

## Chapter 7.13

# Shifting Legitimation along Information Infrastructures Growth: Local Social Embeddedness, Global Organizational Fields, and Full Scale Coverage<sup>1</sup>

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### **ABSTRACT**

*This chapter addresses the institutional dimension of scaling of information systems through the interplay of globally distributed software development with organizational processes. Through examining various phases of a long term project to implement information systems for the public health care sector in global South countries, I highlight changing sources of acceptance and legitimation. The analysis centers on the balance between local and global levels, from pilot sites, through an emerging broader organizational field, to increasingly involving national level institutional settings. In parallel to the established view of the scaling of ICT implementations as relating to complexity and risk in the form of unintended side-effects of the growth of a system, the chapter highlights the qualitative switch between regulatory contexts. Shifting relations to local institutions means that scalability requires actors to interact with quite different organizational cultures, accountabilities and communicative practices.*

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## 1. INTRODUCTION

Information technologies in the form of information systems and infrastructures have been playing a central role at all levels of globalization processes. In this paper we examine stages of evolution over several years of globally distributed development and rollout of an information system targeted at the public health care sector in developing countries. In following the development of several systems as they co-evolved with the various settings in which they were progressively embedded, we present and discuss the shifting sources of legitimation involved in health information systems implementation. The attention to changing sources of acceptance and legitimation frames our view on local organizational settings and related stakeholders.

By examining the scaling of development and implementation of health information systems in developing countries, this paper aims at understanding knowledge development across heterogeneous networks of local, national and global actors, and between public health workers and software developers in dissimilar contexts. We will use “PHI” as an acronym to refer to Project for Health Information (pseudonym).

PHI started as an action research project in South Africa in 1994 with the aim to support health delivery management of the post-Apartheid government. The aim was standardization of information for local action. PHI was initiated by a Scandinavian University and has been supported, over the years by a number of donors, including the World Health Organization (WHO) and the European Union. In the following few years, early prototype implementations were started in Mozambique, Malawi and India. In 2009, PHI was active in fourteen countries in Africa and Asia. It was integrated with several other information systems and is growing further. The historical trajectory of PHI covers nearly 15 years, a considerable time in—and coincidental with the beginning of—the Internet age. Building a

health information infrastructure (seen as a large project comprising several information systems in many locations and organizational settings) was not PHI’s initial aim. Information systems implemented in various organizations retrospectively became potential dots to connect in order to establish a global information infrastructure dedicated to health.

Figure 1 anticipates a model to interpret shifts in PHI over time. The vertical axis indicates the intensity of relevance of local organizational settings. The horizontal time line relates to the stages of PHI evolution we have identified: pioneer, field constitution, and full-scale implementations, demarcated by a first switch of legitimation from local contexts to an organizational field, and a second switch to legitimation relying on state structures.

## 2. BACKGROUND OF THE LONGITUDINAL CASE STUDY: THE PIONEER PERIOD

PHI engaged in bottom-up, participatory software prototyping to develop a district-based health information system with rapid iterations and a focus on flexibility (Braa and Hedberg: 2002). Legitimation at the local level was achieved by embedding the system into the organizational setting, and aligning with the needs of staff at local levels, as well as with local educational arrangements. Such sensitivity to local organizational settings contrasted strongly with mainstream development strategies, and in turn provided a strong foundation for successful provincial and eventually national acceptance in South Africa in 1999. A quote from an implementer who was involved in the project from the early days sketches a vivid picture of that time:

*South Africa in 1994 was at a turning point in the history of the country; a time of hope, uncertainty and potential chaos. People were both*

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