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The Mobile Difference

Wireless connectivity has drawn many users more deeply into digital life.

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Overview

Cast a glance at any coffee shop, train station, or airport boarding gate, and it is easy to see that mobile access to the internet is taking root in our society. Open laptops or furrowed brows staring at palm-sized screens are evidence of how routinely information is exchanged on wireless networks. But the incidence of such activity is only one dimension of this phenomenon. Not everyone has the wherewithal to engage with "always present" connectivity and, while some may love it, others may only dip their toes in the wireless water and not go deeper. Until now, it has not been clear how mobile access interacts with traditional wireline online behavior. Does availability of mobile access crowd out desktop access? Does it draw some users further into digital lifestyles?

The role of mobile internet access in evolving digital lifestyles is the cornerstone of the second typology of information and communication technology (ICT) users developed by the Pew Research Center's Internet & American Life Project.[1] The typology places ICT users into 10 groups and, notwithstanding variation across the groups, the groups fit into two baskets, with the groups' collective judgments on mobility being the pivot point.

1. **Motivated by Mobility:** Five groups in this typology – making up 39% of the adult population – have seen the frequency of their online use grow as their reliance on mobile devices has increased. For these groups, growth in frequency of online use is linked not only to increasing broadband adoption, but to *positive and improving* attitudes about how mobile access makes them more available to others. Across the groups, a lot of variation exists regarding what these changes mean to users. Some find this extra connectivity a platform for self expression. Others are not entirely positive about ICTs' impacts on their lives.

2. **Stationary media will do:** The remaining 61% of the adult population does not feel the pull of mobility – or anything else – drawing them further into the digital world. Across the five groups that make up this part of the population, several have a lot of technology at hand and have seen their tech assets grow in recent years. Yet ICTs remain on the periphery in their lives, suggesting that some adult Americans reach a plateau in their technology use. Some groups are content with this distant relationship to technology. For others, even a little modern gadgetry is too much.

For 39% of the adult population, mobile and wireline access tools have a symbiotic relationship. Mobile users typically have ready access to high-speed connections at home, which likely pushes them toward deeper home high-speed use; the digital content found on the mobile device may prompt more activity on their broadband-enabled big screen at home. At the same time, the desktop internet experience migrates to "on the go" as the handheld becomes a complementary access point to connect with people and digital content wherever a wireless network reaches.

The five groups reliant on stationary media tools show no growth (or declines) in the frequency of online use even though more of them have broadband access. They show low levels of use of mobile applications and decidedly tepid attitudes about ICTs. In other words, 61% of the adult population have a settled disposition toward ICTs and – whether they experience information overload, difficulties in getting gadgets to function, or frustration when the cell phone rings – are not rapidly becoming more active users of ICTs.

Although the groups in the two baskets share common patterns with respect to mobile ICT uses, each group has a distinct disposition toward ICTs. Some are contentedly and deeply engaged with ICTs, others mainly use traditional applications on the wireline internet to carry out tasks, while some keep modern gadgetry and services at arm's length.

As in the Project's first typology, this year's typology revolves around people's relationships to ICTs in three areas:

- **Assets** (the gadgets and services they have);
- **Actions** (what they do with what they have); and,
- **Attitudes** (what they think about how ICTs fit into their lives).

The second typology is based on a December 2007 survey of 3,553 American adults. The typology has a longitudinal element to the analysis, as it uses a callback survey of 1,499 respondents from our 2006 typology that has been integrated into the 2,054 newly-interviewed respondents in December 2007. Although the current typology, through the callback element, builds on the 2006 typology, the user groups we identify in this typology differ from the ones developed from the 2006 survey. That is, while some groups in this typology may bear some resemblance to ones from the 2006 typology, the 2007 groups do not map backwards to 2006 groups or represent how any 2006 group has evolved in the 20 months between surveys.[2] The longitudinal data does, however, come into play in tracking people's attitudes toward their ICTs over time.

The following table summarizes how the groups use ICTs and group members' attitudes about them, and the Summary continues with more detailed sketches of the groups and a discussion of the report's implications.

Summary of Findings

Group name	% of adults	What you need to know about them	Key demographic facts
Motivated by Mobility (39%)			
Digital Collaborators	8%	With the most tech assets, Digital Collaborators use them to work with and share their creations with others. They are enthusiastic about how ICTs help them connect with others and confident in how to manage digital devices and information.	Mostly male (56%), late 30s, well-educated and well-off.
Ambivalent Networkers	7%	Ambivalent Networkers have folded mobile devices into how they run their social lives, whether though texting or social networking tools online. They also rely on ICTs for entertainment. But they also express worries about connectivity; some find that mobile devices are intrusive and many think it is good to take a break from online use.	Primarily male (60%), they are young (late 20s) and ethnically diverse.
Media Movers	7%	Media Movers have a wide range of online and mobile habits, and they are bound to find or create an information nugget, such as a digital photo, and pass it on. These social exchanges are central to this groups use of ICTs. Cyberspace, as a path to personal productivity or an outlet for creativity, is less important.	Males (56%) in their mid-30s, many with children, and in middle income range.
Roving Nodes	9%	Roving Nodes are active managers of their social and work lives using their mobile device. They get the most out of basic applications with their assets such as email or texting and find them great for arranging the logistics of their lives and enhancing personal productivity.	Mostly women (56%) in their late 30s, well-educated and well-off.
Mobile Newbies	8%	This group rates low on tech assets, but its members really like their cell phones. Mobile Newbies, many of whom acquired a cell in the past year, like how the device helps them be more available to others. They would be hard pressed to give up the cell phone.	Mainly women (55%), about age 50. Lower educational and income levels.

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Summary of Findings

Group name	% of adults	What you need to know about them	Key demographic facts
Stationary Media Majority (61%)			
Desktop Veterans	13%	This group of older, veteran online users is content to use a high-speed connection and a desktop computer to explore the internet and stay in touch with friends, placing their cell phone and mobile applications in the background.	Mainly men (55%) in mid-40s. Well-educated and well-off economically.
Drifting Surfers	14%	Many have the requisite tech assets, such as broadband or a cell phone, but Drifting Surfers are infrequent online users. When they use technology, it is for basic information gathering. It wouldnt bother the typical Drifting Surfer to give up the internet or cell phone.	Majority women (56%); early 40s. Middle income and average education levels.
Information Encumbered	10%	Most people in this group suffer from information overload and think taking time off from the internet is a good thing. The Information Encumbered are firmly rooted in old media to get information.	Two-thirds men, in early 50s. Average education, lower-middle income.
The Tech Indifferent	10%	Members of this group are not heavy internet users and, although most have cell phones, they dont like their intrusiveness. The Indifferent could easily do without modern gadgets and services.	Mainly women (55%) in late 50s. Low-income and education levels.
Off the Network	14%	Members of this group have neither cell phones nor online access, and tend to be older and low-income. But a few have experience with ICTs; some used to have online access and as many as one in five used to have a cell phone.	Low-income senior women; high share of African Americans.

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Digital Collaborators: 8% of adults use information gadgets to collaborate with others and share their creativity with the world.

For many Digital Collaborators, digital information is input into a creative process that often involves others and whose output they share with the world using the web. Members of this group can almost always get access to the internet, whether that is with

an "always on" broadband connection or with an "always present" mobile device. With such robust connectivity, Digital Collaborators share their thoughts or creative content with others. Using blogs and other content-creation applications, they collaborate with others online to express themselves creatively. For Digital Collaborators, the internet can be a camp, a lab, or a theater group – places to gather with others to develop something new.

This pattern of active and continuous information exchange puts ICTs at the center of how Digital Collaborators learn, work, socialize, and have fun. Most play games on electronic devices, with half playing games on the internet. At least occasionally, most of them watch TV on a device other than a traditional television set. And one-quarter have avatars that let them participate in virtual worlds. The typical Digital Collaborator is in his late 30s and has had years of online experience to hone his skills to get the most out of ICTs.

Ambivalent Networkers: 7% of adults heavily use mobile devices to connect with others and entertain themselves, but they don't always like it when the cell phone rings.

Digital information flows through handheld devices and social networking sites for Ambivalent Networkers as they have seamlessly integrated these cutting-edge resources into how they connect with others. With a handheld device at the ready, Ambivalent Networkers stay in touch with their family and friends and gather intelligence about what is going on in the world. They are the most frequent cell phone texters of any group. While some message content might be about current affairs, a portion is undoubtedly about culture, as Ambivalent Networkers will watch videos or listen to music using online access tools, mobile or otherwise.

While they welcome the connections to people and knowledge that easy access opens, Ambivalent Networkers don't always like a knock on their door. Like Digital

Collaborators, frequent information exchange is a key part of Ambivalent Networkers' profiles. Unlike Digital Collaborators, they sometimes struggle with traffic volume. They are less likely than average to enjoy the extra availability enabled by mobile devices and less certain than Digital Collaborators about whether ICTs offer them more control over their lives. Most Ambivalent Networkers say they think it is a good idea to take a break from using the internet. Nonetheless, they are confident in their ability to manage gadgets and would be hard pressed to do without mobile access.

Media Movers: 7% of adults use online access to seek out information nuggets, and these nuggets make their way through these users' social networks via desktop and mobile access.

Media Movers create and manage a steady stream of information throughput using a range of devices. The typical Media Mover, a mid-30s male, may have a knapsack full of devices such as a video or digital camera ready at an instant to record something and, before long, send it along to a friend or post it online. Such social uses for ICTs draw most of the attention of Media Movers; for them ICTs aren't principally about improving personal productivity or doing their jobs.

The cell phone might be the hook that draws this group closer to digital tools and activities. Although Media Movers are less active mobile users than the previous two groups, they are far happier about the cell phone's presence in their lives than Ambivalent Networkers. Media Movers are more likely than average to use their cell phone for functions such as texting, taking pictures, or playing games. Media Movers' attachment to their cell phone has deepened over time, whereas similar such attitudes about the internet have not changed.

Roving Nodes: 9% of adults use their mobile devices to connect

with others and share information with them.

Picture a Roving Node as a woman in her late 30s who is rarely without her smart phone, often using it to chat, but also checking email or fielding a text message. When she gets home or back to the office, she is frequently online, keeping up with email or surfing the net to get news or shop. This group is highly dependent on ICTs, and this dependence comes about from using ICTs to manage busy lives and stay in touch with others. Unlike the groups above, Roving Nodes are more hubs of information flows than sources of digital content. They are heavily reliant on all their ICTs for communicating *and* gathering information, but Roving Nodes are much less likely than preceding groups to blog or manage their own web pages.

Roving Nodes are happy when the cell phone rings, which sets them apart from Ambivalent Networkers. Although they like how gadgets help them share their ideas with others, it is not likely that a blog or an update to their webpage will be the means to do this. Give Roving Nodes email access, a browser, and a cell phone, and they are off connecting to others and passing information along the network.

Mobile Newbies: 8% of adults lack robust access to the internet, but they like their cell phones.

A typical Mobile Newbie, who is about 50 years old, is a novice with modern ICTs, but is wading into the waters thanks to a new cell phone. The Mobile Newbie might have gotten the phone because she thought it would be a handy tool for staying in touch with others or perhaps even for safety reasons. The cell phone is the device that is generally a Mobile Newbie's introduction to modern ICTs; nearly all have one and many got it in the past year. Just four in ten use the internet. When the cell phone buzzes, they are pleased to answer. Mobile Newbies will also occasionally send a text message or snap a picture with their handheld device. Over time, they have found the cell phone more to their liking, while the internet remains an infrequent part of their daily rhythms.

This group is collectively new to the internet, having only gotten access about two years ago. Usability of information technology may be an issue here. Most in this group say they need help setting up new devices and services. But they seem nonetheless attached to their cell phone, as most would find it hard to give up – a sentiment that has grown over time.

These five groups make up the 39% of American adults who make up the basket of groups we call "Motivated by Mobility." The profiles of the other 61%, the "Stationary Media Majority," start here.

Desktop Veterans: 13% of adults are dedicated to wireline access to digital information, and like how it opens up the pipeline to information for them.

This group consists mostly of veteran online users (mostly men) who enjoy going online to check email and get news. Desktop Veterans are enthusiastic about how this lets them stay in touch with others and learn new things. They even share some of what they find online through blogs (either their own or a group blog) and by posting comments online.

However, they have yet to venture into the world of mobile access on a handheld, at least to any great extent. Desktop Veterans are average in terms of cell phone adoption, but well below average in their use of non-voice data applications such as text messaging or wirelessly browsing the internet. They use the cell to make phone calls, but even then the cell phone takes a backseat to their reliance on the landline for calls. Collectively, Desktop Veterans have the feel of a very tech-oriented group – from 2004. They have high rates of broadband adoption and participate in the online commons, but they treat the cell phone as if it were equipped only with voice capability – like most cell

phones circa 2004.

Drifting Surfers: 14% of adults are light users – despite having a lot of ICTs – and say they could do without modern gadgets and services.

This group of adults has a fair amount of online experience (8 years) but, in spite of high home broadband adoption, they are infrequent users of the internet. Digital information is not at the center of how they get information, keep in touch with people, or do their jobs.

Although they rely about equally on their landline and cell for phone calls, they don't find the extra availability afforded by cell phones very alluring. Like Desktop Veterans, they haven't bothered to exploit other uses of cell phone, save to swap an occasional text message. Unlike Desktop Veterans, Drifting Surfers do not have strong attachments to the internet. Drifting Surfers are much less likely than Desktop Veterans to say ICTs help them learn new things, do their jobs, or keep in touch with others. They would not find it hard to give up their cell phone, and the typical Drifting Surfer found it easier to give up the cell phone in 2007 than 2006.

Information Encumbered: 10% of adults feel overwhelmed by information and inadequate to troubleshoot modern ICTs.

For the Information Encumbered, the pipeline of digital information is increasingly a burden. This group of (mainly) men in their mid-50s has the means and experience to engage with the information superhighway. Three-quarters have a cell phone and half have high-speed at home, and the typical member of this group has been online since about 2000. But half feel the weight of information overload, which is the highest of any group in the typology and an increase since 2006. Nearly two-thirds need help in

getting their technology to work.

Beyond a sense that modern ICTs are worthwhile ways to keep in touch with others, the Information Encumbered do not credit the internet or cell phone with any improvement in their personal productivity or how they do their jobs. Some of their attitudes toward ICTs – such as worries about information overload – have worsened over time. Whereas Drifting Surfers and Desktop Veterans either like or tolerate gadgets and the modern flow of information, this is not the case for the Information Encumbered.

The Tech Indifferent: 10% of adults are unenthusiastic about the internet and cell phone.

For the Tech Indifferent, modern gadgets and services are too much trouble with too little payoff. This group is twice as likely to have a cell phone as online access, but they use neither service very often. The Tech Indifferent are, as a group, older than the others and seem to have established patterns of getting information or staying in touch with family and friends that do not rely on modern Tech.

The Tech Indifferent don't see modern gadgetry as a tool for having more control over their lives, and, when they adopt a new device or service, they generally need help getting it to work. With many in this group saying they feel information overload and fewer saying they like how ICTs make them more available to others, there is little reason to think that many in this group will ever embrace modern ICTs.

Off the Network: 14% of adults are neither cell phone users nor internet users.

Although members of this group currently lack online access and a cell phone, some have had past experience with these technologies. Perhaps the computer stopped

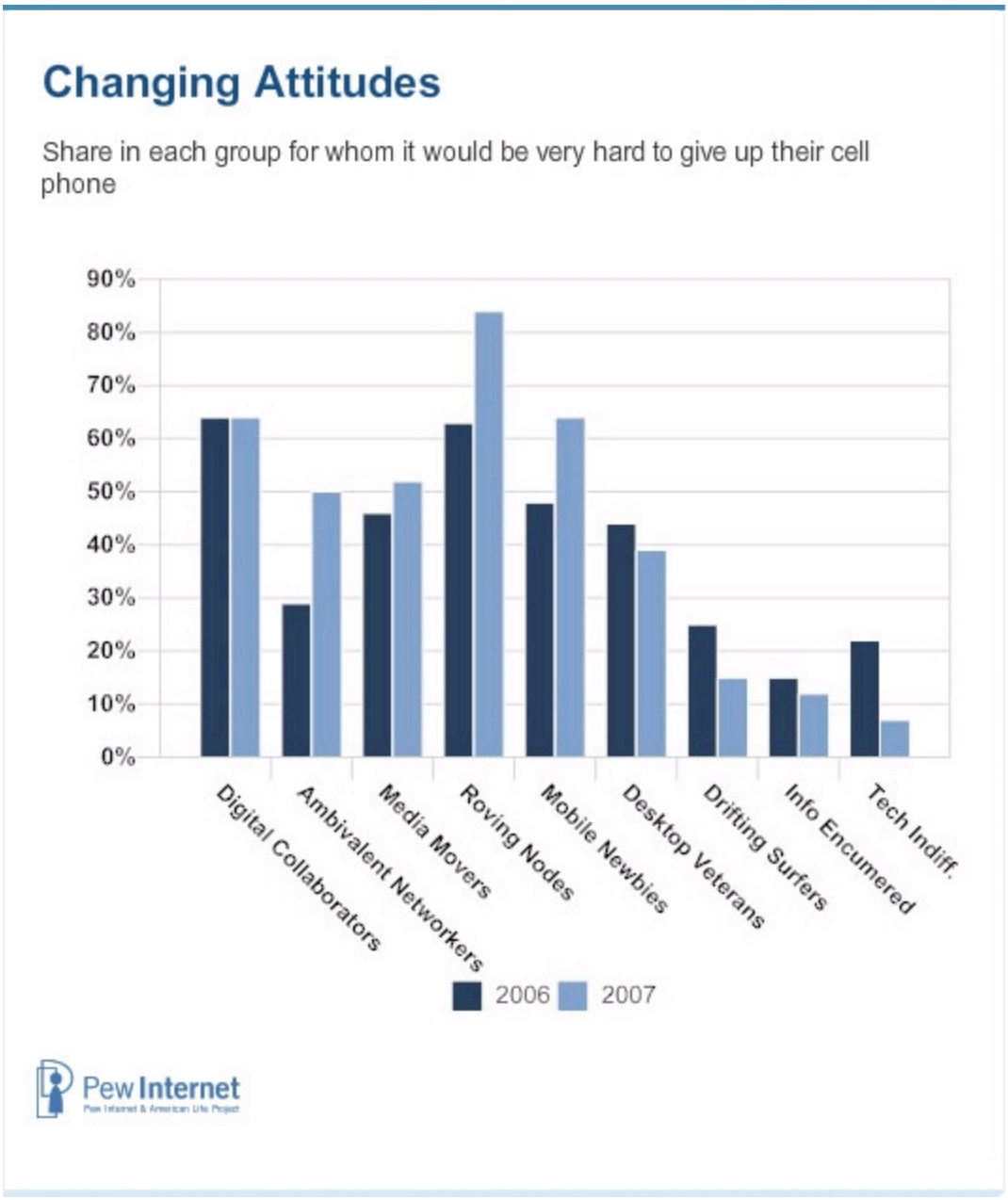
working and they were uncertain why or how to go about fixing it. Maybe the cell phone plan became too expensive or an "Off the Network" group member used it so little she decided to cancel service. They are the oldest and least affluent group in the typology.

Most "motivated by mobility" groups have positive and improving attitudes about cell phones, while remaining groups have tepid and deteriorating attitudes about them.

A key factor in sorting the 10 groups into two baskets is how they feel about cell phones. Those groups in the "motivated by mobility" basket have positive and improving attitudes about cell phones, as measured by the share of cell users in each group who say it would be "very hard" to do without cell phones. All of the "motivated by mobility" groups share two characteristics:

- They have a majority of cell users who say they would find it very hard to give up their mobile device.
- The share in each group saying it would be very hard to give up their mobile device has grown in the 2006 to 2007 timeframe.

In the "stationary media majority" groups, none has a majority of cell users saying it would be very hard to give up their cell, and all have seen a decline in the twenty months between our tech-user surveys in the share of people saying they would find it very hard to give up the cell phone. The table below summarizes these points.



Overall:

- 66% of those in the "motivated by mobility" groups report that it would be very hard to do without their cell phones.
- This contrasts sharply with the 21% figure for the "stationary media majority" groups.
- "Motivated by mobility" groups collectively showed an improvement in cell phone

attitudes by 20% from 2006 to 2007.

- Again, in stark contrast, the "stationary media majority" groups collectively saw a 64% decrease in attitudes about cell phones from 2006 to 2007.

Deepening attachment to digital resources – wired and wireless – means connectivity is for many users now about continual information exchange.

For many in the "motivated by mobility" groups, a multiple platform world creates a virtuous cycle with respect to digital resources: "Always on" broadband draws them down a path of digital engagement that "always connected" mobile access deepens and accelerates.

Some 31% of adults say that very frequent information exchanges over high-speed wires and mobile devices are cornerstones of their digital profiles. These are the adults in the following groups: Digital Collaborators, Ambivalent Networkers, Media Movers, and Roving Nodes.

The bar for what qualifies as high-tech among users has risen.

In the Pew Internet Project's first typology, tech-oriented users were generally those who had broadband at home. This typology largely abandons that dichotomy with its focus on people's attitudes and use of mobile devices and applications. In the past, having tech gear such as broadband at home generally placed people on the cutting edge; that is no longer the case in this edition of the typology. Our new study shows that mobile connectivity is the new centerpiece of high-tech life.

That means that two groups who used to seem high tech seem less so nowadays. They are the Desktop Veterans and the Drifting Surfers. They make up 26% of the adult

population, and they have broadband adoption rates of about 80%. But their occasional use of mobile applications and decidedly lukewarm attitudes toward them leave them off the cutting edge.

The "penalty" for having little or no access rises in a multi-platform world.

As a large portion of the online population gravitates to wireless and mobile access to supplement their home high-speed wired connections, the supply of and demand for online content increases. Institutions – whether governments or news organizations – have greater incentives to optimize their services to be consumed online. More people have greater opportunity to share their advice, creativity, and observations online.

Recent research argues that exclusion from (or low levels of engagement with) the network of people and information found online is more costly than in the past.[3] In this typology, four groups making up 42% of the population have both below average levels of broadband and uses of mobile and online resources. Those groups are Drifting Surfers, Information Encumbered, Mobile Newbies, and Off the Net.

NOTES

[1] The first typology report is available at http://www.pewinternet.org/pdfs/PIP_ICT_Typology.pdf.

[2] The longitudinal data that is, in part, an input for this typology does permit analysis of how 2006 groups evolved from early 2006 to the end of 2007. A separate Pew Internet Project report will report findings from such analysis.

[3] This point has been made by Rahul Tongia and Ernest Wilson in arguing that the cost of exclusion rises exponentially as fewer people remain excluded. See Rahul Tongia and Ernest J. Wilson III, "Turning Metcalfe on his Head: The Multiple Costs of Network Exclusion," Presented at 2007 Telecommunications Policy Research Conference. Available online at: http://web.si.umich.edu/tprc/papers/2007/772/TPRC-07-Exclusion-Tongia&Wilson.pdf.

Introduction

Overview

In the early 1980s, Americans started spending more time on the telephone. From 1980 to 1987, the number of minutes spent on the phone increased by 24%, three times the rate of population growth. At first, the reasons first seemed mysterious. Yes, fax machines were entering the workplace and the personal computing revolution was getting off the ground, both of which might have spurred growth voice traffic. But these factors were thought to account for no more than 10% of the growth.

The cause? The telephone answering machine. Although just 28% of homes had answering machines for their telephones in 1987, these new devices meant once-missed calls were returned and now-completed calls encouraged more phone calling.

This episode shows how relatively small changes in society's technology portfolio in one area can have significant impacts in a related one. The answering machine served as an accelerant in to Americans' existing calling patterns.[4]

In a similar way, mobile internet access is drawing people into more frequent online use. The information nugget initially discovered on the handheld device might prompt a user to open the laptop at home to explore further. Conversely, the fascinating blog post discovered on the desktop at home might be pursued further on the mobile device on the train to work and then taken along new pathways once online at the office.

This finding that mobile internet access is drawing people further into the digital world is the cornerstone of the Pew Internet Project's second typology of information and communication technology (ICT) users.[5] Some five groups in this typology – making up 39% of the adult population – have seen the frequency of their online use grow as their reliance on mobile devices has increased. Across those groups, there is a lot of

variation on what these changes mean to users. Some find this extra connectivity a platform for self expression. Others are not entirely positive about ICTs' impacts on their lives.

Then there is the other 61% of the adult population who do not feel the pull of mobility – or anything else – further into the digital world. Across the five groups that make up this part of the population, several have a lot of technology at hand and have seen their tech assets grow in recent years. Yet ICTs remain on the periphery in their lives, suggesting that some adult Americans reach a plateau in their technology use. Some groups are content with this distant relationship to technology. For others, even a little modern gadgetry is too much.

