Chapter 89

Building Sound Foundations for Smart City Government:
The Case of Munich, Germany

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ABSTRACT

City governments around the world have increasingly engaged in "smart city" initiatives. Information and communication technologies (ICTs) are at the core of these initiatives. City governments appear to play important roles in making the urban spaces, in which they are embedded, more attractive, more competitive, more livable, and smarter. The authors interviewed City officials in Munich, Germany, and asked for the definitions of "smart city," which they then compared to Munich's smart city-related program. While the practitioners' definitions differed in part from those in the academic literature, the smart city overhaul program at Munich city government had a direct relationship to the practitioners' understanding of smartness. The authors portray and discuss the City of Munich institutional architecture overhaul and its expected and realized benefits, and compare the results to those of an earlier study on the City of Seattle. Both city governments evidently pursue different approaches, the effectiveness of which can more readily be assessed only at a future point of the smart city evolution.

INTRODUCTION

The term "smart city" was first used in the academic literature around the turn of the millennium (P. Hall, 2000; R. E. Hall, 2000). For almost a decade it has remained a somewhat literary device to conceptualize an idealized urban space that would have successfully addressed the daunting 21st-century challenges of crowding, crime, sprawl, traffic congestion, waste, energy overconsumption, pollution, divides, government red tape, and bureaucratic inertia to some measurable extent, to name a few. Until recently, new definitions of "smart city" have abounded, and the term has

carried a somewhat lofty and nebulous meaning. Part of the growing fogginess of the term's meaning can be attributed to its interpretation in the trade press and in vendor communications, for example, IBM (Kehoe et al., 2010), Oracle (Thornburgh, Kingsley, & Rando, 2010), and Siemens (Anonymous, n.d.). More thorough academic grounding has been provided with the introduction and presentation of Chourabi and friends' layered framework on smart city initiatives (Chourabi et al., 2012) and the additional work of AlAwadhi and friends (AlAwadhi et al., 2012). The framework has specified an academic foundation for the term of "smart city" and its context, so that a number of research groups around the world meanwhile have carried out and coordinated their smart city-related studies under this theoretical umbrella including this study. As a naming convention and as proposed in other studies, we are using the capitalized "Smart City," when we refer to city government as also in "City of Munich," while we use lower-case "smart city" when we refer to the urban space in general, for example, as in the "smart city of Munich."

In this study, we add to the stream of research using the aforementioned framework with a particular interest in the organizational and technological prerequisites that local government might practically need to put into place for smart government initiatives to succeed. While we have replicated the AlAwadhi and Scholl (2013) study in terms of the underlying conceptual framework, methodology, and instrument, we focused on the case of the City of Munich, that is, a European City and a city government known for its fairly radical approach to administrative and technological overhaul. We were highly interested in understanding what practitioners in City of Munich, that is, both elected and appointed government officials, understand by "Smart City." We also wanted to investigate how the concept of a smart city was advanced in practice and what benefits resulted from such undertakings. Furthermore it also intrigued us to uncover how the project

orientations and resulting benefits would match up with the vision and notion of a Smart City as defined by the practitioners themselves. In this way we hoped to find matches and gaps between aspiration and realization as well as matches and gaps between the academic understanding and the practical realities of a Smart City.

Munich is situated in the South of Germany with a population of some 1.4 million. The city is the seat of the State government of Bavaria, which is the largest in territory of the 16 German Federal States. Major global corporations such as Allianz, BMW, Munich Re, and Siemens are headquartered out of Munich. The city is the major hub for high technologies in Germany. Its economic success, its bustling cultural scene, and the world-renowned research institutions have made the city a location in high demand. The city's reputation is one of a modern, forward-looking, technology-savvy, and innovative urban space and of a knowledge economy. The city government has chartered itself with matching and instigating the ambitions and aspirations of its constituents by embarking on continuous administrative and infrastructural modernization. In a move that made worldwide headlines in 2002 the City of Munich pioneered the migration of its software systems including some 15,000 desktop computers and laptops to an open-source platform. In the course of its decade-long transition from a proprietary platform to open-source the project dubbed "LiMux" proofed successful despite several initial setbacks.

The paper is organized as follows: first, we review the smart-city related academic literature. Then, we explicate our research questions and detail the research methodology. Next, we present the findings and discuss their implications. We also discuss the Munich findings in light of the findings of AlAwadhi and Scholl (2013) on the City of Seattle. We conclude that approaches to establishing and developing smart government can take different avenues. Whatever approach is taken, however, smart city government appears as a necessary but not sufficient prerequisite for

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