

The Impact of the Internet on the Public Library: Current Status and Signs for the Future

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ABSTRACT

This paper presents the results of a research project to evaluate the impacts of the Internet on public library use. A national telephone survey was conducted using a market segmentation model for use of information services and resources at the public library and on the Internet. This research provides baseline data describing the current consumer market for library and Internet services. The data suggest that at this time use of the Internet and use of the library are complementary with 40% of the consumer market using both providers and 18.6% using neither. However, data also support beginning differentiation between the two providers.

RÉSUMÉ

Cette étude présente les résultats d'un projet de recherche qui se veut évaluer les impacts de l'Internet sur l'usage de la bibliothèque publique. Une enquête nationale téléphonique a été menée en utilisant un modèle de segmentation du marché pour l'usage des services et des ressources informatiques à la bibliothèque et sur l'Internet. Cette recherche stipule des données de base qui décrivent le marché du consommateur actuel pour les services de bibliothèque et de l'Internet. Les données suggèrent qu'à ce moment là l'emploi de l'Internet et de la bibliothèque est le complémentaire du 40% du marché de consommateurs qui utilise les deux fournisseurs et du 18.6% qui utilise ni l'un ni l'autre. Cependant, les données approuvent le commencement de la différentiation entre les deux fournisseurs.

INTRODUCTION

A common question heard in the last few years in legislative chambers and meeting rooms where those concerned with funding public libraries gather, has been: "In this age of the Internet will we still need public libraries? If so, what roles will public libraries play in the 21st century?" Indeed, even library administrators, managers and other personnel may share these thoughts privately and among themselves. These questions reflect the assessment that the libraries of today and

the future may very well be facing a critical competitive force in the Internet. The Internet is often characterized as "a giant public library" (for example, Nie and Erbring 2000). In response to this, many have expressed opinions about what the future of the public library may be and many have made exhortations about the need to transform the public library in order to maximize the benefits of the new technologies (Kniffel 1996; The Benton Foundation 1996; Schaefer 1997; Bales 1998; and Sager 1999, for example). However, to date, there has been little data upon which to plan for the future of the public library in this new context of competition.

This research project was based upon the belief that the answers to these questions lie to a great extent with consumers of information and related services in the marketplace. Many people are currently using the services and resources (hereafter referred to simply as "resources") of the Internet and integrating them to a large extent in their daily lives. Many Internet resources, such as consumer, job, and homework-related information, appear to be in direct competition with the services and resources offered by public libraries. People who are using both the library and the Internet can now compare the performance of both providers and are likely to make choices among the two based upon these comparisons. Library administrators must be aware of these choices in order to plan effectively for the future direction of the public library.

One may surmise three possible outcomes to these future consumer choices between the Internet and the public library. *One*: the resources of the Internet will complement those of the public library and these two providers will serve resource-differentiated markets, paralleling the complementary relationship that has evolved between the movie industry and the home video industry. *Two*: the public library will continue to exist, but with a revised mission and mix of services, paralleling the impact that television had on radio. *Three*: the Internet will so reduce the need for public library resources that the public library will decline and eventually cease to exist, paralleling the triumph of the automobile/truck over the horse and wagon.

While the outcome of these scenarios is unknown, studying how current users make choices between the library and the Internet will enable us to understand how consumers are getting access to information and the criteria upon which they are making choices between the two providers. This latter information will be crucially important if, as the first scenario above suggests, libraries may have to adjust their services in order to respond successfully to competition from the Internet and to the resulting changing demands of consumers.

THE NATIONAL SURVEY

In order to answer these questions, researchers at the University at Buffalo and the Urban Libraries Council, funded by a 1999 grant from the Institute for Museum and Library Services, utilized a national telephone survey to gather baseline data

describing the current market for library and Internet services. The survey questionnaire was developed using a variety of sources including previous research, input from an Advisory Committee, and four focus group interviews with randomly selected representatives from each of the segments. The group interviews gathered insights from participants about why they use the Internet and what services they use; what decision criteria they use when they choose between the Internet and the library; and the reasons why, when available, the Internet is not used. Three pilot surveys refined and tested the questionnaire. For those adults who use both the library and the Internet, the survey identified the reasons why they use the Internet and the library, determined the decision criteria they use when choosing one over the other, and assessed how they evaluate the performance of the library and the Internet on these decision criteria. The survey also gathered information about those segments of the population who currently do not use the library and/or who do not have access to the Internet. The survey was conducted in March and April of 2000 and surveyors interviewed 3,097 English and Spanish-speaking adults about their use of the public library and their access to, and use of, the Internet. Future replications of this survey will enable the library profession to monitor and respond to changes in this market. We present here a summary of the most important results. The full report, as well as a presentation of the methodology and the survey questionnaire, is available at <www.urbanlibraries.org>.

