Results of
GVU's Tenth World Wide Web
User Survey

GVU's WWW User Survey Team

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Executive Summary

The tenth edition of GVU's WWW User Survey is complete and it continues to offer information about the evolution of the community of users of the Web. This edition of the survey marks the completion of five years of data gathering on the use of the Web. The value of the surveys is not only given by the instant picture they offer at the time they are run. The five complete years of surveys in several core areas provide a unique source of information about the evolution of the Web as a broad information infrastructure. We expect to see reports on this evolution using our data in the near future.

In the mean time, the latest edition of the survey reaffirms some of the trends that were detected in the previous versions. While the percentage of female respondents (33.6%) to our survey decreased somewhat when compared to the previous two surveys (38.7% Ninth, 38.5% Eighth), the percentage of European located female respondents did increase (18.4%, up from 16.3% in the Ninth). We are not sure what may have caused the reduction in the US, but the continuation of the trend to a more mainstream user population in Europe is certainly a welcome development, albeit comparatively slow. An increase in the average age of Web users is a significant development. The average age for someone with less than one year on the Web increased by 4.5 years to 41.5 years old.

The tenth survey also confirms the increased use of the Web for transactions. Both reports of personal and professional shopping are up by significant percentages (10.3% and 23.7%, respectively) since the ninth survey. The product/service categories seeing the majority of this growth have been apparel, video and electronics. Interestingly, contrary to popular belief about the importance of security to customers using the web for shopping, our survey showed that, overall, quality information (10% of responses), easy ordering (9.7%) and reliability (9.6%) were important to more respondents than security (9.3%). There is plenty of work to be done by businesses to enhance their chances of getting shoppers to use their sites!

The GVU WWW User Survey team had two new additions that made a significant contribution to this effort. They are Gaurav Aggarwal, a student at the College of Computing, and Kate Sutton, a student at the School of Literature, Communication, and Culture. We welcome them to the team and thank them for their good work.

We also suffered the loss of the chair of our Corporate Council, William Read, who passed away this fall after battling cancer for more than a year. He was an esteemed professor and colleague and instrumental in making the GVU WWW User Surveys the valuable information resource they are. He will be greatly missed.

In the name of the GVU WWW User Survey Team, many thanks to all participants in the surveys.

Juan D. Rogers

GVU's 10th WWW User Survey
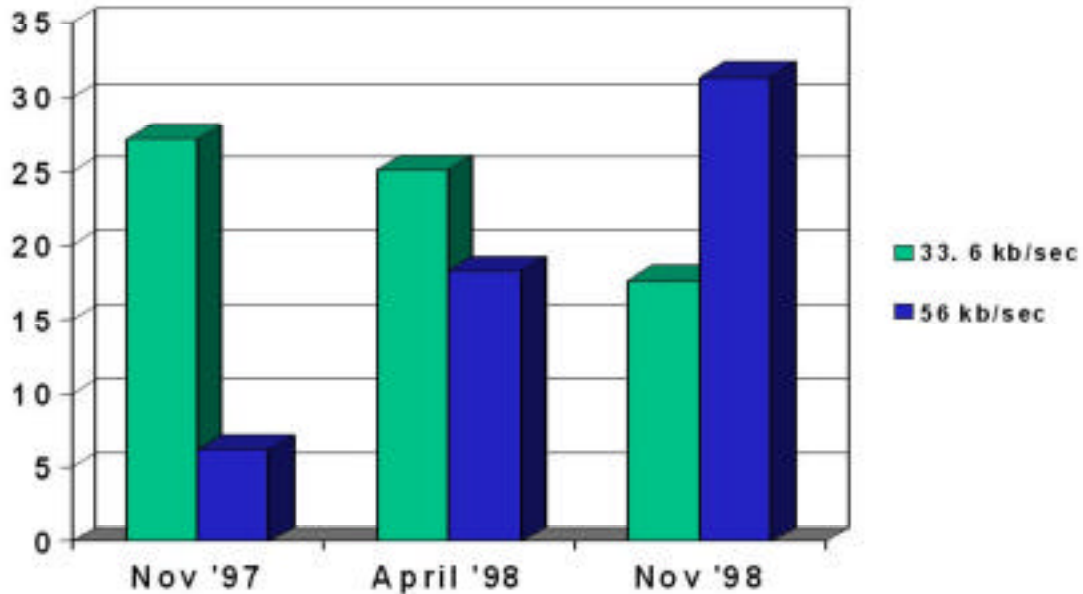# Technology Demographics Summary

Connection Speed

Given that speed remains the most cited problem users experience with the Web, it is not surprising that people's connection speed to the Web has steadily increased. There is a steady decrease in the number of users using 14.4kb/sec. Only 1.7% of the users use 14.4 kb/sec in November 1998 as compared to 50% in 1995. 1 MB/sec or faster connections show a significant increase from 16.8% in April 1998 to 23.5% in November 1998, with people having more experience possessing higher speed modems.

As in the last survey, the largest area of change was in modems. Our analysis shows that upgrading is the dominant trend, with 52.7% of the users reporting having upgraded in the past six months and an additional 16.7% planning to upgrade in the next six months. Despite the large number of users who are on the upgrade cycle, a quarter of the users have not recently upgraded and have no plans to upgrade in the next year.

Among those who said that they haven't upgraded and don't intend to upgrade, a higher percentage was made up of those who have less than 1 years experience using the web (42.5%) and who are novices(31.3%) as compared to users who have greater than 4 years of experience(20.7%) and those who are experts(18.2%). This percentage decreases as the experience and skill level increases. This shows that as people become used to using web, they want faster connections.

Inspection of the changes in modem usage across surveys reveals the quick adoption of 28.8 Kb/sec in late 1996 and early 1997, followed by the adoption of 33.3 Kb/sec in 1997, and 56.6 Kb/sec modems in early 1998. Since 56.6kbs modem were introduced their use has been incresing steadily. Percentage of users using 56.6 kb/sec modems is much higher in US(34.4%) than the percentage of users in Europe(13.3%). Surprisingly, among the age groups, 42.2% of the users who use 56.6kb/sec are more than 50 years in age. It can be inferred from the data that users quickly adopt the fastest modems as soon as they can acquire them.
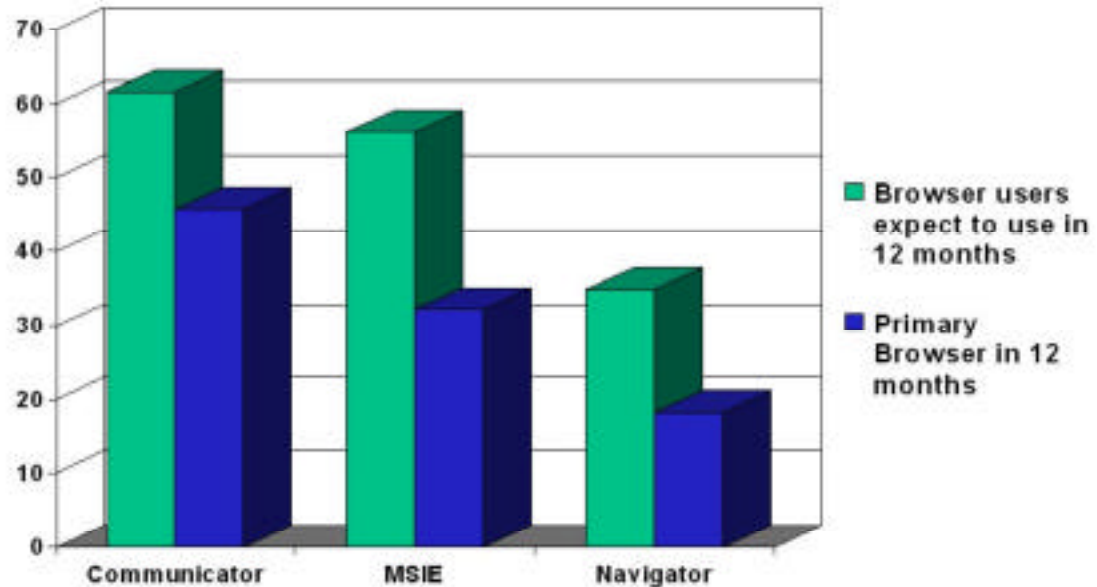
Adoption of Higher Speed Modems

