

Researching Internet Use in Vermont

Using the 2003 *Vermont* Poll

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Executive Summary

The 2003 Vermonter Poll asked ten questions relating to information technology. We tested the relationships between age, gender, income, political affiliation and region of residency and personal computer (PC - no distinction among types of computer) ownership, connectivity, and various Internet uses.

The proportion of Vermont households with home PCs has increased over the past decade from 43% in 1993 to 79% in 2003, according to the statewide Vermonter Poll conducted by the Center for Rural Studies at the University of Vermont.

Despite the overall increase in PC ownership, there is still evidence of a digital divide. Households making more than \$20,000 annually are more likely to have a home PC than those making less. Thirty-nine percent of households making less than \$20,000 annually have computers, compared to a 67% rate of home computer ownership in the \$20,000 - \$35,000 income bracket. The ownership rates in all income brackets above that are even higher, topping at 97% in those households making \$65,000 or more. Nevertheless, among all households with computers, there is no significant statistical relationship between income and Internet connectivity.

Ninety-two percent of Vermont households with a home PC are connected to the Internet, up from 79% in 2002. Seventy-eight percent of connected households use a dial-up modem, versus 22% with some type of broadband connection. The ratio of dial-up connection to broadband has decreased slightly since 2001. This could be illustrative of a tendency for Vermont households to move to faster connection speeds.

Of those households with a PC, 56% perform some sort of business function on their computer, down slightly from 59% in 2002. In terms of Internet use from home or any other location: 74% of Vermonters go online to access their email service, 50% to access websites related to state government, 49% to access news sites, 48% to shop online, 47% to access data and statistics online, 40% to access information on schools and colleges, and 25% to access information and services from municipal government.

Region of residency within the state does not seem to have a significant influence on household PC ownership. The three Vermont regions studied are Chittenden County, the Northeast Kingdom, and the remainder of the state. These regions act as proxies for urban Vermont, rural Vermont, and the urban-rural-suburban mix that one can find throughout the state. Sample sizes by county alone are too small for a county-by-county analysis.

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Internet Use in Vermont

I. Introduction

Increased attention and utilization of the World Wide Web is professed to have started around 1994 at the dawn of the dot-com era (Mitchell, 1994). Since then, the Internet has provided almost infinite possibilities for users. Any person that has access to a computer with an Internet connection can read an email, read and/or hear local, national, or world news, buy products online from retailers in the U.S. or abroad, take online courses, teach oneself, or research a topic. The Internet's uses seem endless and can bring the world to a home or person.

The Center for Rural Studies at the University of Vermont has been conducting survey research on Vermonters' PC ownership through the annual Vermonter Poll for the past ten years. To determine if Vermonters are "e-ready" (International Economic Development Council website), the CRS poll continues to poll Vermonters' about their connections (such as DSL or dial-up) and opportunities (at home, office, or both) to the Internet. This report examines whether there is a relationship between several demographic variables, including age, gender, income, political affiliation or region of residency, and ownership of a home personal computer (PC - no distinction among types of computer), connectivity, and various types of Internet use. More specifically, the null hypothesis examined for this report stated: There is no significant relationship between age, gender, income, political affiliation, or region of residency and home PC ownership, connectivity, or type of Internet use. Through bivariate analysis of the survey data, the study found:

- Purchase of home PCs by Vermonters has steadily increased over the last ten years
- The majority of the sample population owns a PC
- Of those households that own a PC the majority of the sample population is likely to have an Internet connection at home
- Regardless of where one accesses the Internet (any location or home), the majority of the sample population noted using the Internet for one or more reasons
- Internet uses increase considerably when a computer is present in the household
- Households with an annual income greater than \$20,000 are more likely to own a PC
- Regardless of income, households with a PC are more likely to have an Internet connection than not
- Region of residency does not play a significant role in owning a PC, having Internet connectivity or using the Internet

II. Methodology

The data used in this report was collected by the Center for Rural Studies (CRS) at the University of Vermont as part of the annual "Vermont Poll" telephone survey. The survey was conducted at CRS over the first two weeks of March 2003 and administered using a Computer Aided Telephone Interviewing (CATI) system by trained interviewers. Households were randomly selected using a list of telephone numbers generated from Vermont telephone directories. Unlisted numbers were included in the random number generation. The survey excluded those households without a telephone. The subjects in this study consisted of Vermont residents eighteen years or older. The questions on the survey are paid for by various organizations interested in how Vermonters feel on certain issues in the state of Vermont. The ten information technology questions were asked and paid for by the Center for Rural Studies to

B. Behaviors:

The dependent variables used in this analysis were home PC ownership, Internet connectivity, and various Internet usages (i.e. email, news, shopping, or information search) at any location or home.

