Local Leadership for Public Digital Transformation Towards Smart Cities – Reflections from Leaders

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Abstract: The democratic governance of digital transformation to build smart cities is governed in the interplay between political and professional leaders. This paper presents and discusses how municipal political leaders see their capacity and confidence to build more smart cities in Sweden. The national policy ambitions are to use digitalization in the best ways to build smart urban and regional spaces. The study indicates that these leaders mainly see digitalization and smart city initiatives as a tool for effective administration and improved access. The two main lessons learned from the study are that the size of the municipality is critical for the competences to lead, and that the silo-organization is hampering learning and competence develop-ment. The overall conclusion is that there is a lack of coordinated governance structures to make the most of smart cities and to enhance learning among cities and leaders.

Keywords: Smart cities, public leadership, governance, municipalities, Sweden.

1. Introduction

'Smart cities' is a broad concept used to grasp urban challenges through the use of ICT. Having previously been more biased towards technology, the concept has become increasingly used as a citizen-centric concept. Smart cities are built in local communities, on the structures and strategies that are formed and set up around the institutional arrangements in an intricate interplay of public values, technology, public management and the local community (Sancino & Hudson, 2020). Smart cities are one of the framed concepts grasping the ongoing digitalization that is influencing most sectors in society.

New smart city applications are predominantly based on new forms of AI (Makridakis, 2017), including robot process automation (RPA). These technologies are based on global market models and principles and the networking approaches guiding social media and other network-based organizations. As cities become smarter in democratic states, the technologies have to be governed in new ways to fit with democratic values and public management. Thus, there is a need for public

leadership to develop these technologies in smart cities to become a sustainable component in democratic welfare states. There is a need to study and develop municipal leadership for digitalization towards smart cities with an awareness of public values (Gröning, Nordqvist & Wihlborg, 2019). Municipal leaders in Sweden have great autonomy and are key actors in the formulation of smart cities.

The Nordic welfare state model compromises economic liberalism and social democracy, in which equal citizenship, impartiality and well-being are core values (Morel & Palier, 2011; Esping-Andersen, 1990). These values have to be reframed in a digital society and the leadership of smart cities. Municipalities, the local and regional authorities, play a key role in the Nordic welfare state model and provide the bulk of the public welfare services (Cox, 2004). They have strong local autonomy and are governed democratically in collaboration by elected laypeople; professional managers leading administration and extensive public services. This is a tricky practice, which is further complicated by demographic and economic changes, as well as policies that change organizational structures (Johansson, Lindgren & Montin, 2018). In this context, the development of smart cities is seen as a solution to the many challenges faced by municipalities and their leaders. To meet the demands for improved governance of local digital transformation, the Swedish Government has reached an agreement with the Swedish Association of Local Authorities and Regions (SALAR). The agreement aims to support and enhance competences for developing smart cities among political and professional leaders in regions and municipalities.

The aim of this paper is to analyse how local political leaders describe their competences to lead the digital transformation towards smart cities, and to discuss its implications for competence-building and change management in the public governance of smart cities.

1.1.   A Mixed-Method Approach in Collaborative Action Research Settings

The research presented in this paper builds on a collaborative approach, where the interpretations and actions are formed in a close interplay between researchers and actors in municipal practice. The practical solution to the problem, in this case the need for more competence in digital transformation towards smart city governance, was addressed in lectures for political leaders provided by SALAR. According to Egl et al. (2020), an interactive research study of problem formulation focuses on identifying and creating an understanding of the practical problem within the practices system – in this case the political leaders' setting. The goal is to define a researchable problem, in order to be able to stretch it into a research phase of theorizing – our analytical setting.

The research process was integrated into the work carried out by SALAR, and during November and December 2019 senior staff from SALAR and the researchers delivered the first five lectures for a total of 183 political leaders from Swedish regions and municipalities. The team gave five one-day seminars of lectures including several small group discussions. During the seminars, the participants answered questions and dealt with responses from the small group discussions using the web survey program Menti, using their phones or computers. The results from all the lectures gave a total of 1123 responses, some of which were duplicated responses to questions.

The responses have been analysed inductively by all authors and discussed in relation to former research and our general understanding of the municipal context. In addition to the analysis of the results from the Menti survey, we have conducted telephone interviews with ten leaders who volunteered during the lectures.

