Public Network Access Points

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INTRODUCTION

The Internet is changing dramatically the way people live, work, communicate, recreate, and participate in public life. But the growth and penetration of the Internet are far from being distributed equally around the globe. In developed countries, the Internet today reaches substantial proportions of the population (e.g., Finland [50,7 %], Germany [56,2 %], the United States [68,8 %]), but in developing countries, Internet penetration often is very low. In Africa, 29 countries still have an Internet penetration of less then 1% (Internet World Stats, 2005).

The unequal access to information and communication technologies (ICTs) today often is called the digital divide. This catchy label stands for a multidimensional phenomenon and describes disparities in access to ICTs along various axes and at various levels. Disparities can be found not only in who physically has access to new technologies and who does not, but also in the distribution of the skills required to use the new technologies in an effective way (Hargittai, 2002; Warschauer, 2003). At the next level, disparities can be found in bandwidth and content available to different groups. These disparities are found among countries (global divides) and among different groups within countries (national divides). Although the existence of a digital divide in one or the other form is clearly accepted among scholars, the dimensions, dynamics, and relevance of this phenomenon are still being discussed strongly (for a more detailed discussion, see Cammaertes, Van Audenhove, Nulens & Pauwels, 2003; Compaine, 2001; Mossberger, Tolbert & Stansbury, 2003; Norris, 2001; Warschauer, 2003;).

One of the main strategies that is used to spread access to new technologies is the implementation of public network access points (PNAPs) that provide shared and, therefore, cheaper access to communities with low incomes. PNAPs can be defined as physical spaces where people can access ICT for personal, educational, economic, and democratic development without having to own the necessary hardware and software.

This article will give an introduction to PNAPs, starting with a short look at the emergence of this access model, which can be traced back to the early 1980s. After that, the different models that have evolved over the years in different regions of the world will be described briefly before taking a closer look at the role that PNAPs can play in the context of e-governance. Finally, some critical issues like sustainability, content, and management will be discussed before conclusions are drawn.

BACKGROUND

The PNAP scene that we see today is a very diverse and fragmented one. A variety of different models have evolved over the last 25 years, some of which can be found around the globe in places like cyber cafés; others exist only in specific regions such as village kiosks, which can be found only in rural areas of developing countries.

One of the first organizations that showed the importance and impact of public access to ICTs was the NGO Playing to Win (PTW) in the United States, which implemented the Harlem Community Computing Center in 1983 (Miller, 2000). Similarly, there have been many programs in other countries, like the Community Access Program (CAP) in Canada, which tried to foster development at the community as well as the individual level by offering public and shared access to ICTs.

In rural areas, one of the first documented projects that offered public access was the Vemdalen Telecenter in Sweden, which was implemented in 1986 (Fuchs, 1998). The Vemdalen Telecenter offered access to new technologies to individuals and to small-scale businesses in the region. This successful project was replicated soon after its implementation in many European countries in order to ensure access to new technologies, especially for people and small businesses in rural areas. In particular, the idea of supporting small and medium-sized businesses by providing shared and, consequently, cheaper access to otherwise expensive new technologies was often the driving force behind the establishment of similar projects in other industrialized countries in the mid-1980s and early 1990s. These models, which were based on shared use of technologies, have been considered powerful tools for the diffusion of the Internet and network-related skills in developing countries. Thereafter and since the end of the 1990s, these models have been implemented widely in Africa, Asia, and South America, mostly with the help of organizations like ITU, IDRC, USAID, and UNESCO.

Since then, a variety of different models have evolved. There have been several attempts to classify the different models, like those developed by Gomez, Hunt, and Lamoureux (1999), Colle (2000), and Lachmayr (2003), who classified them according to size, management-mode, or target group. The following section will give a short overview of the most common models that are based on the previously cited works.

TYPOLOGY OF PNAPS

There are at least six main models of PNAPs, which differ from each other in various aspects. However, they have to be seen as just theoretical, as PNAPs in reality often appear as a combination of different models.

Village Information Kiosks

Village information kiosks often are extended STD/ISD phone shops that have one or two additional computers connected to the Internet via dial-up connection or any other narrowband type of connection like UHF or VHF radio transmission. Recently, as in the case of the SARI project, advanced wireless technology (WLL) also is being used (Jhunjhunwala, Ramachandran & Bandyopadhay, 2004). The village kiosk usually offers phone calls; Internet connectivity; information services; health-related, educational, and e-government services; along with some other computer-related applications like word processing, scanning, or printing. But according to Colle (2000), the main focus of these centers is communication-related. One of the most interesting aspects of this model is the management mode, as it is run mostly by private entrepreneurs, such as the SARI-project, where local entrepreneurs can open a village kiosk with an investment of $1,000 US (Jhunjhunwala, Ramachandran & Bandyopadhyay, 2004). Some of the biggest problems can be seen in the task of achieving sustainability, creating awareness for the offered services, and accommodating the low educational levels of the rural population, but despite these problems, this model seems to be highly interesting in the spread of the use of ICTs into rural areas in developing countries.

Telecenters

According to Gomez, Hunt, and Lamoureux (1999), telecenters are one of the most common PNAP models implemented in developing countries. They usually are equipped with five to eight computers, use a broadband connection, and offer more advanced services than the village information kiosks. There are examples of telecenters that are run by private entrepreneurs, but mostly, they are implemented and managed by NGOs, as the initial and operational costs are too high for private entrepreneurs in developing countries. Telecenters also can be found in developed countries, where often they are part of a regional development strategy. One of the main tasks of telecenters is the development of skills; especially in developed countries, these centers often are used to support people in gaining computer-related skills, which enables them to make online job searches and prepare application materials (Chow, Ellis, Walker, & Wise, 2000).

Multipurpose Community Telecenters

The multipurpose community telecenter model is set up with 10 to 20 computers. It offers more than just basic access to the Internet and often focuses on educational issues and community development. It is equipped with the latest technology and offers top market applications like videoconferencing, e-governance, and telemedicine in rural areas. In many ways, this model is similar to telecenters; the main distinction is its size and the services that it offers. Because of its size and the variety of services it offers, a multipurpose community telecenter is implemented and run only by NGOs or governments. These centers often aim not only at enabling access and training but often also are part of broader community development strategies. Whereas this model has become quite common in the developed world, especially in urban areas, it seems to be oversized and too expensive to work effectively in developing countries.

Civic Access Centers

Based in schools, universities, libraries, post offices, or other civic buildings, Civic Access Centers often offer the general public access to computers and network connections, just as some schools or universities offer the general public access to their equipment at certain times (Proenza, Bastidas-Buch, & Montero, 2001). In most developed countries, like the United States, Germany, Japan, and Australia, libraries offer their customers free Internet access as an additional service. These centers usually neither publicize their services very openly nor concentrate on training or education (Gomez, Hunt, & Lamoureux, 1999). However, in some regions of the world and for some groups, especially in the developed world, these centers seem to be an important access point, as home access or other public access places may not be available (Gordon & Gordon, 2005; Erikson, 2005). Civic access centers can be seen as a necessary government service to the general public, as citizens have the right to