Building the Typology

The first Pew Internet Project user typology was constructed from a survey conducted from February 15 to April 16 in 2006. The survey for this typology was conducted from October 24 to December 2, 2007, about 20 months later. The second typology of information and communication technology (ICT) users builds upon the first in two ways. First, the same three pillars have been used to build the typology: users information assets, the actions they perform with the technology, and attitudes they have about the technology. In both surveys, respondents were asked whether they owned certain kinds of technology such as cell phones, broadband at home, MP3 players, digital cameras, video cameras, desktop computers, laptops, and others. Then they were asked what activities they performed and some of the activities-list questions were the same in both surveys. At the same time, we changed the list of online activities so that it covered some of the core topics that matter to the Pew Internet Project. For instance, people were asked whether they get news, health care information, and political news online in the 2007 survey, while these were not asked in the 2006 survey.

The 2007 survey also probed people's use of their cell phones in ways different from

2006. In 2006, respondents were asked about the various capacities (e.g., to take a picture or record video) with some follow-up questions on whether they actually used those capabilities. In 2007, we asked more directly whether cell users had *ever* done a list of 10 actions on their cell phone and whether they had, on the *prior day*, done a given activity.

Most of the attitudinal questions from 2006 were repeated, such as measures on how people like the extra availability enabled by mobile devices, whether they need help with new gadgets and services, as well as questions about how difficult it would be for them to give up various ICT devices and services.

Second, the 2007 typology builds on the previous one through a callback survey of 2006 respondents. The 2006 typology survey contacted 4,001 respondents. The 2007 typology has 3,533 respondents drawn in part from a random digit dial survey of 2,054 adult Americans conducted from October 24, 2007 to December 2, 2007. Over the same time period in 2007, 1,499 respondents from the 2006 survey were contacted a second time.

It is important to underscore, however, that the 2007 typology is built solely on survey data from December 2007 – not the callback data. By looking at change in representative samples time – especially the groups' attitudes toward mobile devices – we can state our key conclusion with confidence: Some groups are especially motivated to use technology by mobile connectivity because we see an improvement in attitudes about cell phones and associated increases in digital engagement.

The Typology and Longitudinal Analysis

The callback survey permits longitudinal analysis of respondents in the 20 months between the two surveys. This allows examination of what has changed, as far as information technology is concerned, in the lives of a broad sample of 1,499 Americans between May 2006 and December 2007. At a more granular level, combining

longitudinal analysis with the typology's classification of users offers a perspective on how change plays out across the typology's groups.

Small changes generally, interesting variations when comparing the groups

Over the 20 months between the surveys, American adults in general acquired more ICTs, which in turn drew many of them deeper into internet use and fostered greater engagement with mobile devices. At the same time, there were in the aggregate only small changes in how people view ICTs' impact on their personal productivity or on their competence in dealing with gadgets. Here are some illustrative data points, using data from the callback survey that contacted 1,499 adult Americans in 2006 and 2007. Because the respondents to the 2007 callback survey are a subsample of the sample of 3,554 adults used to build the typology, some of the percentages reported for the callback sample differ slightly from the sample used for the typology.

With respect to technology assets:

- **Cell phones**: In 2006, 73% of adults had a cell phone, a number that grew to 79% in 2007.
- **Broadband at home**: In 2006, 44% adults had a high-speed connection at home, a number that increased to 56% in 2007.
- **Laptop computers**: 31% of adults had a laptop in 2006, and 36% had one by the end of 2007.
- **MP3 players**: 19% of adults had an MP3 player or iPod in 2006 and 26% had one in 2007.

For activities with their ICTs:

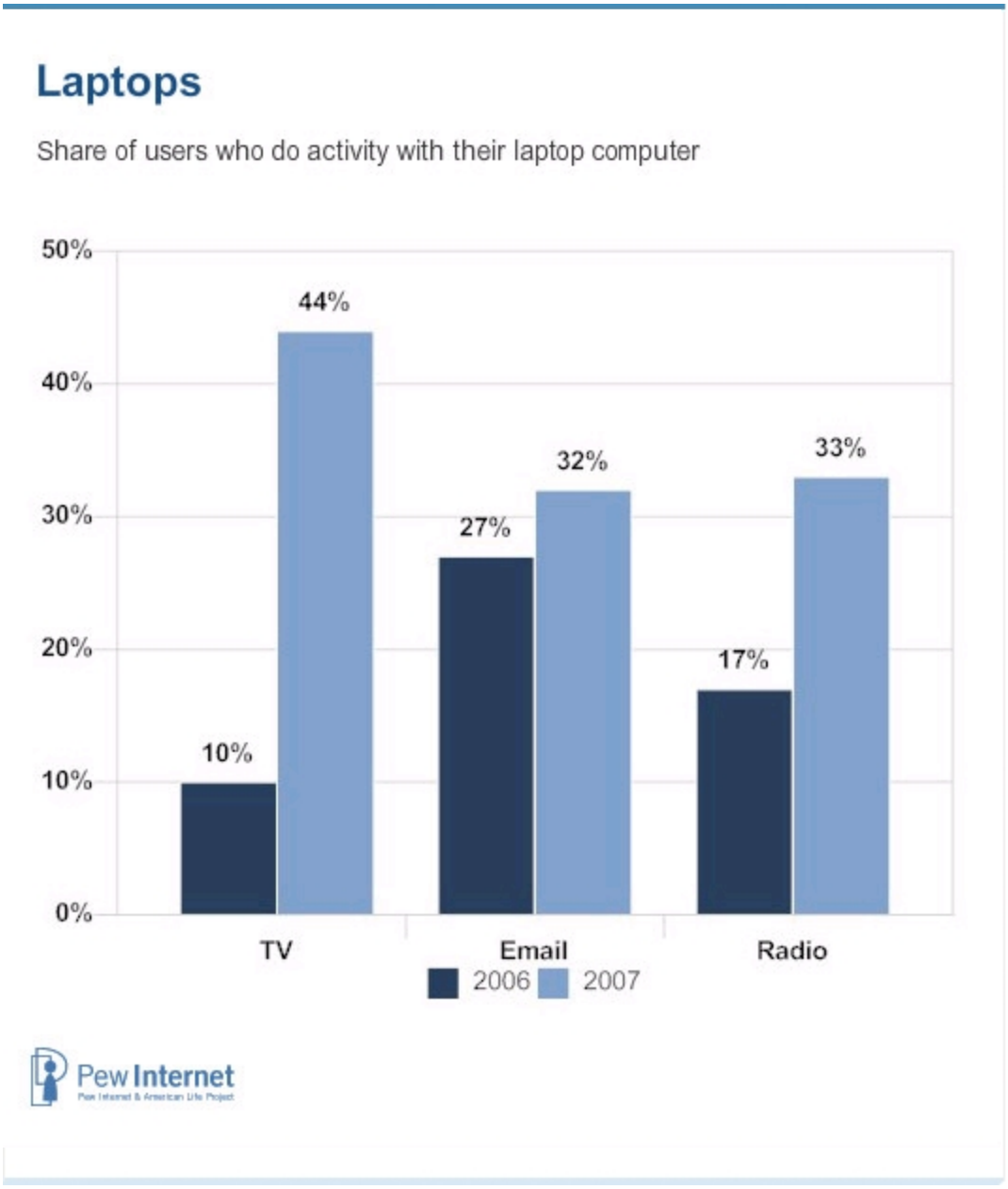
- **Going online "yesterday"**: In 2006, 68% of online users said they had gone online the previous day; that figure grew to 74% in 2007.
- **Going online from home**: In 2006, 47% of internet users reported going online

from home about once a day or more often. That number grew to 54% in 2007.

- **Downloading music**: In 2006, 23% of internet users had ever downloaded music, a number that rose to 30% in 2007.
- **Paying for digital content**: 22% of internet users had paid for digital content in the 2006 survey, compared with 26% in 2007.
- **Downloading video**: 18% of online users had ever downloaded a video from the internet in 2006; that number increased to 22% in 2007.

Accompanying the increase in cell phone and laptop adoption is a greater range of uses for them. In 2006, 27% of email users said they used their laptops to check email, a number that rose to 32% at the end of 2007. Among those who watch TV on a device other than a traditional television set, 44% used their laptop for this in 2007, up from 10% in 2006. Overall, 19% of adults had watched TV on a non-TV device in 2007, a growth from the 12% 2006 number.

For listening to the radio, although about the same share listened to radio programming on a device other than a traditional radio in 2007 and 2006 (about 25% in each year), how they did this changed. More used a laptop for this in 2007 than 2006 (by a 33% to 17% margin) and more used a MP3 player (30% in 2007 versus 17% in 2006).



Similarly, more people used their cell phones to take pictures or record video. Among those who take digital photos (a number that grew from 40% to 49% over the two surveys), 8% used their cell phone in 2006 and 22% used their cell phone in 2007 to take digital photos. For those who record their own video (a figure that declined from 26% in 2006 to 23% in 2007), more did this on a cell phone in 2007 than in 2006 by a 10% to 2% margin.

Changes in attitudes were more modest, with only people's perspectives on ICT-enabled connectivity showing an increase of any magnitude. Somewhat more ICT users said they liked the additional availability that cell phones and other mobile devices allow them. In 2007, 76% agreed "a lot" or "somewhat" that they liked the additional availability, up from 71% in 2006. Other measures were unchanged. About the same number of gadget users said they needed help with new devices in 2007 as 2006 (48% and 47%, respectively), and the same pattern held true for the share saying they thought gadgets made them more productive (61% in 2007 and 60% in 2006).

Additionally, there were little or no changes in people's attitudes about whether ICTs help them do their jobs, learn new things, or share their ideas and creations with others. Only for "keeping up with family and friends" was there any change, and it was not large. Some 81% of ICT users in 2007 said they agreed "a lot" or "somewhat" that their gadgets and services help them stay in touch with family and friends; this number was 77% in 2006.

Nonetheless, people were more likely in 2007 to say it would be "very" or "somewhat" hard to give up their cell phones or the internet. For cell phones, 69% of cell users said this in 2007, up from 61% who said this in 2006. For the internet, 74% of internet users said this in 2007 compared with 68% in 2006; for email, the figures were 73% and 69%, respectively.[6]

Within group variation

At a high level, there is a gentle deepening of people's relationship to cyberspace, a moderate growth in welcoming its connectivity, and a growing reliance on mobile devices. Within the typology groups these patterns are more variable. The patterns within groups enable us to place the ten groups in the typology into two baskets that share key commonalities.

- **Motivated by mobility**: For five of the typology's ten groups, or 39% of the adult

population, growth in frequency of online use is linked not only to the growth in broadband adoption, but also to largely *positive and improving* attitudes about how mobile devices make them more available to others.

- **Stationary media majority**: For the remaining four typology groups with modern ICTs (and, by default, the fifth group that lacks internet or cell access), the internet and mobile access do not play much of a role in their lives. And that disposition isn't changing for people in these groups, even for those in several of the groups that have experienced growth in broadband adoption. These groups comprise 61% of the adult population.

Groups that are motivated by mobility show an increase in frequency of internet use from 2006 to 2007, which is also accompanied by greater reliance on their mobile devices. These groups say it would be very hard to give up their cell phone. In the 2007 sample, they also record high levels of use of their cell phones for non-voice data applications such as text messaging and internet browsing. The five groups reliant on traditional media tools, even in the face of growing high-speed adoption at home, show no growth (or declines) in the frequency of online use, low levels of use of mobile applications, and decidedly tepid attitudes about ICTs.

Although the groups in the two baskets share some characteristics, each group makes a distinct imprint with its disposition toward ICTs. Some could love them or leave them, others couldn't do without them, and others would rather do without them, but don't.

NOTES

[4] Trish Hall, "With Phones Everywhere, Everyone Is Talking More," *The New York Times*. October 11, 1989.

[5] The first typology report is available at http://www.pewinternet.org/pdfs/PIP_ICT_Typology.pdf.

[6] The 2007 data served as the basis for the Pew Internet Project's March 2008 report, "Mobile Access to Data and Information," available online at: http://www.pewinternet.org/PPF/r/244/report_display.asp.

Digital Collaborators

Digital Collaborators: 8% of the general population

For this group, cyberspace is a place for group collaboration and shared creative effort. This group has the greatest number of information gadgets of any group, the widest scope of online activities, and the most frequent internet habits. All this connectivity helps them share something of themselves with others – often as part of a group, and often something they have created. By large margins, this group is most likely to participate in group blogs and most likely to share a personal creation using the internet. Indeed, Digital Collaborators strongly feel that ICTs are a great way to share their ideas and creation with the world.

Assets

Digital Collaborators have a wealth of technology to delve deeply into digital life. Nearly all have broadband at home and cell phones (96% in each case). Roughly three-quarters have laptops (78%) and MP3 players (71%). In addition to having a laptop and cell phone, most (91%) have a desktop computer as well. In fact, 69% have both a laptop and desktop at their disposal. Members of this group score highly on other measures of media tools. Fully 96% have digital cameras, 77% have video cameras, and 73% have digital video recorders.

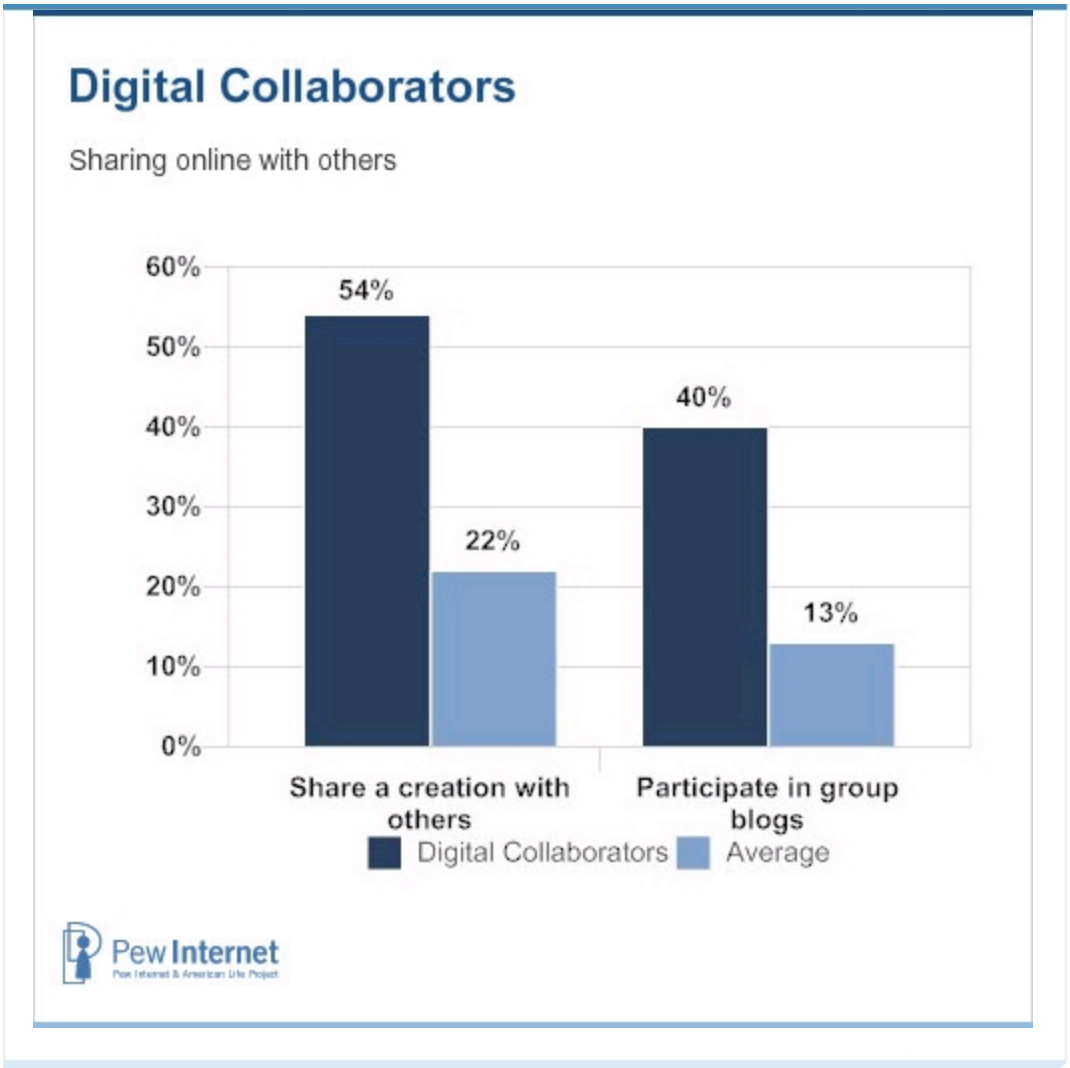
More than three-quarters (78%) of Digital Collaborators have laptop computers, twice the average of 37%.

Another key asset is experience; this group has the most years of online experience, with the typical user saying he has been online for 12 years.

Actions

This group is heavily engaged with digital content – consuming it, but also sharing it with others and using it as a means for expression. The center of gravity for this deep relationship to digital content is the laptop computer with its ability to connect to the internet wirelessly. As noted, 78% of Digital Collaborators have laptop computers and 72% have used their laptop to go online wirelessly from someplace other than home or work.

As much as this group consumes digital content, it is also very distinct in what it does with digitized information. They create and share it at rates much higher than members of other groups. More than half (54%) of Digital Collaborators have shared some sort of creation with the world using the internet and the same number have posted a comment to a blog or website. One-quarter (27%) have blogs and 24% have taken online material and remixed into some other form. Some 44% have their own web page, and nearly one-fifth (18%) have created an online avatar or graphic image of themselves.



Handheld access forms another element of this group's profile, although several other groups are equally as active in using a cell phone for non-voice applications. On a typical day, 59% of those in this group with cell phones do at least one of ten non-voice data applications, such as texting or taking a picture (a full list of non-voice data activities asked about can be found in the Appendix). For Digital Collaborators, handheld applications are oriented toward traditional information consumption and exchange. Members of this group are most likely among all adults on the average day to use their cell phone for email (18%) and accessing the internet for information (21%). And members of this group are most likely to have *ever* used their handheld to get directions or a map (29% have ever done this).

Another sign that this group is oriented to laptops and new media is its predilection for watching TV programming on non-TV devices. More than half (57%) of all Digital Collaborators have done this, against the average of 20%. Of this group, half (50%) have used a laptop to watch television programming. That is above the average of 39% for all those who watch TV on a device other than a traditional television set.

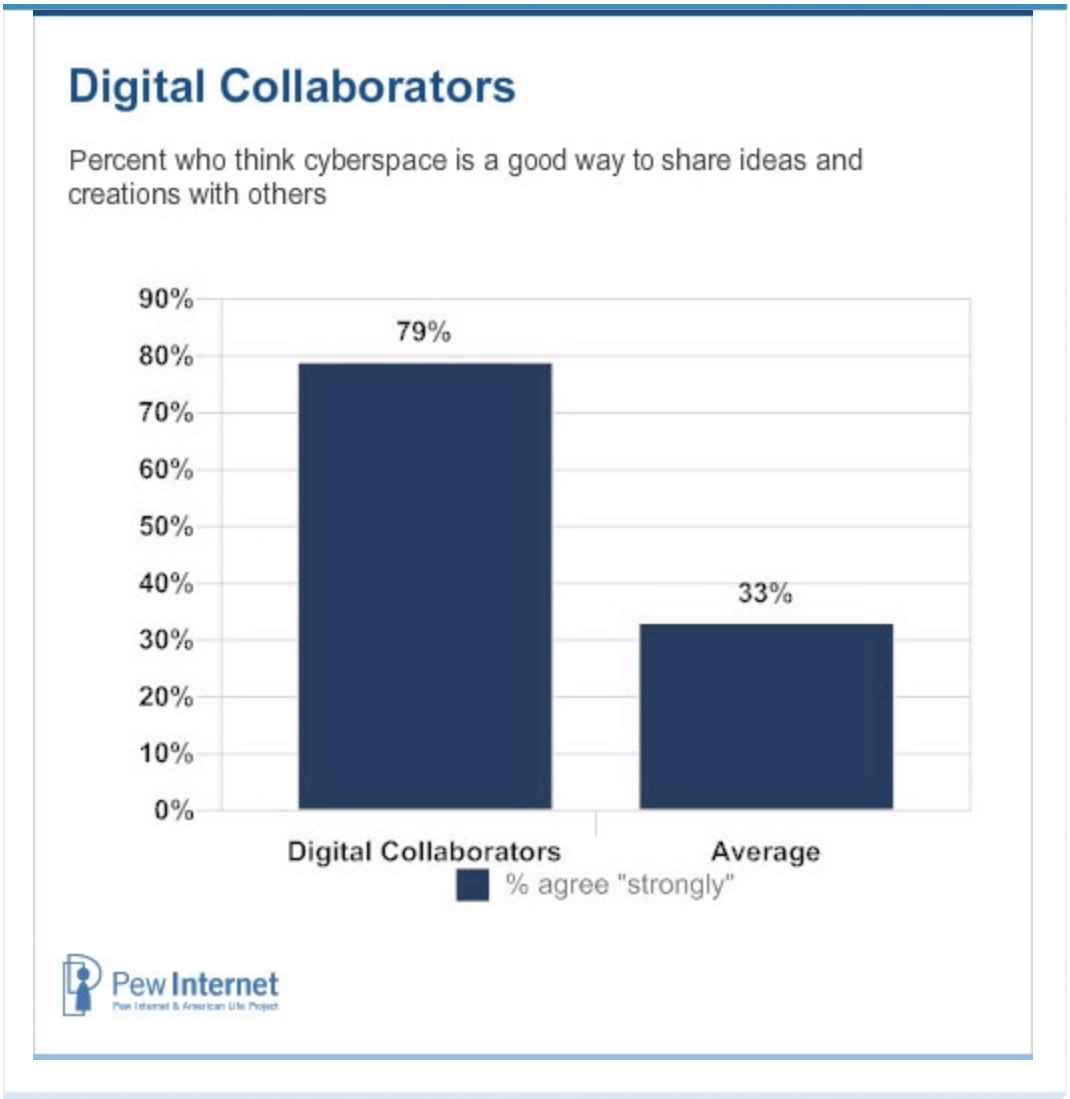
There is also ample evidence that this group uses digital content for entertainment and as a way to consume media traditionally delivered in other ways. Fully 82% of Digital Collaborators say they get some news online on the typical day and the same share (82%) has listened to radio online or using a device other than a traditional car or home radio. These figures set this group apart from others. Members of this group are also likely to play games online – 48% do. That is twice the average and similar to figures for two other groups.

Attitudes

This group's active profile with respect to online content adds up to highly positive attitudes about information technology. Nearly all (94%) say information and communication technology (ICT) helps them learn new things and 95% say it helps them "a lot" to keep in touch with family and friends. Strong majorities say ICTs help them a lot to do their job (84%) and share their ideas or creations with others (79%).

When asked how hard it would be to give up different devices or services, 86% of this group said the internet would be "very hard" to do without. That is nearly twice the average (45%) for the sample and a dozen percentage points higher than any other group. This attachment to the internet has a lot to do with email; 81% of this group say they would find it very hard to give up email. Finally, some 61% of Digital Collaborators say they would find it "very hard" to do without their cell phone, which is above the

average of 51% but on par or trailing several other groups in the typology. Just one-quarter (26%) say they would find it “very hard” to do without their landline telephone.



Digital Collaborators also are highly likely to believe ICTs give them more control in their lives and see them as a pathway to greater personal productivity. Fully 91% say they believe information technology helps them have more control over their lives, and 83% agree strongly that ICTs allow them to be more productive. Three-quarters (73%) like the extra availability that the internet and cell phones enable, and 55% strongly agree that it would be hard for them to get information without all their gadgets (twice the rate for the entire sample).

Finally, Digital Collaborators feel confident in their ability to deal with their gadgets and the quantity of information those gadgets deliver. Just 7% say they need help in setting

up new gadgets, and only 12% say they feel overloaded by information.

Changes from last time

Of the 273 respondents in the 2007 survey that make up the Digital Collaborators group, 116 were contacted both the 2006 and 2007 surveys.

Most Digital Collaborators saw advances from already-high levels of gadget ownership; e.g., digital camera ownership increased from 90% to 98% and home broadband adoption grew from 86% to 97%. Ownership of MP3 players also rose, from 50% to 65%, as did ownership of laptop computers, from 69% to 77%.

These changes are associated with somewhat more frequent online use, as the share of re-contacted Digital Collaborators who say they use the internet several times a day rose from 59% to 65%.

The increases noted seem to suit Digital Collaborators just fine. The share saying they would find it very hard to do without the internet grew from 83% to 86% over the 20 months between surveys, and the share saying they like the extra availability brought about by ICTs increased from 65% to 73%. Fewer in the group reported suffering from information overload; just 6% said this in 2007 compared with 17% in 2006.

Demographics

This group has more males than females (56% are men) and the median age is 39. The group has a lot of online experience (about 12 years as noted above). It is both well-educated (61% are college graduates) and well-off (30% live in households with annual incomes over $100,000. The racial composition is close to that for all adults in the United States. Most (73%) are married, half (51%) have minor children in the home,

and 70% are employed full time.