Legend:
- 33. 6 kb/sec
- 56 kb/sec

X-axis: Nov '97, April '98, Nov '98
Y-axis: 0, 5, 10, 15, 20, 25, 30, 35

Browser Selection

As initially reported in the last survey, the impact of browser bundling especially at the Web Service Provider (ISP) level has significantly changed browser market share. When asked about the browser which they expect to use in 12 months, 61.6% opted for Communicator. Communicator was followed by MSIE(56.2%) and then by Navigator(34.9%). The results clearly point out that Communicator is ahead of other browsers. 45.8% said that Communicator will be there primary browser in 12months as compared to 32.2% for MSIE and 18.2% for Navigator. Browser features were the most important factor affecting choice (16.2%) followed by ease of use and experience with vendors(both at 14%). The importance of features varies across gender, 48% of male users chose a particular browser for features as compared to only 32% among female users. A similar trend can be seen among different age groups (64% of the users falling in 10-20 years category chose a browser because of particular features as compared to 32% users who fall in above 50 year age group) and also among users with different skill levels (52% among expert users as compared to 15% among novice users). The percentage of people who obtained browsers for free varied across gender(Male users-70% and female users-50%). There seems to be satisfaction among users, 63.4% of them said they don't switch browsers.

Most Popular Browsers

Equipment Owned

Among the given items, results show that VCR is the most utilized (88.7%) equipment followed by color printers(62.9%) and cell phones(48.9%). 96.3% of those who have computers have a color monitor, the majority having a 24 bit color monitor. However, they are more common among experts(74.4%) than among novices(30.4%). Similar case is with 16"-18" size monitors. 46.1% of expert users use 16"-18" monitors as comapred to only 30.4% of novice users. Most people use a high resolution monitor. Monitors with resolution 800*600 are most common(30.7%) followed by 1024*768(27.7%).

Web Technologies used in the Past Year

Email and the World Wide Web are the first and foremost killer applications for communication and information respectively. Java and/or JavaScript continue to be the most widely used web technology from our list of choices. Over 89% of the users have used Java and/or JavaScript. This is followed by audio at 73.9%. Use of Chat technology showed a marginal increase of 1.7% over 61% in April 1998 survey. Chat was the only technology that remained the same across previous surveys at

around 61%. Strong advances in usage for web telephony and Web fax along with digital certificates are encouraging, but their low usage rate (all under 20%) indicate that these technologies are still a bit before their time. Among email packages, Messenger is the most used (36.7%) followed by Eudora (33.2%) and express (24.6%). The chief deciding factors were features (33.1%), Bandwidth (30.7%) and ease of use (30.6%). A higher percentage (38%) among experienced users preferred Eudora as compared to 19% among novice users. A large number (61.7%) of expert users have multiple accounts both at work and home as compared to novice users (6.6%). Sending, Recieving, Sending an attachment, Recieving an attachment, and reading an attachment are the most frequently used features of email.
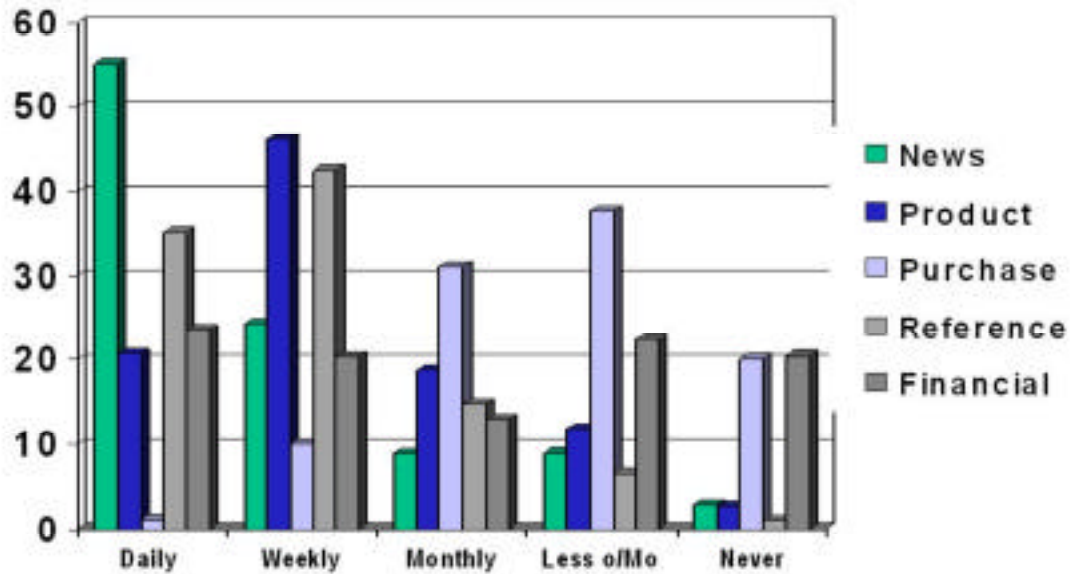
Some other facts, pointed out by the results are:

1) 69.5% of the respondents don't have a home based business.

2) 52.2% have one phone line and 37.6% have two phone lines.

3) ISDN still hasn't become popular. Only 6.9% of the respondents have ISDN lines. Part of this could be because of the non availability of this facility in all areas. Only 25% said that this facility is available in their area.

4) A whopping 63.1% have subscribed to Cable TV and a significant 5.9% dosen't have cable network in their locality.

Web preference

Users prefer using the web to watching TV, using a phone, sleeping, exercising, reading, watching movies, socialising or doing household work. The percentage of users prefering to use the web varies across categories. Watching TV is least preferred (8.7%) as compared to exercising(32.5%).

