Monitoring of smart cities

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VUB Smart cities master class
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Smart City Institute
(HEC Liège– University of Liège)
Smart city: a lot of promises
Smart city: a lot of promises

Smart cities will

• make everything efficient
• reduce crime
• reduce pollution
• increase quality of life
• etc.

→ improve urban performance
Smart city: a lot of promises

A promise made must be a promise kept.

Aristotle
Smart city: a lot of promises

Do smart city developments deliver what they promise?

Is it worth the change/investment?

→ performance measurement & management
Performance management in smart cities
Performance management in smart cities

simplified model

- objectives
- projects
- performance measurement
- vision
- mission
- strategy
communication
Performance management in smart cities
Performance management in smart cities

not all cities implement performance management because of different reasons:

- unclear objectives
- there is no incentive
- lack of resources
- lack of expertise
- silos
- etc.
Performance management in smart cities

What is the current state of performance management in smart cities?

What is necessary to help smart cities to reach their objectives?
Wal-e-cities
Wal-e-Cities
Smart Cities to Smart Region

4 Research Centres, 5 Universities & 1 Institute
Support from 50+ Companies
5 Research Topics
~ € 20 Million Budget
2016 - 2020
Wal-e-Cities
Smart Cities to Smart Region

My task:

To develop a performance management method/process for Walloon cities

What results up to now?
Apparent findings
Apparent findings

1. smart city model & performance
2. maturity & performance
3. rankings ≠ performance measurement
4. role of stakeholders?
5. nobody’s perfect
1. Smart city model

Smart city performance management literature (2010-2018; 89 articles)
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Smart city performance management literature (2010-2018; 89 articles)

- Europe: 65%
- Asia: 28%
- N-America: 3%
- Oceania: 2%
- S.-America: 1%
- Italy: 26%
1. Smart city model
1. Smart city model

Performance management seems linked to a specific type of smart cities:

- (South) European (Italy!)
- role of climate change (low-carbon economy as objective; Mora et al. 2018)
2. Maturity ≠ performance
2. Maturity ≠ performance

smart city performance depends on smart city maturity

Are we looking at differences in maturity or in performance?
3. rankings ≠ performance measurement

Eden Strategy Institute 2018 (consultancy agency in Singapore)
3. rankings ≠ performance measurement

http://www.urban-hub.com/sustainability/which-is-the-smartest-city-in-the-world/
3. rankings ≠ performance measurement

Rankings are supposed to be a target setting mechanism to reinforce performance measurement, but:

- cities are not (really) involved (academic or consultancy agencies)
- every ranking uses different criteria (usually not maturity)
- too general to help cities

The popularity is likely a result of the lack of performance measurement in smart cities (Van Dooren et al. 2015)
4. role stakeholders?
4. role stakeholders?

role of other stakeholders (citizens!) in performance management is limited

Quickly changing
→ providing sufficient information is the first step
4. role stakeholders?
4. role stakeholders?

platform.hackair.eu
5. Nobody’s perfect (examples)

<table>
<thead>
<tr>
<th>Location</th>
<th>Populations/Location</th>
<th>Local Government Body</th>
<th>Key Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manchester</td>
<td>c.530,200.</td>
<td>Manchester City Council, Metropolitan Borough (part of Metropolitan County of Greater Manchester)</td>
<td>Smarter City Programme explores better city working through partnerships, use of technologies, encouraging investment and development. Projects: transport, environment, energy, health</td>
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<tr>
<td>Peterborough</td>
<td>c.190,500.</td>
<td>Peterborough City Council, a Unitary Authority</td>
<td>Peterborough DNA, a future city demonstrator programme funded by Innovates UK. Led by City Council and Opportunity Peterborough. Projects: economy, data, citizen innovation, education</td>
</tr>
<tr>
<td>Birmingham</td>
<td>-1 million.</td>
<td>Birmingham City Council, a Metropolitan Borough (part of West Midland Metropolitan County)</td>
<td>'Smart City Vision' and 'Roadmap' published 2013, by the Smart City Commission, a cross-sectoral collaboration led by Council and supported by Digital Birmingham. Projects: ICT-infrastructure, energy, education, community participation</td>
</tr>
<tr>
<td>Bristol</td>
<td>c.442,500.</td>
<td>Elected mayor working with Bristol City Council, a Unitary Authority</td>
<td>'Smart City Bristol', a cross-sectoral and community collaborative programme, led by Bristol Futures, a Directorate in the Council, delivered through Connecting Bristol. Projects: energy, transport, data, health, governance, living labs</td>
</tr>
<tr>
<td>Milton Keynes</td>
<td>c.280,000.</td>
<td>Milton Keynes Council, a Unitary Authority for the Borough of Milton Keynes</td>
<td>Milton Keynes 'Future City Programme', designed around collaborations, including MK Smart initiative. Associated with 4 Catapult innovation UK centres. Projects: infrastructures, energy, transport, water, economy, IoT</td>
</tr>
</tbody>
</table>

Caird et al. 2017
Conclusions
Conclusions

My research on Smart city performance management

• Europe takes the lead (low-carbon economy)
• maturity defines performance
• rankings ≠ performance management
• nobody’s perfect
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