The Current Market for Library and Internet Services

The results of the survey indicate the following (as of Spring 2000):

- 66.4% reported that they used the public library
- 59.3% reported that they had access to the Internet
- 47.0% reported that they had Internet access at home
- 53.2% reported that they actually used the Internet

Forty percent (40.0%) of the respondents used both the library and the Internet. The data describing the current market for library and Internet services among different user segments is provided in Table 1.

The demographics of the survey group demonstrated significant differences. Use of the library and use of the Internet were inversely related to age. Library users and Internet users were both significantly younger than library and Internet nonusers were. Use of the library and use of the Internet were positively related to educational attainment and to annual household income. In their consumption of information, these numbers point out somewhat of an “information divide” rather than a “Digital Divide.” Evidence for the Digital Divide did show up in the race/Hispanic ancestry of the respondents. While not significantly related to use of the library, use of the Internet, however, was significantly related to the race/Hispanic ancestry of the respondents. The percentage of Hispanic Americans who reported using the Internet was the lowest among the groups, followed next by

African-Americans, Native Americans, Caucasians, and Asians (Asian and Native American groups had very small sample sizes which may not be meaningful, however). Sex of the respondents was significantly related to the use of the library and use of the Internet; more females reported using the library and more males reported using the Internet.

While the authors are aware of the current disparity of access to the Internet as characterized by the "digital divide," and other social and societal impacts of the Internet, this research was not designed to address these issues, which are well-covered by other surveys and publications (e.g. U.S. Department of Commerce, 1998; National Public Radio/Kaiser Family Foundation/Harvard University 2000, Nie and Erbring 2000). The continuing decrease in the cost of the technology combined with the marketing now of relatively inexpensive Internet "appliances" (see e.g., the "i-opener" at <www.netpliance.com>) have the potential in the near future of making Internet access available to all households that want it, just as television is almost universal in homes now. This study focused on the impact the Internet is having on the library through changing choices and preferences for the mode of information access.

Impact of Internet Use on Reasons for Using the Library

Using the Public Library Association's service responses as a model, library users were asked to describe the reasons why they used the library. This information was analyzed to determine if library users who *also* used the Internet used the library for *different* reasons than library users who did *not* use the Internet. The question of interest was whether use of the Internet is having an effect on the reasons *why* people use the library. The results of these analyses provided no evidence that use of the Internet is changing the reasons **why** people use the library at this time. Additional analyses of these data also provided no evidence that the *recency, length, or frequency of use* of the Internet is affecting the reasons **why** people use the library.

TABLE 1
SEGMENT SIZES FOR THE CONSUMER MARKET FOR LIBRARY AND INTERNET SERVICES
 (N = 3097)

Cell Legend: Row % Column % Total % (Segment Size)		INTERNET ACCESS		
		YES 59.3% (N = 1836)		NO 40.7% (N = 1261)
		USE OF THE INTERNET		USE OF THE INTERNET
		YES 53.2% (N = 1649)	NO 6.0% (N = 187)	NO 40.7% (N = 1261)
YES 66.4% (N = 2056)	Segment 1 60.3% 75.2% 40.0% (N = 1240)	Segment 2 6.4% 70.1% 4.2% (N = 131)	Segment 3 33.3% 54.3% 22.1% (N = 685)	
NO 33.6% (N = 1041)	Segment 4 39.3% 24.8% 13.2% (N = 409)	Segment 5 5.4% 29.9% 1.8% (N = 56)	Segment 6 55.3% 45.7% 18.6% (N = 576)	

People who use the public library (segments 1,2,3)	66.4%
People with Internet access (segments 1,2,4,5)	59.3%
People with Internet access at home	47.0%
People who use the Internet (segments 1,4)	53.2%
People who use both the public library and the Internet (segment 1)	40.0%

Impact of Internet Use on Frequency of Library Use

Respondents were asked a question that measured the frequency with which they used the library. The data were then analyzed to determine if recency, length, or frequency of *Internet* use affected the *frequency* with which people used the library. These analyses also provided no evidence that *recency, length, or frequency of use of the Internet* are affecting the **frequency** with which people use the library at this time. However, when users of both the library and Internet were asked to estimate their future frequency of using the library, 2.5% anticipated that they would stop using the library. Focus group members expressed similar sentiments. While this number seems very small, given the fact that, historically, public responses to questions about library use reflect a very positive attitude towards the library and library use, this result could be seen as a warning flag for the future.