To determine PC ownership, respondents were asked a “yes/no” question about home PC ownership. To determine Internet connectivity in the home, respondents were asked to respond about their type Internet connection. To determine Internet uses at any location (home, work, school, etc.), respondents were asked “yes/no” questions to whether or not they used the Internet for any of the following: email, news, shopping services, data and statistics, information about

FIGURE III: TYPE OF INTERNET CONNECTIVITY 2001-2003

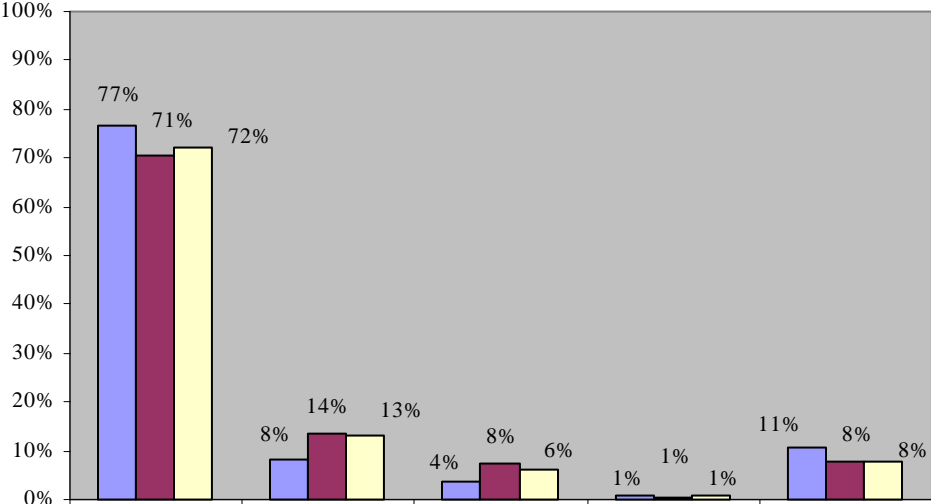
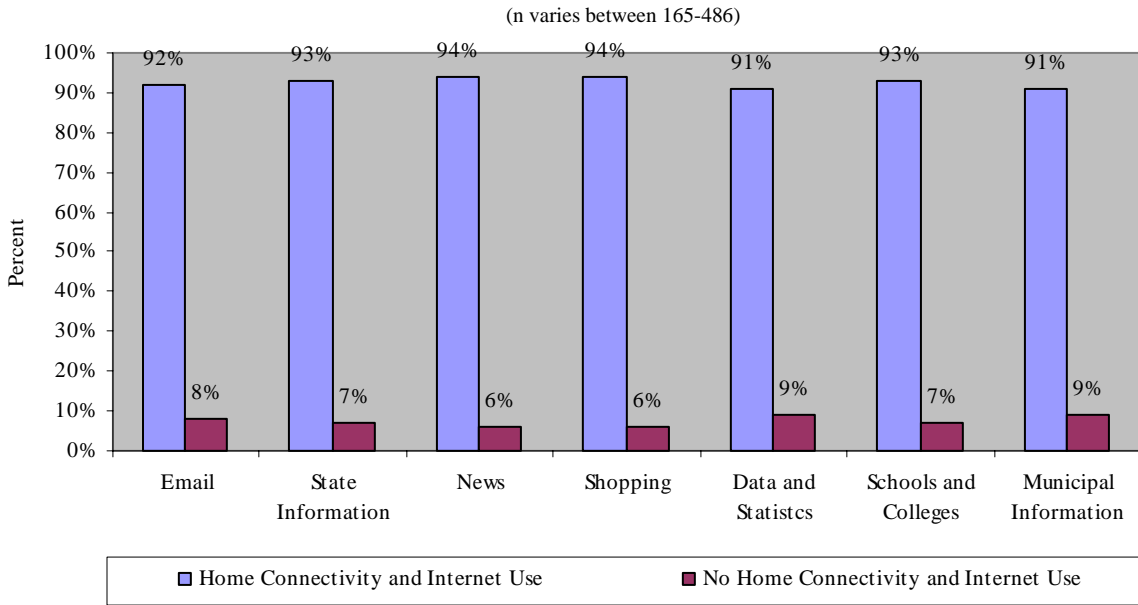


FIGURE V: DIFFERENCES IN FREQUENCY OF INTERNET USES BY THOSE WITH HOME CONNECTIVITY AND THOSE WITHOUT HOME CONNECTIVITY



When analyzing the data by region, there are no significant discrepancies between region of residency and household PC ownership and connectivity (Figures VI and VII). Figure VIII also shows that there is little difference in type of Internet connectivity among the regions.

