

THE 2002 NATIONAL TECHNOLOGY READINESS SURVEY Highlights

About the NTRS

The National Technology Readiness Survey (NTRS) is co-sponsored by the Center for e-Service at the University of Maryland's Robert H. Smith School of Business and Rockbridge Associates, Inc., a market research firm in Great Falls, VA. The study tracks beliefs about technology and key behaviors related to e-services. It is based on a representative, random sample of U.S. adults (18 years or older), and is administered by telephone. It has been conducted for four consecutive years since 1999. The 2002 NTRS was administered in December among a sample of 501 adults; the statistical margin of error on the 2002 survey is plus or minus 4 percentage points for questions based on the full sample.

The authors of the study are Charles Colby, President of Rockbridge Associates Inc., and Professor A. Parasuraman of the University of Miami. Both are senior fellows of the Center for e-Service at the Robert H. Smith School of Business.

Impact of the Internet on Work

Taking the Work Home: Americans spend more time at home on the Internet for work purposes than they spend on the Internet at work for personal reasons.

A widely publicized concern among employers is that their staff spends time on the Internet at work for personal activities. Employees do in fact use the Internet at work for personal business, but they report spending more time at home on the Internet for work-related purposes. Those with online access at both home and at work spend an average of 3.7 hours per week engaged in personal online activities while at the job. But they spend an average of 5.9 hours per week online at home for work-related purposes. Thus, the Internet seems to have a net effect of shifting work to home more than personal activities to work.

Looking at the shift in time in a different way, of those who have computer access at both home and work, 47% spend more time using the Internet at home for work purposes than at work for personal reasons. Only 27% spend more time on personal pursuits than they give back at work. And, 25% report shifting their hours between venues evenly, spending as much time on personal business at work as on work business at home.

When people have access at work but not at home, they may take advantage of the work access for personal reasons – such workers conduct an average of 6.5 hours of personal business at work (although the sample size is small). However, people with

home access but no work access may also use their home system for work, an average of 3.7 hours (again, a small sample size).

Looking across all working adults, those workers with Internet access at home (including those with access at both work and home) spend 5.3 hours per week at home on work activities. Working adults with Internet access at work (including those with access at both work and home) spend an average of 4.4 hours per week on personal activities at work.

- Home Internet Usage for Work Purposes Compared to Work Internet Usage for Personal Uses - Source: 2002 National Technology Readiness Survey (Dec. 2002)		
	Hours/week on Net while at home for work-related purposes	Hours/week on Net while at work for personal reasons
Base: Employees with online access at home/both home and work <i>Mean</i>	(125) 5.9 hours	(122) 3.7 hours
Base: Employees with online access at home only <i>Mean</i>	(35)* 3.7 hours	NA
Base: Employees with online access at work only <i>Mean</i>	NA	(27)* 6.5 hours
Base: All Adults with access at home <i>or</i> work <i>Mean</i>	(160) 5.3 hours	(149) 4.4 hours
Note: responses do not include people who were unable to estimate the hours.		

*Caution: small sample size.

These findings are an interesting indication of how our work lives are changing as the Internet grows. The underlying reasons for choice of venue are complex, and while we did not ask for more specific information in this survey, we can offer some hypotheses. Home activity at work: Many people may conduct personal business at work because the workplace offers more desirable infrastructure such as high-speed connections. And, most modern PCs still require an effort to boot up, so consumers may be more likely to conduct personal business on the job where their computer is on all day. The growth in e-services creates new reasons to go online that might be conducted during the workday. Work activity at home: In the other direction, computers give workers newfound freedom. For example, a person can now leave the job early enough to have dinner with the family, and finish up business on the Internet afterwards. This might include checking email, conducting research, ordering travel or purchasing things for work. Workers may also telecommute, and telecommuting may be spontaneous or temporary, such as staying at home in the morning to catch up without distractions.

Strides in E-Service

E-Services register continued growth, despite a drop in e-tailing.

There has been some decline in the incidence of adults who made online purchases in the past year, particularly in the category of items costing under \$10. This may be due to the recession, which limited consumer spending generally in popular categories for online purchasing such as gifts, clothes, computers and books.

Personal Online Activities - Travel and Shopping - Source: 2002 National Technology Readiness Survey (Dec. 2002)		
Base: Has Internet access in at least one location	2001 (418) %	2002 (422) %
Purchased an item costing between \$10 and \$100 online	53	48
Booked travel	40	38

arrangements online		
Purchased an item costing over \$100 online	32	31
Purchased an item costing less than \$10 online	28	19 L
L = Statistically significantly lower than 2001.		