Reasons for Using the Internet and the Library

Respondents who used the Internet were asked their reasons for use, which were modeled after the reasons for using the library. While the two providers have somewhat different capabilities and therefore potentially different reasons for use, nevertheless meaningful comparisons were possible between the providers with careful construction of the questions drawing on focus group comments and other sources. These data were analyzed to determine if the respondents who used both the Internet and the library demonstrated any preference in their reasons for use between the Internet and the library. Table 2 presents, for each set of comparable reasons, the percentage of respondents who used *both* the library and the Internet, *only* the library, *only* the Internet, and the percentage that used *neither*. For seventeen of the reasons for use, the differences among the providers were statistically significant, indicating that users are discriminating between which provider (or neither) to use for which reason.

This analysis presents a particularly interesting view of why the Internet and the library are currently being used. At this time, the average percentage (across all reasons for use) of respondents who exclusively used one or the other of the two providers (9.7% exclusively used the library and 20.3% exclusively used the Internet) is already *equal* to the average percentage who used both providers (30.3%). It is also worth noting that the average percentage of respondents who used only the Internet (20.3%) is twice as large as the average percentage of those using only the library (9.7%). This suggests that, for those reasons for use where users are using *only* the library or the Internet, the Internet is already being used exclusively by about twice as many users as used the library exclusively.

An examination of the reasons for use by these single provider users' groups reveals that approximately twice as many of the respondents were using the *Internet* rather than the library to obtain information about government and for kids' schoolwork. In other areas (consumer products, business and jobs and careers information, research for their jobs, research for personal projects, to read newspapers and magazines), from approximately four to seven times as many of the respondents were also using the *Internet* rather than the library. Twice as many of the respondents were using the *library* rather than the Internet to obtain information about local history and genealogy and four times as many for kids' reading. For these exclusive users' groups, these preferences indicate that the library is experiencing considerable competition not only for the information franchise, but in areas often considered to be major service areas of the library such as leisure reading of magazines and newspapers and for children's schoolwork. However, whether these exclusive use preferences for the Internet represent migrations of use away from the library *to* the Internet or *new* demands for information being generated by the Internet cannot be determined with these data at this time. Replication of the survey in the near future should shed light upon this issue.

Decision Criteria between the Two Providers

Respondents who used both the library and the Internet were asked to evaluate a common set of service characteristics for both. These service characteristics were developed to represent a range of decision criteria that people use when deciding whether to use each provider. A comparison of these evaluations revealed 16 significant differences (Table 3). The respondents rated the Internet significantly higher for *ten* service characteristics and the library significantly higher for *six*. These differences are most interesting in that they identify the characteristics of the Internet and the public library that might be the basis for choice between the two providers. The *library* received higher ratings for ease of use, low cost, availability of paper copy (versus digital copy),

TABLE 2
 RESPONDENTS WHO USED BOTH THE LIBRARY AND THE INTERNET, ONLY THE
 LIBRARY OR THE INTERNET, OR NEITHER. CROSS TABULATIONS OF REASONS
 FOR USE BY "RESOURCE" USED

	Used Both	Used Only Library	Used Only Internet	Used Neither	p
Find info I need	77.0	4.0	17.9	1.1	.550
Personal interests info	74.1	7.2	12.4	6.3	.000
Borrow/browse for fun	66.0	11.0	18.1	4.9	.004
Research personal projects	51.3	7.6	29.9	11.2	.000
Consumer product info	32.8	5.4	38.5	23.3	.000
Business info	32.3	8.1	28.4	31.3	.000
Government info	30.5	10.1	20.5	38.9	.000
Research for job	28.8	5.4	27.5	38.3	.000
Study/school research	26.6	6.0	9.8	57.7	.000
Read newspapers & magazines/ News, weather & sports info	26.6	10.3	37.4	25.7	.000
Job & career info	25.8	5.8	26.7	41.7	.000
Local history/genealogy	24.7	15.5	7.7	52.2	.000
For kids to read for fun/ Browse with kids for fun	24.1	16.1	4.5	55.2	.000
Kids' schoolwork	20.5	5.3	12.0	62.1	.000
Community services info	17.1	15.1	19.7	48.1	.000
Ethnic heritage info	14.9	8.0	7.7	69.5	.000
Library as place to go/ Chat rooms or listservs	11.6	22.6	13.1	52.7	.000
Learn to use PC & net/ Learn how to search net	11.1	4.5	34.7	49.8	.000
Attend programs for adults/ Chat rooms or listservs	5.2	15.3	19.6	59.9	.830
Use library meeting room/ Chat rooms or listservs	4.4	10.6	20.3	64.7	.097
Average %	30.3	9.7	20.3	39.7	.000