FIGURE VI: HOUSEHOLDS WHO OWN A HOME PERSONAL COMPUTER BY REGION

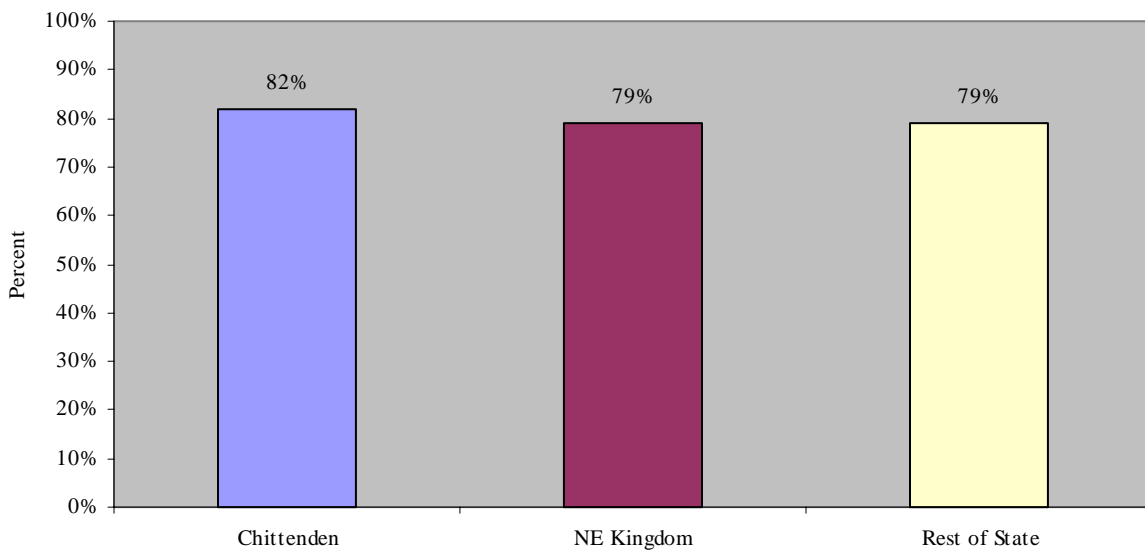


FIGURE VII: HOME INTERNET CONNECTIVITY BY REGION OF HOUSEHOLDS THAT OWN A PC

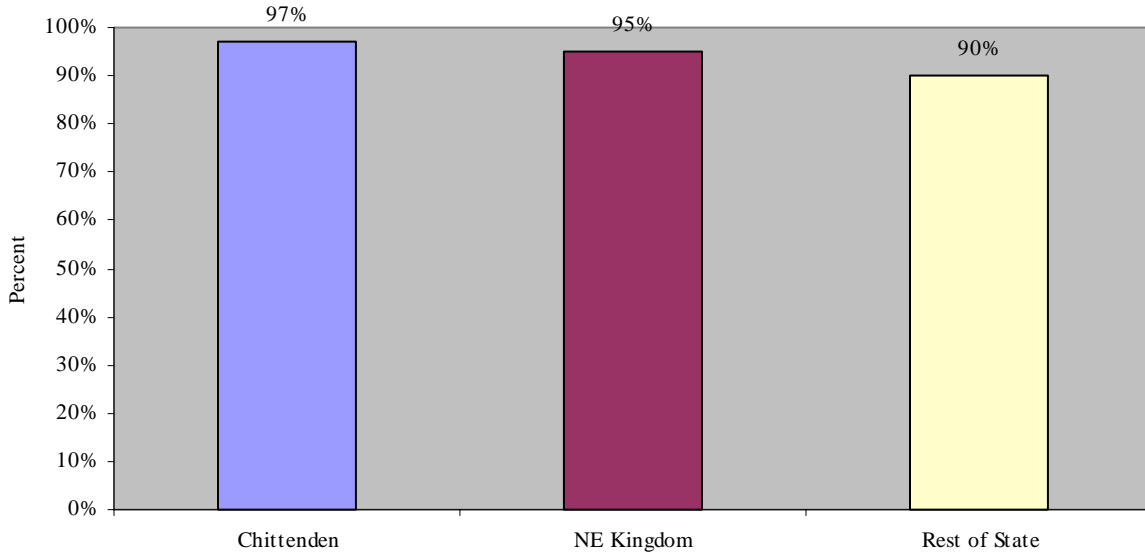
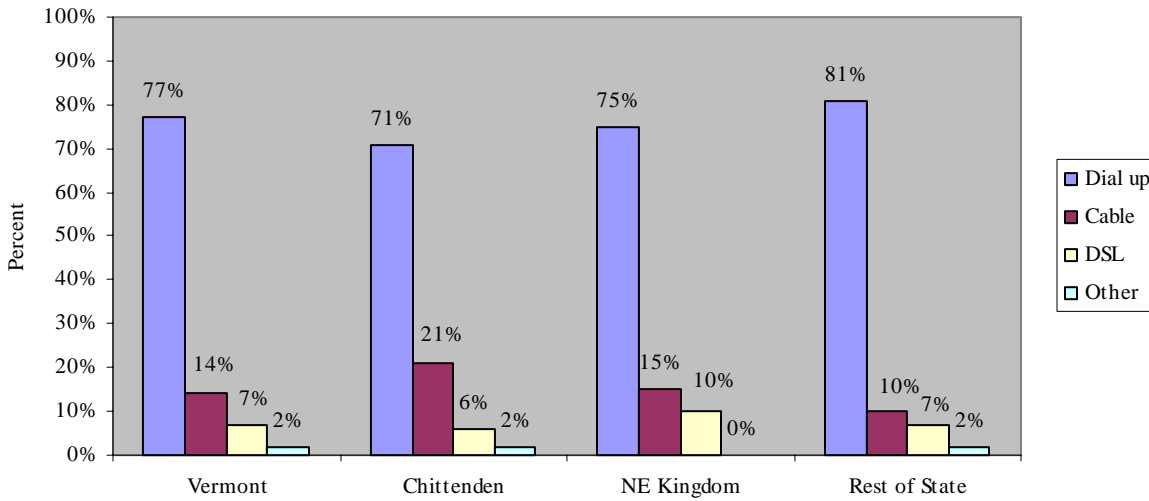