For all the categories, a higher percentage of users in US prefer to use the web daily compared to users in Europe. The trend is similar among age groups with users in the age group 11-20 and 50+ prefering to use the web daily more than those in the 21-50 age group. Also, a higher percentage of experts prefer to use the web daily over other alternatives compared to novices, intermediates and experienced users.
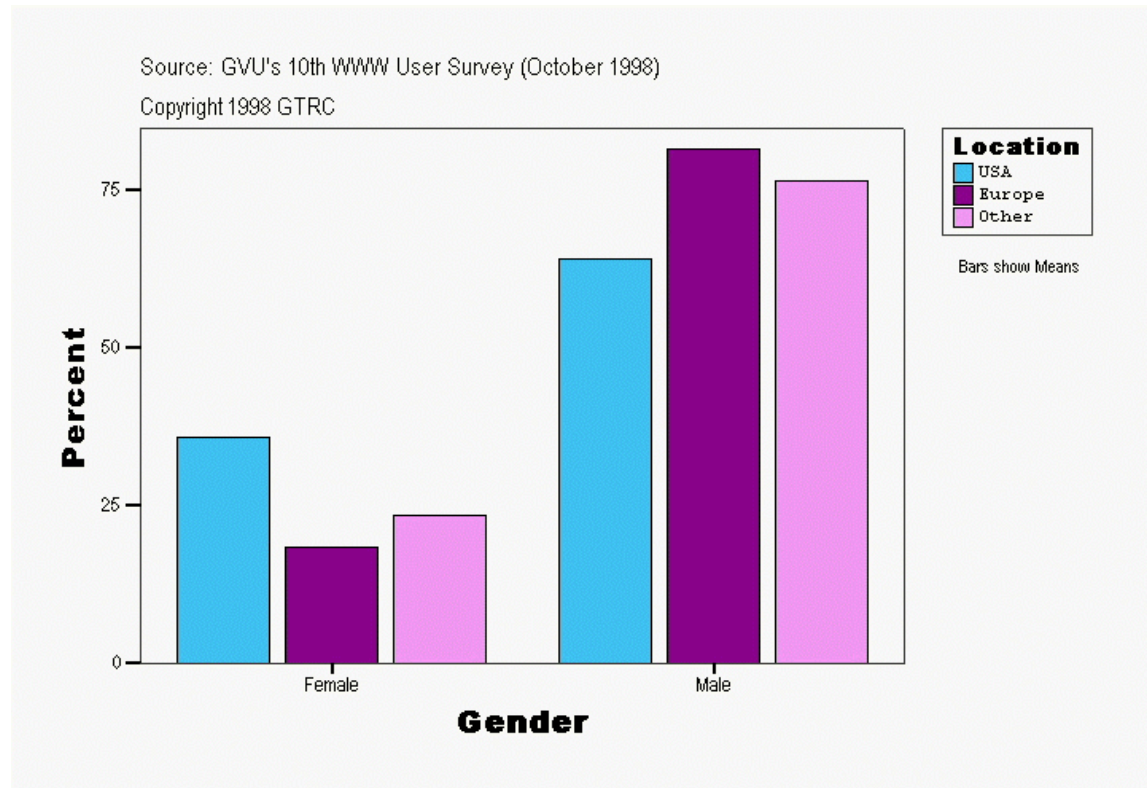
Frequency of Access

Effective use of Web by organisations

A majority (50.3%) of users agree that their organsation uses the web effectively. A higher percentage of users agree that their organisation uses the web effectively to reach customers and to interact with customers, however, for streamlining operations, for giving training and for reducing red tape, a higher percentage of users do not agree that their organization uses the web effectively.

GVU's 10ᵗʰ WWW User Survey
General Demographics Summary

Gender

There was some backsliding in the percentage of female respondents to the 10ᵗʰ Survey (33.6%) when compared to the previous two surveys (38.7% Ninth, 38.5% Eighth). The current percentage is comparable to the levels of the Seventh survey, which was conducted a year and a half-ago (33.4%). More research will be needed to verify whether this represents the beginning of an actual trend, or whether it is an artifact of our sampling method. Interestingly, Europe showed an increased percentage of female respondents--18.4%, up from 16.3% in the Ninth survey six months ago. Regardless of geographic location, new users (those who have been online for less than a year) are still quite gender-balanced with 48.5% being female and 51.5% being male. There is also a new categorization of respondents used in this survey--by skill levels. (See Skill Levels for an explanation). Those who were novices were nearly equally divided between male and female.

Educational Attainment

Respondents are quite highly educated with 87.8% (80.9% Ninth) having at least some college experience and 59.3% (50.1% Ninth) having obtained at least one degree. These percentages reverse the trend of decreasing education levels that we have observed over the past 4 surveys. However, trends can only be observed over time, so future surveys will tell whether this is an actual trend or a momentary reversal. The relationship between skill level is an interesting one: respondents with college degrees account for the largest percentage of experts, but all skill levels occur at all levels of educational attainment. In other words, by our definition of novice and expert, there are some experts who are still in high school and some novices who have Ph.Ds.

Primary Language

Since the survey is only available in English and the majority of the advertising for the survey is in English, it is not surprising that the majority of respondents (92.2%) cite English as their primary language (i.e. the one they speak most of the time, regardless of whether it is their "native" language). This is nearly identical to the percentages in the Eighth and Ninth Surveys (93.1% for both). After English, German (1.5%), French (0.8%), and Dutch (0.8%) were the most commonly used languages.

Race

As in all previous surveys, the respondents continue to be predominantly white (87.2% Tenth, 87.4% Ninth). For the Tenth survey, we added a new category of "Multiracial" which describes 1.6% of respondents. Younger respondents are more diverse racially than older respondents. Among respondents who have been online for less than a year, 3.8% are African-American. African-Americans only account for 1.7% of respondents who have been online for more than a year.

Age

The Tenth survey shows a sizable increase in average age--from 35.1 years old in the Ninth survey to 37.6 years old in the Tenth. For the past two years, the average age had been hovering around 35 years, but it may be on the move again. As in previous surveys, the age profile for Europe is quite different from the US profile, resulting in an average age of 30.9 years. Males and females are identical in average age, but there are more females in the 25-50 age range than in the older or younger extremes. Average age decreases with both the number of years someone has been on the Web and with his or her skill level. The average age for someone with less than one year on the Web increased by 4.5 years to 41.4 years old.

		GVU10	GVU9
Entire Sample	All	37.6	35.1
Location	USA	38.5	34.4
	Europe	30.9	35.5
	Other	34.4	36.0
Gender	Female	37.6	28.8
	Male	37.5	30.9
Years on the Web	< 1 Yr.	41.4	36.9
	1 -3 Yrs	38.0	35.0
	> 3 Yrs	36.3	34.3
Skill Level	Novice	41.1	
	Intermediate	39.5	
	Experienced	36.3	
	Expert	34.1	

Table 1 - Average Age for Different Categories

Marital Status

The largest category of respondents is married (47.6%) and the next largest is single (31.7%). These percentages represent a shift toward married respondents and away from singles, but the relative rankings are unchanged.

