



Advancing Work From Anywhere

401 Edgewater Place
Suite 600
Wakefield, MA 01880
Tel: +1.781.876.8815
Fax: +1.781.224.1239

www.workingfromanywhere.org

Teleworking Comes of Age with Broadband

Telework America Survey 2002

Joanne H. Pratt

Joanne H. Pratt Associates

April 2003

Sponsored by AT&T

**A Telework America Research Report of the
International Telework Association & Council**

TELEWORK



AMERICA™

Acknowledgements

My special appreciation to the International Telework Association & Council (ITAC) Executive Director Bob Smith and to Research Committee members: Mark Borton, Nancy DeLay, Cynthia C. Froggatt; Timothy Golden, Theresa Noll; Joseph Roitz, and Koji Sato. Their professional suggestions, astute editing and dedicated support greatly enhanced the study. Wendell Joice, past Chair and Jennifer Verive, current Chair, skillfully oversaw the shaping of the survey and presentation of the research findings in this report.

Susan Cornish and Heather Ivkovich of NFO World Group were instrumental in designing the online study.

Thank you each and all.

Joanne H. Pratt
Joanne H. Pratt Associates

A Special Thanks to Our Sponsor

This survey report would not have been possible without the generous support of the AT&T Foundation. Since 1999, the AT&T Foundation has been the principle underwriter of ITAC's Telework America Surveys and Research Reports. The grants provided by the Foundation have enabled ITAC to understand the evolution of telework in the United States, and thus help businesses and organizations better understand the positive impact telework can have on their operations, the lives of their employees and the surrounding community environment.

Teleworking Comes of Age with Broadband

EXECUTIVE SUMMARY

Does broadband make a difference? Yes! Rapidly evolving technology and telecommunications are enabling remote work. The personal computer began the transformation that makes it possible for individuals to work at any time from any place. The cell phone added mobility. But the Internet has had the most profound impact on transforming work. The Internet connects workers into a global information exchange and marketplace. This study reports the ways having broadband Internet access makes a difference by comparing the work patterns of two groups, those who have dialup connectivity with those who have broadband.

Key Findings: Employees

Teleworking employees equipped with high-speed “always on” broadband service work more flexibly and productively at home and other locations than workers who use dialup. They telework more frequently, shifting their work location from their employer’s site to home. They work more business hours and after-hours time at home without increasing their total work hours. Without extending their work day the broadband teleworkers exhibited greater ‘connectedness’ with others and greater productivity enhancements than did their dialup counterparts.

Broadband empowers virtual teamwork

The degree to which broadband empowers virtual teamwork relative to dialup is striking. As shown in the table, compared with dialup users, those who have broadband engage more frequently in virtual team activities from their home offices. About 30% also have broadband when they work at their customers’ site or while traveling. Significantly more employees equipped with broadband than with dialup online access carry out *daily* team activities such as accessing the Internet for information and research, exchanging large files, and working as a group.

Virtual Team Activities: Broadband vs. Dialup

Percent of Employees Engaging in Activity Daily

	Dialup	Broadband
»Access websites	61%	75%*
»Access Internet for information	54	71*
»Send large files	14	36*
»Use remote connection software	26	34*
»Do joint scheduling	20	30*
»Use groupware	17	27*
»Participate in telephone conferences	10	16*
»Use team project website	6	14*
»Work on same document	5	12*

*p = <.10

Broadband increases interest in full-time telework and home office technology

Employees equipped with broadband, say “I can be sitting at home and it’s like being in [the] office.” Having the equipment to do so, the majority of teleworkers say it is “essential” or “very important” to work at home:

- 22% of broadband teleworkers compared with 14% of those who have dialup would like to work at home full time.
- Broadband dramatically increases use of technologies like home networking. Compared to teleworkers who use dialup, almost three times as many broadband users have a home LAN. Dialup homes have just one PC on the LAN and broadband homes have three or four.

Company-paid broadband substantially increases telework participation

- 35% of broadband teleworkers have broadband paid for by their employers compared with 27% of dialup employees.
- 37% of those broadband employees work from home almost every day, a substantial 68% increase in daily teleworking by employees whose broadband is provided, relative to all broadband teleworkers. The increase for dialup teleworkers is 53% when employers pay for their dialup service.