FIGURE VIII: TYPE OF INTERNET CONNECTIVITY AT HOME BY STATE AND REGION



B. Testing Significant Relationships:

Table III shows the significance of the relationship between the independent variables and the dependent variables, PC ownership and Internet connectivity. Although we can reject the null hypothesis at a 99% confidence level for age and PC ownership, the difference is not significant or meaningful. The mean age of those with a home PC is 50 and those without is 57. The same holds true for age and Internet connectivity. The null is rejected at a 95% confidence level; mean age of those with Internet connectivity is 47 and without, 52. Although we can reject the null hypothesis at a 95% confidence level for region and home connectivity, the

difference is not significant or meaningful. Of more importance is the relationship between income and PC ownership and income and home connectivity.

TABLE III: SIGNIFICANCE OF RELATIONSHIP BETWEEN DEMOGRAPHICS AND PERSONAL COMPUTER OWNERSHIP AND CONNECTIVITY

Age	Income	Gender	Political Affiliation	Region
Home Computer ***	Home Computer ***	Home Computer	Home Computer	Home Computer
Connected**	Connected	Connected	Connected	Connected**

Significance at ***99%, ** 95%, *90%

Chi-square tests showed that there appears to be a significant difference between income and PC ownership. We reject the null hypothesis at a 99% confidence level for income and PC ownership. As income increases, the likelihood of owning a PC increases. 39% of households with less than \$20,000 annual income own a PC as opposed to 67%, 80%, 95% and 97% in the other four income brackets respectively (Figure IX).

However, Figure X shows that, once a computer is in the home, Internet connectivity

V. Conclusions and Recommendations

Own a Personal Computer (PC)

- Owning a PC appears to be significantly tied to income.
- Owning a PC is associated with increases in Internet uses across all demographics analyzed.

Internet Connectivity and Internet Use

- Regardless of income, more Vermonters who own a PC are connected to the Internet compared to those who do not own a PC.
- There is no significant difference between Internet use and income when a computer is present in the household.

Looking at Internet uses of the sample population as a whole and at the sample population that owns a PC and has an Internet connection, it is evident that all types of Internet use increase when a computer is present in the home (Figure V).

Since income and owning a PC appear to be significantly related, it is not surprising that only 39% of households with annual incomes less than \$20,000 own a computer and that at least 67% of households with incomes greater than \$35,000 own computers.

To bridge the gap between lower income groups and the digital world, further research may expand on understanding the social and economic benefits of being connected to the Internet. Further research could provide incentive for local, state, federal, or private funding to enable lower income households to purchase a PC and assist them in expanding their capabilities outside of the community.

Appendix

	Frequency	Valid Percent
Has a PC in the home.		
1.Yes	533	79.4%
2.No	138	20.6%
Uses of PC.		
1.Personal use only	223	41.9%
2.Business use only	13	2.4%
3.Both	286	53.8%
4.Do not use computer at all	10	1.9%
Type of Internet connection.		
1.Dial up modem (using phone lines, 56K, 28.8K)	371	71.8%
2.Cable	67	13.0%
3.DSL (Digital Subscriber Line)	32	6.2%
4.Satellite	4	0.8%