Major Geographic Location

As in all previous surveys, the majority of respondents are currently in the US (84.7%, 84.4% Ninth). The next most common locations are Europe (7.3%, 5.8% Ninth), Canada (3.8%, 4.9% Ninth) and Oceania (2.0%, 2.3% Ninth). 90% of the female respondents are currently in the US. The US also has the highest percentage of new users with 90% of respondents who have been online for less than a year. Skill levels are distributed across the different geographic locations with the US having the highest

percentage of both novice (87.9%) and expert (85.0%) respondents.

Kind of Area You Live In

This question was new for the Tenth survey. The majority of respondents report living in a suburban area (48.9%) while 37.3% are in an urban area and 13.8% in a rural area. Respondents located in the US were much more likely to be in a suburban (52.4%) area than respondents located in other countries. Respondents located in Europe were most likely to be in an urban area (62.9%).

Primary Industry, Occupation, and Sector

The questions related to occupation were revised for the Tenth survey, resulting in several new questions. Most importantly, the industry a respondent works in and their specific occupation were separated into different questions. The industries respondents work in are quite diverse with the largest percentages being in University Education (11.6%), Other (7.7%), Information Services (6.8%) and Software (6.0%). Respondents located in Europe are even more likely to be in University Education and Software than respondents located in other countries. Males are more likely than females to be in computer-related fields, but the reverse is true for Health, K-12 Education, Homemaker, and Unemployed. Not surprisingly, those in the computer industry have been online longer than those in other fields. The largest category of novices work in Other (10.5%) industries while the largest category of experts works in Information Services (13.3%) and University Education (13.3%).

The largest category of respondents considers themselves to be Trained Professionals (27.4%). The next largest categories are Middle Management (10.5%), Students (10.4%), and Self-employed (10%). Students and researchers are far more likely to be located in Europe than located in the US. The majority of both males and females are Trained Professionals, but men are somewhat more likely to be in management, Skilled Labor, and Consultants than women are. Women are far more likely than men to be in Administrative or Other positions. 13.6% of respondents over 50 years old are self-employed--the largest group of self-employed respondents.
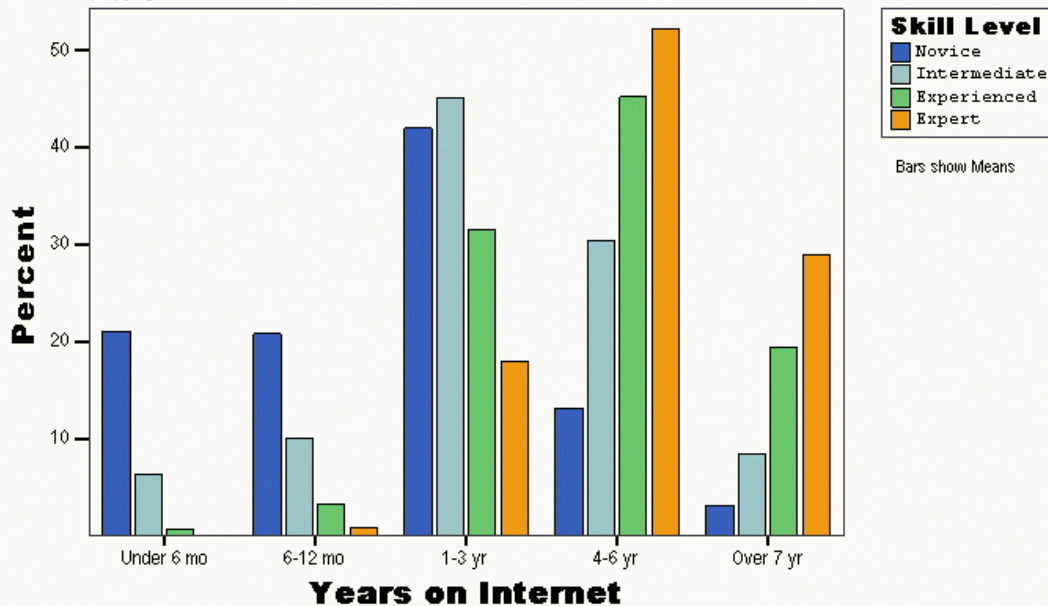
More than half of respondents (62.4%) work in the private sector. Another 19.4% work in the public sector and 8.3% are in not-for-profit organizations.

Years on Web

The Tenth survey has an interesting profile for the number of years respondents have been on the Web, with the largest category having been on 4-6 years (37.1%). Previously, the largest category had been online for 1-3 years. This shift toward more experienced users (on average) is consistent with other results showing that the growth of the Web (in terms of percentages) is slowing down. In other words, even though there are still many new users coming online, they constitute a smaller and smaller percentage of the total population as time passes. The availability of commercial online services (such as AOL and Prodigy) was a major catalyst for the first wave of growth in the online population and we have yet to see what might spawn a second wave.

A question that has been raised many times is how years spent on the Web relates to skill level. As we would expect, skill level generally rises with the number of years spent on the Web. It is important to note, however, that even though they are related, they are not the same. For example, we find that a small percentage of respondents who have been online for more than 6 years still fall into our novice category (3.1%). Similarly, some experts, by our definition, have been online for 6-12 months (9.0%).

Where You Access the Web From

This question was turned into a new set of five questions for the Tenth survey. Instead of concentrating on where someone "primarily" accesses the web from, this set of questions determines how frequently respondents access the web from each of five different places. 78.7% of respondents access the web from Home on a daily basis. Only 4.6% never access the Web from home. Almost a third of respondents never access the web from Work (31.5%). This is in dramatic contrast to the early days of the web when most users accessed the web primarily from work. In previous surveys, we had speculated that there was a growing category of new web users that specifically sought out web access. These results support this notion since 64.3% of new respondents (online less than a year) never having accessed the web from work. A majority of respondents (71.5%) have never accessed the web from a public terminal. Public terminals seem to be most frequently used by younger respondents with 53% of those aged 11-20 years having used them at least once. This may be a reflection of students using web terminals in public libraries. Respondents also apparently access the web from places other than these, at least occasionally. Further refinement of these questions is needed to determine what places have been omitted.

Who Pays For Access

Respondents could choose more than one answer for this question. The vast majority of respondents pay for their own Web access (78.7%), at least in part. This is an increase over the Ninth survey where 67.2% of respondents paid for their own access. 40% of respondents report that Work pays for their Web access.

Household Income

This question had the highest percentage of respondents choose not to answer (17.3%) and more females than males chose not to answer (18.2% females, 16.9% males). The average income was $57,300 (US) which is a noticeable increase from the Eighth and Ninth surveys ($52.5K and $53K, respectively). As with many of the basic demographics (e.g. Educational Attainment, Gender) the results from this survey reverse a trend of decreasing household income observed during the last several surveys. Respondents over 50 years old reported the highest income level compared to other age groups. Those with more years or skills on the Web reported higher incomes than other categories.