Broadband increases the business benefits of telework by increasing productivity and supporting real estate reduction

Broadband can save more than \$5,000 per teleworker

First, paying for broadband service is a positive investment since increased productivity alone more than covers the cost. Second, as employees work more days at home they require less corporate office space, meaning that real estate costs can be reduced.

Broadband increases productivity

Broadband teleworkers reported an average productivity increase of 33.3%. For an employee with an annual wage of \$44,000, or daily equivalent of \$169, the productivity increase translates into \$56.28 per work-at-home day. On an annual basis, assuming that the employee teleworks once a week and takes a two week vacation, the dollar value of the productivity increase is 50 times \$56 or \$2,814.

Broadband saves real estate costs

Employees who have broadband — whether provided by their employer or by themselves — spend more working time at home. They shift their work location to home, away from the employers': *"High-speed Internet access has made it much more practical for me to work from home, and is slowly making the powers that be less reluctant to allow telecommuting."*

This study found that most employees (63%) still have individual offices, but others share office space (15%), some temporarily occupy touch-down space (8%) or not require any dedicated workspace (15%) at the employers' site. Companies that encourage their employees to telework can reallocate underused office space and realize additional facilities prorated savings of \$2,227 per teleworker.^a

Adding real estate savings to productivity gains brings the annual savings per teleworker to over \$5,000.^b Yet, employees are more connected than ever and performance is better than at the main office."

Broadband teleworkers increase information security

Compared with dialup users, more broadband employees have VPN connections (47%BB vs. 33%DU),^c firewalls in place (85%BB vs. 67%DU) and update their anti-virus software (78% vs. 69%DU).

Key Findings: Homebased Business Owners**Broadband opens global markets to homebased business owners**

Homebased business owners are more likely to be online than an employee. They rely on the Internet to operate global businesses, saying "[I] can take products from inception to production to finish with coworkers and customers from around the world without ever leaving my home office," "Can now reach potential customers world wide," "All my sales are over the internet," and "I can sell all over the world." The Internet also saves the costs of leasing space. "I can do everything here that I can do in a rented office space."

To operate their business, homebased business owners access the Internet much more frequently than do teleworking employees ":

^a Assumes reductions in \$8,100 annual cost of 225 sq.ft. work station @ \$36/sq.ft.

^b \$2,227 + \$2,814 = \$5,041.

^c BB stands for users who have broadband connectivity to access the Internet, retrieve and send email or reach the employer's LAN; DU is the abbreviation for those who use dialup.

- 86% of broadband homebased business owners (compared with 75% BB and 61% DU employees) access websites daily.
- 80% of broadband homebased business owners (compared with 71% BB and 54% DU employees) seek information on the Internet every day.

Bottom line: Teleworking comes of age for employers and employees

Given employees' enthusiasm — expressed in their overwhelmingly positive evaluations of teleworking with broadband — employers have a tremendous opportunity to leverage their capabilities. The research evidence argues strongly for employers to offer broadband throughout their organizations. The return on investment in broadband is 127% in increased productivity alone. Benefits from enhanced performance far outweigh costs. And there are other advantages such as having a workforce prepared to work at home so that business continuity is maintained when contingencies occur. Broadband has empowered telework by raising the functionality of a home office to the level of the corporate office. Teleworking indeed comes of age with broadband.

Methodology

The sample for the online survey was drawn from a panel of approximately 900,000 households representative of the online US population. The qualified sample consisted of individuals 18 years of age and over, who ever do any work at home online during normal business hours. Of those, 365 teleworkers have broadband and 500 teleworkers have dialup access. Non-teleworkers were not surveyed. We subdivided our sample into four groups according to their job classifications: Employees (60% of sample), Homebased business owners (29%), Self-employed outside the home (5%) and Contract workers (5%)¹.

The Full Report

The full Telework America report is 50 pages long with 36 Figures and 18 tables. For more information on the contents please turn to the Table of Contents for the report which follows. ITAC members receive one free copy, and non members may purchase for \$495 a copy of the report online at www.workingfromanywhere.org. ITAC annual dues start at \$250, with most members paying \$500. For more information on the benefits ITAC offers go to http://www.workingfromanywhere.org/pdf/itac_brochure.pdf.

¹ Non-homebased business owners and contract workers also use the Internet for their tasks but the numbers in the sample were too small to enable the comparisons between broadband and dialup users.