2. Digital Government as a Global Policy Agenda and Research Field

Smart cities need to be governed, and there are new challenges when public management is set in digital contexts (European Commission, 2017) that are open to the interdisciplinary research field (Meijer & Thaens, 2010; Yildiz, 2012). As governments engage in rapid digitalization of their organizations and services, competence gaps and cost-effectiveness demands have led to the outsourcing of digital infrastructure development and maintenance to third party suppliers. This has, as OECD points out, generated lock-in effects and decreased the organizations' internal capability for policy and service delivery (Welby, 2019). These consequences have direct implications for coherence between the political strategy, policy aims, and the municipal services.

A recent literature review identified that public values are addressed in digital government to improve public services, public administration and the legitimacy of public services among the general public (Twizeyimana & Andersson, 2019). The orchestration of public services on digital platforms can enable public administration to deliver services in line with public values (Cordella & Paletti, 2017). The review also concluded that there is a lack of studies with a comparative focus and that there has been little focus on organizational change, and on how to deliver services in line with public values (Twizeyimana & Andersson, 2019). Thus, we will here focus on how political leaders see values in relation to digital transformation towards smart cities.

2.1. Local Leadership for Democratic Digital Transformation

Public leadership, in contrast to leadership in market-driven organizations, has to build on public values and deliver results and outcomes such as democratic legitimacy and trustworthy public services(Joyce, 2012; Bergström & Eklund, 2019). To sustain citizens' high trust in local democracy and welfare provision in the digital age, there is a need to analyse and build new types of leadership for change. The public leadership of digital transformation is currently influenced by market-driven organizations (Dunleavy et al., 2006). There is a need for analyses of leadership styles that combine the individual perspective of the public leader with perspectives on the situations within which he acts (Alvesson et al., 2017; Askim & Baldersheim, 2012).

Leadership in the local digital transformation towards smart cities is expressed in strategic decisions, as well as in many daily practices that can range from information security policies to daily struggles with learning platforms in schools. In all such situations, the leaders have to reassemble and act in line with core public values (Gustafsson, 2017).

3. Results

3.1. Values Related to Digitalization and Transformation Towards Smart Cities

The first focus was on values connected to smart city transformation and digitalization. Most of the leaders mentioned values relating to digitalization on very practical levels, e.g. less use of paper. In a follow-up interview, one leader explained: "I don't need to keep or recycle a single sheet of paper… everything is available on my iPad." Other answers referred to values concerning the quality of public services. For example, several respondents highlighted the ease with which citizens communicate with the municipality as a positive value. This was expressed as follows by a chairperson from a medium-sized municipality: "For those who can access and use digital services, it facilitates contact with the municipality." The results are summarized in Table 1.

Table 1: Answers to the Question "What positive values do you connect with digitalization?" n = 122.

Category	Count	Examples of expressions in Menti
Availability	65	Availability, anywhere, closeness, user support, bridging distances
Ease	52	Ease, smooth, smoothness, free time
Effectivity	50	Effectiveness, cheaper, personnel saving, cost efficiency
Speed	44	Speed, fast, instant, fast answer
Democracy	10	Democracy, participation, openness, transparency, equal for everyone
Rule of law	**2**	**Rule of law**

One of the interesting responses regarding public values concerned the positive effects digitalization could have on more impartial and standardized decision-making for trust-building through digitalization. In a follow-up interview, one of the chairpersons said: "We have a declining level of trust, I feel, and if we are to recover, we should be more correct and clearer, and I believe that digitalization can help us with that."

At two of the lectures, we also followed up in Menti by asking about possible negative values related to digitalization. Here, a common response was that the participants stressed the importance of physical meetings as superior to digital meetings, in terms of both building trust and understanding each other. For example, as one of them emphasized in a follow-up interview: "If we refer citizens to digital solutions that make it more legal many of them might feel a little alienated. They might not trust it." Another example from the interviews: "We must have physical meetings for the democratic processes. This is a sector that is not entirely suitable for digitalization." Taken together, the positive values the leaders identify in relation to digital transformation are commonly related to easy and accessible processes. These results are also in line with what Sancino and Hudson (2020) identify as core values among leaders in the studied well-established smart cities.

3.2.   Competence to Lead in a Digital Age

To focus on personal competence as a leader, we asked the question: "Do you believe that you have enough competence to lead in a digital age?" A total of 108 participants responded to the question.

Table 2: Answers to the Question on Personal Competence

Category	Count	
Yes	44	44.7%
Unsure	36	33.3%
No	**28**	**25.9%**

We later asked the same question during interviews where the respondents had the chance to elaborate on whether or not they believe they have enough competence, and why. One of the respondents who were confident with their competence said: "It's against my DNA to say I'm not competent. I have managed the situations I have faced and have otherwise gotten help. Competence is about knowing where to get help."