Entire Sample	All	57.3	Gender	Female	55.1
Age	11- 20 Yrs	53.2		Male	58.4
	21- 25 Yrs	41.5	Location	USA	58.7
	26 - 50 Yrs	59.1		Europe	47.6
	50+ Yrs	62.8		Other	51.0
Years on Web	<1 yr.	47.8	Skill Level	Novice	51.2
	1-3 Yrs	54.6		Intermediate	55.5
	>4 Yrs	61.3		Experienced	58.3
				Expert	62.8

Table 2: Average Household Income by Category

Explanation of Skill Levels

In the General Demographics questionnaire, one question asked whether or not the respondent had performed the following activities online:

- ordered a product/service from a business, government or educational entity by filling out a form on the web

- made a purchase online for more than $100

- created a web page

- customized a web page for yourself (e.g. MyYahoo, CNN Custom News)

- changed your browser's "startup" or "home" page

- changed your "cookie" preferences

- participated in an online chat or discussion (not including email)

- listened to a radio broadcast online

- made a telephone call online

- used a nationwide online directory to find an address or telephone number

- taken a seminar or class about the Web or Internet

- bought a book to learn more about the Web or Internet

Respondents were then classified into the following categories:

- Novice - 0-3 of the activities

- Intermediate - 4-6 of the activities

- Experienced - 7-9 of the activities

- Expert - 10-12 of the activities

A further refinement not explored in these results would be to "weight" different activities as more characteristic of expert users. For this first time, though, we thought a simple sum would be sufficient.

Skill Test

Respondents could choose more than one answer for this question. Across all skill levels, the most common activities for our respondents are: changing their browser start-up page (80.5%), using an online directory to find an address or phone number (80%), and placing an order online (74%). The least common activities are: making a telephone call online (16.9%), taking a seminar about the Web (26.1%), and making a purchase online for more than $100 (46.0%). Women are more likely than men to have taken a seminar about the Web (29.6% women, 24.4% men) but men are more likely to have done all of the other activities. Younger respondents were more likely to have customized their browser features than older respondents were. Older respondents were more likely to have bought books about the Web than other age groups (58.3% of those over age 50). 89% of respondents age 11-20 have participated in online chat

compared to only 46.9% of those over age 50.

The skill level descriptions used throughout the Tenth survey results (Novice, Intermediate, Experienced, Expert) are based only on the number of online activities a respondent had participated in - not which ones they were. An analysis of the skill test question by skill level reveals that some activities are common for novices while others are rare. For example 41.5% of novices had used an online directory, 32.5% had placed an order online, 28.3% have used online chat, and 28% have changed the startup page in their browser. There are a number of activities, which are common for experts, but rare for novices. In some ways, these activities could be considered "markers" of online expertise. They are listed in the table below:

Online Activity	Percent of Novices	Percent of Experts
Created a Web page	10	98.2
Customized a Web page	6.7	90.2
Changed Cookie preferences	9.5	97.3
Listened to the Radio Online	13.5	93.6

Other Questions Asked but Not Presented in this Summary

How did you find out about the GVU's Tenth WWW User Survey?

Are you disabled or impaired?

Are you currently registered to vote?

During an average week, most of your professional correspondence (postal mail or email) is with which of the following (sectors)?

What is your organization's total budget for this year, from all sources?

Please indicate which of the following are sources of revenue for your organization.

How many children under 16 years old live in your household?

What is your primary computing platform?

Complete the following sentence in the way that comes closest to your own views: 'Since getting on the Web, I have ...' (Community Membership)

Which of these groups have you become more connected to through the Web?

Some Web sites ask for you to register with the site by providing personal information. When asked for such information, what percent of the time do you falsify the information?

In your opinion, what is the single most critical issue facing the Web?

Please indicate your agreement/disagreement with the following statement: I believe that certain information should not be published on the Web.

Why don't you purchase more products and services on the web, either for yourself or for your work/business?

How comfortable do you feel using computers, in general?

How comfortable do you feel using the Web?

How satisfied are you with your current skills for using the Web?

US State, Canadian Province, or Country

GVU's 10th WWW User Survey
E-Commerce Summary

There has been a 10.6% increase in personal and a 23.7% increase in professional shopping on the web since the 9th survey (Fall 1998).

Personal vs. Professional Purchasing

The product/service categories seeing the majority of this growth have been apparel, video and electronics.

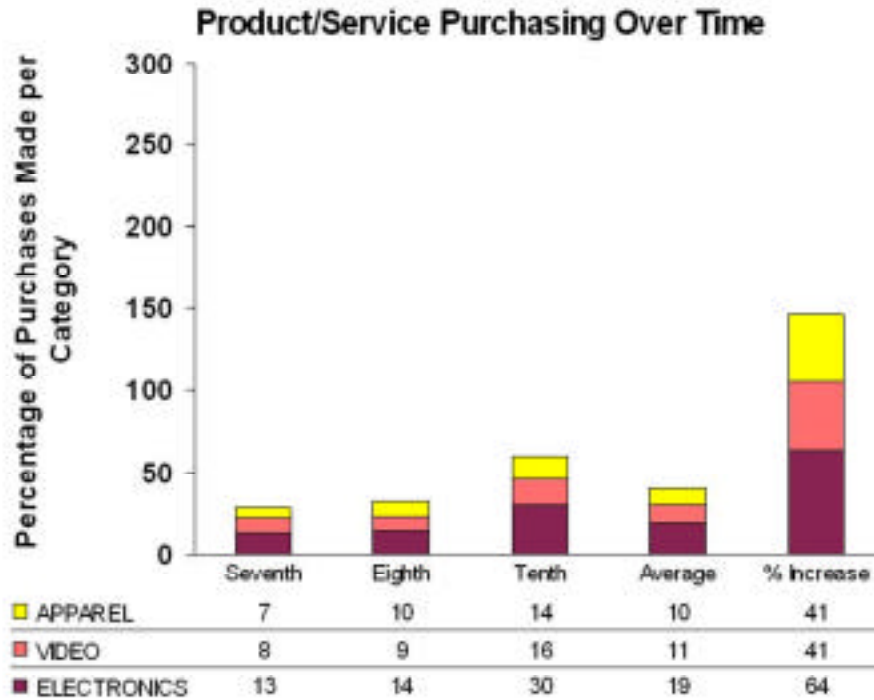## Product/Service Purchasing Over Time

	Seventh	Eighth	Tenth	Average	% Increase
☐ APPAREL	7	10	14	10	41
■ VIDEO	8	9	16	11	41
■ ELECTRONICS	13	14	30	19	64

Survey and Summary Data

The average respondent makes a purchase from a web-based vendor less than once per month (42%), but, the average respondent makes a decision to purchase, based on information gathered from web-based vendors, 1-2 times per month (33%). Further evidence of growth in the area of e-commerce is shown by a 3% increase, since the last survey, of paying on the web for personal purchases (from 65-67%) and a 28% increase since the last survey of paying on the web for professional purchases (from 46-59%).

Important Features

Contrary to popular belief about the importance of security to consumers using the web for shopping, our survey showed that, overall, quality information, easy ordering and reliability were important to more respondents than security.

