

# Developing Virtual Communities in Transition Economies

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## INTRODUCTION

This article explores key sets of drivers of formation of virtual communities in transition economies with particular reference to recent developments in Lithuania. Information and communication technologies (ICT) centered on the Internet are today widely recognized as one of the driving forces in the transition toward a new economic system. This transition has been especially challenging for European transition economies that are in the midst of a historic restructuring in anticipation of entry into the European Union. These countries are confronting a historic challenge of converging to the economic, technological, and organizational practices and standards of their EU counterparts. ICT applications in the form of e-business provide a unique opportunity for companies in these economies to accelerate learning processes for the facilitation of the adoption and implementation of competitive and sustainable e-business strategies. A key challenge in this respect is how to construct sustainable virtual communities that bridge civil society and organizations of the public sector in ways that support the transition toward an ICT-enabled economic system.

The central thesis of this article is that virtual communities are a central component of an emerging economic system that is powered by ICT, is knowledge driven, is organized around electronic and organizational networks that generate knowledge, which transform industries and markets, and is dependent on dynamic and flexible regulatory public institutions. For ICT to diffuse throughout the whole economy in a way that supports virtual community formation, business firms, market conditions, and the culture and institutions of society need to undergo substantial change in a coordinated manner. It is the dynamic interdependence of these conditions that is the source of innovation and value creation in the new knowledge-driven economy. The agenda of research on the dynamics of adoption of new economy practices, innovation, and economic growth, as a result, needs to be expanded beyond the level of the firm. It needs to be built around the dynamic

interrelationships between technological transformations, firms' organizational and knowledge-creating capabilities, emerging market and industry structures, and public institutions (Castells, 2000).

The article situates drivers of virtual community formation and the necessity of coordinating their development on three levels: the level of ICT infrastructure, regulatory environment, and market or civic attitudes toward ICT-enabled market transactions. On each of these levels the observations made are conditioned by the definitional parameters of "virtual community." For the purposes of this article, a virtual community is understood as a set of interwoven relationships built upon shared interests, which satisfies members' needs otherwise unattainable individually (Rafi, Fisher, Jaworski, & Cahill, 2002). It must be stressed that a virtual community thus defined refers not only to consumers but also businesses and organizational entities of the public sector.

## ICT INFRASTRUCTURE: THE BACKBONE?

ICT infrastructure encompasses the ICT framework underpinning the emergence of virtual communities. It refers to computers and Internet usage within, between, and across enterprises, governmental bodies, and consumers or citizens. The use of ICT constitutes the basic precondition for the emergence of virtual communities. In defining the critical constituencies of virtual communities it is important not to exclude any of the above-mentioned parties, because each of them can play a significant role in different types of virtual communities and the significance of their roles depends on the context in which they operate.

With respect to Lithuania, the number of Internet users increased quite rapidly in 2002. In the summer of that year, more than one fifth (21%) of the population was using the Internet at least sometimes. To gauge a sense of the speed of change it is worth mentioning that

a year earlier the percentage was 11%. The number of regular Internet users also increased. During the same time 13.4% of Lithuania's residents were using the Internet at least once a week or more often, while 17% used it at least once per month. Lithuania's Department of Statistics has declared that by the end of the first six months of 2002, 12% of Lithuanian households had been equipped with a computer—a rise of one third in comparison to the previous year. By early 2002, 5.9% of Lithuanian households had Internet connection—this indicator had risen by 2.5 times in the period since December 2000. In 2002, 19% of the households in Lithuania's largest towns and cities had computers, while the same was true of only 5% of homes in the countryside (Samuolis, 2003).

In the domain of business operations, in the spring of 2002 around 67% of Lithuanian companies used computers. A total of 49% of Lithuanian enterprises were connected to the Internet, according to data from Emor and Taylor Nelson Sofres (Knowledge Economy in Lithuania, 2003). Data from SIC Market Research show that by early 2002, the percentage of computerized companies that were using the Internet in Lithuania was up to 70%, and one fourth of those companies that had no Internet connection were planning to get one (SIC market research, 2002). The majority of companies were still using dial-up connections to the Internet. However it is also true that companies that used the Internet did not use it very often. For instance, a significant number of these companies (23%) spent less than 20 hours online each month. The most popular areas of Internet use at companies are e-mail (54%), data transmission (34%), and banking operations (18%). One fourth of the companies that used the Internet had their own Web site at the time of the study.

Research conducted by the Department of Statistics in the processing industries and the service sector indicates that in early 2002, computer equipment was being used by 84% of companies in Lithuania (up from 80% in the same period in 2001). Companies that provide mail and distance connection services and those that are engaged in financial intermediation are best equipped with computers. In 2002, 66% of all of these companies had an Internet connection (compared to 59% in 2001), as did 78% of the companies that had computers. Only 41% of the enterprises used dial-up connections, and more than one fifth had dedicated telephone lines for the Internet. The same research also shows that ISDN and xDSL services have become increasingly popular among businesses. In the first three quarters of 2002, for instance, the number of ISDN service users more than doubled, while the number of xDSL service users more than tripled. The same study also shows that 27% of the companies that were studied had their own Web

sites, 7% sold goods or services online, 10% reported that they had bought goods or services online, and 32% of companies engaged in financial transactions online (Zilioniene, 2003).

The main factors that prevent companies from using the Internet to a wider extent include insufficient speed and excessive prices for Internet connections. These are clearly pointed out in research conducted by INFOBALT association (Lithuania ICT association) as main obstacles for infrastructure development (UNCTAD/WTO, 2002). The growing availability of broadband access services across the Baltic states should drive the market forward in terms of both time spent online and penetration. In the survey carried out by SIC Market Research, respondents point out major factors determining the length of time of being connected to the Internet. Forty-nine percent of the enterprises polled claim that they would apply possibilities provided by the Internet in their activity more extensively if usage charges were lower, while 30% would prefer communication channels of greater conduction. Approximately 10% of the respondents feel that they would like to have more services and a possibility to pay taxes via the Internet (SIC Market Research, 2002).

A similar situation prevails in organizations of the public sector. According to Lithuania's Department of Statistics and the Information Society Development Committee, the average number of computers per 100 state and local government employees in mid-2002 was 40. Approximately 60% of the staff at state and local institutions and agencies was using computers. A total of 40% of all employees and 68% of those who were using computers at the workplace were also using the Internet. By June 2002, nearly all of the surveyed state and local government institutions had Internet connections, and half of them had their own Web sites. More than one third of state and local government institutions (36%) were providing administrative services online. During the first half of 2002, the computerization of state and local government institutions increased—the average number of computers grew by nearly 8%, the number of computers that were connected to the Internet rose by 9%, and the share of institutions that were connected to the Internet increased by 1% (SIC Market Research, 2002).

Considering such situation it can be stated that infrastructure development has accelerated in some ways. However, such development tends to be concentrated in only major towns. Too high cost ICT usage shows an imbalance—businesses and consumers are prevented from using technologies because of economic/financial considerations and constraints. High prices are one of the reasons that inhibit a broader usage of ICT. This clearly demonstrates the desynchronization toward the

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