On the other hand, there is evidence of continued growth in e-services that do not involve purchasing, such as providing self-service over the Internet. For example: The incidence of adults using the Internet to check their utility accounts online rose from 13% to 22%;

The percentage who paid bills online (other than credit cards) rose from 16% to 23%.

There have been smaller but notable increases in the past year in the incidence of people signing up for telecommunications and utility services online, paying credit card bills online and managing credit card accounts online.

Personal Online Activities		
-Telecommunication/Utilities Services -		
Source: 2002 National Technology Readiness Survey (Dec. 2002)		
Base: Has Internet access in at least one location	2001	2001
	(418) %	(422) %
Checked account information with a phone, gas or electric company online	13	22 H
Signed up for a telecommunications service online	5	9
Signed up for any	5	9

household utility, such as gas, electric or cable services, online		
H = Statistically significantly higher than 2001.		

Personal Online Activities - Financial Services/Insurance - Source: 2002 National Technology Readiness Survey (Dec. 2002)		
Base: Has Internet access in at least one location	2001 (418) %	2002 (422) %
Checked information on your bank account online	38	36
Moved money between bank accounts, made deposits, or made withdrawals online	20	20
Applied for a credit card online	17	14
Paid a bill other than a credit card online	16	23 H
Managed a credit card online	15	19
Paid a credit card bill online	15	20
Bought or sold stock or securities online	10	9
Applied for a home mortgage online	4	6

Signed up for any type of insurance online	3	5
H = Statistically significantly higher than 2001.		

The authors Parasuraman and Colby note the following reasons for the incidence of online service usage increasing:

E-service is a new innovation, and takes time to be fully adopted in the population. Consumers are finally acting despite concerns about the security and comfort of online self-service that have restrained them to date.

Consumers are adding more infrastructure at home to facilitate e-government usage. For example, 29% of consumers with online access at home report having a high-speed connection, up from 20% a year earlier. High-speed access is becoming more common, with 58% of those without this service believing it is available in their neighborhood. Cable modems are instrumental, outnumbering DSL connections by 2 to 1.

Home networks make going online easier; 18% of all households now report having a home network, according to this wave of the NTRS. A fifth (20%) of these networks are wireless.

Internet Access		
Source: 2002 National Technology Readiness Survey (Dec. 2002)		
Base: Has Internet Access at Home	2001	2002
	(327) %	(347) %
Method for Accessing Internet		
<i>Regular Phone Line</i>	77	67 L
<i>High-speed</i>	20	29 H
<i>Both phone line and high-speed</i>	1	2
Type of High-speed Access		

<i>Cable Modem</i>	12	20 H
<i>DSL</i>	8	9
<i>Satellite</i>	--	1
<i>ISDN</i>	--	--
<i>T1 Line</i>	--	--
<i>Other</i>	--	1
Base: Does not have high-speed access	NA	(242) %
High-speed access is available in neighborhood	NA	58
L/H = Statistically significantly lower/higher than 2001.		

C2C Commerce

We often think of online commerce as Business-to-Consumer (B2C) or Business-to-Business (B2B), but the Internet is a flexible medium that allows other forms of commerce, such as Consumer-to-Consumer (C2C), which bypass traditional channels. In 2002, 19% of online users purchased an item from another consumer on the Internet, using a medium such as an auction site or a classified ad. Half of this share, 10%, sold an item to another person, revealing that sellers tend to deal with multiple customers.

- Personal Online Activities – Auctions -	
Source: 2002 National Technology Readiness Survey (Dec. 2002)	
Base: Has Internet access in at least one location	2002
	(422) %
Purchased an item from another person, such as through an auction site or classified	19
Sold an item to another person,	10

such as through an auction site or classified	
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Consumers are also creating their own Web presence – 21% of all adults report that they or a family member has a personal Web-site. And, 13% report having their own domain name; this could be for their family or for a hobby.

Consumer Web Presence	
Source: 2002 National Technology Readiness Survey (Dec. 2002)	
Base: All Adults	2002
	(501) %
Self or family member has a personal Web site	21
Self or family owns a domain name, or Web site address, for personal/hobby purposes	13

E-Government Trends

Online business with government grows, although users are less satisfied than with private sector sites.

Fewer Internet users visited government Web sites in 2002 than in the previous year, but the incidence of actually doing business with a government online is growing. In 2002, half (47%) of consumers visited some kind of government Web site and a fourth (24%) did business online with a local, state or federal government office.