Quality information was cited as important for 78.4% of individuals and accounted for 10% of responses while security was cited as important for 73.2% of individuals and accounted for 9.3% of responses (out of a choice of 14 possible responses). However, more female respondents cited security as important other feature (78.5% of individuals and 9.8% of responses), followed by easy ordering (9.7%), reliability (9.6%) and variety (9.5%). Those who had been using the Web for less than a year (76.1% individuals and 9.8% of responses) also shared this response. Another striking result is that respondents under 25 responded that low prices were an important feature of vendors

sites (11.5% of responses and 81.5% of 11-20 year olds and 9.5% of responses and 75% of 20-25 year olds).

Likelihood of Browsing without Intent to Buy

Browsing without intent to buy was a familiar action for an almost all respondents. Only 7.8% said this was a very unlikely action compared to 71% of respondents who said 'I already do this'. The only difference across respondent categories was between the expert and novice user. 50% of novices compared to 75% of experts were already likely to browse without intent to buy.

Change in Browsing without Intent to Buy

When asked if this behavior would continue, 76% said they would continue although, 21.3% of novices said they might do this somewhat more.

Items Browsed for without Intent to Buy

Hardware and software were the most commonly reported items browsed across individuals (76.3% and 77.8% respectively). These two groups also accounted for 20.2% of all responses (out of a possible 25). They were followed by books (68.7% of individuals), music (62.2%), travel (59.2%), electronics (46%), videos (34%), and quotes (33%). Across respondent categories those over 50 years of age showed the same interest in the goods/services above but quotes were important for more of these individuals (44%) than the survey average (33%).

Likelihood of Searching with Intent to Buy

Overwhelmingly, respondents already search with intent to buy (75%). Out of those that do not already do this the same amount said that they were neither unlikely or likely (26.1%) as those that said they were somewhat likely (26.1%) to search with intent to buy in the next 6 months.

Frequency of Searching with Intent to Buy

Respondents reported searching for information from web-based vendors about products or services they had an intention to buy in the future, on average, several times each month (31.6% of respondents). This was the same across respondent categories.

Change in Searching with Intent to Buy

On average (73.5%), respondents reported that they would search for information about products or services they intended to buy in the future, about the same amount in the next 6 months as previously. This was the same across respondent categories.

Items Searched for with Intent to Buy

Hardware and software were the most commonly reported items searched for across individuals (76.9% and 73.6% respectively). These two groups also accounted for 24% of all responses (out of a possible 25). They were followed by:

books (63.1% of individuals), music (55.7%), travel (51.6%),

electronics (36%), videos (27.1%), quotes (22.6%) and

insurance (21.1%).

These patterns did vary across respondent categories. The categories where most variation occurred are shown below:

Europe =   hardware (82.1%), software (76.8%), books (67.9%), music (60.7%),

travel (44.6%), magazines (35.7%), electronics (26.8%) and

banking (26.8%).

Other =   software (85.4%), hardware (81.31%), books (54.2%), music (43.8%),

travel (31.3%), banking (25%), electronics (22.9%) and video (22.9%).

Female =   software (64.5%), hardware (62%), books (64%), travel (56.5%),

music (46.5%), apparel (35.5%), electronics (31.5%), magazines (22.5%),

and video (22%).

11-20 Yrs = hardware (74.1%), software (63%), music (63%), books (51.9%),

electronics (40.7%), concerts (33.3%), video (33.3%), apparel (25.9%),

magazines (22.2%) and banking (22.2%)

50+ Yrs =   hardware (80.7%), software (78.9%), books (65.1%), travel (56.9%),

electronics (43.1%), quotes (38.5%), apparel (28.4%) banking (26.6%)

and autos (25.7%).

Novice = software (55.3%), books (53.2%), hardware (46.8%), travel (42.6%),

music (40.4%), electronics (29.8%), banking (27.7%), apparel (27.7%)

Browsing with or without Intent to Buy and Purchasing

GVU's WWW User SurveysTM   http://www.gvu.gatech.edu/user_surveys   Copyright 1994-1999 All Rights Reserved

Frequency of Communicating with Vendors

For products or services that respondents had purchased, 52.1% communicated with web-based vendors about their products/services less than once each month and 32.2% they did not communicate with their web-based vendor at all. However, this did vary across respondent categories.

Respondents based in Europe were less likely to communicate with their web-based vendors (44.6% not at all, and 44.6% less than once each month). Respondents not located in the USA or Europe were slightly more likely to communicate with their web-based vendors (22.9% do so about once each month). This result may depend upon the types of products/services purchased. Respondents not located in the USA or Europe are more likely to purchase web-based banking for instance.

Items Communicated with Vendor about

A 14.2% of individuals do not communicate with vendors. For those that do, software and hardware were the most commonly reported items communicated about (36.3% and 34.6% across individuals respectively). These two groups also accounted for 34.2% of all responses (out of a possible 26). They were followed by:

> books (16.4% of individuals), music (11.8%), travel (10.5%),

> electronics (8.4%), others (8.1%), banking (6.7%) and

> investments (5%).

Respondents located in the USA followed this pattern, however, European located respondents were more likely not to communicate with vendors about products (22.2%), whereas, respondents located in neither the USA nor Europe were more likely to communicate with vendors about products (only 12.8% saying they did not). Males are also more likely to communicate (12.5% saying they did not) compared to females (20.1% saying they did not). All are communicating about the same items for almost the same amounts.

[Note: Marginal percentages are relational only and not specific, comparison between groups is not possible without recalculation]

Likelihood of Communicating with Vendors

Most respondents already communicate with vendors on the web (50.4%). Out of those respondents who do not, 42.5% said they were very unlikely to communicate with vendors on the web in the future. Novices were even more unlikely (58.3% of them) to communicate in this way in the future.

Change in Communication with Vendors

Out of those that do communicate with vendors on the web, 79% said they would continue to communicate with vendors at the same rate over the next 6 months. There were no significant changes across categories.

Web Shopping Experiences

Items Purchased On-line

97.5% of respondents make purchases on-line. Only novices (85%), those between 11-20 (84.6%) and those who have used the web for less than a year (88.4%) have a lower average rate of purchasing over the web. The average respondent purchased the following products/services with the following frequency:

> Software (58%), hardware (48.5%), books (52.6%), music (41.4%), travel (30.2%), electronics (30.2%), video (15.8%), magazines (14.9%), flowers (13.3%), apparel (13.6%), banking (12.1%).

Female respondents deviated from this pattern most significantly with the following purchasing pattern:

> Books (53%), software (47%), hardware (35%), music (36.5%), travel (31.5%),
>
> other (19.5%), flowers (18%), apparel (16.5%), video (14.5%).

Frequency of Purchasing On-line

Most respondents make on-line purchases from web-based vendors less than once per month (42.2% of respondents) or about once per month (29.6%). In contrast to purchasing for personal reasons (see below), overall, males make on-line purchases above average and slightly more than females (31.4% of males making on-line purchases about once each month as compared to 26% of females). The greatest shoppers out of the different age groups are those aged between 21 and over 50 years old. On average 31.2% of them make on-line purchases from web-based vendors once per month. As expected, novices (42.6% of them making no purchases on-line) make few on-line purchases, whereas, experienced respondents (40.2% making purchases less than once per month and 35% making purchases once per month) are just below expert respondents (41.8% making purchases once per month and 20.3% making purchases several times each month).

