

FARMERS' USE OF COMPUTERS TO GATHER INFORMATION

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Abstract

Farmer use of computers is increasing, with the changes in farm law leading to increased speed of information delivery. The types of computers can be classed as personal computers, computer-controlled systems and dedicated units. The electronic data of choice tends to be highly volatile and perishable, such as market prices or weather information.

Introduction

Farmer use of computers to gather information is increasing. Although it is something of a "which came first" type of question as to why the use is increasing, the most accepted reasoning is that as more information is available electronically more people will work to gain access.

An early study of more than 700 farmers showed 15% used at least one electronic information service and about 10% planned to get one within five years. The type of computers farmers use varies from personal computers to dedicated units. As expected from the variety of computers available, the use varies as well.

Discussion

Farmers use computers more to deal with policy changes, which put the focus on timely information. Policy changes include the new farm law passed last April. Many decisions for the 1996 season already were made or had to be made quickly. Other recent changes include an IRS memo that could be found quickest with electronic information. Those are examples of breaking news. When dealing with ongoing day-to-day decisions, farmers choose electronic information sources as the most reliable sources of specific information.

A survey of more than 700 farmers were asked to rank 11 kinds of content carried on three electronic information systems. Although farmers with all income levels were interested in information provided by radio, newspapers and personal sources, the three electronic information systems were actually used more by younger and higher-income farmers.

In a separate survey of about 100 users of a nationwide ag information service found farmers used the service

primarily for commodity futures prices, cash prices and reports.

Types of computers include personal computers, control systems and dedicated units. Personal computers are used in a variety of ways, including accounting, word processing and correspondence, fun and information access. About 60% of all home-based businesses use a personal computer. A San Antonio firm that develops specialized software estimates that 40% of beef cattle operations use personal computers. To use a computer to access electronic information requires a PC with a modem, which would run about \$3,000 and \$20 a month to access commercial databases via the Internet. People use the Internet primarily for communication (32% for e-mail and 8% for chat), 25% for research and 22% for news/information.

Personal computers can be used to access information on the Internet. Internet sites targeted to farmers include Successful Farming's @gonline, Farm Journal and DTN FarmDayta On Line. The cost of these services is paid either by advertisers or users. Other sites targeted to farmers include commodity groups, such as the National Cotton Council, National Cattlemen's Beef Association and National Pork Producers Council. The cost of those services is paid by user fees within the system. Another type of Internet site targeted to farmers is farmers' own pages. The host farmer pays the cost to help promote his products and offer links to people with similar interests. A recent Wall Street Journal article showed the Internet users consistently have been male with above-average income and only spend an average of a little over three hours per month on line.

Another type of computer that farmers use is control systems. Control systems can be used to mix livestock rations, such as that used on dairy farms that have cows wearing transponders to signal a specific ration to be emptied into a feeder. Other control systems are part of the new "precision agriculture" for field work, including mixing fertilizers and applying pesticides. The key to some of these is data gathered over time through the use of high technology, such as the global positioning system (GPS). That uses a set of orbiting satellites to determine an exact geographic location, such as a tractor in a field. GPS was developed for the U.S. Department of Defense but was made available for civilians in 1983. Since then, companies such as Deere, Case, Growmark and Rockwell International have been pushing it hard. But heading into the 1996 growing season, less than 5% of U.S. farmers were using it. Of those, even fewer understand how to use geographic information systems (GIS) software to understand the data. That's expected to change dramatically over the next 10 years. Partly as the technology is more readily available and partly as the more than 60 years of farm supports are phased out and farmers have more choices on what to do with the 190 million acres of U.S. cropland.

A third type of computer that farmers use are dedicated units. The main content of these dedicated units is electronic news, markets-both cash and futures-and weather. Although there are a lot of companies and organizations that provide these information services on dedicated computers in exchange for fees, there are really only three that target their content and fees to farmers. These include Data Transmission Network Corporation (DTN), Farm Bureau and Oster Communications. Although the companies offer different ways to access the information electronically, most agricultural customers access the information through a computer and satellite feed. The type of unit varies depending on the company and its services. The DTN and DTN FarmDayta units are rented from the company while Oster's FutureLink/GlobaLink use a personal computer that is dedicated to the task of pulling information from an orbiting satellite. Of these systems, DTN and DTN FarmDayta offer the most optional services and most targeted information for the broadest area. The Farm Bureau Acres system is available in only a few states, while the DTN satellite services are available in all of the lower 48 and the Internet services are available worldwide. DTN has more than 115,000 agricultural customers, most of whom subscribe to DTN AgDaily and DTN FarmDayta.

Summary

Farmers are using computers more to gather information to make marketing decisions and seek data for production from many sources but use computers primarily for marketing, prices and weather.

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