Note: The data were submitted to Chi-square analyses for contingency tables. Statistically significant values are in bold

TABLE 3
COMPARISON OF THE LIBRARY AND INTERNET SERVICE CHARACTERISTICS BY
MEAN SCALE SCORE (SEGMENT 1)

Question	Library Use	Internet Use	p
Doesn't cost much money to use	9.3	7.3	.000
I like getting paper copy at the library/ I like getting digital copy on the Internet	8.5	8.2	.000
I trust information to be accurate	8.5	7.3	.000
My privacy is protected when using it	8.5	5.6	.000
Assistance from librarians is helpful/ Assistance from Internet helplines is helpful	8.2	6.5	.000
Easy to get to the library/ Easy to connect to the Internet	8.1	8.8	.000
Once there, the library is easy to use/ Once connected, the Internet is easy to use	8.1	7.9	.009
Doesn't take much time to get to the library/ Doesn't take much time to connect to the Internet	7.9	8.6	.000
I can immediately act on information	7.9	8.4	.000
I expect to find what I'm looking for	7.8	8.0	.027
It is self-service	7.7	7.8	.277
I trust information to be up to date	7.5	8.3	.000
It is fun to use	7.3	8.1	.000
Range of resources is adequate	7.2	8.4	.000
I enjoy browsing the library's collections/ I enjoy surfing the Internet	7.0	7.6	.000
I like being among the people in the library/ I like that I can use the Internet alone	6.0	8.3	.000
Library is always open when I need it/ Internet is always available when I need it	5.9	8.9	.000

Notes:

1. Segment 1. Respondents who use the library and the Internet.
2. The respondents were asked to evaluate each service characteristic of the library and the Internet using a ten-point scale where 1 = very strongly disagree and 10 = very strongly agree.
3. The data were submitted to t-Tests for two related samples and tested at $p = .05$.
Statistically significant values are in **bold**.

accuracy of information, helpfulness of librarians (versus net helplines), and protection of user privacy. The *Internet* received higher ratings for ease of getting there, time to get there, availability (hours of access), range of resources, expectation of finding what is sought, ability to *act immediately* on the information obtained, up-to-dateness of the information, fun, enjoyability of browsing, and the ability to work alone (versus being among people at the library). Again, these differences are interesting for what they reveal about users of information services. Even though the library is apparently maintaining its role as a helpful provider of accurate information with respect for user privacy, *time* seems to be an important factor in several decision criteria to use the Internet. The focus group data support this. What emerged from our informal conversations with the different user segments is a portrait of people, faced with time demands from their jobs and other life issues, who simply don't have enough time to even take care of the basics of daily living. When a complicating factor, such as a serious illness among a family member, is added, the time burden becomes even greater. Thus, even though the library is seen as perhaps a "better" provider of information in some respects, the bottom line decision may be made on the time factor. This, added to the fact that the Internet is perceived to have an adequate range of up-to-date resources and is *fun* to use, foretells the possibility of a serious decline in library use. Some focus group comments illustrating this (two users of the Internet but not the library, asked to describe each):

Internet: Fast, convenient, current, automated

Library: Slow, inconvenient, outdated, personable

Internet: Current, convenient, unlimited, easily accessed

Library: Quiet, musty, inconvenient, limited, sometimes confusing

Limitations of the Survey

Telephone surveys suffer from a number of limitations, the most obvious being that not every household has telephone service (approximately 6% in 1998, according to the Department of Commerce <<http://www.ntia.doc.gov/ntiahome/net2/>>). Consequently, the survey systematically excluded those without telephones who use the library and/or use the Internet at the library or some other location. However, our statistics on use of the library and the Internet are in line with other surveys conducted in the same time frame; therefore we feel these data are robust. The survey was also limited to respondents who speak English or Spanish because of cost constraints. These limitations should be kept in mind when drawing inferences from the data reported from this survey.

CONCLUSIONS AND IMPLICATIONS

While the data show that the relationship between the Internet and the library at present appears to be complementary, there are also some signals that library

planners should take heed. The differentiations appearing between the Internet and the library, in terms of preferred exclusivity of use and in terms of the service characteristics, are clearly important. They suggest that the Internet may be beginning to capture much of the market for information services and resources. In light of this trend, the library may need to reevaluate its missions to society and perhaps make considerable changes in its mix of services, such as emphasizing its roles as a lending library and provider of local community programming.

The authors hope to replicate this survey in the near future to monitor trends in consumer choices for modes of access to information. Longitudinal data should provide libraries with the information they need for developing plans in response to the changing marketplace, as well as for informing public discussions about policies related to the information highway and the library's position on that highway.

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