All in all, a typical Digital Collaborator fits the profile of a young adult, many married with children, and most putting their college degrees to work in the labor force. They earn more than the average American and have more than their share of ICTs at home or in their pockets.

Ambivalent Networkers

Ambivalent Networkers: 7% of the general population

Ambivalent Networkers have folded ICTs into a lifestyle that relies a lot on mobile devices to connect socially with others or to entertain themselves. They do the most of any group when it comes to non-voice data applications on their cell phones and connect often wirelessly when they are not at home or work. Ambivalent Networkers are into social networking sites and are infrequent television watchers. When they do sample traditional media – radio or TV – it is likely to be done using a newfangled device such as a laptop or MP3 player.

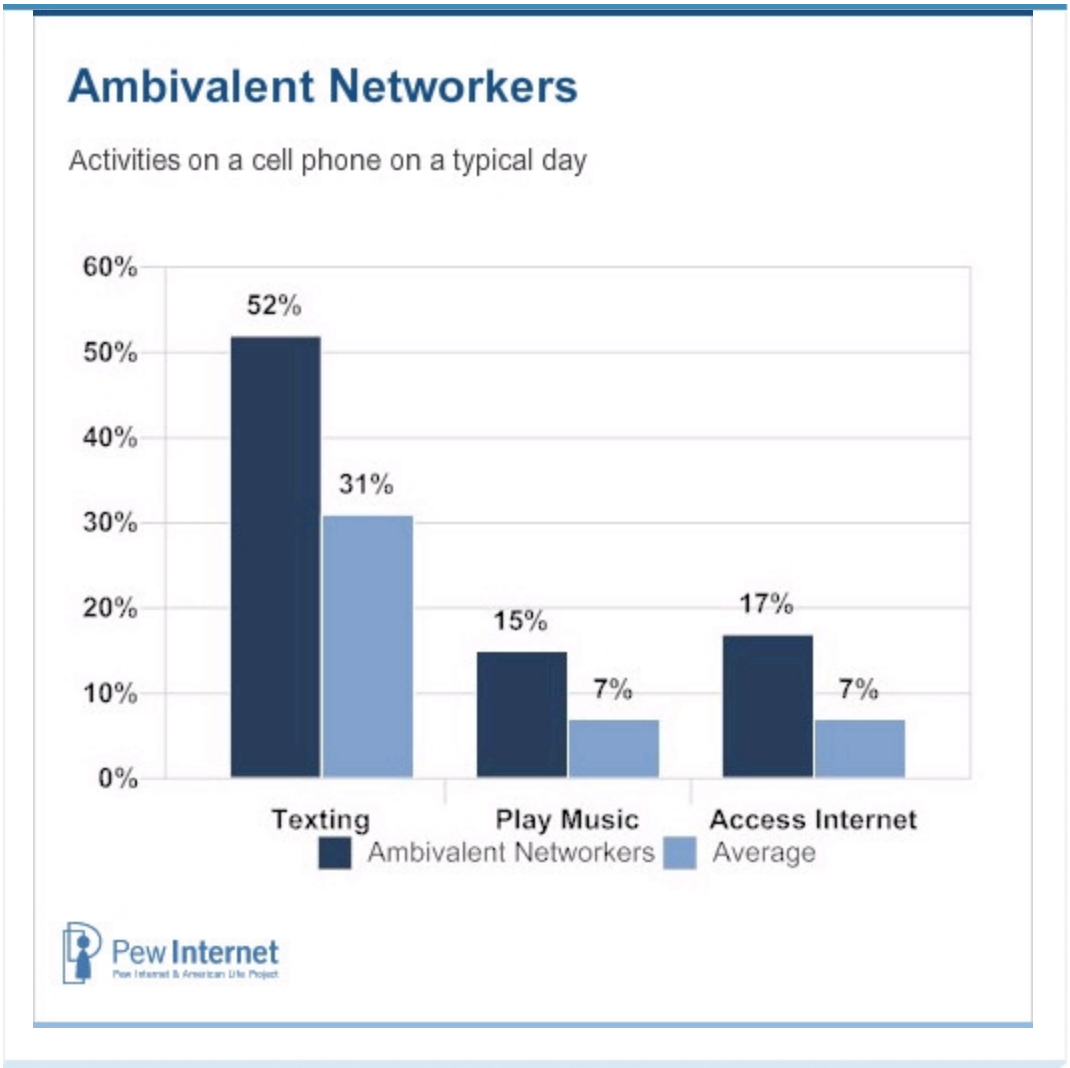
Yet, perhaps because ICTs are so integrated into their lives and because of their youth, this group does not herald the upside of ICTs at a very high rate. Though well-equipped for mobile connectivity, Ambivalent Networkers are not enthralled by the intrusions this connectivity may create. Ambivalent Networkers like how gadgets let them stay up socially with others, but do not see them as central to their productivity.

Assets

This group has more ICT gadgets and services than average, with a tilt toward devices that can be taken on the go. Just about all (99%) have cell phones, and two-thirds have laptop computers (65%) and MP3 players (64%). Many use web cameras on their computers (24%) and most (74%) have digital cameras. A strong majority (85%) have broadband internet connections at home. The typical member of this group has been online for 9 years, just behind the average of 10 for all internet users.

Actions

Ambivalent Networkers have steady online habits, but are very active when it comes to using their cell phones for a range of things beyond making phone calls. Some 44% of this group go online at least several times a day, a bit above the 36% average and probably indicative more of their high rate of broadband adoption than anything else. They click over to YouTube while online (35% watch a video online on a typical day, just more than twice the average) and half get news online on the average day, compared with the 37% average for all online users.



But it is their use of their cell phone or other handheld device that sets Ambivalent Networkers apart from others. Some 22% in this group have personal digital assistants, which is twice the average. On a typical day, 66% of those in this group do at least one of ten non-voice data activities on their cell phone. This is the highest figure for any group. They are the most frequent users of text messaging (52% do this on the typical day) and many use their cell phone to take pictures (27% on the typical day). One-third (33%) have used their cell phone to listen to music and a similar number (35%) have played a game with their handheld device. And one in five (19%) have watched a video on their cell.

With their online behavior and very active cell phone use, traditional media is pushed aside for many in this group. Only 24% of Ambivalent Networkers say they watch television every day, far behind the national average for adults of 79%. When they do watch TV, they may not use a television set; some 48% in this group have watched TV programming on a non-TV device, more than twice the average.

Since half (49%) of this group has logged onto the internet wirelessly while away from home or work, it is not hard to picture a Ambivalent Networker in a café, laptop open, taking advantage of a free wireless connection, and watching a YouTube video. Perhaps, since 91% of this group rely on their cell phones for all their calls, they would be chatting on the phone and sharing the fun in the YouTube clip with a friend.

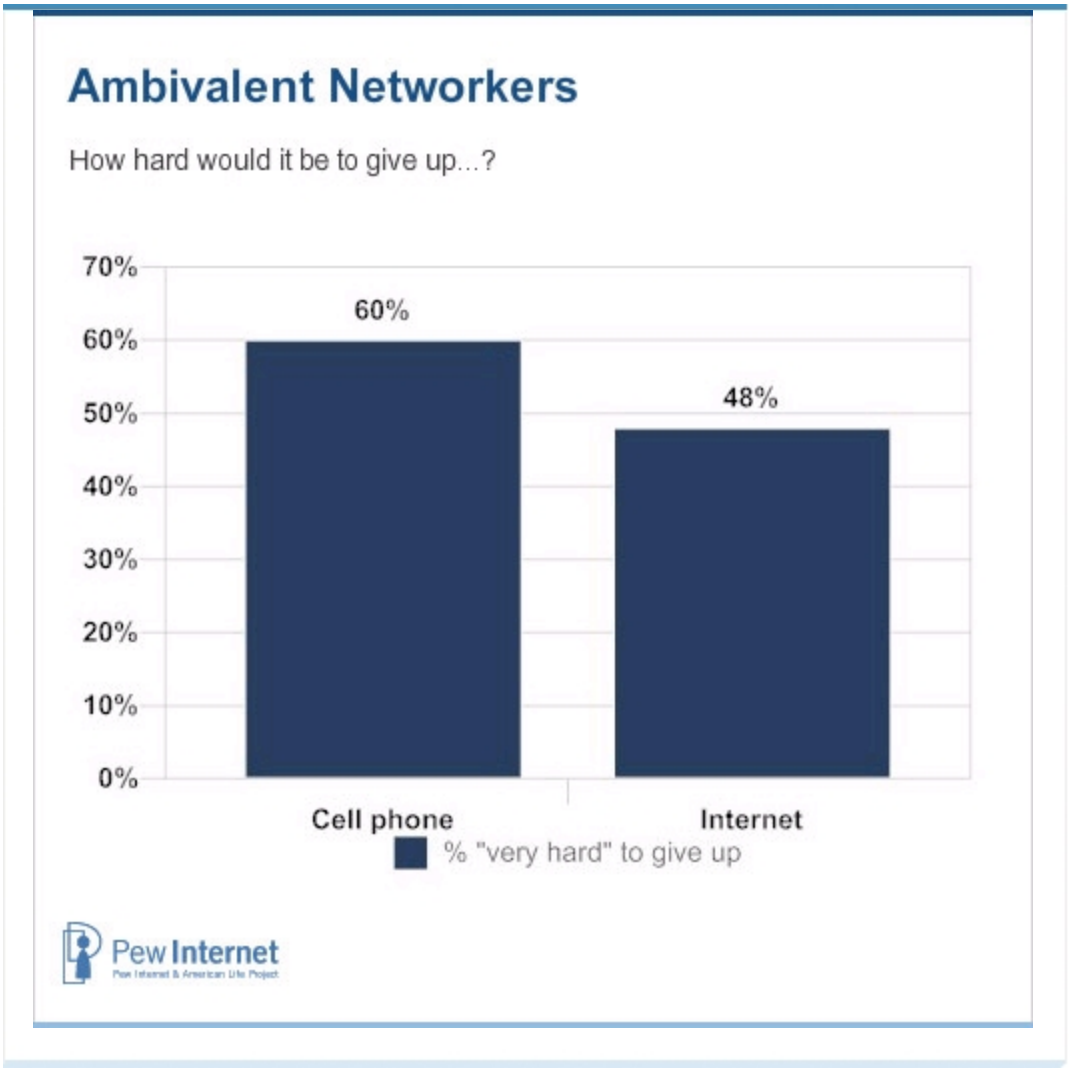
For Ambivalent Networkers, their online and mobile activities are a platform for social networking and sharing content with others. Some 54% of Ambivalent Networkers say they have a profile at a social networking site (SNS), the highest of any group, and well above the average of 33% for internet users in this sample. One-third (31%) in this group share digital content with others, and 29% post comments on websites. Both figures are above average and trail only Digital Collaborators as a group. Many in this group have their own blog (25%), which is twice the average for internet users and roughly the same as Digital Collaborators.

Attitudes

Ambivalent Networkers see ICTs as a convenient tool for connectivity with other people, but this does not translate into expressions of heavy reliance on the various gadgets and services they have. Members of this group strongly agree that ICTs are a great way to stay in touch with family and friends; 84% say this, trailing only Digital Collaborators in the typology and above the 65% average for the sample. Two-thirds of this group (66%) strongly agree that ICTs help them learn new things, above the average of 52%.

Yet members of this group are not particularly enamored of how ICTs make them more available to others; 31% agree strongly that they like this extra ICT-enabled availability, below the sample's average of 47% and near the bottom for all groups. And a majority (52%) of Ambivalent Networkers says it is good to take a break from using the internet (ten percentage points above average), and just one-quarter (25%) say they would find it hard to get the information they need without their gadgets. That figure is about average (which is 27% for all gadget users), but the lowest among any of the tech-oriented groups.

Ambivalent Networkers also do not strongly associate gadgets with productivity – either personally or on the job. Some 38% agree that ICTs help them be more productive and 47% say it helps a great deal with their jobs. Although these figures are bit higher than the average, they are lower than those registered for several other tech-oriented groups.



In spite of these sometimes tepid attitudes toward ICTs, Ambivalent Networkers feel strongly about their cell phones. Some 60% say they would find it very hard to do without their cell phone; by contrast just 9% say they would find it very difficult to give up their landline phone. Given that 91% of Ambivalent Networkers make most of their calls on their cell phones, this gap is not a surprise. The internet is the next toughest thing for this group to give up; 48% say it would be very hard to be without the internet, a figure that is on par with the entire sample. As noted, this group is not heavily into television viewing, and just one-third (32%) say it would be very difficult to give up their TV, which trails the 43% average.

Changes from last time

Very few respondents among Ambivalent Networkers in the 2006 survey responded to efforts to contact them again. In fact, only 17 people in this group of 221 were in the sample of callback respondents. This likely has to do with this group's reliance on their cell phones; the 2007 survey had cell phone numbers in the sample (25% of the 2007 respondents were interviewed on their cell phones) but the 2006 survey did not.

Demographics

This is the youngest of any of the typology's groups; the median age is 29 and half of Ambivalent Networkers are adults under the age of 30. Its youth means many in this group are students (30%), and although 26% have college degrees, another 37% have had some college experience. The group has the fewest white Americans of any in the typology (67% versus 75% for the entire sample), and 11% are blacks, while 14% are English-speaking Hispanics.

This group has the smallest share of rural Americans of any in the typology (just 10%, about half the national average), and 64% are employed full-time (against the 52% average among the sample of adults). It is heavily male, with 60% men in the group.

Media Movers

Media Movers: 7% of the general population

A clear sense from this group is that they come across information nuggets – by themselves or from others – that they then pass along to others. Media Movers have a wide range of online habits, whether that means checking the news, searching for health care information, or buying something online. Many participate in group blogs or maintain their own web page, and they use their cell phones to text or snap a picture.

Media Movers do not see ICTs as key parts of their personal productivity, but as a way to keep in touch with family and friends. For them, these aren't just email missives about what they are up to, but also the link to the article or video that members of this group think their social networks might enjoy. This might result in a call from a friend to their cell phone to chat about it, and Media Movers are more likely than not to welcome the intrusion.

Assets

This group rates second (behind Digital Collaborators) in the most number of information appliances. It has a relatively strong orientation to desktop computing, as 91% of Media Movers have one, a figure matched only by Digital Collaborators, and 46% have laptop computers. The figure for laptops trails prior groups significantly, as those groups have 78% and 65% laptop ownership, respectively. Media Movers also have a lot of picture-taking capacity; 87% have digital cameras and 66% have video cameras. Not surprisingly, nearly all have cell phones.

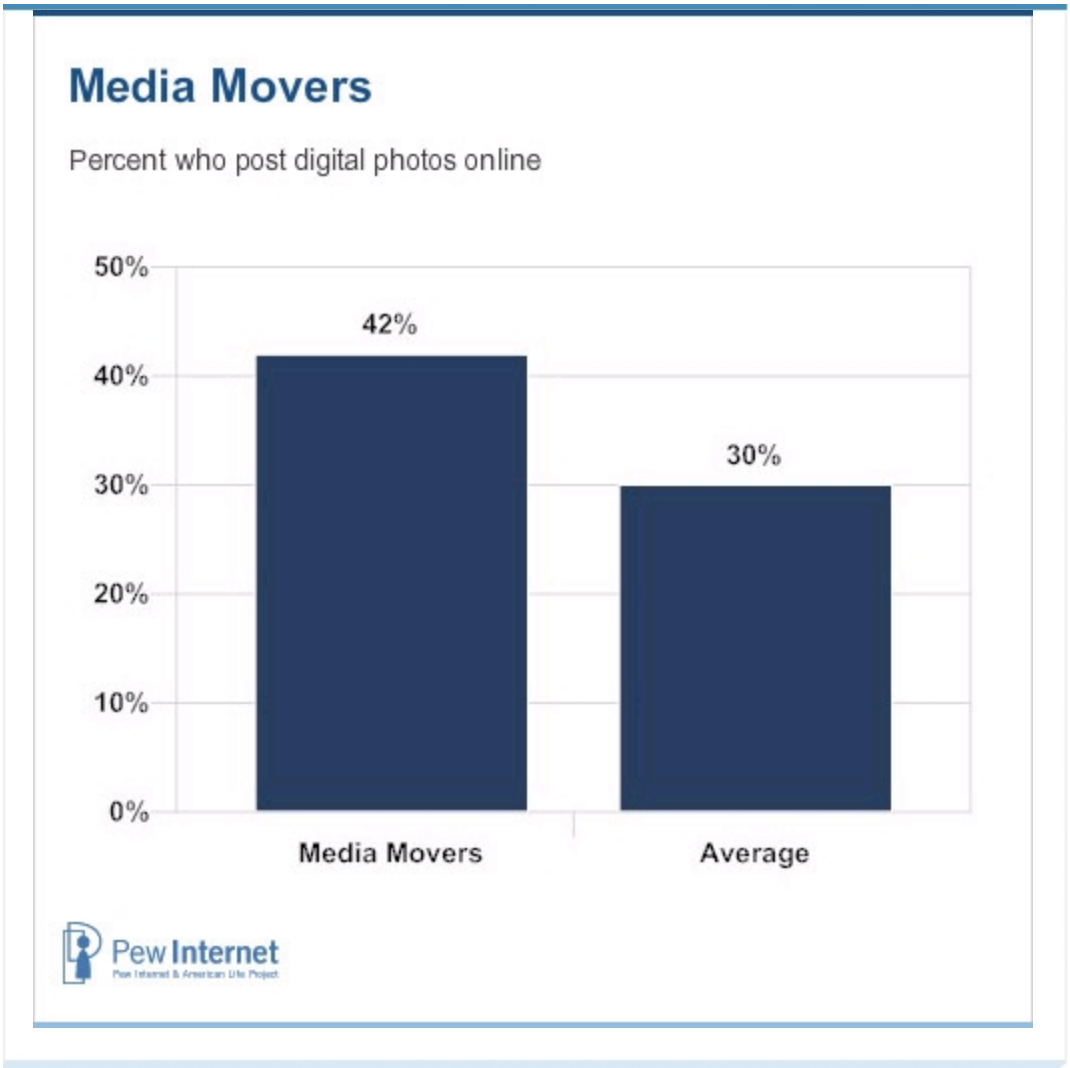
87% of Media Movers have a digital camera, and it is one device that helps them share information with other.

As to online experience, the typical Media Mover has been online for 10 years, which is right at the average, and 84% have home broadband connections.

Actions

Media Movers have a wide, if not particularly deep, portfolio of digital behaviors. Roughly one-third (31%) go online at home several times a day, which trails the average by 5 percentage points, and 34% do so from work, which also lags the average. When asked about a range of online activities that they have *ever* done, this group exceeds the average, but when focusing on activities done on the *typical day*, they are only on par with the entire sample of internet users.

Relative to their internet behavior, Media Movers are more involved with their cell phones. Some 57% in this group do at least one non-voice data action using their cell phone on the average day compared with the 36% figure for all cell users. They are active texters (45% send or receive a text message on the average day), and 31% have recorded video on their cell phone. That figure surpasses the 18% average for cell users and places this group at the top in terms of frequency of doing recording video with a cell phone.



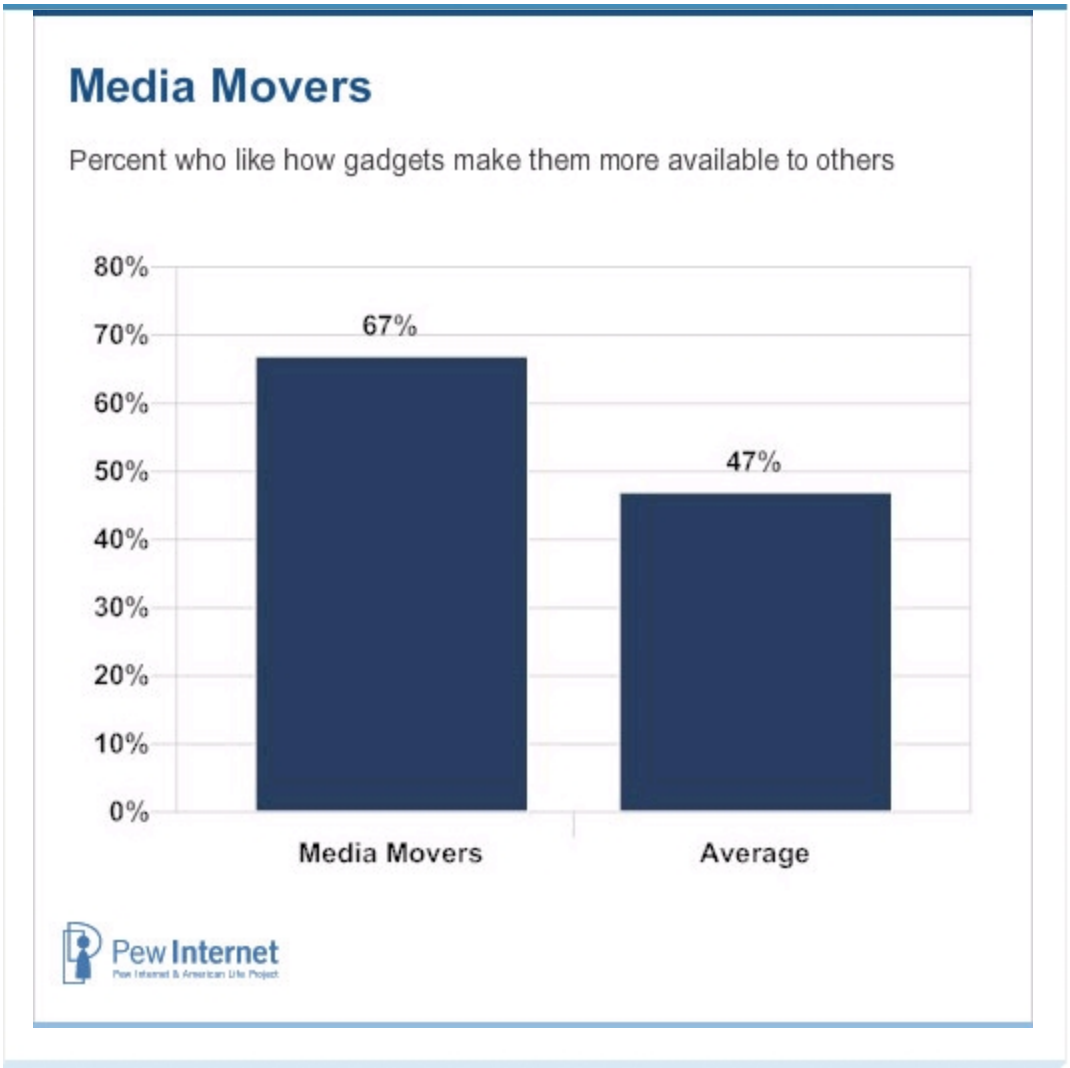
Some 58% of Media Movers say they take their own video (using whatever device), and this figure far exceeds the 22% average and is matched only by Digital Collaborators. They are also into digital photography; 81% take digital photos, with three-quarters sharing them over email and 31% posting them to the internet.

This group's engagement with video and digital photography suggests they like to manage information online. For some, this can manifest itself in blogging (17% of this group say they have one) and through web pages. Some 24% of Media Movers have their own web page (against the 14% average and the second highest figure in the typology behind Digital Collaborators), and 21% work on group web pages or blogs,

again the second-highest figure across typology groups.

Attitudes

Media Movers are content with what ICTs do for them. Two-thirds (67%) like how cell phones and other gadgets make them more available to others, and three-quarters (74%) like how ICTs help them keep up with family and friends. Few (15%) need help in setting up their new information gadgets.