Teleworking Comes of Age with Broadband

TABLE OF CONTENTS

EXECUTIVE SUMMARY	i
1. TECHNOLOGY ENABLES TELEWORK	1
Focus of Research	1
Telework Defined	2
Methodology	2
2. THE TELEWORKER	3
Profile	3
Employment	3
3. EQUIPPING TO TELEWORK	7
Home Office Equipment	8
Online Access	10
Mobile “Office” Communications	13
4. TELE <i>WORK</i> PATTERNS	15
Hours Worked	15
Time Online	17
5. EMPLOYEE TASKS	19
Virtual Online Teaming	19
Telephone and Email Communication	28
Travel	30
6. HOMEBASED BUSINESS OWNER TASKS	31
7. POLICY CONSIDERATIONS	33
Security Issues	33
Productivity Measures	34

8. TELEWORK COST/BENEFITS	37
Dollar Gain from Increased Productivity	40
Savings from Reduced Need for Office Space	41
9. IMPACTS OF BROADBAND	43
The Organization	43
Individuals and Households	43
10. TELEWORKING COMES OF AGE	47
The Future for Employees	47
The Future for Employers	48
ENDNOTES	49
APPENDIX	51
Methodology	51

LIST OF FIGURES AND TABLES

Figures

Figure 1 Household Annual Income	3
Figure 2 Primary Employment	4
Figure 3 Employer Size.....	6
Figure 4 Multiple Locations of Work.....	7
Figure 5 Home Office Equipment.....	8
Figure 6 Main Employer Criteria for Providing Online Access	10
Figure 7 Mobile Communications	13
Figure 8 Frequency of Teleworking an Entire Workday at Home.....	16
Figure 9 Frequency of Working at Home and at Employer's the Same Day ...	16
Figure 10 Total Daily Time Online for Business and Personal Use	18
Figure 11 Send Large Files.....	19
Figure 12 Use Groupware.....	20
Figure 13 Do Joint Scheduling.....	20
Figure 14 Work with Team Members on Same Document.....	21
Figure 15 Use Private Website for Team Projects.....	21
Figure 16 Use Remote Connection Software.....	22
Figure 17 Obtain Software Upgrades	22
Figure 18 Contact Coworkers/Clients/Customers	23
Figure 19 Participate in Telephone Conferences	23
Figure 20 Hold Internet-facilitated Conferences.....	24
Figure 21 Hold Video Conferences	24
Figure 22 Attend Face-to-Face Meetings	25
Figure 23 Access Websites (Employees).....	25
Figure 24 Access the Internet for Information (Employees).....	26
Figure 25 Engage in Interactive Education and Training.....	26
Figure 26 Access Websites (Homebased Business Owners)	32
Figure 27 Access the Internet for Information (Homebased Business Owners)	32
Figure 28 Employer Security Policies	33
Figure 29 Personal Use Policies	34
Figure 30 Work Evaluation	35
Figure 31 Employer-provided Broadband by Household Annual Income.....	39
Figure 32 Frequency of Teleworking by Employer-paid Online Service	39
Figure 33 Work Space at Employer's Location	40
Figure 34 Households with more than One Teleworker.....	45

Figure 35 Separate Offices in Homes	45
Figure 36 Work at Home Preference.....	47

Tables

Table 1 Occupation by Job Classification	5
Table 2 Selected Industries by Job Classification	6
Table 3 Broadband Users Equipment.....	9
Table 4 Dialup Users Equipment.....	9
Table 5 Broadband Users Online Access	12
Table 6 Dialup Users Online Access	12
Table 7 Employer-provided Mobile Communications	14
Table 8 Hours Worked at Home	15
Table 9 Frequency of Connecting Online.....	17
Table 10 Virtual Teaming Activities: Broadband vs. Dialup	28
Table 11 Communicating by Telephone and Email	29
Table 12 Intensity of Communicating by Instant Messaging	29
Table 13 Frequency of Non-Commuting Travel	30
Table 14 Productivity	36
Table 15 Cost of Home Office Internet	37
Table 16 Payment for Home Office	38
Table 17 Teleworking Cost/Benefits from Broadband	42
Table 18 Internet Access from Home for All Household Members	46

Appendix

Table 19 Sample Screener	52
Table 20 Sample Distribution by Age and Ethnicity.....	52
Table 21 Sample Distribution by GeoRegion.....	53
Table 22 Sample Distribution by Market Size	53