Chapter 4
Smart City (SC) Initiative and Urban Development in Rural Regions of Inland Norway:
A Link Missing?

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ABSTRACT

This study investigates the nature of the interconnection between Smart City (SC) and urban development initiatives. A case of Hamar city is used to identify how SC initiatives is used to combat some of the key challenges faced by a smaller city and non-metropolitan region. In contrast to metropolitan areas, the inland region with Hamar as its administrative centre is facing depopulation. A qualitative approach was applied including individual semi-structured and focus-group interviews. Despite an ambition of adopting SC and several SC projects that are up and running, the process is still at the early stages where many of its key stakeholders are unfamiliar with Hamar's SC initiatives. Poor integration between ICT systems also creates certain challenges. It concludes that better integration and marketing effort should be directed at educating the public about the purpose and goal of SC. Moreover, as technology evolves, it is important to be cautious about issues concerning privacy while ensuring seamless integration and communication between the systems in order to become a true 'smart' effort.

1. INTRODUCTION

Many cities in Europe are looking into new ways to deal with environmental issues associated with climate change and other societal problems. The European Union (EU) in particular, has devoted sig-

nificant resources to foster urban development in a 'smart' direction for its metropolitan areas (Caragliu, Del Bo, & Nijkamp, 2011). As such, many urbanised cities are turning to Smart City (SC) initiatives in order to meet the challenges that they are facing and to become more sustainable. When SC became a policy of interest, the majority of cities that adopt SC policies had over 100,000 in populations (Eurativ, 2017). This has led to many major cities in urban areas being in the forefront of SC, and a subsequent increasing number of studies focusing on its implications on the larger cities in metropolitan areas. With such interests, it comes as no surprise that smaller cities have also taken an interest on SC. However, the application of SC initiatives in rural regions with smaller and more sparse population density is a rather under-researched dimension (de Falco, Angelidou, & Addie, 2018). Rural areas have often been marginalised in discussions of economic and societal development, in favour of the urban (de Souza, 2019). Cities and towns in the rural regions face other sets of challenges such as depopulation and other resource constraints, which suggest that they are just as reliant on innovative ways to city development. Furthermore, SC is not only about creating a functional space of a city, but rather pays attention to the rational management of it, based on the idea of sustainable development and eco-friendly energy management. It is a merger of modern urban planning, architecture, and technology, including information and communication technology (ICT) (Rysz & Mazurek, 2015). Thus, local governments that aim for their cities to become 'smart', must adopt a city development strategy, which focuses on the management and implementation of innovation technology (Rysz & Mazurek, 2015).

In order to investigate such topic further, Hamar Municipality with its SC initiatives are examined. Hamar is located in eastern Norway, a non-EU member country. Hence, Hamar's SC initiatives has nothing to do with EU's overall 'smart' grant and funding as non-EU members are not entitled to receive EU structural funds (Mäenpää & Teräs, 2018). Hamar's SC development is thus entirely independent from any SC policies from EU. The city's SC initiatives are emphasised in the recent strategy 'Hamar Municipality: Strategy Smart Hamar'. On the contrary to major cities that turn to SC approaches due to challenges associated with population growth, Hamar is rather more concerned with attracting more citizens and becoming a more blooming and urbanised city. The purpose of this book chapter is to explore SC initiatives and their connection to the general urban development, using the city and municipality of Hamar, located in the non-metropolitan region of the Inland in eastern Norway, as case. To achieve this, three specific research objectives were developed:

- To understand how SC initiatives can be used to combat some of the key challenges faced by a smaller city in non-metropolitan regions in particular.
- To investigate the nature of the interconnection between SC and urban development initiatives.
- To explore urban development challenges faced by Hamar and its ambition of becoming the Inland's 'urban heart'.

The chapter is organised into five sections starting with a brief review of the literature discussing SC, citizen participation in SC context and the role of ULL (Urban Living Labs). This is followed by an explanation of the research methodology. The result and discussion section describes the case of Hamar Municipality and the non-metropolitan region of the Inland. Next section discusses Hamar Municipality's two strategic priorities in terms of city development, SC and overall urban development, and the interconnection between the two. This includes a presentation of three specific SC projects. The section also explains how broad citizen inclusion and participation is realised through its ULL, Bylab Hamar (Citylab Hamar). Then, SC and the role of technological innovation and digitalisation as well as the

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