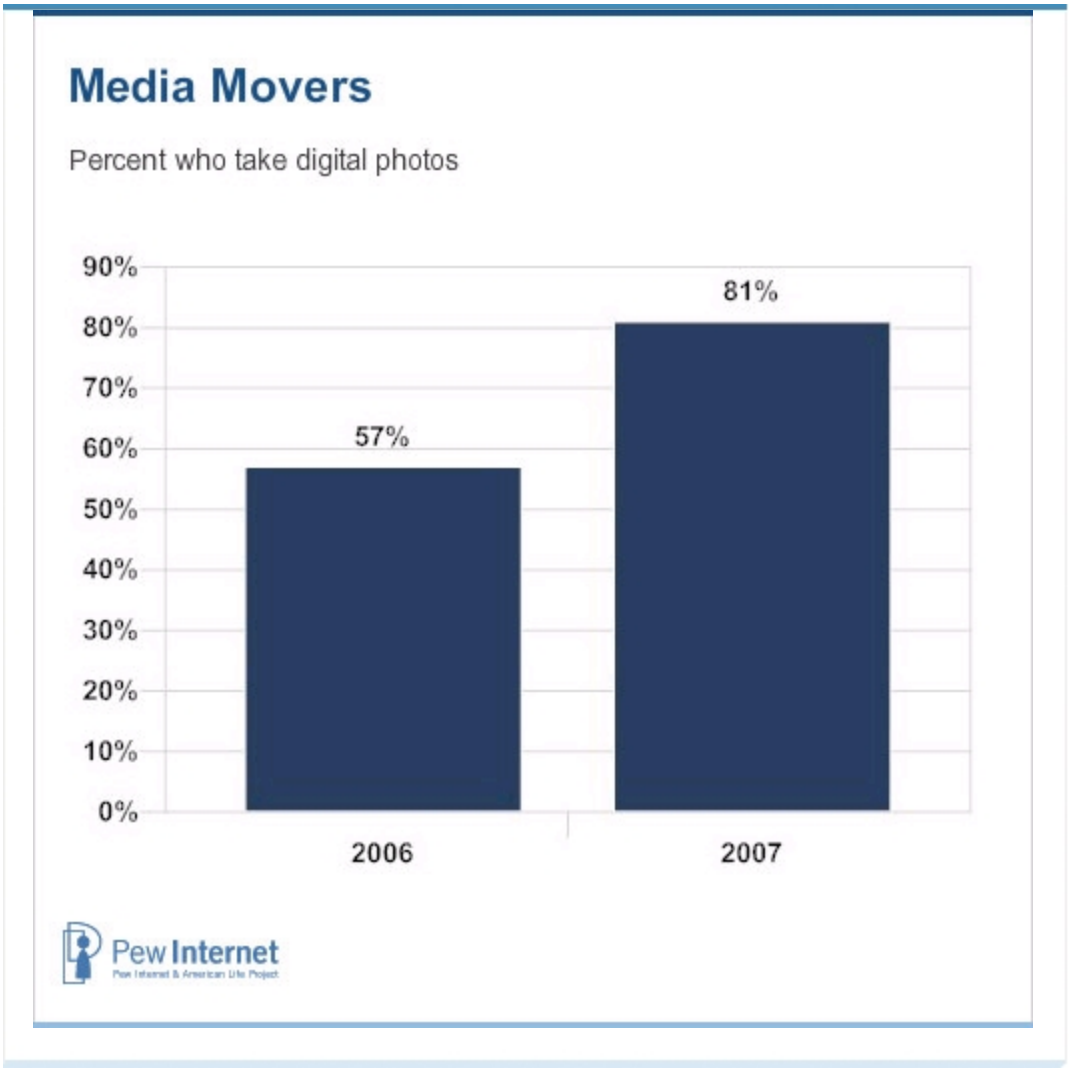
Yet this contentedness falls short of the enthusiasm about ICTs' affordances expressed by some other groups. About half (49%) think ICTs grant more control over their lives, which is average but half the rate at which Digital Collaborators say this. A majority of Media Movers (53%) also say it is good to take a break from the internet, 11 points above the average.

As to which gadgets would be difficult to give up, the cell phone rates the highest for this group. Some 52% say they would find it very hard to give up their cell phone, a large gap over the internet (33%). Media Movers also have a notably large difference between the rate at which group members say it would be very hard to give up the internet (33%)

versus email (17%). As active managers of digital content, this group has a greater attachment to the internet for those purposes than for a communication function such as email. And it could be that sharing content, which also often allows users to add a note of text to it, helps diminish the importance of email for Media Movers. For communicating with their social networks (and 46% of this group has an online social networking profile), the cell phone is likely the main tool.

Changes from last time

The callback survey yielded 75 respondents among Media Movers who were also contacted in 2006. This subsample showed a large increase in broadband adoption at home, from 63% to 88%, but not a commensurate increase in frequency of internet use at home. One-quarter (25%) of Media Movers went online at home several times a day in 2006, while 32% said this in 2007. Yet the growth in broadband adoption did yield some changes in information consumption. More Media Movers downloaded video in 2007 than 2006 (25% to 11%) and more paid for digital content online (27% to 16%). Three times as many in this group had watched TV programming on a non-TV device in 2007 than 2006 (24% to 8%). Finally, more Media Movers were taking digital photos in 2007 versus 2006, by a 81% to 57% margin.



In spite of these changes, the attitudes of Media Movers about information technology remain mixed. The share of those saying it would be hard to do without the internet stayed about the same (29% in 2006 and 31% in 2007) and in fact there was an increase in the share saying they suffered from information overload (from 25% to 32%). There was also a drop in the share of people saying that ICTs help them be more productive; 39% agreed a lot with this proposition in 2006 and 25% said this in 2007.

Only the mobile device fared well. Half (51%) of Media Movers in 2006 said they liked that devices such as the cell phone made them available to others; that number grew to 60% in 2007.

Demographics

The Media Movers group is the typology's second youngest group of adults, with a median age of 34, and 56% are men. Beyond its youth and tilt toward males, it is demographically much like the general population of adults. Its racial composition basically mirrors the general population and this group has about the same share of college graduates as the entire sample (32% for Media Movers versus 29% for the sample).

Differences from the norm show up in income and family life. Because it has a lot of young people, group members are more likely to be parents of minors – 51%, compared to 33% for the sample. The group is also better off economically than the entire sample. Some 56% of Media Movers report household incomes over $50,000 per year, compared with the average of 39% for the sample. The group is the most heavily suburban of any group, with 55% living in the suburbs, and 70% are employed full time, the highest (along with Digital Collaborators) of any group.

Roving Nodes

Roving Nodes: 9% of the general population

Roving Nodes are ardent users of the internet and mobile devices, and consume a lot of digital content for the purpose of passing it along others. Typically, this is done through email – often on a desktop or laptop – but also through texting or emailing on a mobile device. Much of this information might be logistical, as this group is very likely to see ICTs as a way to do their jobs, connect with family and friends, and generally be more productive in their lives.

Roving Nodes love the gadgets they employ for keeping information on the move, but they use traditional applications to do it. They are no more likely than average, and less so than prior groups, to use social networking sites to mediate communication among their crowd. And they are not much into blogging or maintaining their own web pages. Give them an email program, browser, and a cell phone that can text, and they are off.

Assets

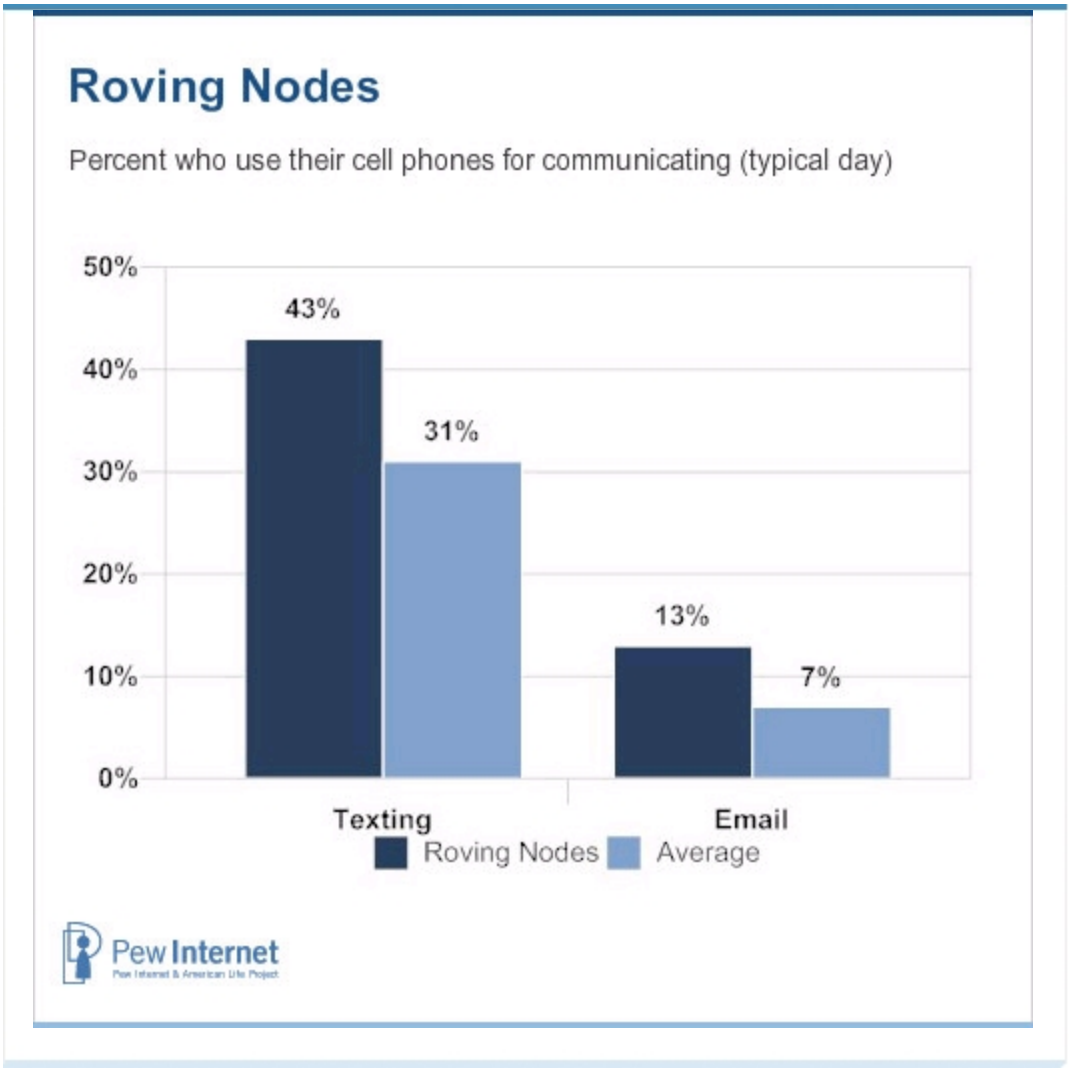
This group generally has the same number of information gadgets as Media Movers, although the distribution is different. Whereas Media Movers had a high rate of desktop computer ownership and a slightly above average laptop ownership rate, Roving Nodes are more oriented to laptop computing and personal digital assistants. Some 60% of Roving Nodes have a laptop computer, well above the 37% average. A bit more than one-quarter (27%) have a PDA, which is the second highest of any group in the sample, trailing only Digital Collaborators.

All Roving Nodes have a cell phone, while four out of five have broadband at home. The typical Roving Node reports having had internet access for 10 years, which is right at

the average.

Actions

Members of this group are frequent users of the internet for communication purposes. A strong majority (82%) go online on the average day, 40% go online several times a day at home, and 49% are online several times a day at work; all these figures exceed the average. Email is central to what they do online, as 72% check email on the typical day versus 60% for the all internet users. Beyond that, their online habits generally track with the average, although Roving Nodes are more frequent online shoppers, as 83% have bought something online, compared with the 75% average.



Communication functions dominate their use of cell phones as well. Fully 91% of Roving Nodes say that most of their phone calling is done with their cell phones. For non-voice activities on the cell, 43% send or receive text messages on the average day, above the 31% figure for all cell users. Some 28% of in this group have used their cell phones for email at some point, and 30% have used their cell phones to access the internet for information such as maps. Overall, 57% of Roving Nodes use their cell phone for a non-voice data application on the average day, well above the 36% average for cell users.

Roving Nodes are less likely than average to post content to the internet or take

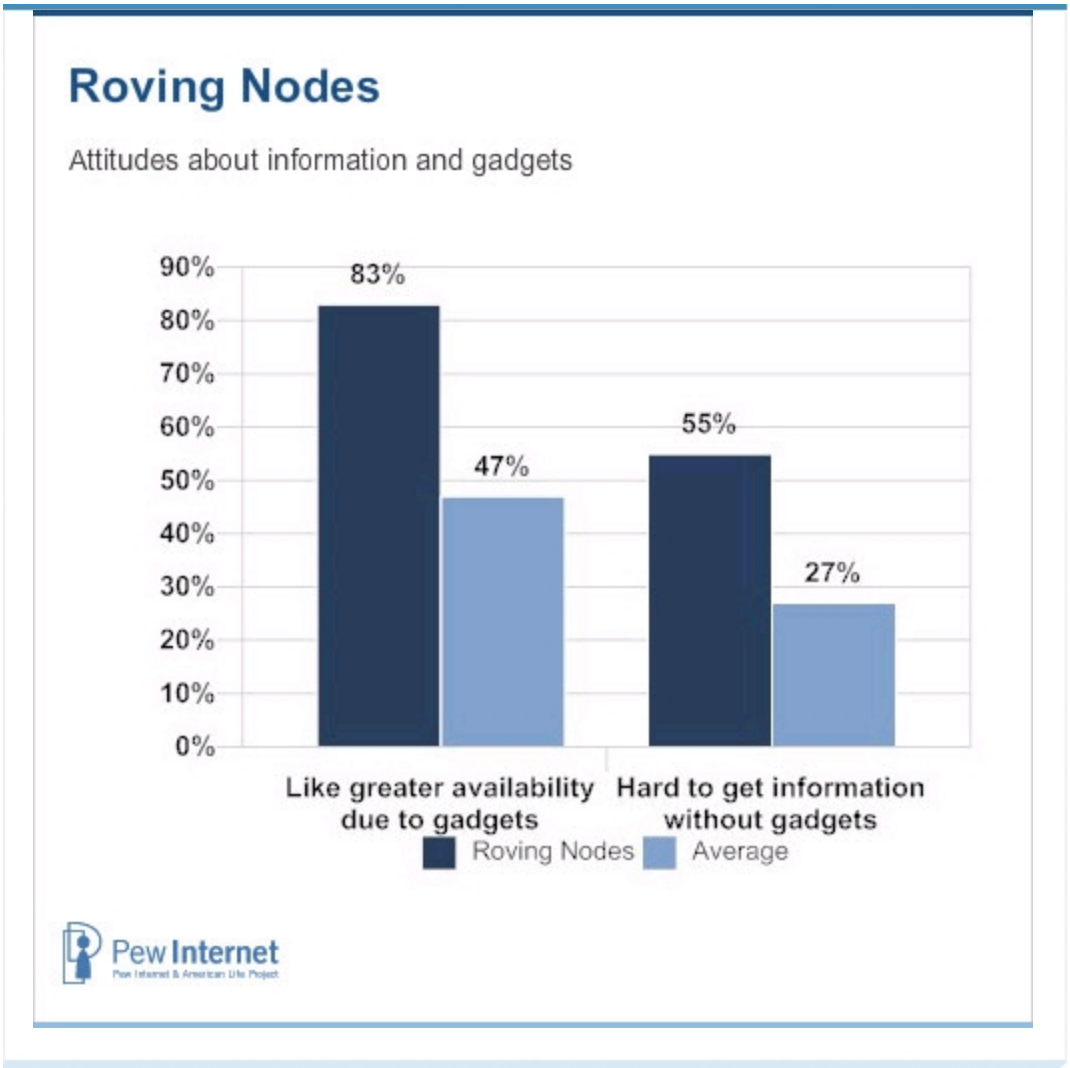
traditional media in new directions. Few have their own web page (6% versus the 14% average for internet users), 13% have shared a creation online (versus the average of 21%), and 8% have their own blog (compared with the 12% average). Fully 87% watch TV every day (the highest figure among typology groups), while 30% of say they have watched TV on a device other than a traditional television set. This is above the average of 20%, but far behind other tech-oriented groups.

Finally, Roving Nodes are just at the average with respect to use of social networking sites. One-third (32%) have a SNS profile, right at the average for the sample, but significantly below the levels of the prior three groups.

Attitudes

The ease and flexibility of communicating with others means Roving Nodes have very positive attitudes about where ICTs fit into their lives. Most (78%) believe ICTs give them more control over their lives, well above the 48% average for the sample. More than any other group in the typology, they like that information gadgets make them more available to others (83% strongly agree with this proposition). Nearly all (91%) like a lot how ICTs help them keep in touch with family and friends.

More than half (56%) strongly agree that ICTs make them more productive (twice the average), and a similar number (55%) say that without their information gadgets they would have a hard time getting the information they need. That is also twice the sample's average. Finally, Roving Nodes are enthusiastic about other dimensions of ICTs. Three-quarters (73%) say it helps them a lot to do their jobs, and 78% say it helps them learn new things.

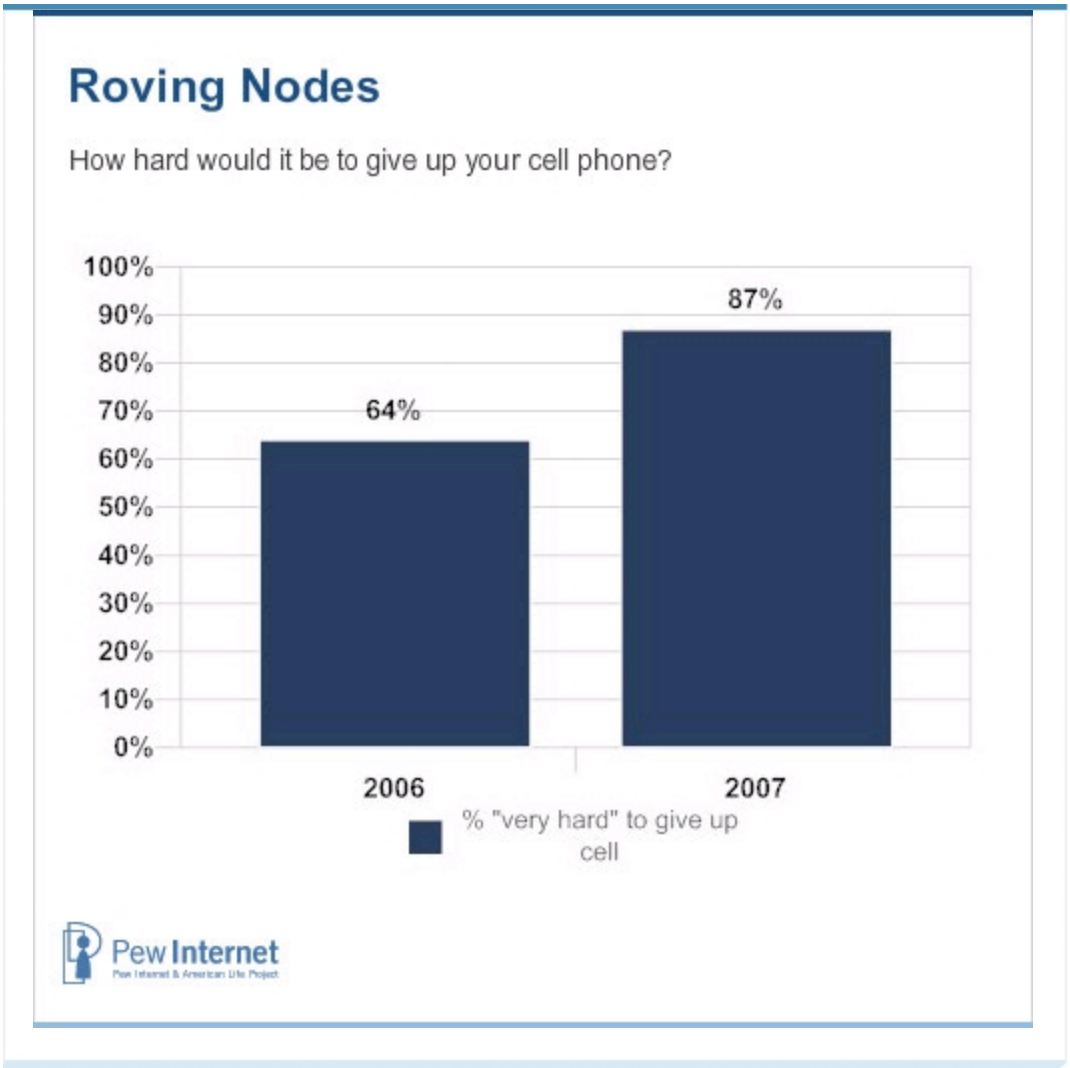


With their reliance on ICTs for communication, it is no surprise that Roving Nodes would find it hard to do without them. Nearly nine in ten (87%) say it would be very hard to be without their cell phones; this figure exceeds the next highest number in the typology by 20 percentage points. And three-quarters say it would be very hard to give up the internet (74%) and email (73%). Only 10% of Roving Nodes say they would find it very difficult to give up their landline telephone.

Changes from last time

The callback portion of this survey yielded 97 Roving Nodes who answered questions in

both 2006 and 2007. Like Media Movers, Roving Nodes saw a substantial growth in home broadband adoption, from 62% to 75%, and this growth was likely, at least in part, linked to a growth in frequency of internet use. Some 30% in 2006 reported going online several times a day at home, a figure that rose to 39% in 2007. This group experienced some growth in cell phone adoption, from 92% to 100%, and a big boost in MP3 player ownership, from 22% to 38%.



The intervening time period showed clear improvement in attitudes about ICT-enabled availability, the cell phone, and the internet. Starting from an already high 2006 level of 74% saying they liked how ICTs make them more available to others, this figure grew to 80% among Roving Nodes also contacted in 2007. The share of Roving Nodes saying they would find it very hard to give up the internet grew from 59% to 68% from 2006 to 2007.

Most notable, however, is the change in how Roving Nodes value their cell phones. Of those contacted in 2006, 64% said they would find it very hard to give up their cell phones; that figure grew by more than one-third to 87% by 2007.

Demographics

Roving Nodes are, in certain respects, a mirror image of Digital Collaborators. Roving Nodes are dominated by women (56% are, which is the share of men among Digital Collaborators) and both groups have a median age of 39. Roving Nodes are well-educated, with 44% having college degrees, and above average economically, with 34% living in households whose incomes exceed $75,000 annually, versus 23% for the entire sample. Although they are about as likely as the rest of the population to be married (62% versus the 60% average), they are more likely to have minor children in the house (43% to 33%).

Racially, the group is close to the nation at large, although this group has somewhat more English-speaking Hispanics than the sample (by a 14% to 10% margin). Two-thirds of this group (68%) are employed full time, and nearly half (48%) live in suburbs.

Mobile Newbies

Mobile Newbies: 8% of the adult population

Mobile Newbies happily use their cell phones for keeping in touch with others. They do this mostly using the plain old fashion voice capability of the mobile device, although occasionally they will fire off a text message to someone. They like being more available because of their cell phone and would not like to give it up.

The internet is very much on the periphery for most people in this group. Less than half have online access and fewer have a high-speed connection at home. Troubleshooting technology may be part of the story here, as most need help from others in getting new devices and services to work. Very few would find it hard to give up the internet, a stark contrast to attitudes about the cell phone.

Assets

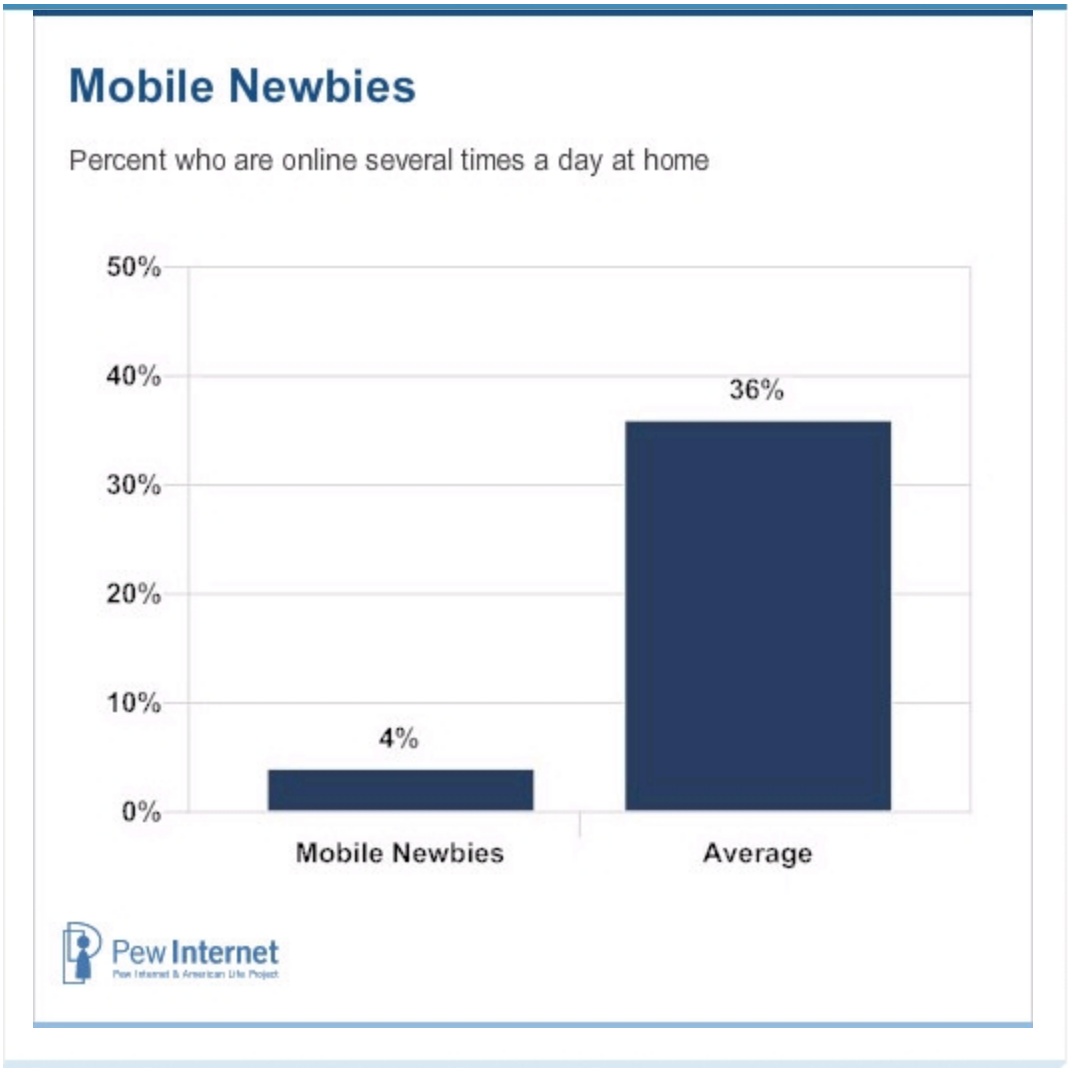
This group is oriented far more toward cell phones than computer-based online access. Nearly all (98%) have a cell phone, but only 39% have internet access, with just 10% having a high-speed internet connection at home. Nearly half (47%) of Mobile Newbies have desktop computers, and only 18% have laptops, figures which are both well below average. Some 47% have digital cameras and 40% have video cameras.

