

## The Internet Economy

In 1995, there were roughly 16 million Internet users across the globe; by 2008 there were nearly 1.5 billion, about 22 percent of the world's population. Two-thirds of U.S. adults had in-home Internet access by 2008 (PEW). Domain names have grown from 30,000 in 1994 to 168 million in 2008 (Verisign). Hosts, also known as end-user computers, grew from 1,000 in 1984 to 570 million in 2008 (Internet Systems Consortium). The Bureau of Census reports online retail sales went from \$31 billion in 2001 to \$107 billion in 2007. Also according to U.S. census statistics, online wholesale trade in 2006 was an estimated \$613 billion, or approximately 16 percent of sales. Online wholesale trade in farm products was an estimated \$5 billion, or 4 percent of all wholesale farm product sales in 2006.

Online economic activities may be grouped into three broad categories: information sharing, purchase channels, and sales channels. Information sharing can range from the trivial to critical life or business issues—from chat rooms to medical or financial storehouses—and is the most common application for businesses and consumers (Hopkins and Morehart, 2001; Stenberg, 1999; Varian, 2003). Even when purchases are not consummated online, purchase decisions are facilitated through price discovery or consumer information gathering. Real estate and automobiles are just two of the markets that have been transformed by price discovery online (Borenstein and Saloner, 2001).

The Internet has led to new sources of supplemental income for some households. Crafts, for example, that used to be pitched only at annual State and county fairs are now marketed year-round to wider audiences, and the Internet has led to the rise of auction sites such as E-Bay where anyone can be a buyer and seller of new and used goods and services.

For businesses, the Internet has reduced geographic isolation, with information from collaborating businesses or customers instantly available. The effective market area for producers has increased, though many businesses have not taken advantage of this potential (Brynjolfsson and Smith, 2000; Malecki and Moriset, 2007).

The increased speed and quantity of information, however, cannot reduce the physical distance that passengers and goods must travel (Malecki and Moriset, 2007). It is not clear whether the number of business trips has lessened due to the Internet (i.e., substituting Internet communication for travel). Anecdotal evidence suggests that as the price of transportation soared in early 2008, businesses cut back on travel (Odlyzko, 2008). Although the moving of farm, agricultural, and other physical goods from point A to point B involves the same distances as always, the Internet has enhanced the ability to track shipments and increased the efficiency of shipping companies.

As the Internet expands the effective market area for businesses, it also increases competition. The financial system is a prime example. Banks were traditionally local in nature. Historically, each farm community had its own bank. The bank held deposits from local residents and, in turn, loaned funds out to local farmers and the business community. This has changed, however, over the last several decades. First, the regulatory limitations on the markets

that banks could serve were relaxed or eliminated. With the new regulatory environment and the revolution in telecommunications, the number of locally owned banks has declined (DeYoung and Duffy, 2002; Keeton, 2001).

Depositors have increasingly turned to online banks or investment concerns that offer higher rates of return for their capital (DeYoung and Duffy). This has increased the financial returns of bank depositors, but has reduced the profit that local banks accrued from deposits. Many loan applicants have gone online to find the best rates and terms for home mortgages, home equity, and other loan instruments. This has reduced the cost for the loan applicant, but also eroded the profit from individual loans in the bank's loan portfolio. To address this shortfall, many banks have increased their volume of transactions, often by increasing their effective market area. This may have hastened the consolidation of the financial market over the last 10 years.

E-government is another major development in the digital economy affecting rural America. Four kinds of activities fall within this area: information dissemination, citizen/customer services, government business transactions, and governance (Gallegos, 2002; Lanvin, 2008). Information typically disseminated includes public holidays and events, regulatory actions, issue briefs, public schedules, and school lessons and lunch menus. Twelve percent of all farms and 22 percent of all farms with Internet access, for example, retrieved information from Federal websites, according to analysis of 2007 June Agricultural Survey (JAS) data.

Citizen or customer services include paying taxes and fees, lodging complaints, requesting additional information, scheduling of public facilities, and submitting applications for various programs. Four percent of all farms and 7 percent of all farms with Internet access conducted business with the U.S. Department of Agriculture over the Internet according to analysis of 2007 JAS data.

Government business transaction costs have fallen for governments able to conduct much of their own back-office operations online, including supply purchases, bill payments, travel arrangements, and grant/loan operations with other agencies (Lanvin, 2002; Crescia, 2006). Governance changes are evident in the virtual town hall meetings, online polling, campaigning, and voting that characterized the 2008 election cycle.

Both government and the citizenry have benefited from the development of e-government via decreased costs to deliver or obtain services, increased or enhanced provision of information and services, and improved feedback between the citizenry and government (Lanvin).