INTRODUCTION

Today the political rhetoric of the European Union is focused on the transformation from service/industrial to Information Society – the concept emphasizing the role of national and global information infrastructures in the economic development of the state (Castells, 1996). Guided by the vision as laid out in European Commission’s programme “eEurope,” European societies and economies are accelerating the use of information and communication technologies (ICT) in a hope to be able to fully exploit the potential of the new informational economy, which is expected to bring not less than a “tremendous potential for growth, employment and inclusion” (Council of the European Union, 1999, p.4).

Similar to the processes of interconnecting roads and railways, bolts and nuts in the formation of the industrial economies, building informational economy requires networking of myriad of disparate information systems and resources on different levels of social organizing. Inter-operating informational resources and systems, making a “workable whole” out of disparate local implementations, brings about new requirements and dynamics unknown in the construction of industrial age infrastructure – the instantaneity of production and delivery of services, the inter-modality of different infrastructures (such as e.g., cellular mobile, the Internet, TV, radio, GPS) (Edwards, 2000), consistency of informational resources (Gill & Miller, 2002), a host of security-, safety- and privacy-related issues – just few to mention.

With new unthinkable levels of complexity in assuring interoperability of informational tools and resources, scholars of standardization and infrastructure development are operating with theories on standards competition and interoperability based on the knowledge of pre-informational age, and the validity of the extant theories is tried and often refuted as new cases of informational age are studied. To take few examples, competition of Open Document Format (ODF) and Microsoft’s Office Open XML (OOXML) file formats is not like typical standards contests as we know from the...
literature – VHS vs. Beta, Mac vs. Windows, BluRay vs. HD DVD (West & Fomin, 2011). And the development and introduction of a new audio-visual codec standard does not follow the “common wisdom” of dominant design theory (Fomin et al., 2011; Shapiro & Varian, 1999).

In this essay I inch towards better understanding of the notion of infrastructure and the role of standards in the development of infrastructures in the new informational age. Specifically, I focus on two particular aspects of standardization-as-infrastructure-development – temporal dynamics and the social organization. Using Bauman’s (2004) concept of liquid modernity, I argue that standards to fulfill on their function of enabling interoperability in the global informational infrastructure often become hybrids linking together different scales of time, space, and social organization. My work is motivated by the need for novel theorizing on standards and standardization, as suggested by an increasing amount of research which questions and/or refutes the common knowledge of the industrial age (Gill & Miller, 2002; Liu et al., 2008; West & Fomin, 2011).

STANDARDS, INFRASTRUCTURES, AND MODERNITY

The industrial revolution created the conditions for booming economies in many countries of the world. The national economies grew as local markets became regional and eventually national. This was facilitated by new means of transport (roads, steam trains, harbors, and steam boats), new means of energy (steam, later electrification, diesel engines, turbines, etc.), and new means of communication (telegraph and telephony). Industrialization, therefore, developed a range of interdependencies. It was particularly due to the network effects of power supply from utilities, telecommunication networks, and governments active in promoting their industries internationally. Technological progress meant agreements between industrialists to accept certain standards needed to connect machines, to apply utensils, to rig boats and vessels, and to connect private, local operating telephony networks into national networks (Pedersen et al., 2009).

A key turning point in the development of informational networks can be attributed to the first, focused statement of national policy for information infrastructure development – the Clinton Administration’s policy initiative on National Information Infrastructure (NII), published as The National Information Infrastructure: Agenda for Action of September 15, 1993 (The White House, 1993). It encompassed everything that produces, contains, processes, or uses information, in whatever form, or whatever media, as well as the people who develop the information, applications, and services, etc. (Kahin, 1997, p. 163). Six years after the publication of NII’s Agenda for Action, the European Commission (EC) presented a program eEurope aimed at accelerating the process of exploiting the potential of the new informational economy (Council of the European Union, 1999, p. 4).

By the turn of the last century, the state informatization efforts seemed to gain a substantial momentum, with many countries deploying the “brand name” of “Information Society” (Ministry of Research and Information Technology, 1996) to depict the state of informational infrastructure development in their respective territories.

The legacy of standards and standardization being carried over from the industrial to informational economy is profound – by the turn of the century some 80 percent of global trade (equivalent to around $4 trillion annually) was affected by standards or associated technical regulation (OECD, 1999, p. 4). Today standards are important in both product and service markets, playing increasingly a central role as instruments of regional and international trade liberalization (Garcia, 1992; Mattli, 2001, p. 328). At the same time, standardization increasingly becomes “a battleground”, where a variety of interests are juxtaposed and powers tried (Bousquet et al., 2011; Stewart et al., 2011). Increasingly, theorizing about infrastructural development requires seeking new lenses and
The Battle Within: An Analysis of Internal Fragmentation in Networked Technologies Based on a Comparison of the DVB-H and T-DMB Mobile Digital Multimedia Broadcasting Standards
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