Likelihood of Purchasing On-line

Of those respondents who do not purchase products/services on-line (32.6%), 32.4% said that it was very unlikely that they would do this in the next six months, 26.9% said it was neither likely or unlikely, 20.9% said that it was somewhat likely and only 9% said that it was very likely. This pattern of behavior varied across respondent categories in the same way as for those respondents that do pay on the web. There is a trend for increased payment via the web with increasing age, from novice to expert and from little experience to more than 4 years experience.

Change in Purchasing On-line

Out of those respondents that do make purchases on-line, most respondents predict that they will be doing as much purchasing on-line in the next six months as they have done over the last six months (67%). However, 41.2% of respondents located in Europe said that they thought they would be doing on-line purchasing 'somewhat more' over the next 6 months. Male respondents also predicted purchasing on-line 'somewhat more' (26.1%), as did 26.3% of respondents between the ages of 21 and 25.

Personal or Professional

When asked which type of shopping respondents would prefer answering questions about, 75.7% opted for personal shopping, and only 24.3% opted for professional shopping. For respondents located in neither the USA or Europe these figures were more even, 54.2% opting for personal shopping questions and 45.6% opting for professional.
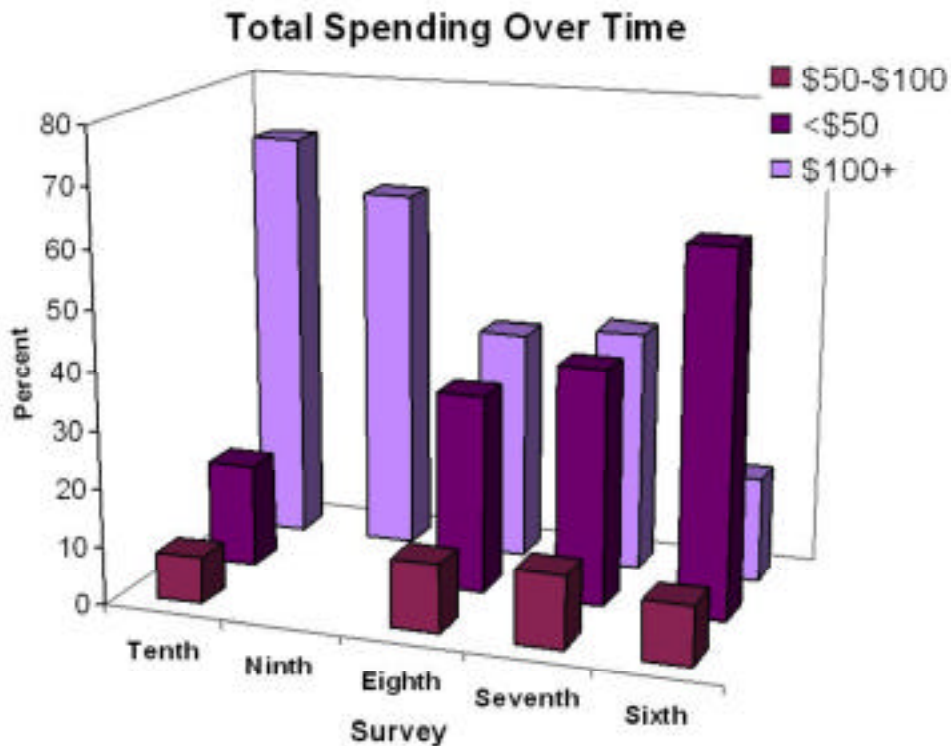
Professional Shopping

Most respondents never engage in professional shopping using the web (27.1%) or do so less than once per month (25.1%). There is a trend, however, for professional shopping to increase the more a person has used the web, from 1 year (54.3% never) to 4 years (20.3% never), and, from novice (51.1% never) to expert (7.8% never).

Personal Shopping

Most respondents shop for personal reasons 1-2 times per month (31.3%) or less than once per month (26.5%). Females reported shopping more than males (20.5% 3-5 times per month compared to 15.3% 3-5 times per month for males). The largest personal shoppers out of the different age groups are the 11-20 year olds, 25.9% of them doing personal shopping more than 10 times per month on the web.

Total Spending on WWW Purchases

The average amount spent on-line by respondents over the last six months is $500 or more (38%) followed by slightly fewer respondents spending $100-500 (33%). Only 17.7% spent less than $50. European located respondents and those located outside the US are more likely to spend less than $50 (27% and 27% respectively), as are those from age 11-20 (48%) and 21-25 (32%). The respondents who reported spending the most are those aged 26-50 (41% spending $500 or more) and experts (58% spending $500 or more).

Total Spending Over Time

Legend:
- $50-$100
- <$50
- $100+

Y-axis: Percent (0, 10, 20, 30, 40, 50, 60, 70, 80)

X-axis (Survey): Tenth, Ninth, Eighth, Seventh, Sixth

PROFESSIONAL SHOPPING

Reasons for Using the Web

Why do individuals chose to use the web to purchase goods/services in a professional capacity? Our survey showed that 'vendor information' was a factor for 86.6% of individuals and was the most frequently cited of all reasons for using the web (19.6% of reasons given). Of 9 other factors included in the questionnaire as possible responses, convenience, saving time and the absence of sales pressure were the most frequently cited as reasons for using the web (19.3%, 18.2% and 13.4% respectively). This pattern of response was repeated across categories with two notable exceptions. Respondents located in countries other than the USA or Europe cited saving time and the presence of product reviews equally (77.3% of cases). In 76.9% of cases, females, more than any other group, cited the absence of sales pressure as a reason for using the web.

Visiting Web Sites of Stores

Does off-line shopping effect on-line shopping habits? In this case we were asking respondents to think about whether they would visit the web sites of stores they visited in person in a professional capacity.

Most respondents replied that they sometimes or rarely visit the web site of a store that they visit in person (46.5% and 30.6% respectively). The different categories of respondent reflected this pattern. Overall, only 5.7% of respondents replied that the stores they visit in person did not have a web site. However, European located respondents in particular told a different story, 23.5% of them citing this reason as effecting their visits to store web sites.

Type of Information

Detailed information was cited as important when selecting a product or service on the web for 96.2% of individuals and accounted for 30.6% of responses. Information about availability was cited as the next most important (84.1% of individuals and 26.7% of responses out of a choice of 6 possible responses) followed by ability to make price comparisons (26.5%). Ability to make price comparisons was more important to respondents located in Europe (88.2% of individuals) and even more so for those aged between 11 and 20 (100% of individuals and 31.6 of responses) than other respondent categories. .

