private business, social enterprises, real estate developers.

Snowball sampling method is appropriate when networks of individuals are the focus of attention. Individuals are selected because they occupy a position fitting to the investigation, and this primary sample is then used to suggest further relevant participants to expand the research.
Data gathering and processing
Structured interviews, with actors previously determined by snowballing, are conducted to reveal the specific social relations/indicators for the actors' characteristics. That data is then translated into network diagrams, where actors represent the nodes, and links are exchange of a certain type of information or recource. The links reveal degree centrality (number of times a person is named as a specific social contact by other people) based just on high frequency of interactions. Such simple social networks are a way to assess the corelation between actor's structural postion in various network types and their preceived level of influence on knowledge utilisation. Motivation, type of activities, and associated institutions are directly corelated to the level of percieved influence.
1. Civil society organisations
   - Nonprofits
     - subsection:
   - Informal community groups
     - subsection:
   - Grass roots community organisations
     - subsection:
   - Local activists
     - subsection:
   - Homeowners
     - subsection:
   - Concerned citizens
     - subsection:

2. Government departments and agencies
   - National level
     - subsection:
   - City authorities
     - subsection:
   - Neighbourhood level
     - subsection:

3. Research institutions
   - Universities
     - subsection:
   - Research Institutions
     - subsection:

4. Private business institutions
   - Private business
     - subsection:
   - Social enterprises
     - subsection:
   - Real estate developers
     - subsection:

5. Other
Whom do you talk to about work?

**TUCSON**

- **Colour of a node:** Affiliation
- **Links:** Formal communication

**Size of a node:** Perceived influence

**Size of a node:** Level of knowledge utilisation

**Layout: Geodesic distance**

The number of links in the shortest path between the pair of the nodes; the fastest something could travel from one node to another. The nodes with shorter geodesic distances are closer together.
VIENNA

Whom do you talk to about work?

Colour of a node: Affiliation  Links: Formal communication

Size of a node: Perceived influence  Size of a node: Level of knowledge utilisation
TUCSON

Colour of a node: Affiliation    Links: informal communication

Size of a node: Perceived influence

Size of a node: Level of knowledge utilisation

1. Civil society organisations
2. Government departments and agencies
3. Research institutions
4. Private business institutions
5. Other
Whom do you talk to?

VIENNA

Colour of a node: Affiliation  Links: informal communication

Size of a node: Perceived influence  Size of a node: Level of knowledge utilisation
I provide this person with the outputs from my work.

TUCSON

Colour of a node: Affiliation | Size of a node: Percieved influence

Links: Formal authority | Size of a node: Level of knowledge utilisation

Legend:

1. Civil society organisations
   - Nonprofits
   - Internal community groups
2. Government departments and agencies
   - National level
   - City authorities
   - Neighbourhood level
3. Research institutions
   - Universities
   - Research institutions
4. Private business institutions
   - Private business
   - Social enterprises
   - Real estate developers
5. Other
I provide this person with the outputs from my work.

VIENNA

Colour of a node: Affiliation

Size of a node: Perceived influence

Links: Formal authority

Size of a node: Level of knowledge utilisation

1. Civil society organisations
   - Nonprofits
   - Grassroots community groups

2. Government departments and agencies
   - National level
   - City authorities
   - Neighbourhood-level

3. Research institutions
   - Universities
   - Research institutions

4. Private business institutions
   - Private businesses
   - Social enterprises
   - Real estate developers

5. Other
I received professional assistance from this person.

TUCSON

Colour of a node: Affiliation

Links: Perceived competence

Size of a node: Perceived influence

Size of a node: Level of knowledge utilisation
I received professional assistance from this person.

VIENNA

Colour of a node: Affiliation  Links: Perceived competence

Size of a node: Perceived influence  Size of a node: Level of knowledge utilisation
This person has ability to help me.

TUCSON

Colour of a node: Affiliation

Links: Ability to help

Size of a node: Perceived influence

Size of a node: Level of knowledge utilisation

Legend:
1. Civil society organisations
2. Government departments and agencies
3. Research institutions
4. Private business institutions
5. Other
This person has ability to help me.

VIENNA

Colour of a node: Affiliation

Links: Ability to help

Size of a node: Perceived influence

Size of a node: Level of knowledge utilisation
This person is accessible to me.

TUCSON

Colour of a node: Affiliation

Size of a node: Perceived influence

Links: Accessibility

Size of a node: Level of knowledge utilisation
This person is assessible to me.

VIENNA

Colour of a node: Affiliation

Links: Assessibility

Size of a node: Perceived influence

Size of a node: Level of knowledge utilisation

1. Civil society organisations
2. Government departments and agencies
3. Research institutions
4. Private business institutions
5. Other
Where are the discrepancies between the actors’ influence and the knowledge in governance networks? Where is both knowledge and influence accumulated?

<table>
<thead>
<tr>
<th>Sector/Institution/Department</th>
<th>Actor’s betweenness centrality in a specific network</th>
<th>Actor’s perceived influence</th>
<th>Actor’s level of knowledge utilisation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actor 1</td>
<td>0.03</td>
<td>0.01</td>
<td>0.78</td>
</tr>
<tr>
<td>Actor 2</td>
<td>0.045</td>
<td>0.34</td>
<td>0.56</td>
</tr>
<tr>
<td>Actor 3</td>
<td>0.679</td>
<td>0.67</td>
<td>0.01</td>
</tr>
<tr>
<td>…….</td>
<td>….</td>
<td>….</td>
<td>….</td>
</tr>
</tbody>
</table>

Where are the discrepancies between the centrality, perceived influence and level of knowledge utilisation in different kinds of actors’ relations in governance networks?
Strategic governance network management for ecological knowledge utilisation:

<table>
<thead>
<tr>
<th></th>
<th>High centrality in specific network</th>
<th>Low centrality in specific network</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Influence/high knowledge</td>
<td>▲ MA23 ▲ PIC ▲ OBZ</td>
<td>△ CC ▲ UNI2</td>
</tr>
<tr>
<td>High Influence/low knowledge</td>
<td>▲ DC △ M12 ▲ OPZ</td>
<td>△ SE2</td>
</tr>
<tr>
<td>Low Influence/high knowledge</td>
<td>▼ UNI1</td>
<td>△ SE3 ▲ MA20</td>
</tr>
<tr>
<td>Low Influence/low knowledge</td>
<td>▲ KW ▲ OPZ1 ▲ SE △ KW</td>
<td>△ KW</td>
</tr>
</tbody>
</table>
### Outputs: results that allow strategic network management, strategic knowledge management

<table>
<thead>
<tr>
<th>Strategic governance network management for ecological knowledge utilisation:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>High centrality</strong> in specific network (6 different relations)</td>
<td><strong>Low centrality</strong> in specific network (6 different relations)</td>
</tr>
<tr>
<td><strong>High Influence/high knowledge</strong></td>
<td>most important players, already recognised, give them attention, education and power to distribute new norms</td>
<td>important but not recognised players, connect them more, empower them</td>
</tr>
<tr>
<td><strong>High Influence/low knowledge</strong></td>
<td>educate them, urgently connect them to high knowledge actors</td>
<td>educate them, connect them to high knowledge actors</td>
</tr>
<tr>
<td><strong>Low Influence/high knowledge</strong></td>
<td>connect them to more more central actors, with higher influence</td>
<td>connect them to more more central actors with higher influence</td>
</tr>
<tr>
<td><strong>Low Influence/low knowledge</strong></td>
<td>disempower them, connect them to more knowledgable actors</td>
<td>cut them out of the network, educate them</td>
</tr>
</tbody>
</table>
Antonia Bogadi

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