This group is also new to the internet; the average Mobile Newbie has only been online for about two years.

Actions

With the high rate of cell phone adoption, this group is very likely to use their cell phone

for most of their phone calling; 61% say they rely on their cell for most of their calls. Yet Mobile Newbies have not strayed far beyond that application on their cell phone. On the average day, just 11% use one of the ten non-voice data applications asked about. That application might well be texting, as 18% send or receive a text message on the average day.



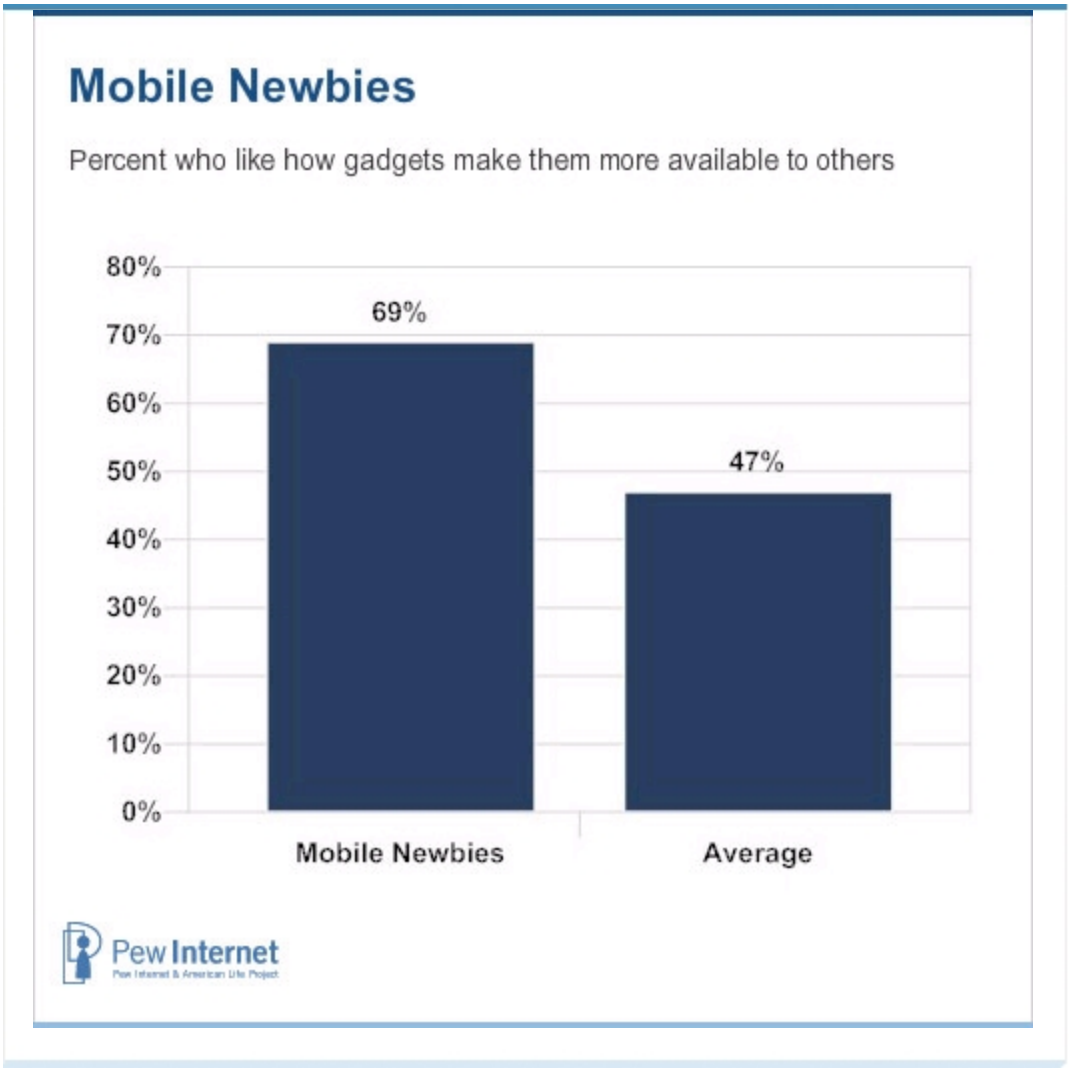
On the internet, their actions are basic and infrequent. Half (48%) go online on the typical day, and just 4% of Mobile Newbies report using the internet several times a day at home, far below the 36% average. Nearly three-quarters (71%) of this group report being email users (92% is the average) and 24% report checking email on the average day, which is less than half the average. Online news is of little interest to them, as just 28% report *ever* having gotten news online, compared with 71% of all internet users. Online shopping holds some allure, as 47% of Mobile Newbies have done this, but that is still shy of the 71% number for all online users.

This group appears more comfortable with old media; 79% watch TV every day and 69%

listen to the radio every day, both numbers at the average for the sample.

Attitudes

Mobile Newbies have embraced the cell phone and the connectivity it enables. Two-thirds (69%) of Mobile Newbies say they like a lot how their cell phones make them more available to others, and the same share (67%) say it would be very difficult to give up their cell phone. The latter figure is second highest across all groups. Not surprisingly, 80% say they strongly agree that ICTs are good for staying in touch with family and friends.



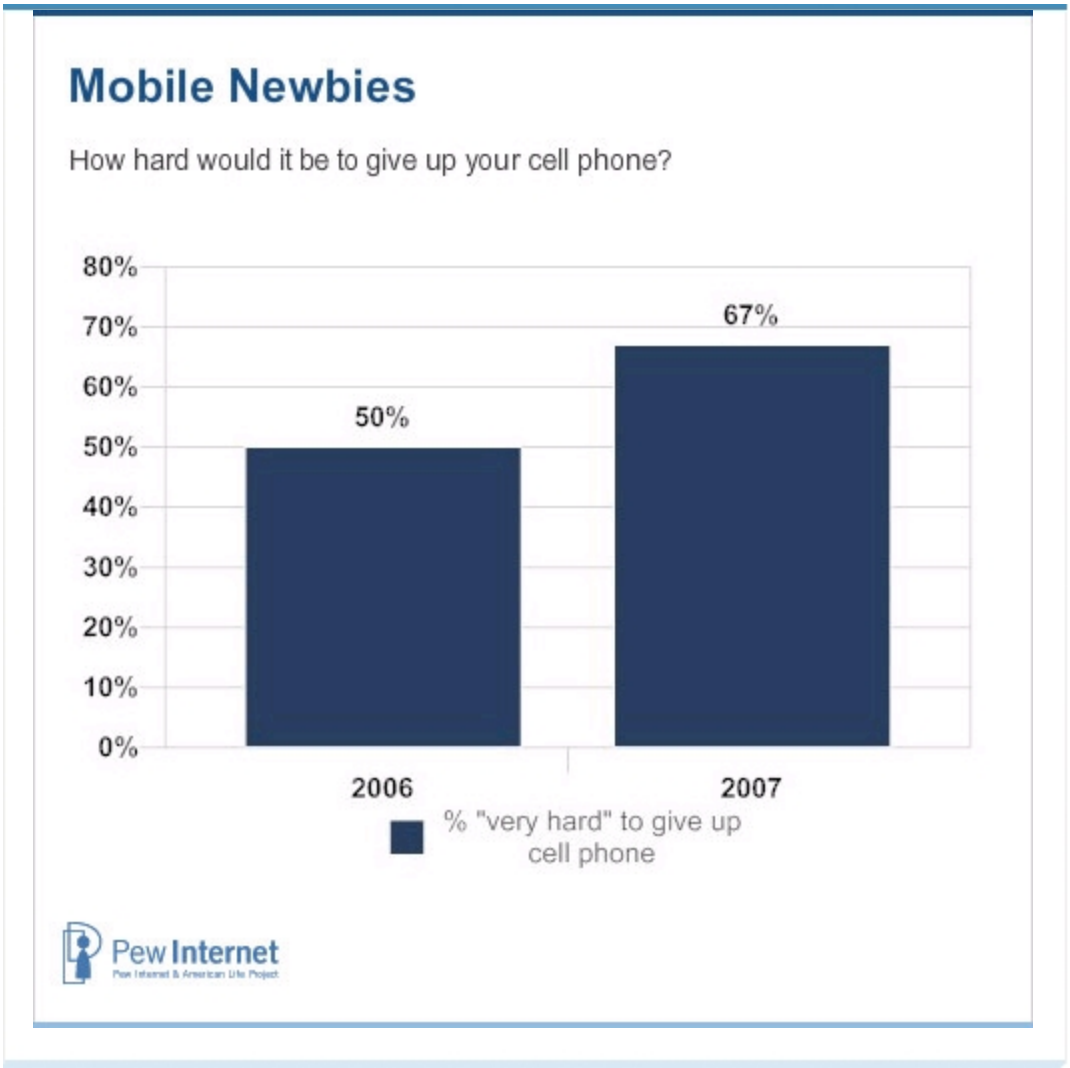
Yet, compared with some of the more veteran high-tech groups, Mobile Newbies express greater concern about information overload and often need help getting their ICTs to work. Some 36% say they feel overloaded by the amount of information flowing around them, half again the 24% average. More than half (54%) say they need help from others to get their devices set up and working properly.

With their low level of engagement with the internet, few Mobile Newbies rely on it greatly. Just 16% in this group say it would be hard to get the information they need if they had no modern information appliances, and few say it would be very hard to be without the internet (8%) or email (4%).

Changes from last time

Of the 441 respondents in our 2007 survey that comprise Mobile Newbies, 115 also participated in the 2006 survey and were contacted again in 2007. This subsample differs from the entire group in more pronounced ways than preceding groups. Some 57% of the re-contacted Mobile Newbies say they use the internet in the 2007 survey, above the 39% for the entire sample (that mixes re-contacted and newly contacted 2007 respondents). About the same number of re-contacted Mobile Newbies had internet access in 2006 – 54% – as in 2007. Mobile Newbies re-contacted also report a *decline* in home broadband access from 16% in 2006 to 10% in 2007.

As to frequency of online use, 47% said they went online "yesterday" in 2007, up from 40% in 2006. However, perhaps reflecting the drop in home broadband adoption, slightly fewer reported using the internet from home *several* times a day; 10% of Mobile Newbies said this when contacted in 2007, while 13% said this in 2006.



Cell phone adoption, however, grew for re-contacted. Fully 86% of Mobile Newbies had them in 2006, a number that grew to 99% in 2007. They also reported improvements in attitudes about their cell phones. Half said it would be very hard to give up the cell phone in 2006, and 67% said this in 2007. Similarly, 53% said they liked how ICTs made them more available to others in 2006, a figure that rose to 67% in 2007.

At the same time, more Mobile Newbies expressed concerns over how well they could troubleshoot new technology. In 2006, 53% said they strongly agreed that they needed help in setting up new gadgets; that number grew to 61% in 2007.

Demographics

Mobile Newbies tilt toward women (55%), and their median age is 50. The group has a somewhat higher share of African Americans than the general population (13% to 10%).

As to educational attainment, it is below average, with 19% having college degrees (against the 29% average) and 23% having less than a high school education (compared with the 12% average). Some 45% live in households with annual incomes below $40,000, whereas 35% of the sample reported annual incomes in that category. Mobile Newbies are more likely than average to live in rural areas (24% do) and 53% are employed full-time, right at the average.

Desktop Veterans

Desktop Veterans: 13% of the general population

This is a group of veteran middle-aged internet users who use the internet actively for information gathering and to stay in touch with others and enhance their day-to-day productivity. They are very likely to have a desktop computer, just a bit more likely than average to use a laptop, and their high rate of broadband adoption means they go online often.

However, Desktop Veterans are not heavily oriented toward the cell phone. This group's cell adoption rate is about the sample's average, and they use it mostly for phone calling. They do not often venture into non-voice applications on their mobile devices – maybe the occasional text or snap of a photo. They would sooner do without their landline than cell phone, but Desktop Veterans would be very reluctant to give up their internet connection.

Assets

In many ways, Desktop Veterans are "middle of the road" users of ICTs. Some 87% have a desktop computer, with 46% of having a laptop (against the 37% average for all adults). Unlike prior groups, the majority of whom have MP3 players, just 31% of Desktop Veterans members have them. And whereas nearly everyone in prior groups has a cell phone, 77% of those in this group do, which is right at the average for adult Americans.

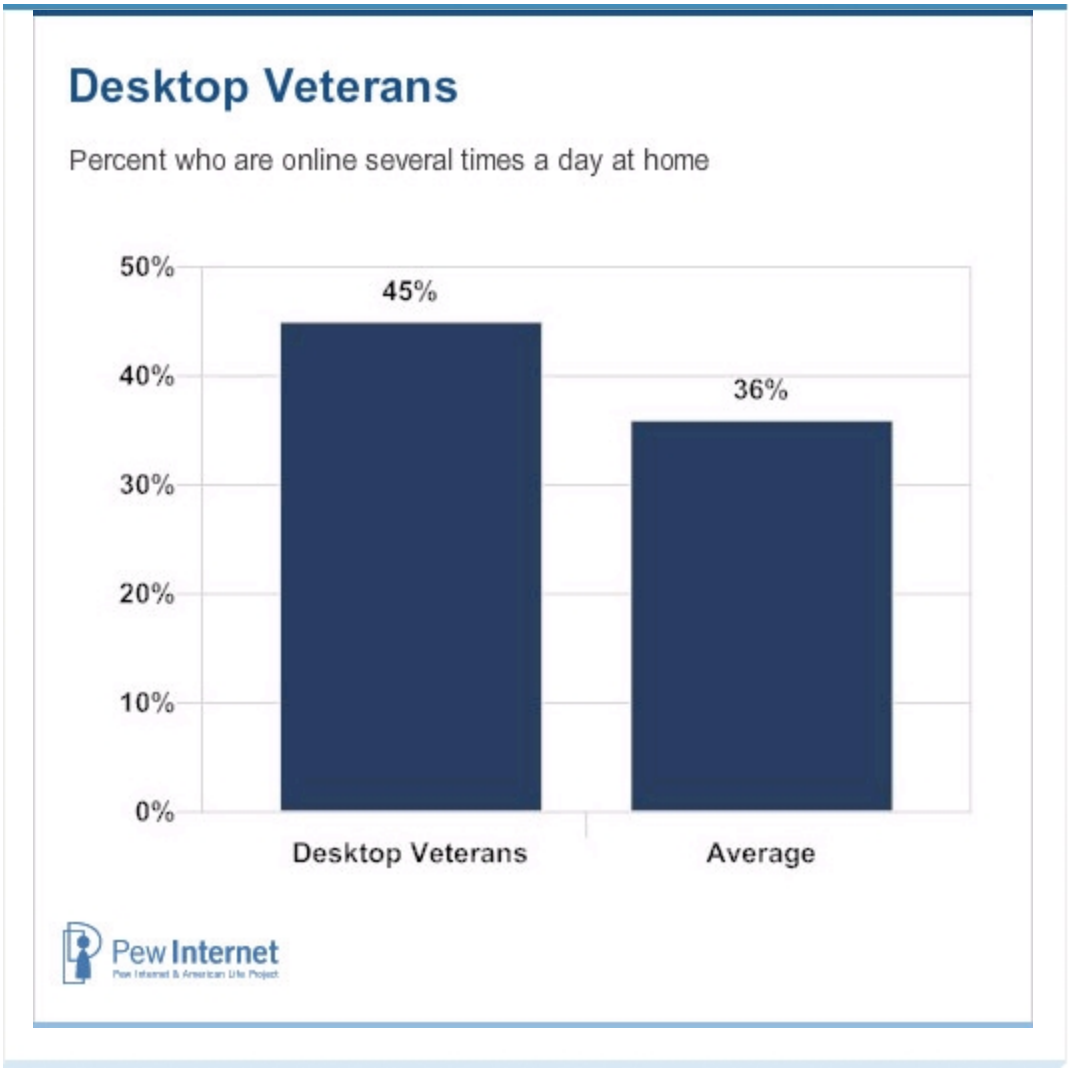
Desktop Veterans are no more likely than average to have a cell phone.

Four in five Desktop Veterans (82%) have broadband at home. The typical member of this group has been online for 10 years equaling the average of 10 for all online users in the United States.

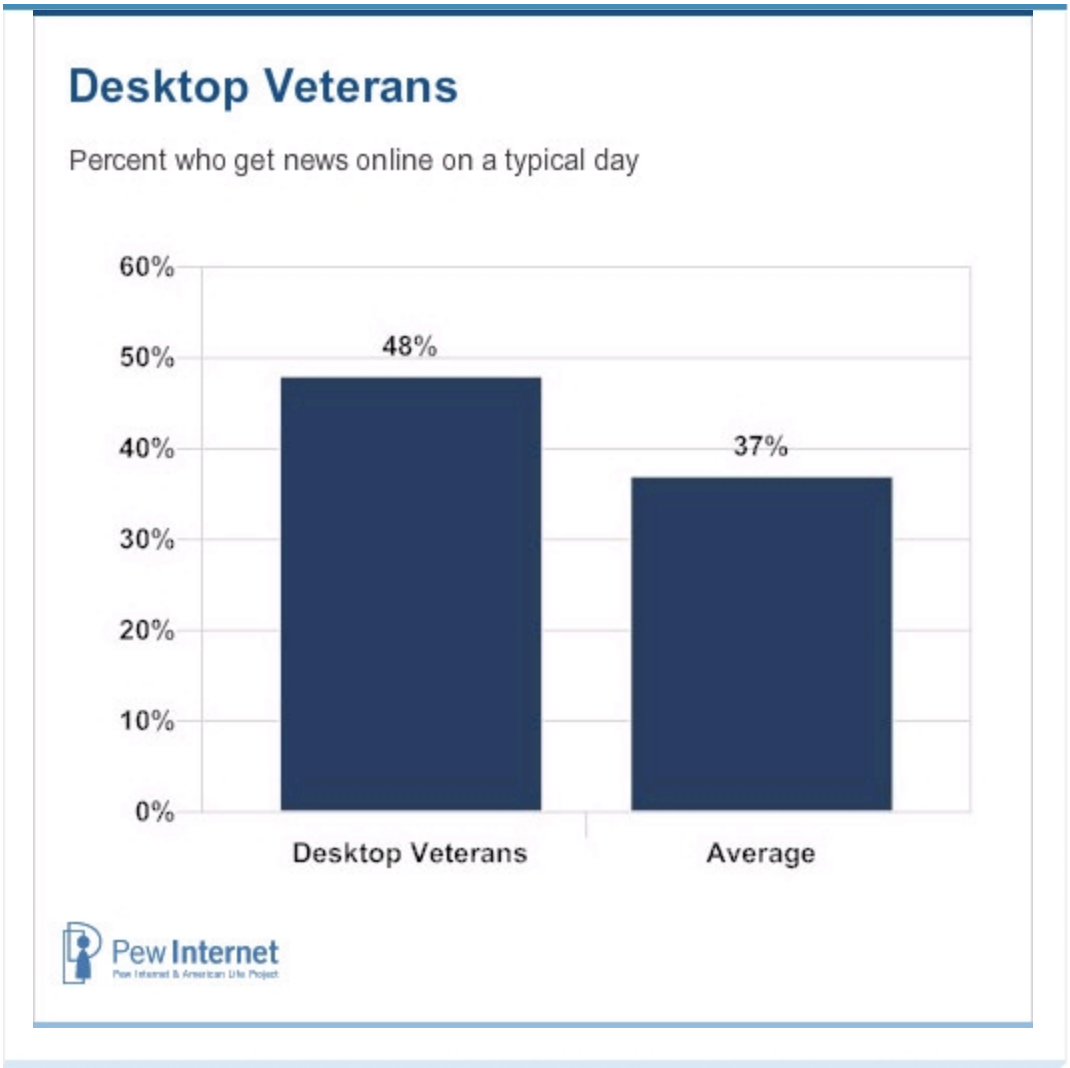
Actions

With high levels of connectivity with computing and broadband, Desktop Veterans are active users of the internet for information consumption and personal communication, with a decent level of participation in the online commons through content contributions to cyberspace. However, even among those with cell phones (and, as noted, their adoption rates trail prior groups), those phones are used intermittently for phone calling and rarely for non-voice applications.

A strong majority (84%) say they use the internet on the typical day, with 45% using it several times a day at home. Both figures mean Desktop Veterans trail only Digital Collaborators in frequency of online use by these measures, albeit significantly: 72% of Digital Collaborators go online several times a day at home. Desktop Veterans are also heavily into email (72% check it on the average day), and they often get news online (48% do so on the typical day).



They have more extensive online habits than just email and news. Fully 82% of Desktop Veterans have at some point gotten health or medical information online and 64% have gotten political news from the web. Over half (56%) have watched a video (e.g., YouTube) and one-third (30%) have paid for digital content.



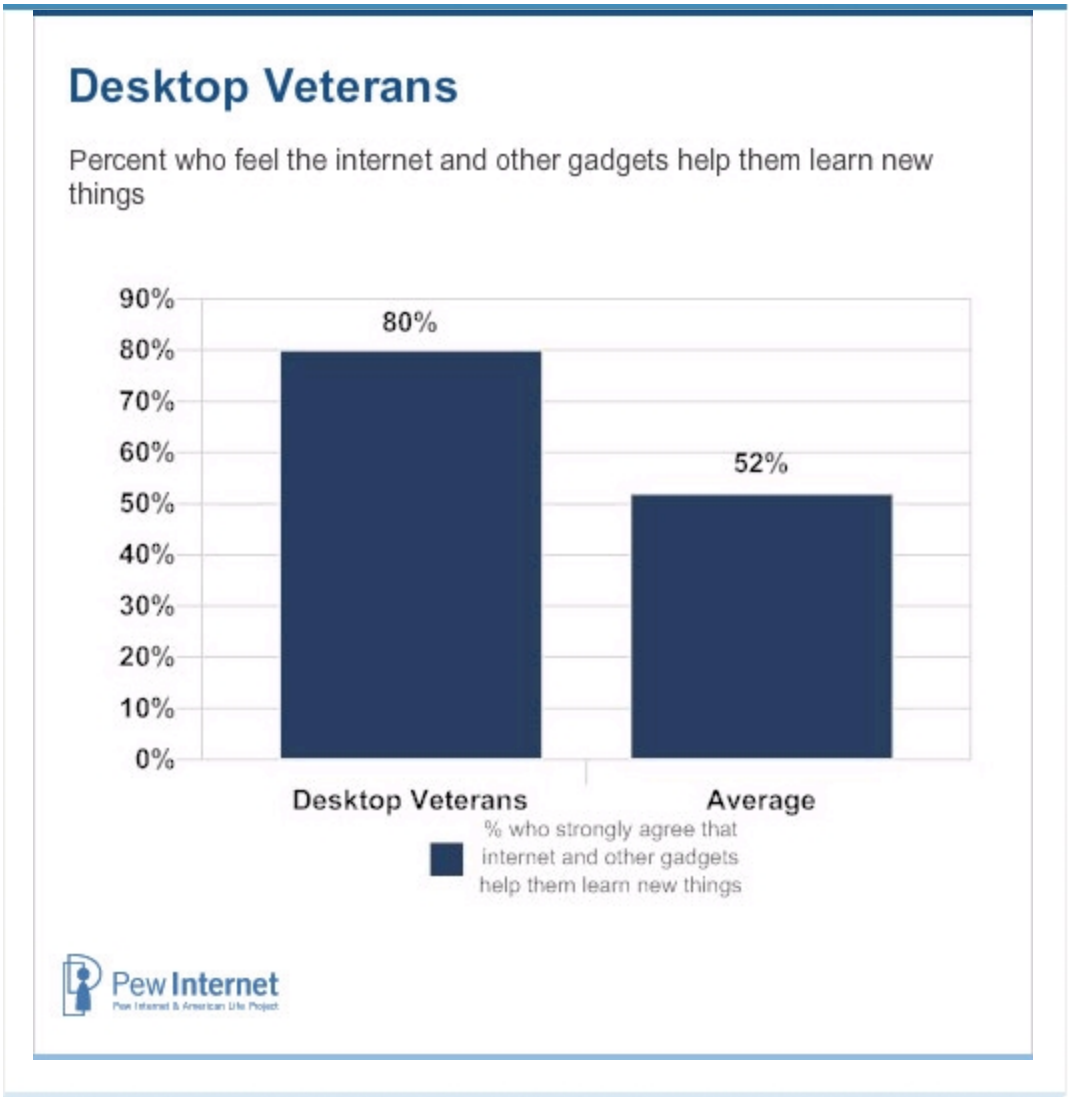
Some of this online information consumption feeds back to the web. One-quarter (24%) of Desktop Veterans have shared a creation with others using the internet and a similar number (26%) have posted a comment to a group website or a blog. One in nine (11%) have their own blog.