Dissatisfying Experiences

Overall, respondents reported dissatisfying experiences because of a number of factors. The main ones were sites were confusing/disorganized (74.5% of individuals and 22.7% of responses out of a possible 7); failure to find what they were looking for (71.3% of individuals and 21.7% of responses); and slow download (59.9% of individuals and 18.3% of responses). However, a surprising 57.1% of novices said that this had not happened to them yet (36.4% of responses).

Time Spent Searching

The amount of time spent searching before the first useful product/service information was reached, ranged, on average, from < 5minutes (34% of respondents) to 10 (33.3%). Respondents aged 21-25 took longer, on average, spending 20-30 minutes before reaching useful information 25% of the time. For novices the average time spent was between 10-20 (28.6% of respondents) or 30-60 minutes (28.6% of respondents). Experts, on the other hand, found useful information in less than 5 (42.3% of experts) or 5-10 minutes (40.4% of experts).

Success Rate

Respondents recorded finding what they were looking for, when intentionally searching, most of the time (62.4% of respondents). Out of the respondent categories, the experts were most successful, finding what they were looking for all of the time in 18.9% of cases and most of the time in 73.6% of cases. Novices, on the other hand, reported

finding what they were looking for half of the time (50%) or most of the time (33.3%).

Time to Give Up

On average, respondents were spending 10-30 minutes searching before giving up if they were unable to find what they were looking for (10-20 minutes 31.8% and 20-30 minutes 23.4%). This pattern was the same across respondent categories.

Intentional Searches

When asked if purchasing decisions were the result of an intentional search for product/service information 51% of respondents replied that most were the result of intentional searches.

Purchasing Decisions

Interestingly, people are making purchasing decisions to buy products/services using information gathered on the web but not necessarily using the web to pay for those items. The average number of times a respondent uses information gathered using the web to make a decision to purchase is 1-2 times per month (32.5%) and less than once per month (27.4%) compared these to the figures above for purchasing on-line. (29.6% of respondents making on-line purchases about once per month and 42.2% less than once per month). Those with 1-3 years of experience using the web and those with over 4 years of experience, more frequently make decisions based on information found on the web (42.5% 1-2/month and 22.7% 3-5/month respectively).

Ordering on the Web

Respondents were split between those that placed orders on the web most of the time (33.1%) and those that did this only a quarter of the time (30.6%), with some doing this half of the time (17.8%).

Paying on the Web

The majority of respondents pay for products/services over the web; 59.3% do so all or most of the time. Only 16.6% of respondents do not do this. There are some differences across respondent categories, for example, 21-25 year olds pay on the web either all of the time (31.3%) or none of the time (25%). Respondents with intermediate web skills follow this pattern (31.8% all the time and 31.8% none of the time), whereas, those over 50 pay over the web all or most of the time (50% and 29.1% respectively).

PERSONAL SHOPPING

Reasons for Using the Web

Why do individuals chose to use the web to purchase goods/services? Our survey showed that 'convenience' was a factor for 82% of individuals and was the most frequently cited of all reasons for using the web (21% of reasons given). Of 8 other factors included in the questionnaire as possible responses, saving time, the presence of vendor information and the absence of sales pressure were the most frequently cited as reasons for using the web (18.8%, 18.7% and 16% respectively). This pattern of response was repeated across categories with two notable exceptions. Of respondents located in neither the USA nor Europe, 80.8% cited vendor information in as a factor and 'Novices' cited convenience and absence of sales pressure equally (in 62.5% of cases).

Visiting Web Sites of Stores

Does off-line shopping effect on-line shopping habits? In this case we were asking respondents to think about whether they would visit the web sites of stores they visited in person.

Most respondents replied that they sometimes or rarely visit the web site of a store that they visit in person (44.5% and 33.2% respectively). The different categories of respondent reflected this pattern. But, overall, only 3.9% of respondents replied that the stores they visit in person did not have a web site, respondent located in Europe, Other and respondents between the ages of 21-25 told a different story. They were more likely to cite this reason as effecting their visits to store web sites (12.8% of European located, 11.5% of 'Other' and 11.7% 21-25 year old respondents).

Type of Information

Detailed information was cited as important when selecting a product or service on the web for 92.6% of individuals and accounted for 30.7% of responses. Information to enable price comparison was cited as the next most important (80.3% of individuals and 26.6% of responses out of a choice of 6 possible responses) followed by availability (25.5%). This was the same type of information looked for across respondent categories.

Dissatisfying Experiences

Overall, respondents reported dissatisfying experiences because of a number of factors. The main ones were failure to find what they were looking for (66.8% of individuals and 23.2% of responses out of a possible 7); sites were confusing/disorganized (59% of individuals and 20.5% of responses); and slow download (55.5% of individuals and 19.3% of responses).

Time Spent Searching

The amount of time spent searching before the first useful product information was reached, ranged, on average, from < 5minutes (31.8% of respondents) to 10 (35.9%).

For respondents not located in the USA or Europe this range extended from < 5 to 20 minutes (34.6% and 23.1% respectively).

Respondents across the three lower age categories mirrored the average range of time but those over 50 years of age responded that they were spending 10-20 minutes before reaching useful information 23.5% of the time. For those with less than one years experience at using the web the average time spent was 5-20 minutes (40% of respondents). This was the same for those with 1-3 years of experience (40.3%). Novice users were least likely to be able to recall how long they spend searching (17.5% checking the 'don't know' option).

Success Rate

Respondents recorded finding what they were looking for, when intentionally searching, most of the time (60.9% of respondents). Out of the respondent categories, the experts were most successful, finding what they were looking for all of the time in 30% of cases and most of the time in 51% of cases. Novices, on the other hand, reported finding what they were looking for half of the time (37.5%) or most of the time (37.5%).

Time to Give Up

On average, respondents were spending 10-30 minutes searching before giving up if they were unable to find what they were looking for (10-20 minutes 29.1% and 20-30 minutes 24.5%). This pattern was the same across respondent categories.

Intentional Searches

When asked if purchasing decisions were the result of an intentional search for product/service information 52.3% of respondents replied that most were the result of intentional searches.

Purchasing Decisions

Interestingly, people are making purchasing decisions to buy products/services using information gathered on the web but not necessarily using the web to pay for those items (see above). The average number of times a respondent uses information gathered using the web to make a decision to purchase is 1-2 times per month (32.2%) and less than once per month (31.1%) compared these to the figures above for purchasing on-line. (29.6% of respondents making on-line purchases about once per month and 42.2% less than once per month).

Ordering on the Web

Respondents were split between those that placed orders on the web most of the time (26.8%) and those that did this only a quarter of the time (28.9%), with some doing this half of the time (22.3%).

Paying on the Web

The majority of respondents pay for products/services over the web; 67.1% do so all or most of the time. Only 12.9% of respondents do this none of the time. There are some differences across respondent categories; for example, respondents located in the USA (69.3%) or outside of the USA (57.7%) are more likely to pay via the web all or most of the time than respondents located in Europe (48.7%). Males (73.2%) make payments on-line more so than females (56.3%). There is a trend for increased payment via the web with increasing age, from novice to expert and from little experience to more than 4 years experience.

Frequency of Purchasing On-line: Do not do at all