The majority of the respondents answered that they were unsure or did not have enough competence to lead in a digital age, but some were interested in learning more. During the interviews, one of the respondents – a chairperson from a medium-sized municipality – said: "I do not believe that I have enough competence… We have not discussed education. We hand over a lot to government officials in municipalities and then you don't know what happens."

In most of the interviews, digital competence was discussed in relation to age. Some expressed that their feeling about their own digital competence depended on the people they were currently surrounded by. Many of the interviewees said that they believed it is easier for younger people to learn and use digital tools. All the respondents expressed that the older generation risks being excluded when cities become smarter. For example: "We have iPads and the older generation have a hard time with them and using the tools. It takes time for them. The younger have a talent for it." The main topics, examples and reasoning during the interviews concerned specific technical solutions in relation to running the municipal council meetings. This indicates that there might be a specific need for increased strategic competence.

Overall, the interviewees took a positive approach to digitalization and most of them had confidence in their own capacity to lead. However, during the discussions at the lectures there were reflections on how they experienced their competence. Some even said that they believed their competence was sufficient, but others might had evaluated their competence differently.

3.3.   Support to Lead a Democratic Arena in a Digital Age

The first part of the lectures focused on the meaning of digitalization and the national digital strategy and some key policies. Following on from this, the lectures developed to focus on transforming the participants' own municipal organizations. Here, the small group discussions were designed to

focus on the leaders' own competences to lead and how they deal with daily changes. In the discussions, there was a particular focus on digital support. In the Menti survey, we asked the question: "From whom do you get support for leading a democratic arena in a digital age?" A total of 67 participants responded to this question, giving a total of 102 answers.

Table 3: Answers to the Question on Support for Competence

Category	Count and share of total responses	Expressions in Menti
Civil servants	42	Administration, the municipal IT department
Elected politicians	20	Colleagues, the board
The general public	7	The general public, citizens
The party generation	3	The party organization, their own party
The presidency	3	Referring to the group of co-chairpersons
SALAR	3	The national network
From own experience	3	Own experience
Don't know and other	21	Education, research

In the interviews, we asked the same question as above and the respondents pointed towards many different sources of support including management and colleagues. One respondent reflected on this in the follow-up interview. They pointed towards the need to identify two aspects of this question, where technical support in using digital tools is one aspect and is different to support from leadership: "It's personal contacts if we're talking about the technology, but when it comes to leading it's not the same as using technology and I don't think I take support from anyone regarding that." During the lectures, the participants reflected on what actually constitutes a local issue and what can be standardized, like different digital systems for patient records, learning platforms, public transport tickets and many more applications.

Taken together, this indicates that the public administration supports the democratic political leaders' policymaking as well as political decisions. The support from political party organizations seems to be less important to those who responded here. However, the reflection expressed in one of the interviews may also show that the question has to be broken down for accurate interpretation.

4. Concluding Discussion

This paper has presented the results of how municipal leaders in Sweden believe their competences lead the digital transformation towards smart cities, and has discussed the implications regarding

the relevance of competence-building and change management in the public governance of smart cities. The results indicate that there is a need to study in greater depth how political leaders develop their competence to lead for transformation towards smart cities combining competences for both technical changes and democratic leadership.

The overall impression is that most leaders are confident that they have the capacity to lead their municipality in a digital era, and they reflect on this (Alvesson et al., 2017; Askim & Baldersheim, 2012). However, the Menti results and the interviews indicate that there is a significant group of municipal leaders who are uncertain about their own competence to lead in a digital era. They also receive support from the municipal administration and experts in different areas. However, when discussing support in the interviews, this could be interpreted as support with both technical aspects and leadership. The participants in this study show a reflective perspective on leadership, combined with the individual perspective of their assignment. During the discussion, they highlighted that in spite of the good organization of support and competence-building, which included the lectures via a national initiative, they came back to issues regarding what they have to do locally and what could be managed in standardized ways through national policies. There is a need for more interactive research in this field regarding the governance of smart cities, in order to understand and define the practical problem and to refine theory on the practical problem.

The political leaders in this study raise issues that are clearly related to the institutional framing of smart cities within smart nations, which must be further addressed in research, in policy and in practice. In all the interviews, the respondents stressed that digitalization is inevitable and that leaders have to adapt. Most of the participants said that they were unsure or did not have enough competence to lead in a digital world. There is a need to include knowledge about public values and the unique institutional setting for public leaders in analyses of smart cities. The leaders in this study are struggling to reassemble and act in line with core public values and to combine the values of digitalization with the context of the Nordic welfare state regime of equality, participation and consensus-building institutions. A more long-term solution to the practical problems might be to re-arrange the division of duties and responsibilities among public agencies and market actors.

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