Yet few members of this group have gotten the memo about the mobile revolution. On a typical day, 28% of those with cell phones use them for a non-voice data application, half (or less) the rate of prior groups and below the 36% average. It is most likely that this non-voice activity will be texting, but still, only 18% of Desktop Veterans do this on the average day, well below the 31% average.

As to other behaviors, most in this group are avid TV watchers, with 84% watching television every day, and one-quarter have watched TV on a non-standard device. A similar number (26%) have dipped their toe into the waters of social networking sites, a figure that lags the 33% average.

Attitudes

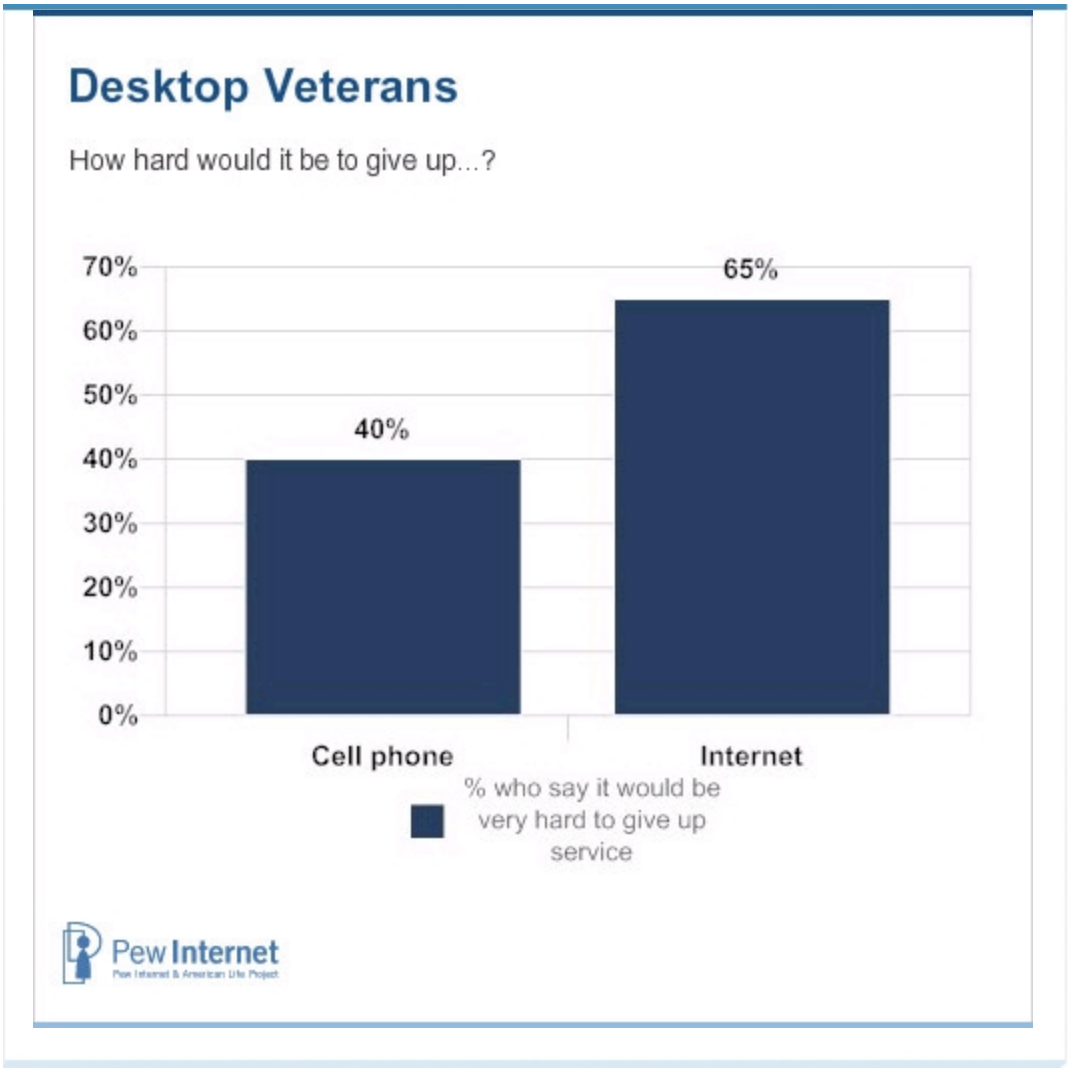
Desktop Veterans are contented users of ICTs, but so long as they can set the terms of their connectivity to others. Most (71%) think information gadgets permit them to have more control over their lives, and 72% say they believe ICTs help a lot in staying in touch with family and friends. As active information consumers, it is not surprising that most (80%) say ICTs help them a great deal in learning new things, the second highest figure among the typology's groups.



Desktop Veterans also see ICTs as a boost to personal productivity. Nearly half (47%) say ICTs help a lot in assisting them in being more productive and 63% strongly agree that ICTs help them do their job. Both figures are about half again greater than the average.

At the same time, members of this group aren't too enthused by how information services make them more available to others. Among Desktop Veterans, 42% strongly agree that they like how gadgets allow them to be more available to others, five percentage points below average. One-third (31%) express concerns about troubleshooting their devices and service. This is about average, but more than twice the

rate of other tech-oriented groups.



With their amalgam of strong online engagement and reluctance to join mobile culture, the information services they value most are no surprise. Desktop Veterans are most likely to say it would be very hard to give up their telephones – their landline phones. Two-thirds (68%) say this about their landlines, while 40% of cell users in this group feel this way about their mobile. They also value the internet a great deal. Fully 65% say they would find it hard to give up the internet, and 58% say this about email.

Changes from last time

Desktop Veterans make up 442 respondents from the 2007 survey, and 216 of them

were also contacted in 2006. For respondents in this group contacted in both surveys, there was roughly a 25% increase in broadband penetration in this time frame, from 67% to 84%. This helped draw them into more frequent internet use. The share of Desktop Veterans who say they went online the prior year rose from 78% to 85%, and the percent saying they use the internet several times a day at home increased from 33% to 38%.

The share of Desktop Veterans with cell phones grew from 2006 to 2007 by seven percentage points (from 78% to 85%, which means that the re-contacted group members had a higher rate of cell ownership than the entire sample). There was also an increase in those who said they liked the extra availability enabled by devices such as cell phones – from 41% to 47%. Still, there wasn't much change in the rate at which they said they would find it very hard to part with their cell phone; the figure rose from 40% to 42% from 2006 to 2007.

Desktop Veterans also showed a deepening attachment to the internet. The share of those who said it would be very hard to give up the internet grew from 55% to 63% over the timeframe of the two surveys. And the group saw an uptick in the share saying that ICTs made them more productive, from 51% to 56%.

Demographics

Desktop Veterans are middle-aged men, mainly white, who have high levels of educational attainment and above average incomes. Some 55% of the groups are men, 80% are white, and 41% have college degrees. More than half (53%) have household incomes over $50,000 per year versus the average of 39% in the sample. Three-quarters (72%) are married and 41% have minor children in the house – both above average. The median age for this group is 46, and more than half (52%) live in suburban locations. Some 56% are employed full-time, not too far above the average (52%) for the sample.

Drifting Surfers

Drifting Surfers: 14% of the general population

This group has a relatively casual relationship with the internet and mobile applications, even though Drifting Surfers have a fair amount of tech resources (e.g., broadband, cell phones) at hand. They will skip a day of using the internet without worry, and are likely to be emailing or checking news headlines when they do log on. Checking out blogs or online video? Not for them.

In fact, indifference characterizes Drifting Surfers' attitudes toward ICTs. Few see them as adding to their personal productivity and they are not cornerstones to how they learn new things or keep in touch with others. If their cell phones or internet connection were taken away, few Drifting Surfers would find that hard.

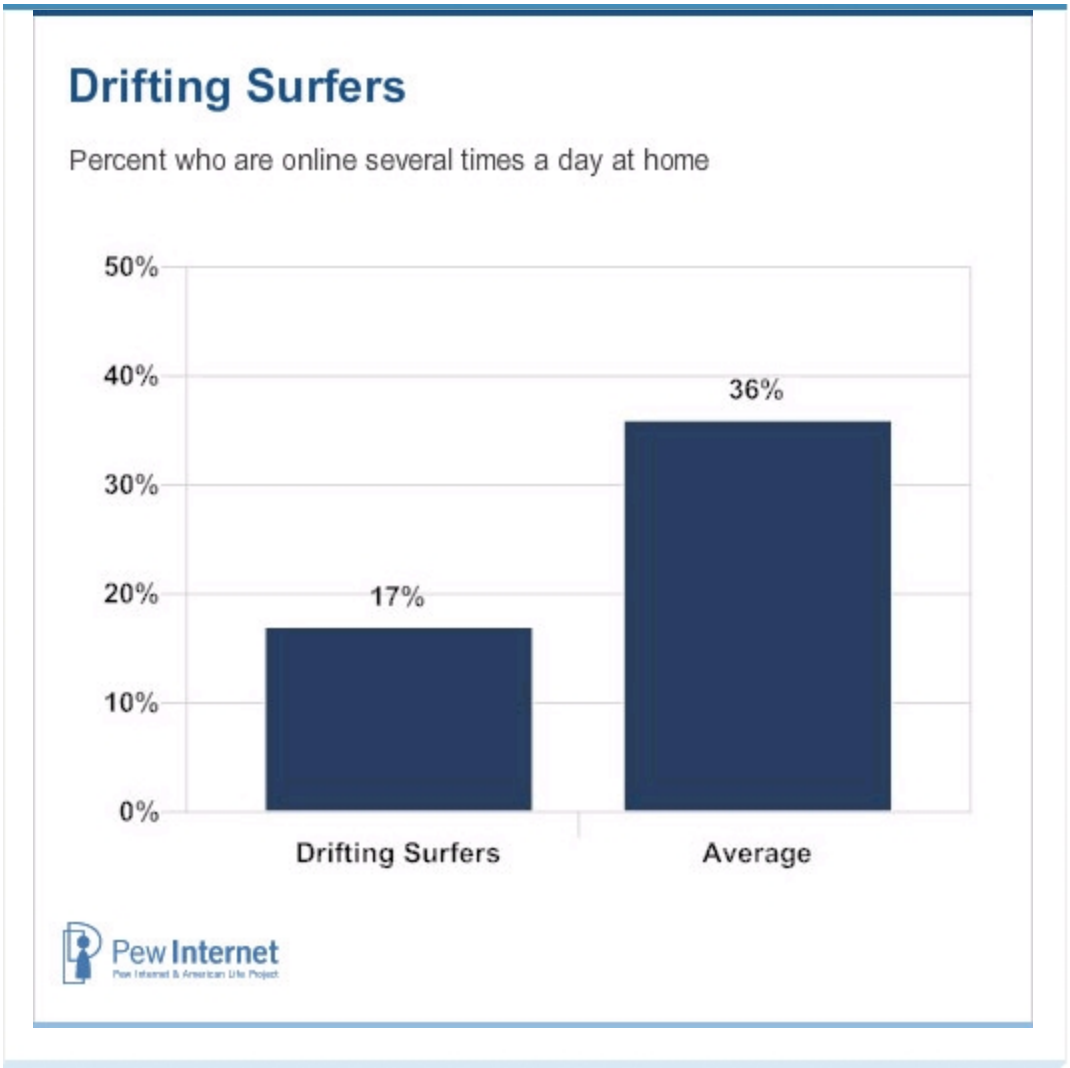
Assets

Like preceding groups, this group is fairly well-equipped with modern ICT gadgetry and services. All are internet users, four in five (82%) have broadband at home, and 86% have a cell phone. Most are desktop computer users (82%) and 42% have laptops, which is just above average but lower than any prior group. Three-quarters (75%) have a digital camera and half (48%) have a video camera, but few have webcams (12%) or PDAs (7%). And comparatively few (31%) possess MP3 players.

This group is also slightly below average when it comes to online experience, with the typical Drifting Surfer having been online for 8 years, two years below the norm.

Actions

Even though Drifting Surfers have the tools to develop a strong relationship with cyberspace, they are neither heavy users of the internet nor very adventurous when it comes to their cell phones. Two-thirds of this group (66%) go online on the typical day, just below the 72% average, but Drifting Surfers are only half as likely as all internet users to go online several times a day from home (by a 17% to 36% margin).



Email and, to a lesser extent, online news browsing are the mainstay activities for Drifting Surfers. Half (47%) check email on the average day, and one-quarter (23%) check news online. They come in at the average with respect to having ever bought a product online (71%) and are more likely than average to have ever gotten health information online (82% have).

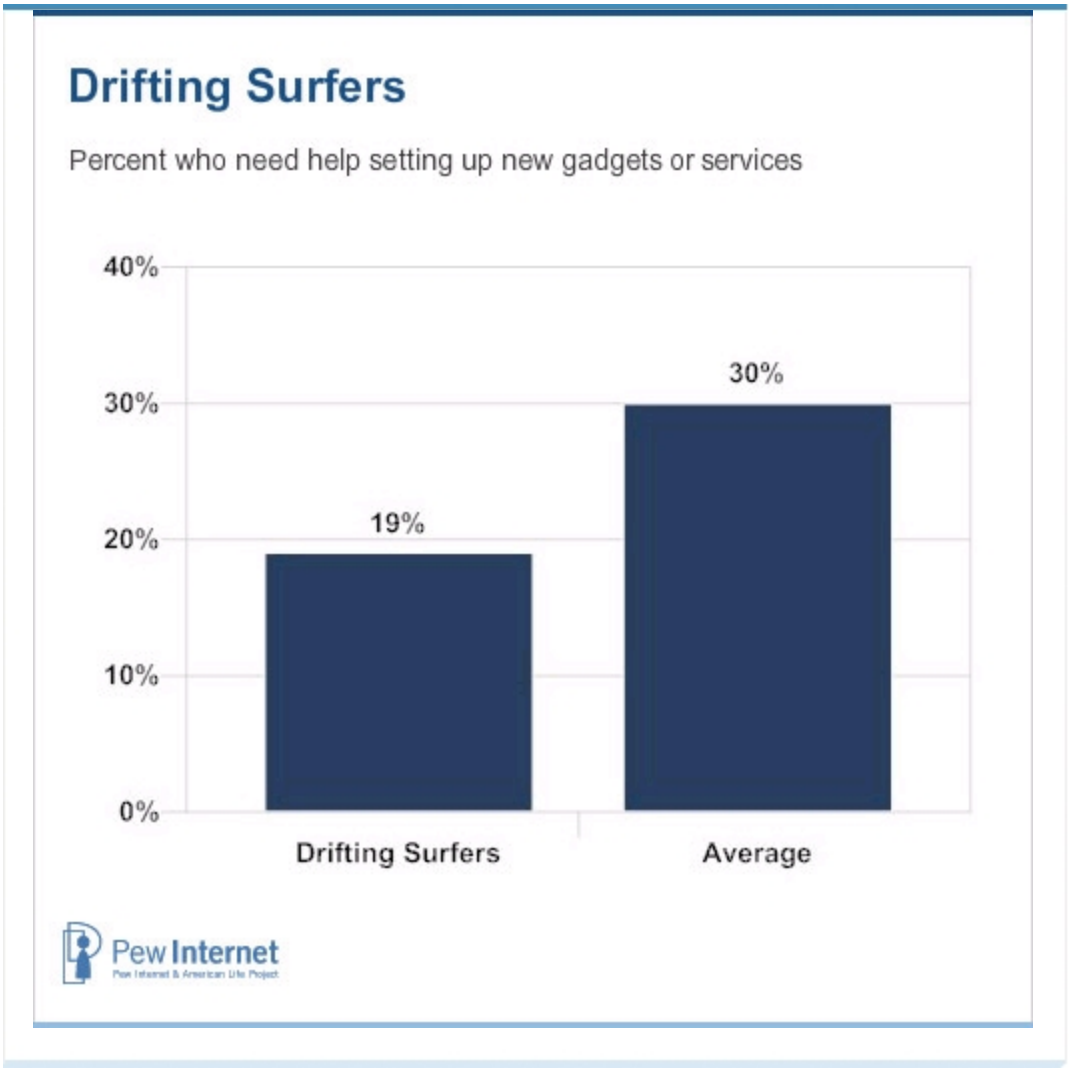
Although nearly half (47%) of this group say they use their cell phones for most of their calls, that is the cell phone's main function, with the exception of the occasional text message. Just 23% do at least one of the ten non-voice data applications on their cell phone on the average day, and that one activity is probably a text message. Some 15% of

Drifting Surfers send or receive a text message on the average day.

Their occasional relationship to ICTs means the world of user-generated content is largely unfamiliar to them. Some (9%) have posted a comment to a website or a blog, but very few Drifting Surfers have their own webpage, blog, or share a creation with others using the internet.

Attitudes

This group's distant relationship to ICTs maps to members' attitudes about their technology. They would neither miss them if they were gone, nor do they find them particularly burdensome. Drifting Surfers do not feel especially bothered by the volume of digital information – just 21% say they feel overloaded by information – but they also do not link ICTs to greater control over their lives. One-third (31%) of Drifting Surfers see ICTs as giving them greater control over their lives, well below the 48% average for all adults. Only 5% in this group see ICTs helping their personal productivity a great deal, and just 20% see ICTs as very helpful to doing their jobs. Finally, few have a hard time troubleshooting gadgets; just 19% say they need help setting them up.



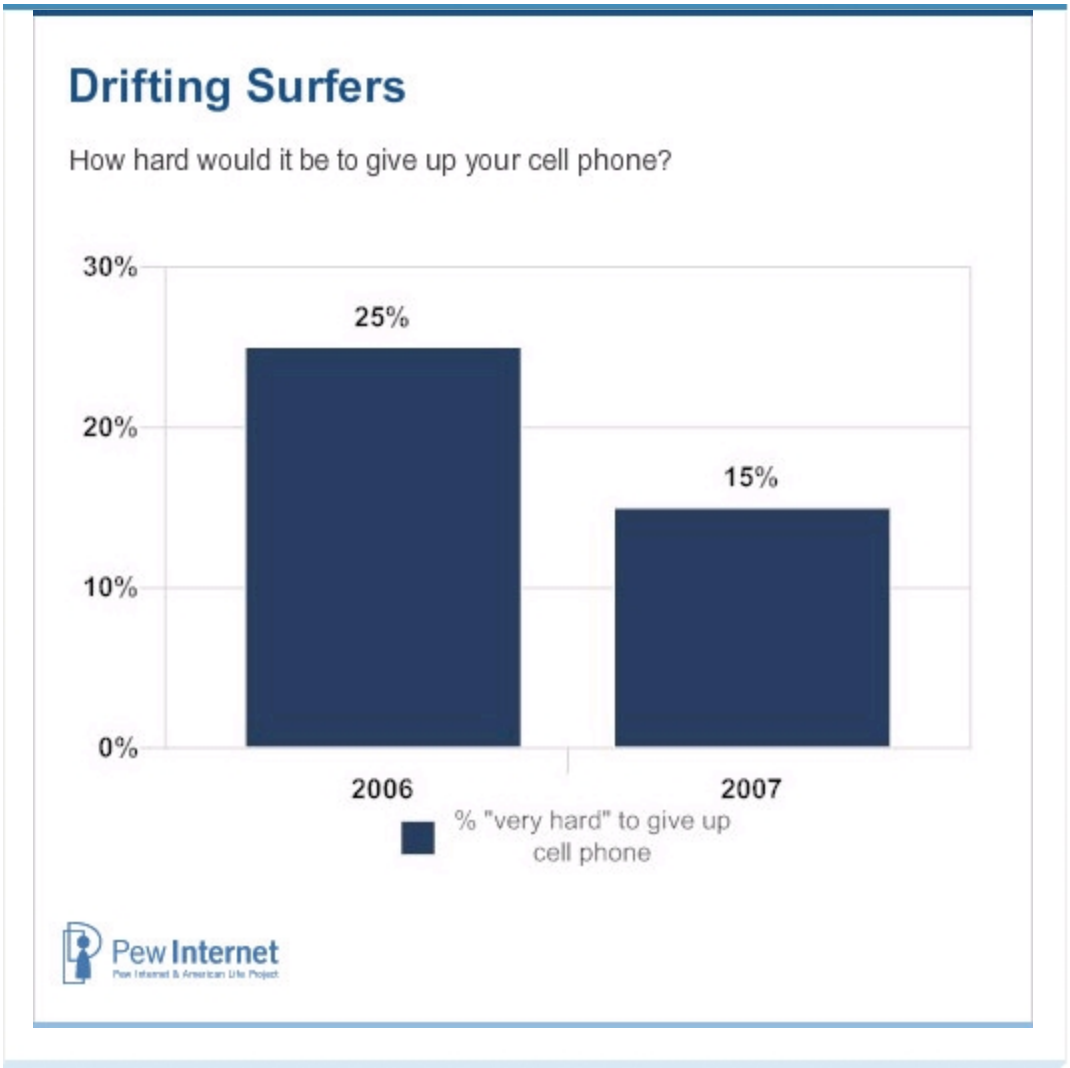
Socially, Drifting Surfers do not see ICTs as central to their lives. One-quarter (24%) see modern gadgets and services as very helpful to keeping in touch with family and friends (about one-third the average) and just 15% have an online social networking profile (less than half the average). Just 21% see ICTs as a way to learn new things.

If their modern gadgets or other media devices were taken away, Drifting Surfers say they could cope just fine. Only 11% say it would be hard to do without the internet and just 7% say this about email. The cell phone fares only a little better, with 18% saying it would be hard for them to give it up. And 27% say they would find it very hard to give up their television, while 23% say this about their landline telephone.

Changes from last time

Some 210 respondents among Drifting Surfers (out of 493) were also contacted in the 2006 survey. When looking at what changed for that subset, it appears that this group gained in technology assets, but showed little change in behaviors while, by some measures, their attitudes about ICTs soured. The re-contacted Drifting Surfers saw an increase in home high-speed adoption by almost 60%, from 51% to 80%. Internet and cell adoption grew modestly from high levels, from 92% to 100% for internet and 83% to 89% for cell phones.

Yet their frequency of online use hardly changed, even with many more Drifting Surfers having broadband at home. Some 66% said in 2006 that they went online on the average day and 67% said this in 2007. For the incidence of using the internet several times a day at home, that figure was 17% in 2006 and 15% in 2007.



The “always on” broadband connectivity and slight boost in cell phone adoption did not translate into a better view about the extra availability these changes afford. In 2006, 29% of Drifting Surfers said they liked the extra availability enabled by ICTs; this number fell to 19% in 2007. Similarly, 25% said it would be very hard to give up their cell phones in 2006; that dropped to 15% in 2007. A less pronounced pattern was evident for the internet. In 2007, 16% said it would be very hard to give up the internet; 12% said this in 2007. Finally, there was also a drop to 5% from 15% in the percentage of Drifting Surfers who said ICTs made them more productive.

Demographics

Most Drifting Surfers are women (56%), and the typical person in this group is in her early 40s; the median age is 42. It is a group that is basically middle income, and it is collectively a bit above average in terms of educational attainment, with 33% having college degrees. Racially, it has relatively few African Americans (5% against 10% in the entire sample) and 78% are white. Most are married (73% versus 60% average) and most are employed full-time (66% compared with the 52% average).

Information Encumbered

Information Encumbered: 10% of the general population

By most standards, this group is well armed for the information age. Nearly all have online access, three-quarters have cell phones, and half have broadband at home. While they check email or news online from time to time, and will even shop on the internet, they are fairly sour on the digital world. A majority feel overloaded by information and most also need help in getting their devices and services to work. Old media – the TV or landline telephone – suit them fine.

Not surprisingly, a majority think it is a good thing to take a break from the internet. In fact, only one-quarter think giving it up entirely would be very difficult, and fewer think this about the cell phone. For all these reasons, this group is labeled the Information Encumbered.

