

# Crossing Borders: The Internet Public Library as a Global Information Service

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## INTRODUCTION

Since its inception in 1995, the Internet Public Library (IPL) ([www.ipl.org](http://www.ipl.org)) has remained an online information enterprise consisting of a question answering service and a collection of approximately 40,000 critically-selected, authoritative digital resources in the form of links. As reference and information services have travelled into digital spaces and away from physical reference desks and print collections, the IPL is just one of many sources available on the Web for meeting users' information needs. Traditional bricks-and-mortar libraries draw their user community from their surrounding physical environs; but, as the IPL has no physical counterpart, its community of users spans all parts of the world.

Previous studies of IPL users' information needs have focused solely on painting a picture of users of the email-based question answering service and the questions they ask (e.g., Ryan, 1996; Carter & Janes, 2000), as well as users' satisfaction with the question answering service (Chang & Holland, 2005). To-date, there has not been a holistic examination of the IPL's two services, question answering and digital collections, nor a focus solely on the use of those two services by a community of users located outside the borders of the United States. This study addresses research questions related to these issues:

1. What are the characteristics of global information users of the IPL's question answering service and digital collections?
2. What are the information needs and behaviors of the IPL's global information users?

## METHODS

Data pertaining to each IPL service were gathered separately. First, the IPL's archive of cleansed reference transactions from one year, 2007, was mined to retrieve reference data from the *Ask an IPL Librarian* question answering service. A 5% systematic sample of the total number of reference questions posed to the service during 2007 was collected for a total sample size of 668 reference transactions. All sampled reference transactions were analyzed to develop a profile of IPL users based on self-reported characteristics, including users' location, grade level in school (if applicable), intended information use, subject of the inquiry, and sources consulted prior to question submission. Only users who self-identified their location as outside of the United States were included for the study (n=185), and some comparison with users from the United States.

Second, to investigate use of the IPL digital collections, usage reports from Google Analytics were generated for the calendar year January 1, 2007 to December 31, 2007. The usage reports were analyzed to determine where IPL's users were located, how they found the IPL on the Web, and what collections were accessed once they arrived to the library. Google Analytics tracks data on users' location (e.g., country, city, continent, region) and native language, their methods exercised to access the library (e.g., direct visit, referral from another website, keyword search via search engine), and their seeking behavior upon arrival (e.g., which digital collections were accessed, search terms used within the library's search engine, time spent in the library). Data about users are available at the individual visitor level, while data about their behavior is only presented as the total number of pageviews.

## IMPLICATIONS

Understanding the characteristics of international users of the IPL's question answering and digital collections services is important for a working, virtual library because it informs decision-making about the provision of reference and information services in many ways. First, many more non-U.S. users visit the IPL's digital collections than submit questions to the *Ask an IPL Librarian* service. There may be several reasons to explain these results, such as: the growing self-help trend, the perception of libraries and reference assistance in places abroad, language barriers, or the accessibility of the question answering service's web form for receiving users' questions. Further research is needed to explore these issues.

Second, by identifying the information needs and behaviors of the specified user group, the IPL may focus on building a collection of digital resources to meet users' information needs, and design the organization of those digital resources in a manner which facilitates browsing, searching, and resource discovery. For instance, the IPL may consider building a digital collection specifically tailored to the information demands of the international community. In regards to the question answering service, the IPL may consider collaborating with international organizations specializing in multicultural, multilingual digital reference services.

Third, and most importantly, as the Web extends its reach to places near and far, the number of potential international users may continue to increase. This information environment creates an opportune situation for the IPL's two services, question answering and digital collections, to truly cross borders and meet the information needs of a global group of users.

## FINDINGS: IPL WEBSITE

In 2007, the IPL website received 10.8 million visits from 229 different countries. Twenty-three percent, 2.4 million visits, were from users located outside of the United States. Of the visits from outside the United States, these five countries accounted for 45.3% of non-USA visits: Canada, United Kingdom, India, Australia, Philippines.

The browser language setting for 2.2 million\* visits of non-USA users involved 93 languages. Following English (70% of the sample), the language for non-USA users included: Spanish, Chinese, French, German and Russian (combined to represent the next 10% of non-USA visitors, after English).

Visitors to the IPL website arrived primarily from search engine traffic:

Visit Method	Non-USA Visits (n= 2,279,703*)	USA Visits (n= 8,526, 587*)
Search Engine	51%	44%
Direct	21%	30%
Referring Websites (sources)	28% (from 6,234 sources)	26% (from 12,986 sources)

Pageviews by non-USA visitors for the digital reference service account for 27.5% of all pageviews to the general question form, but just 12.5% of pageviews to the Kids form:

Pageviews	Non-USA Visits	USA Visits	Total
All pageviews	7,127,765	31,741,915	38,869,680
Ask an IPL Librarian service (General)	31,673	83,368	115,041
Ask an IPL Librarian service (Kids)	3,631	25,490	29,121

\*sampled data used by Google Analytics, 91% of the total number of visits

## FINDINGS: IPL DIGITAL COLLECTIONS

Non-USA and USA visitors seem to be utilizing the same digital collections, as indicated by the top five subjects (in terms of total pageviews):

Non-USA Visits	USA Visits
<i>Top 5 Subject Collections</i>	
Arts & Humanities	Arts & Humanities
Science	Health & Medical Science
Business	Entertainment & Leisure
Entertainment & Leisure	Science
Health & Medical Sciences	Business

However, the top five search terms employed by users searching the IPL's General, KidSpace, and TeenSpace collections indicate that the two groups are not homogeneous:

Non-USA	USA	Non-USA	USA	Non-USA	USA
<i>Search Terms (General)</i>		<i>Search Terms (KidSpace)</i>		<i>Search Terms (TeenSpace)</i>	
sex	google	hello	renewable	erotic stories	careers
Harry Potter	google.com	goodbye	hello	chemistry	plagiarism
Internet	yahoo.com	water	games	adventures of huckleberry finn	teens
architecture	yahoo	electricity	states	study guides	study guides
psychology	www.yahoo.com	science project	Plants	teenspace	Sewing

The amount of time users visited the digital collections: USA users spent an average of 3 minutes 53 seconds per visit; non-USA users spent an average of 2 minutes 43 seconds.

## FINDINGS: DIGITAL REFERENCE SERVICE

Of the sampled 2007 reference data (N=668), 28% of users (n=185) self-reported their location as outside of the United States. Approximately half of the non-USA users (51.1%) are from these countries: India, UK, Nigeria, Canada, Australia. Of the non-USA users who posed a question to the digital reference service, more did so through the General Adult web form (90.3%) than the KidSpace web form (9.7%). Additionally, more than half (52.4%) of the questions posed by non-USA users of the Q&A service were posed for a school assignment.

The most frequent subjects of the questions posed by non-USA users, as categorized by reference librarians, compared with the most frequent subjects of questions posed by questioners self-reporting their location as USA:

Non-USA Visits (n=185)		USA Visits (n= 409)	
Subject	Percentage	Subject	Percentage
Miscellaneous	16.2	Miscellaneous	19.3
Science	12.4	History	14.9
Education	11.9	Science	13.9
Library	9.7	Literature	7.6
Business	6.5	Education	6.6

Nearly 43% (n=79) of non-USA users who posed a question to the service reported having consulted with one or more sources prior to question submission, whereas 24% (n=44) explicitly stated not having consulted any sources prior to posing their question. Of the 113 sources consulted prior to question submission reported by 79 users of the service, 35% of sources include the general Web, 25% a specific or general source (e.g., book, newspaper), and 23% used a search engine; 4% mentioned the IPL digital collections.