Incidence of E-Government Activities in the Past 12 Months		
Source: 2002 National Technology Readiness Survey		
Base: Online Adults	2001	2002
	(418) %	(422) %
Visited government Web site (local, state	55	47 L

or federal)		
Conducted business with government online (local, state or federal)	21	24
H (higher) or L (lower) indicates statistically significant difference compared to other figures in that category		

The picture is different between state/local government and federal government, with most of the growth occurring in the federal sector.

- In 2002, the incidence of visiting Web sites for state and local governments was 39%, down significantly from 50% last year. A fifth (19%) of adult Internet users did business with a state or local government in 2002, up slightly from 16% in 2001.

- In the federal sector, the incidence of visiting a Web site for an agency is 36%, slightly higher than the previous year (33%). And, the incidence of actually doing business with the federal government online grew significantly from 11% in 2001 to 18% in 2002.

Males with online access are significantly more likely to visit these government Web sites than females.

Incidence of E-Government Activities in the Past 12 Months Source: 2001 & 2002 National Technology Readiness Survey				
	2001	2002		
	Total	Total	Males	Females
Base: Online Adults	(418) %	(422) %	(176) %	(246) %
Visited Local/State government Web site	50	39 L	43 H	34
Conducted business	16	19	23	15

with Local/State government online				
Visited federal government Web site	33	36	43 H	29
Conducted business with federal govt. online	11	18 H	22	14
H (higher) or L (lower) indicates statistically significant difference compared to other figures in that category				

The nature of the business conducted online with the government is a reflection of the level of government involved. However, taxes are the most common use of e-government regardless of the level. In a 12-month period, 41% did business with federal Web sites in some connection with taxes, and 19% did so at the state or local level. Conducting business online at the state or local level involves some functions unique to their jurisdiction. Chief among these uses is motor vehicle information and transactions (17%) and employment opportunities (14%).

Types of Business with Government Web Sites		
Source: 2002 National Technology Readiness Survey (Dec. 2002)		
Base: Conducted business online with...	Federal Government (85) %	Local or State Government (86) %
General taxes	41	19
<i>General information/research/browsing</i>	12	11
<i>Forms</i>	9	--

<i>Health</i>	6	--
<i>Education</i>	6	3
<i>Employment/Work</i>	5	14
<i>Contact information</i>	5	2
<i>Personal information</i>	4	5
<i>Projects/Bids/Sales</i>	3	5
<i>Banking</i>	2	3
<i>Business/Company related</i>	1	--
Permits	1	4
DMV information	--	17
Local information (maps, parks, zoning, etc.)	--	4
Unemployment	--	3
<i>Other</i>	6	11

The public is generally satisfied with e-government, which may explain the sustainability and growth of this sector. Three-quarters (74%) of adults who did business with the federal government online are highly satisfied with their experience. Nearly two-thirds (64%) feel the same about their online experience with state or local government. However, 13% of those who did business online with state or local governments are highly dissatisfied with the experience.

Satisfaction with E-Government – % Satisfied or Dissatisfied with E-Government Activities – Source: 2002 National Technology Readiness Survey (Dec. 2002)	
Base: Conducted business with the federal government online	(85) %
Satisfaction with federal online business on a 9 point scale:	
Highly Satisfied (7-9)	74

Highly Dissatisfied (1-3)	4
Base: Conducted business with a local or state government online	(86)
Satisfaction with local/state government online business on a 9 point scale:	
Highly Satisfied (7-9)	64
Highly Dissatisfied (1-3)	13

Despite the majority of users being satisfied, e-Government is behind the private sector in customer satisfaction. Satisfaction with online purchasing is ranges from 87% to 88%, depending on the amount of purchases. Satisfaction is lower for paying credit card bills online (76%), but still ahead of government.

Satisfaction with E-Services – % Satisfied or Dissatisfied with E-Service Activities – Source: 2002 National Technology Readiness Survey (Dec. 2002)	
Base: Purchased item <\$10 online Satisfaction with Online Purchases less than \$10 on 9 point scale:	(91) %
Highly Satisfied (7-9)	88
Highly Dissatisfied (1-3)	0
Base: Purchased item \$10-\$100 online Satisfaction with Online Purchases \$10-\$100 on a 9 point scale:	(228) %
Highly Satisfied (7-9)	87
Highly Dissatisfied (1-3)	5
Base: Purchased item >\$100 online	(149)

Satisfaction with Online Purchases >\$100 on a 9 point scale:	
Highly Satisfied (7-9)	87
Highly Dissatisfied (1-3)	1
Base: Paid a credit card bill online Satisfaction with Bill Paying on 9 point scale:	(93)
Highly Satisfied (7-9)	76
Highly Dissatisfied (1-3)	6