Assets

The Information Encumbered group rates notably lower on ICT assets than Drifting Surfers. Although all are internet users, half (48%) have broadband at home, which is thirty percentage points or more lower than the preceding groups. Three-quarters (75%) have cell phones, and a somewhat larger number (82%) have desktop computers. Only one in five (22%) have a laptop computer, an enabler for "on the go" access.

Among portable gadgets, even though half (53%) have digital cameras, few have MP3 players, webcams, or PDAs (11%, 6%, and 2%, respectively).

Actions

Like Drifting Surfers, members of the Information Encumbered group are relatively infrequent visitors to cyberspace. Half (52%) of Information Encumbered go online on the average day (compared with 66% among the Drifting Surfers), and 16% use the internet several times per day, which is the same rate as the Drifting Surfers. Those in the Information Encumbered group also anchor their intermittent online behavior with email and news gathering, although at modest rates on the average day (42% and 17% respectively). The range of online activities for this group is narrower than for Drifting Surfers. Drifting Surfers have tried four of the nine activities asked about compared with three for the Information Encumbered. As to contributing to content on the internet, this is a rarity for the Information Encumbered.

Just 17% of the Information Encumbered get news online on the average day, less than half the average for all internet users.

Among the three-quarters of the Information Encumbered who have a cell phone, it is rare that they wear it out. Only 2% say they use it for most of their phone calls, and just 7% will send or receive a text message on the average day. Across the range of non-voice data applications asked about, just one in nine engage in one of them on the typical day.

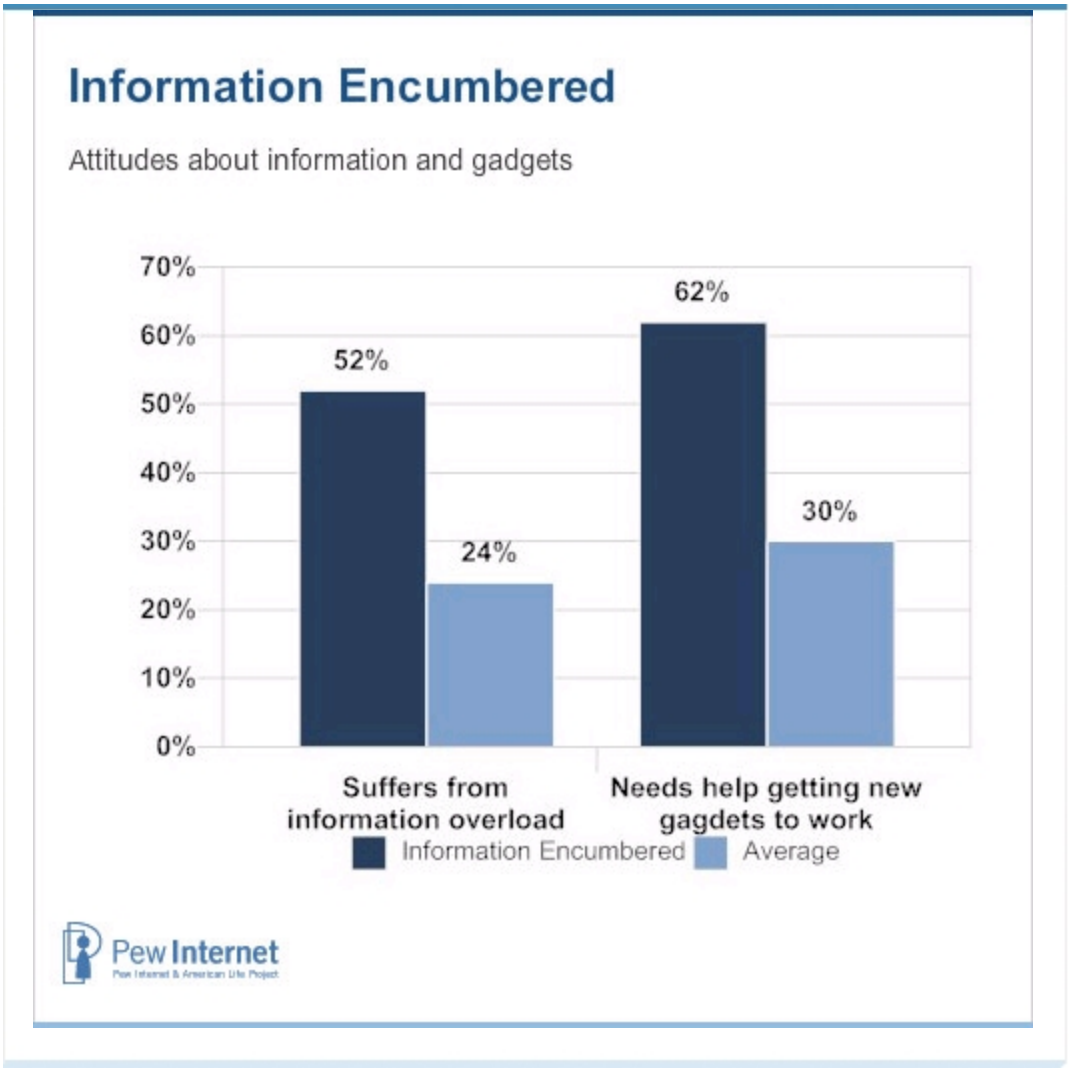
The information-gathering habits of the Information Encumbered are firmly rooted in old media. Fully 86% watch TV every day, but only 8% have ever watched programming on a non-traditional device. And although some take digital photos (37%) or record video (15%), these numbers are below the average.

Attitudes

Unlike Drifting Surfers, whose members convey a contented indifference to ICTs, most among the Information Encumbered find the information spigot that gadgets open up

to be overwhelming and newfangled devices difficult to cope with. Half (52%) say they feel overloaded by information, which is more than twice the average. That makes the Information Encumbered the only typology group in which a majority feels overloaded by information. A strong majority (62%) say they need help to set up new information devices or services. That too is more than twice the average.

This group is also not thrilled with how ICTs make them more available to others. Just less than a third (30%) say they like that gadgets make it easier for others to get hold of them, well below the 47% average. Although 43% say ICTs help a lot in keeping up with family and friends, and 35% say gadgets help a lot in learning new things, these figures are below the average. And only 7% of the Information Encumbered see ICTs as contributing a great deal to their personal productivity.



In short, give a typical Information Encumbered group member a landline phone and a TV, and he is set. Three-quarters (74%) say it would be very hard to give up their landline phone and 54% said this about their television. Only 14% said it would be very difficult to do without their cell phone. One-quarter (25%) said this about the internet.

Changes from last time

We re-contacted 212 of the 399 the Information Encumbered who also participated in the 2006 survey. Continuing the comparison of the Information Encumbered to Drifting Surfers, both groups had similar levels of broadband adoption in 2006: 51% for

Drifting Surfers and 45% for the Information Encumbered. However, the Information Encumbered collectively had modest growth (relative to Drifting Surfers) into 2007, from 45% to 55%. Cell phone adoption changed little, from 76% to 79%.[7]

The Information Encumbered saw a 24% increase in the number of those suffering from information overload between 2006 and 2007.

The growth in broadband adoption, which generally draws people further into online life, does not have that impact for the Information Encumbered. Fewer said they went online "yesterday" in 2007 than 2006 (by a 59% to 53% margin). There was also a decline in the percent saying they went online from home several times a day (from 18% to 15%).

The number of the Information Encumbered saying they liked the way gadgets make them more available to others decreased from 2006 to 2007, from 29% to 25%, and even fewer felt that attachment to their cell phone. One in five (20%) said they would it very hard to be without their cell phone in 2006 and one in seven (14%) said that in 2007.

These deteriorating attitudes and frequency in online use may be linked to worries about information overload and competency with gadgets for the Information Encumbered. In 2006, 38% said they suffered from information overload; this number grew to 50% by 2007. The share agreeing a lot that they need help with new gadgets grew from an already-high figure of 58% in 2006 to 67% in 2007.

Demographics

This group is made up of mainly men (67%) in their 50s, who have average levels of educational attainment (33% have college degrees) and whose income levels are in the

lower-middle income range. They are mainly white (83%) and half (48%) live in urban areas, which is above the national average of 33%.

Although the median age is 53, members of the Information Encumbered group are much more heavily represented by senior citizens than the prior groups, 24% being age 65 or older. Some 42% live in households whose incomes are $40,000 annually or below, against the 35% figure reported for the entire sample.

NOTES

[7] For both the broadband and cell phone figures, the 2007 figures from the callback subsample differ from the numbers for the entire group.

The Tech Indifferent

The Tech Indifferent: 10% of the general population

Like the Mobile Newbies, members of the Tech Indifferent group do not have a great deal of tech assets at hand. Unlike Mobile Newbies, they are not thrilled by any ICT gadget or service in their portfolio. They are infrequent online users and do the majority of phone calling not on their cell phones, but on their home landlines. Few have even so much as tried to send a text message on their cell phone.

The Tech Indifferent also do not like the extra availability fostered by their mobile device, and few think ICTs offer them additional personal productivity. Not many in this group would be bothered by giving up their cell phone or online connection.

Assets

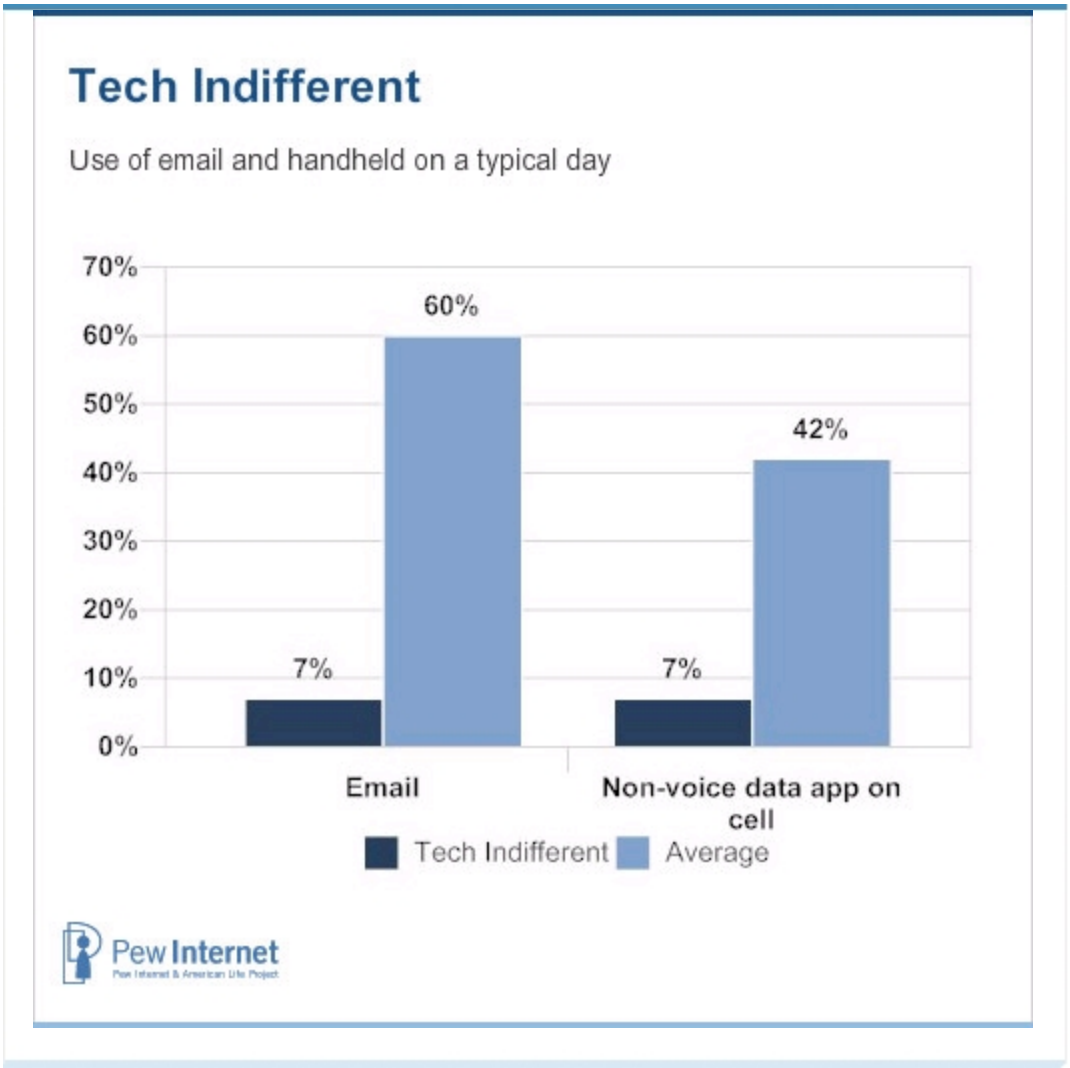
As a group, this one has a small set of online users who are recent additions to the online population. Some 39% of the Tech Indifferent are internet users, with online experience of about two years. Only 7% in this group have high-speed internet at home.

Of modern information gadgets or services, the cell phone is the only one of which this group has a majority – 86%. Few have laptop computers (8%). Some 38% of the Tech Indifferent have desktop computers and a similar number have a digital camera (34%).

Actions

The typical member of the Tech Indifferent is a very infrequent user of the internet. Among internet users, 36% go online on the typical day, and just 3% do this several times on the average day. Only 7% check email and 6% look at the news online on the

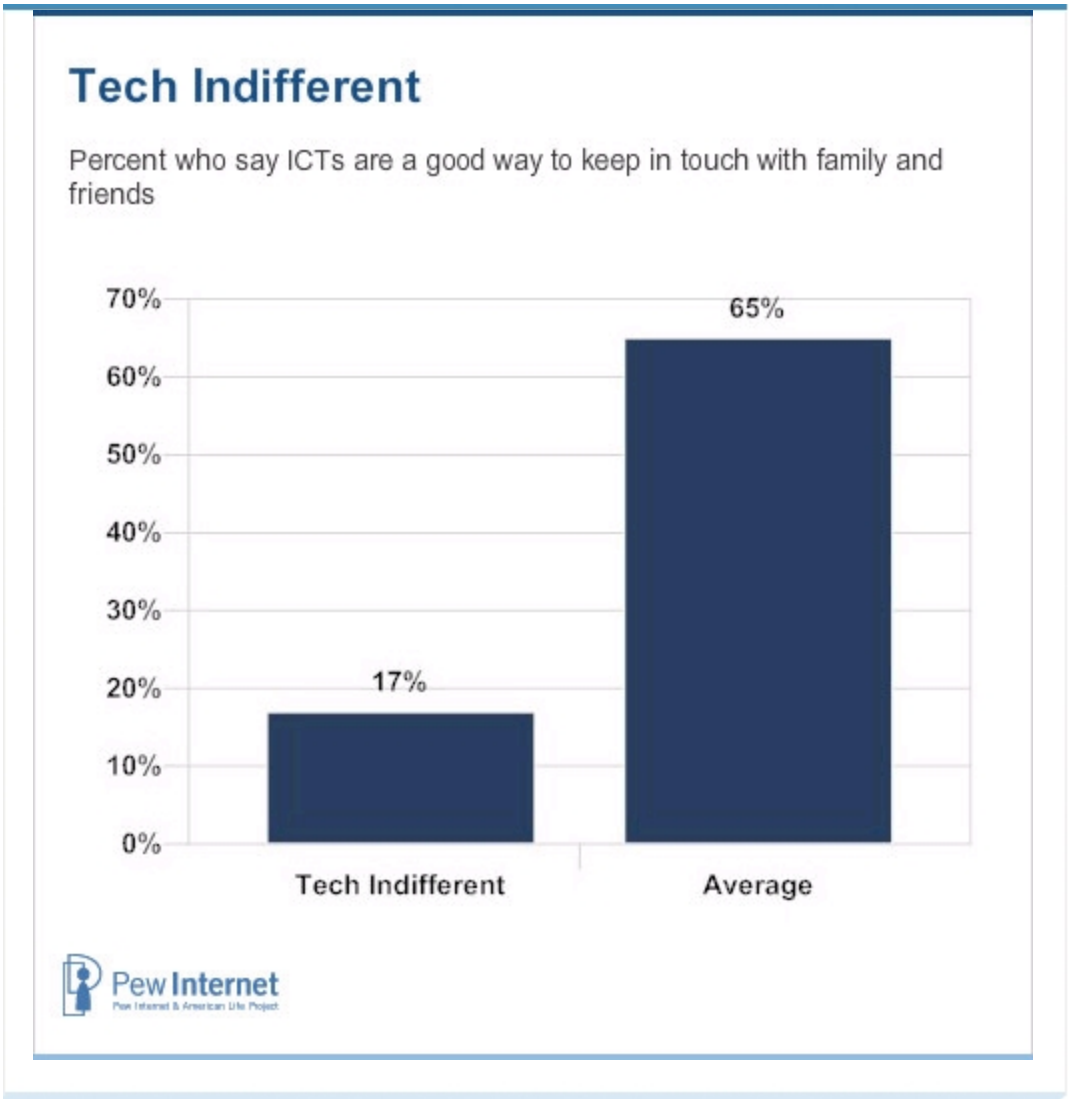
average day. Aside from *ever* having used email (70% in this group), buying a product online comes in next as an activity the Tech Indifferent say they have tried at least once – 26%.



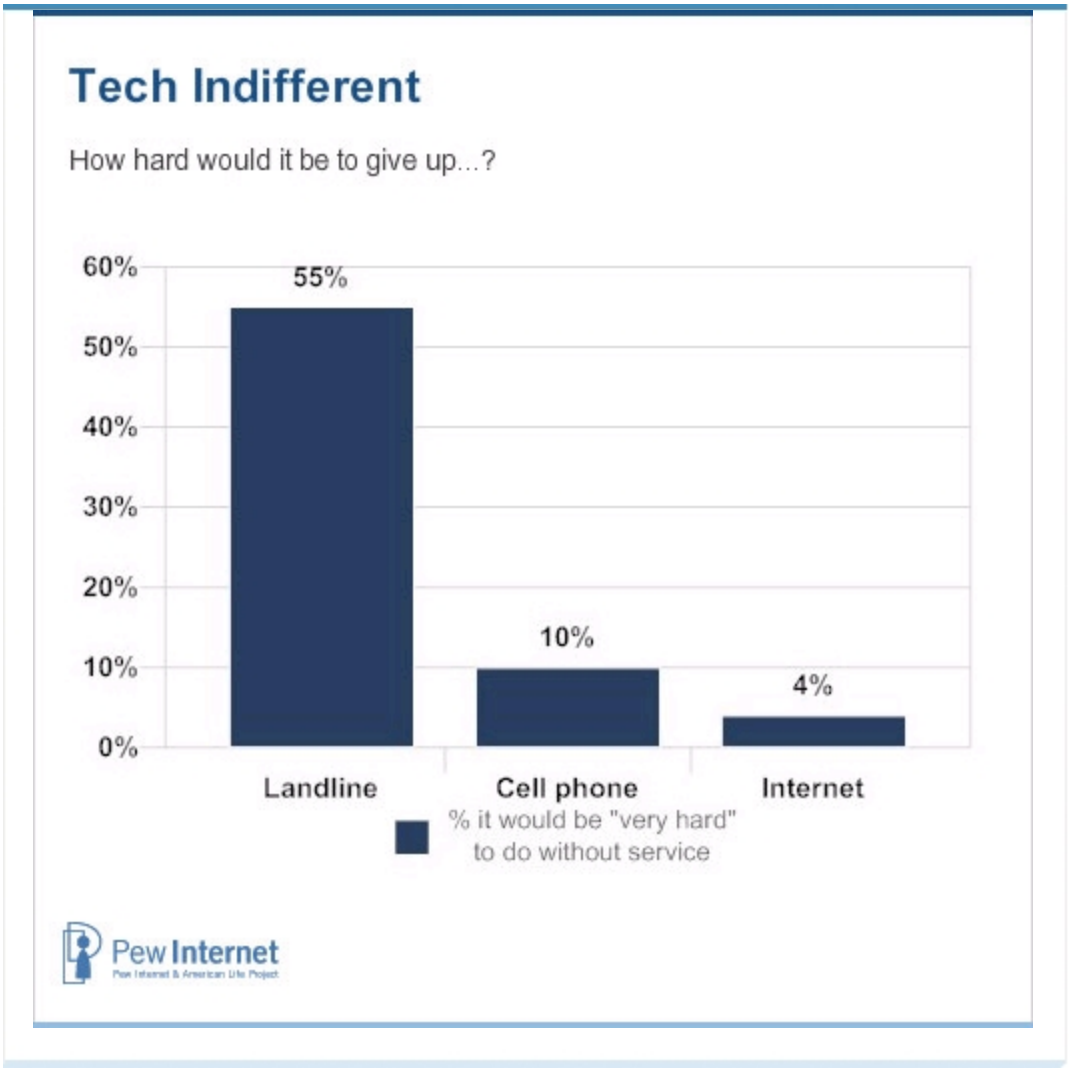
The cell phone is also an infrequently called-upon device. Only 10% use their cell for most of their phone calls, and few do anything beyond that with their mobile devices (with just 7% doing at least one non-voice data application on their cell on the average day). Some 14% have at one time used their cell phone for a text message (and 3% on the average day) and 19% have ever used their cell phone to take a picture. Old media is more to this group's tastes; 84% watch TV every day, but almost none (1%) have ever done this on a non-TV device.

Attitudes

Significant numbers of the Tech Indifferent say they feel overloaded by information (38%), and few (17%) believe modern ICTs offer them any more control over their lives, which is about one-third the average. Just one in nine (11%) like the extra availability enabled by communication gadgets and services, and half (48%) strongly agree that they need help in setting up new devices or services. Few think it would be hard to get the information they need without ICTs, and few see ICTs as a pathway to greater personal productivity – 5% in both cases.



This group's "old media" behavioral patterns show up in how they value different communication gadgets and services. More than half (55%) say they would find it very hard to give up their landline telephone, against only 10% for cell phone users. Some 44% say it would be very hard to give up the television versus 4% and 1%, respectively, for the internet and email among ICT Indifferent online users.



Changes from last time

Some 992 respondents in the 2007 survey make up the ICT Indifferent, and about one-fifth (209) were contacted both in 2006 and 2007. This sub-sample of the Tech Indifferent showed significant change in ICT assets only for cell phone and digital camera adoption. The share with cell phones grew from 63% to 89% and the figures for digital cameras were 25% in 2006 and 34% in 2007. Internet adoption changed little, from 32% in 2006 to 34% in 2007. Home broadband adoption ticked downward from an already low level of 8% in 2006 to 5% in 2007.

Attitudes about ICTs, as already noted, are not that positive for this group, but to the extent that they changed from 2006 to 2007, they deteriorated. While one-quarter (28%) in 2006 said they liked that gadgets made them more available, this fell to 12% in 2007. Some 21% of cell users in 2007 said they would find it very hard to give their cell phone up, a number that fell to 9% among the larger pool of cell users in 2007. And there was a modest increase in those saying they feel overloaded by information in the 2006 to 2007 timeframe, from 36% to 41%.

Demographics

This group has a majority of women (55%) and this is the oldest group among any of the previous typology groups. The median age is 59 and 40% of the Tech Indifferent is in the "65 or over" age category. Most (55%) have high school degrees but only 11% have graduated from college. About half (49%) report living in households whose annual incomes are below $40,000. Just 34% say they are employed full-time (against the 52% average), and the group is more likely to be English-speaking Hispanics (14%) than the average of 10% for the sample. One-quarter (26%) live in rural America, compared with 19% for the sample.

Off the Network

Off the Network: 14% of the general population

Like the Pew Internet Project's first typology, the Off the Network segment of the population lacks two key inputs to the digital age – an internet connection or a cell phone. This is a group of older, low-income Americans. Although some have computers (16% have either a desktop or laptop), they are not currently connected to the network (although some used to be). Perhaps for the "once connected" a tech failure wasn't repaired, thereby driving them off the network.

In both editions of the typology, people with neither cell phones nor online access are labeled "Off the Network." However, these are not the same individuals in each typology, making direct comparisons of the groups using the longitudinal data impossible. When this typology's Off the Network group is compared with the past, it is to behaviors of the 2007 group to 2006, when individuals in the 2007 Off the Network group may or may not have been members of the 2006 Off the Network group.

Assets

Some 14% of the general population lacks the two basic information services that are central to this typology, defined as having a cell phone or being an internet user. However, that does not mean Off the Network members are completely bereft of ICTs. Among Off the Network members, 15% report having a desktop computer and 2% say they have a laptop. A few have digital or video cameras (12% for each item).

Attitudes

One-third (31%) say they feel overloaded by information, somewhat above the 24%

average, suggesting some level of concern about the flow of information in modern society. And relatively few think ICTs give them more control over their lives – 28% say this, compared with the 48% average.

Changes from last time

One notable finding in comparing those without cell phones or online access in 2007 to 2006 is the churn in online and cell access. One in ten (10%) of the Off the Network who do not report being internet users in 2007 said they used the internet in 2006. Some even were broadband users; 4% of Off the Network members had a high-speed connection at home in 2006.

For cell phones, 21% of those in the Off the Network group said they had a cell phone in 2006; that number went to zero in 2007. Attitudinally, fewer in 2007 thought computers and information technology gives people more control over their lives than was the case in 2006, by a 28% to 34% margin. Overall, 437 respondents make up 2007's Off the Network group; 230 were contacted in both 2006 and 2007.

Demographics

Off the Network group members are older, lower-income, and have a disproportionate share of women and African Americans. Nearly three-fifths (57%) are women, and 18% are African American (compared with the 10% figure for the sample). The median age is 67, and 53% are senior citizens (age 65 and over). Some 38% live in households whose incomes are under $20,000 annually, well above the 15% figure reported in the sample. Many (30%) live in rural areas, and few (17%) are employed full-time.

Implications

Introduction

The typology shows that many Americans, with mobility as the accelerator, are deepening their relationship with digital resources, but that a larger number are in a holding pattern. Some in the holding pattern are steady users and not likely (very quickly at least) to become more active; others seem likely to keep ICTs on the periphery of their lives for the foreseeable future. The findings have several related implications.

Mobile access to the internet constitutes an inflection point in technology adoption.

This implication, on the one hand, is not a shocker. The Pew Internet Project, among others, has documented people's growing reliance on mobile devices in recent years. The cell phone went from the device that was the fourth "hardest to do without" in 2002 to the number one slot in 2007.[8]

But the typology's data come to this finding in a different way. The groups "motivated by mobility" are obviously heavy users of mobile devices and applications, but these uses don't substitute for going online with a wired connection on a computer. Rather, these two types of access reinforce one another. Whereas the ascent of broadband and the "always on" internet now has the "always connected" layer of mobile access, the way those "motivated by mobility" jointly use wired and wireless access suggests a new era for many users, where "continual information exchange" is the norm.

The implications of a significant portion of the population being involved in "continual information exchange" are at best only partially understood. Certainly there has been plenty of discussion on the rise of participatory culture in the music and arts and the

wearing away of boundaries between work and home. In the realm of news, acolytes of "continual information exchange" may not buy many newspapers, but some of them may be sources of information critical to understanding day-to-day events. Whether this is a pillar of a new business model for the news media is unknown. On the other hand, does "continual information exchange" create stresses in social norms? Does "continuous partial attention" (to borrow Linda Stone's phrase) migrate to "serial digital distraction" as people respond to a slew of bits cascading to them?

The bar of what qualifies sophisticated tech behavior has changed.

The Pew Internet Project's first typology generally classified the tech-oriented as those with broadband connections at home, and those without as, to varying degrees, less interested in modern ICTs. By doing so, we essentially posited a linear relationship between tech assets such as broadband and positive perspectives on ICTs, although with significant exceptions such as the "Connected But Hassled" group.

This typology largely abandons that dichotomy, instead focusing on use and attitudes toward mobile communication as the key differentiator. Mobility adds a new dimension to what qualifies as a sophisticated use of technology. Those who have a positive disposition toward mobile connectivity are, in this typology, designated the technologically sophisticated. Each such group exhibits positive and improving attitudes about their dependence on their mobile devices, although there is variation among groups as to whether such mobile availability is a good thing.

This means that, with the emergence of mobility, having broadband at home is no longer inevitably associated with elite status for a tech user. In the past, having the gear usually meant using it. This typology finds, however, that some broadband users are not frequent online users. Now, further down the adoption curve, some people acquire the gear (perhaps as it becomes less socially acceptable to be without), but leave it idle a

good bit of the time. By virtue of having some tech assets, such as broadband at home, these users might once have been considered on the tech cutting edge. This is no longer the case.

The cost of not having little or no access rises in a multi-platform world.

As a large portion of the online population gravitates to wireless and mobile access to supplement their home high-speed connection, this increases the supply of and demand for online content. Institutions – whether they are governments or news organizations – have greater incentives to optimize their services to be consumed online. More people have greater opportunity to share their advice, creativity, and observations online.

This makes exclusion from the network of people and information found online more costly than in the past. This point has been made by Rahul Tongia and Ernest Wilson in arguing that the cost of exclusion rises exponentially as fewer people remain excluded.[9] Their analysis focuses on the number of people on the network, but it is also relevant when thinking about more people on multiple platforms who consume and create digital content.

Mobile access creates demand for capacity on wireless and wireline networks.

For a sizable swath of the adult population, mobile and wireline access are, if not seamless parts of how people engage with digital content, approaching that status. This places demands not only on wireless networks as people ask more of them, but also on wireline networks for home access. Demand for access on one platform stimulates demand on the other – and vice versa.

It also worth recalling, as noted in our "Mobile Access to Data & Information" report,[10] that most people who connect to the internet with a wireless or mobile device also have broadband at home. In fact, 90% of those who access the internet wirelessly have high-speed at home, and that is mostly wireline home broadband access. Wireless and wireline use go very much hand-in-hand for about 40% of the adult online population, so pressure on one type of infrastructure (e.g., wireless) places pressure on the other (e.g., wireline broadband).

Heavy use of ICTs is mainly a young person's game, but older Americans are minority members in good standing of even some of the most ardent tech groups.

A clear message from looking across the range of typology groups is the association between youth and heavy and happy engagement with ICTs. Among the groups designated as "motivated by mobility," some 70% of those in these groups are adults under the age of 30. Focusing on those age 50 and over, 23% are in the "motivated by mobility" groups with the remainder of the age 50 and over crowd tied to traditional media tools.

As strong as the association is between youth and technology use, it is not absolute. In the typology, this finding comes about partly by design, since demographic factors such as age are not included in variables that build the typology. Since age is not a determinant of which category in the typology people are slotted, it is possible to see how age shakes out in the typology without constraining any patterns in advance. As it happens, notwithstanding the link between tech-orientation and youth, some older adults are ardent users of modern ICTs.[11] Some of these older tech users may simply have compelling needs for sophisticated tech uses, whether that means having a blog or emailing from a handheld. Others may be "serial early adopters," that is, they have always liked to try out new information technologies, such as the car phone or the citizens band radio, and still do so today.

NOTES

[8] John B. Horrigan, Mobile Access to Data and Information, Pew Internet Project, March 2008. Available online at: http://www.pewinternet.org/PPF/r/244/report_display.asp.

[9] Rahul Tongia and Ernest J. Wilson III, "Turning Metcalfe on his Head: The Multiple Costs of Network Exclusion," Presented at 2007 Telecommunications Policy Research Conference. Available online at: http://web.si.umich.edu/tprc/papers/2007/772/TPRC-07-Exclusion-Tongia&Wilson.pdf.

[10] Available at http://www.pewinternet.org/pdfs/PIP_Mobile.Data.Access.pdf.

[11] See also Sydney Jones and Susannah Fox, Generations Online in 2009, January 2009 for other data that reinforce this finding. Available online at: http://www.pewinternet.org/PPF/r/275/report_display.asp.

Appendix

About the appendix

This appendix contains tables detailing the responses of members of each of the six groups to questions that went into the typology pertaining to Americans assets, actions, and attitudes with respect to information technology. The final table in the appendix presents demographic information for each group.

Assets

Assets: information goods & services

Motivated by Mobility

% of each group who have specific technology	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Internet user	75%	100%	98	100	100
Cell phone	75	96	99	99	100
Desktop computer	65	91	78	91	79
Digital camera	62	96	73	87	85
Broadband at home	55	96	85	84	81
Video camera	41	77	44	66	56
Laptop computer	37	78	65	46	60
iPod/MP3 player	34	71	64	59	52
Digital Video Recorder	27	73	51	53	48
Webcam	15	43	51	26	25
Blackberry, Palm, or other PDA	11	38	22	16	27

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet
Pew Internet & American Life Project

Assets: information goods & services

Stationary Media Majority

% of each group who have specific technology	Desktop Veterans	Drifting Surfers	Info Encumbered	Mobile Newbies	Tech Indifferent	Off the Network
Internet user	100	100	99	39	39	0
Cell phone	77	86	75	98	86	0
Desktop computer	87	82	82	47	38	15
Digital camera	85	75	53	47	34	12
Broadband at home	80	82	48	10	7	0
Video camera	50	48	29	40	25	12
Laptop computer	46	42	22	18	8	2
iPod/MP3 player	32	31	11	16	5	2
Digital Video Recorder	36	39	31	32	27	14
Webcam	25	12	6	3	3	0
Blackberry, Palm, or other PDA	10	7	2	3	1	0

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet

Actions

Actions: user-generated content

Motivated by Mobility

% of internet users who have done the following	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Post comments to an online news group or website	22	54	29	24	21
Share something online that you created yourself, such as your own artwork, photos, stories, or videos	21	54	31	23	13
Create or work on your own webpage	14	44	18	24	6
Create or on webpages or blogs for others, including friends, groups you belong to, or for work	13	40	18	21	10
Create or work on your own online journal or weblog	12	27	25	17	8
Take material you find online like songs, text, or images and remix it into your own artistic creation	11	24	14	12	2
Create an avatar or online graphic to represent yourself	6	18	11	5	4

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Actions: user-generated content

Stationary Media Majority

% of internet users who have done the following	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
Post comments to an online news group or website	26	9	7	7	2
Share something online that you created yourself, such as your own artwork, photos, stories, or videos	24	5	4	5	2
Create or work on your own webpage	13	4	3	3	0
Create or on webpages or blogs for others, including friends, groups you belong to, or for work	9	3	2	5	1
Create or work on your own online journal or weblog	11	1	3	5	1
Take material you find online like songs, text, or images and remix it into your own artistic creation	7	4	5	3	1
Create an avatar or online graphic to represent yourself	6	3	1	0	1

Source: Pew Internet & American Life Project December 2007 Survey.

Actions: digital activities

Motivated by Mobility

% who have done the following	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Have a profile at a social networking site (among internet users)	33%	46%	54%	46%	32%
Play a video game (among internet users)	23	48	48	44	27
Listen to music or radio shows on something other than a home or car radio (among those who listen to the radio)	31	82	62	55	11
Watch TV shows or news programs on something other than your TV at home, such as a computer, cell phone, iPod, or PDA (among those who watch TV)	20	57	48	33	30

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet
Pew Internet & American Life Project

Actions: digital activities

Stationary Media Majority

% who have done the following	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
Have a profile at a social networking site (among internet users)	26%	15%	9%	8%	6%
Play a video game (among internet users)	28	20	14	4	3
Listen to music or radio shows on something other than a home or car radio (among those who listen to the radio)	38	22	8	10	4
Watch TV shows or news programs on something other than your TV at home, such as a computer, cell phone, iPod, or PDA (among those who watch TV)	25	13	8	4	1

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet
Pew Internet & American Life Project

Actions: online behavior

Motivated by Mobility

% of internet users who have EVER done following activities	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Send or receive email	92%	100%	94%	92%	97%
Get health or medical information online	75	93	73	90	82
Check news online	71	95	76	79	85
Buy a product online	71	95	80	81	83
Watch video online such as YouTube	48	84	72	66	55
Get political news and information	47	79	54	53	53
Download music files to your computer	37	67	50	49	40
Pay for digital content	28	57	46	31	25
Download video files to your computer	27	54	42	36	55

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Actions: online behavior

Stationary Media Majority

% of internet users who have EVER done following activities	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
Send or receive email	98%	92%	88%	71%	70%
Get health or medical information online	85	82	76	16	19
Check news online	83	73	53	28	17
Buy a product online	82	71	52	47	26
Watch video online such as YouTube	56	33	14	14	7
Get political news and information	64	43	28	14	7
Download music files to your computer	36	23	6	6	5
Pay for digital content	30	17	6	4	3
Download video files to your computer	26	11	6	2	3

Source: Pew Internet & American Life Project December 2007 Survey.

Actions: mobile behavior

Motivated by Mobility

% of cell phone users who have EVER done following activities on their mobile device	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Send or receive a text message	58%	77%	83%	73%	71%
Take a picture	58	76	75	74	68
Play a game	27	47	35	31	31
Access the internet	19	42	34	21	30
Send or receive email	19	42	30	21	28
Record video	18	26	29	31	21
Play music	17	32	33	25	16
Instant message	17	33	26	21	20
Get maps or directions	14	29	19	17	19
Watch video	10	17	19	15	12

Source: Pew Internet & American Life Project December 2007 Survey.

Actions: mobile behavior

Stationary Media Majority

% of cell phone users who have EVER done following activities on their mobile device	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
Send or receive a text message	46%	45%	26%	36%	14%
Take a picture	52	49	27	42	19
Play a game	23	19	9	18	7
Access the internet	14	10	7	7	1
Send or receive email	17	9	2	5	2
Record video	8	8	2	11	3
Play music	7	4	2	9	2
Instant message	13	10	7	11	4
Get maps or directions	9	5	4	4	4
Watch video	3	4	1	5	1

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Actions: other facts about the groups online behavior

Motivated by Mobility

Among internet users in each group	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Internet experience: median number of years online	**10**	**12**	**9**	**10**	**10**
% who say went online yesterday	72	99	84	78	82
% who say they went online from home yesterday several times	36	72	44	31	40
% who say they went online from work yesterday several times	37	70	44	34	49

Stationary Media Majority

Among internet users in each group	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
Internet experience: median number of years online	**10**	**8**	**8**	**2**	**2**
% who say went online yesterday	84	66	52	48	36
% who say they went online from home yesterday several times	45	17	16	4	3
% who say they went online from work yesterday several times	43	28	17	17	16

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Attitudes

Attitudes about information technology (1)

Motivated by Mobility

% of internet or cell users who say communication and information devices have helped a lot in specified dimensions	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
I like that cell phones and other mobile devices allow me to be more available to others	47	73	31	67	83
It is good to take a break from going online and just NOT use the internet from time to time	42	41	52	53	43
When I get a new electronic device, I usually need someone else to set it up or show me how to use it.	30	7	14	15	28
I believe I am more productive because of all of my electronic devices	29	83	38	22	56
When I dont have my cell phone or access to the internet, it is really hard to get the information I need	27	55	25	33	55
In designing communication and information devices, companies do not pay enough attention to the needs of average people	20	18	16	16	20

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Attitudes about information technology (1)

Stationary Media Majority

% of internet or cell users who say this describes them very well	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
I like that cell phones and other mobile devices allow me to be more available to others	42	20	30	69	11
It is good to take a break from going online and just NOT use the internet from time to time	40	46	51	39	30
When I get a new electronic device, I usually need someone else to set it up or show me how to use it.	31	19	62	54	48
I believe I am more productive because of all of my electronic devices	47	3	7	22	5
When I dont have my cell phone or access to the internet, it is really hard to get the information I need	29	5	7	16	5
In designing communication and information devices, companies do not pay enough attention to the needs of average people	21	16	26	23	18

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Attitudes about information technology (2)

Motivated by Mobility

Percent of internet or cell users who say communication and information devices have helped **a lot** in specified dimensions	All	Digital Collabora-tors	Ambivalent Networkers	Media Movers	Roving Nodes
Your ability to keep in touch with friends and family	65	95	84	74	91
Your ability to learn new things	52	94	66	48	78
Your ability to do your job	41	84	47	32	73
Your ability to share your ideas and creations with others	33	79	45	28	45

Stationary Media Majority

Percent of internet or cell users who say communication and information devices have helped **a lot** in specified dimensions	Desktop Veterans	Drifting Surfers	Info Encumbe-red	Mobile Newbies	Tech Indiffer ent
Your ability to keep in touch with friends and family	72	24	43	80	17
Your ability to learn new things	80	21	35	39	6
Your ability to do your job	63	20	17	34	5
Your ability to share your ideas and creations with others	45	1	13	25	2

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Attitudes about information technology (3)

Motivated by Mobility

Percent who say	All	Digital Collabora-tors	Ambivalent Networkers	Media Movers	Roving Nodes
They feel overloaded by the amount of information these days available from TV, magazines, newspapers, and computer information services	24	12	15	24	23
They like having so much information available	69	87	77	73	73
Computers and technology give them **more** control over their lives	48	91	58	49	78
Computers and technology give them **less** control over their lives	16	2	15	18	6
Computers and technology give them **make no difference** in their lives	29	7	25	29	14

Stationary Media Majority

Percent who say	Desktop Veterans	Drifting Surfers	Info Encumbe-red	Mobile Newbies	Tech Indiffe rent
They feel overloaded by the amount of information these days available from TV, magazines, newspapers, and computer information services	18	21	52	36	38
They like having so much information available	77	70	45	57	52
Computers and technology give them **more** control over their lives	71	31	47	37	17
Computers and technology give them **less** control over their lives	6	21	24	21	32
Computers and technology give them **make no difference** in their lives	20	44	26	30	37

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Attitudes about information technology (4)

Motivated by Mobility					
Percent who say it would be **very hard** to give up a technology or service (among those who use it)	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Cell phone	51	61	60	52	87
Internet	45	86	48	33	74
Television	43	50	32	31	46
Landline telephone	40	26	9	10	10
Email	37	81	39	17	73

Stationary Media Majority					
Percent who say it would be **very hard** to give up a technology or service (among those who use it)	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent
Cell phone	40	18	14	67	10
Internet	65	11	25	8	4
Television	52	27	54	47	44
Landline telephone	68	23	74	38	55
Email	58	7	20	4	1

Source: Pew Internet & American Life Project December 2007 Survey.

Pew Internet
Pew Internet & American Life Project

Demographics

Demographics: Gender, Age, Race

Motivated by Mobility

	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Number of cases	**3,553**	**273**	**221**	**228**	**327**
Gender/parental status					
Male	49%	56%	60%	56%	44%
Female	51	44	40	44	56
Parent with child under 18	33	51	31	51	43
Age					
Median age	47	39	29	34	39
18-29	16	22	51	31	29
30-49	40	59	36	54	44
50-64	27	18	12	13	22
65+	18	2	2	2	5
Race/Ethnicity					
White	75	73	67	70	72
Hispanic (English speaking)	10	7	11	10	8
Black (not Hispanic)	10	13	14	10	14
Other	5	7	8	10	6

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet
Pew Internet & American Life Project

Demographics: Gender, Age, Race

Stationary Media Majority

	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent	Off the Network
Number of cases	**442**	**493**	**399**	**292**	**441**	**437**
Gender/parental status						
Male	55%	44%	67%	45%	45%	43%
Female	45	56	33	55	55	57
Parent with child under 18	41	45	21	28	19	11
Age						
Median age	46	42	53	50	59	67
18-29	9	13	4	12	6	3
30-49	48	53	34	37	24	15
50-64	33	27	39	33	30	28
65+	9	7	24	19	40	53
Race/Ethnicity						
White	80	78	83	72	73	70
Hispanic (English speaking)	6	5	9	13	14	18
Black (not Hispanic)	8	12	4	10	9	9
Other	6	4	4	5	3	3

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet
Pew Internet & American Life Project

Demographics: Education, Employment Status, Income

Motivated by Mobility

	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Number of cases	**3,553**	**273**	**221**	**228**	**327**
Education					
Less than high school	12%	2%	5%	6%	4%
High school grad	35	15	32	37	21
Some college	24	22	37	25	32
College +	29	61	26	32	44
Student (full or part-time)	11	16	30	18	17
Employment Status					
Employed full time	52	70	64	70	68
Income					
Under $20K	15	6	13	8	8
$20K-40K	20	8	23	20	12
$40K-50K	9	7	8	6	14
$50K-$75K	16	19	13	23	19
$75K-$100K	10	23	8	17	11
Over $100K	13	30	13	16	23
Dont know/refused	18	8	21	9	12

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet

Demographics: Education, Employment Status, Income

Stationary Media Majority

	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent	Off the Network
Number of cases	**442**	**493**	**399**	**292**	**441**	**437**
Education/Student status						
Less than high school	4%	6%	6%	23%	18%	35%
High school grad	26	33	37	49	55	45
Some college	30	27	24	18	15	13
College +	41	33	33	10	11	7
Student (full or part-time)	11	11	8	3	5	2
Employment Status						
Employed full time	56	66	40	53	34	17
Income						
Under $20K	10	6	13	18	20	38
$20K-40K	13	20	29	27	29	20
$40K-50K	7	13	15	9	10	5
$50K-$75K	21	18	17	15	13	5
$75K-$100K	12	14	11	7	4	1
Over $100K	20	14	12	5	4	1
Dont know/refused	16	16	19	19	21	30

Source: Pew Internet & American Life Project December 2007 Survey

Pew Internet
Pew Internet & American Life Project

Demographics: Region

Motivated by Mobility

	All	Digital Collaborators	Ambivalent Networkers	Media Movers	Roving Nodes
Number of cases	**3,553**	**273**	**221**	**228**	**327**
Region					
Rural	19%	12%	10%	16%	14%
Urban	33	36	45	30	39
Suburban	48	52	44	55	48

Source: Pew Internet & American Life Project December 2007 Survey

Demographics: Region

Stationary Media Majority

	Desktop Veterans	Drifting Surfers	Information Encumbered	Mobile Newbies	Tech Indifferent	Off the Network
Number of cases	**442**	**493**	**399**	**292**	**441**	**437**
Region						
Rural	18%	17%	20%	24%	26%	30%
Urban	30	35	48	28	28	28
Suburban	52	48	33	48	46	42

Source: Pew Internet & American Life Project December 2007 Survey

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Methodology

Methodology

Summary

The typology of information and communication technology users developed by the Pew Research Center's Internet & American Life Project is based on two surveys concluded in December 2007. One survey, conducted by Princeton Survey Research Associates International and sponsored by the Pew Internet and American Life Project, obtained telephone interviews – both landline and cell phone - with a nationally representative sample of 2,054 adults living in the continental United States. The interviews were conducted in English by Princeton Data Source, LLC from October 24 to December 2, 2007. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ±2.4%. Details on the design, execution and analysis of the survey are discussed below.

The second survey, conducted from October 23, 2007 to December 11, 2007, was a callback survey of 1,499 adults re-interviewed from the Project's February to March 2006 survey of ICT users. Respondents in both surveys were asked the same questions about assets, actions, and attitudes pertaining to ICTs.

Methodology for the typology

The two surveys, whose combined number of respondents totaled 3,553 adults, were pooled for construction of the typology categories. The inputs for this typology were respondents' answers to questions pertaining to technology assets (i.e., the information goods and services which they have), actions (i.e., how they use various information devices and applications), and attitudes (i.e., their perceptions about the benefits and stresses of various information goods and services).

In constructing the typology, a statistical cluster analysis was performed only on those respondents who identified themselves as having cell phones or being internet users (they received most of the survey's questions on technology use and attitudes). This came to 86% of the sample. Several different cluster solutions were evaluated for their effectiveness in producing cohesive groups that were distinct from one another, large enough in size to be analytically useful, and substantively meaningful. The final solution selected was judged to be strongest on a statistical basis and to be most persuasive from a substantive perspective.

Cluster analysis does not produce a definitive solution; instead, the analyst usually has a choice among several possible solutions that are similar in their statistical properties. The large sample of cell phone or internet users – 3,116 respondents – made it possible to have a relatively large number of groups, thus allowing for groups that were more distinct from one another. With group sizes ranging from 7% to 14% of the general population, the solution with 9 clusters resulted in groups of adequate sizes – no fewer than 221cases and a maximum of 493.

Design and Data Collection Procedures

Sample Design

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications.

Random phone numbers for the landline sample were generated from active blocks (area code + exchange + two-digit block number) that contained three or more residential directory listings. Active blocks were chosen with probabilities in proportion to

their share of listed telephone households. The cellular sample was not list-assisted, but was drawn through a systematic sampling from 1000-blocks dedicated to cellular service according to the Telcordia database.

Contact Procedures

Interviews were conducted from October 24 to December 2, 2007. As many as 10 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each household received at least one daytime call in an attempt to find someone at home.

For the landline sample, interviewers asked to speak with the youngest adult male currently at home. If no male was available, interviewers asked to speak with the youngest female at home. This systematic respondent selection technique has been shown to produce samples that closely mirror the population in terms of age and gender.

For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. If this person was not an adult, they were screened out as ineligible. Cellular sample respondents were offered a post-paid cash incentive for their participation.

Weighting and analysis

Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. A two-stage weighting procedure was used to weight this dual-frame sample. A first-stage weight of 0.5 was applied to all dual-users to account for the fact that they were included in both sample frames.[12] All

other cases were given a first-stage weight of 1.0. The second stage of weighting balanced sample demographics to population parameters. The sample was balanced to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The White, non-Hispanic subgroup was also balanced on age, education and region. The basic weighting parameters came from a special analysis of the Census Bureau's 2006 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States that had a telephone. The cell phone usage parameter came from an analysis of the July-December 2006 National Health Interview Survey.

Weighting was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the *Deming Algorithm*. Weights were trimmed to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the national population.

NOTES

[12] Dual-users are defined as [a] landline respondents who have a working cell phone, or [b] cell phone respondents who have a regular land line phone where they currently live.