



The Midwest Transportation Knowledge Network, TRIS Online, the Internet and the Three-Legged Stool

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Summary: This paper reports on a study of access to recently published reports in the field of transportation, both print and electronic. Findings show that of 100 recently published documents selected from the TRIS database, full-text, electronic copies of 35 could easily be located on the Internet. Access to an additional 47 titles, in print, could be provided through library networks. This gives a total of 82% of these reports that could be relatively easily accessed by anyone with access to the Internet and to library services. Results also show that library services can be at least twice as productive as the Internet in providing access to the full-text of transportation-related information resources.

Introduction

Among transportation officials and practitioners, one of the most frequently requested services is electronic access to the full-text of transportation-related reports. Although there is a general assumption that a large portion of transportation-related materials are available on the Internet, few, if any, studies have been done on the topic. For most of the transportation community TRIS Online is seen as the most important single means of identifying transportation-related information resources. The Midwest Transportation Knowledge Network (MTKN) is being created to improve access to transportation-related information. Therefore, TRIS and the combined catalogs of libraries participating in MTKN were used as the basis for this study.

Methodology

The Transport CD-ROM version of TRIS was used to select 100 citations of recent reports. Citations from the ITRD portion of the database were excluded. This was done so that citations used would correspond to those found in TRIS Online. An additional 100 citations were then selected from the catalogs of the eight MTKN libraries participating in WorldCat. WorldCat is a union catalog developed cooperatively by approximately 8,500 libraries around the globe.

WorldCat provides a feature that can identify citations to information resources that are held by only one of the contributing libraries. Using this feature showed that 10,500 of the 117,000 reports held in MTKN libraries were held exclusively by one of the eight MTKN libraries. A third group of 100 citations was selected corresponding to these unique resources. This was done to get a measure of what resources are readily available exclusively from MTKN libraries.

In order to not have lags in cataloging and indexing influence the results of the study, citations to items published in 2001 and 2002 were excluded from all three groups of citations. Also excluded were all AASHTO and TRB publications, since these are widely distributed and cataloged and readily accessible to a large portion of the transportation community. For similar reasons citations to journal articles, conference papers and other "analytic" citations were excluded. This restricted the selected

citations to "monograph" books and reports. The three groups of citations were checked against each other and any duplicate citations were discarded and additional citations identified to bring each of the groups back up to 100 citations.

The 100 citations selected from the TRIS database were then used to search WorldCat and the Internet using the Google search engine. Likewise, the 200 citations from MTKN holdings were used to search the Transport CD-ROM and the Internet. These searches occasionally identified resources that were not an exact match for the citation in question. Full-text of earlier or more recent editions or summaries of the cited resource sought would sometimes be identified. There were only a handful of these in any of the three groups and they are not included in the numbers given in this paper. In the case of the Internet, citations to a resource or a summary provided by a vendor selling the resource were also not counted, since these resources might not be considered readily available for many members of the transportation community.

Results

The table below shows the results of searching for citations selected from one resource when searched for in the other or in Google in decreasing order of success.

TRIS Titles in WorldCat or Google	82
TRIS Titles in WorldCat	67
MTKN Non-Unique Titles in Transport or Google	63
MTKN Non-Unique Titles in Transport	56
MTKN Non-Unique Titles in Google	50
TRIS Titles in Google	35
MTKN Unique Titles in Transport or Google	33
MTKN Unique Titles in Google	23
MTKN Unique Titles in Transport	22

Perhaps the most surprising result is that, in spite of the common wisdom that transportation-related information resources are hard to find, 82% of citations selected from TRIS can be located using the Internet and common library services. Also surprising is that for these TRIS citations, using library services alone provides access to nearly double the number of resources as would using the Internet alone (67% vs. 35%) This result is especially surprising since items readily available through library services such as journal articles and conference proceedings were excluded from the study as were

AASHTO and TRB publications, only a limited number of which are accessible via the Internet. Had citations to these resources been included, the numbers would have even more strongly favored library services.

Digging deeper into these results shows that there were a total of 104 citations from MTKN catalogs (37 non-unique and 67 unique) that were not matched in either TRIS or Google. This gives 52% of the MTKN citations that could be identified exclusively by using WorldCat as opposed to only 18% that could be identified exclusively by using TRIS Online. Another interesting finding is that for the MTKN citations, Transport outperformed Google, matching 39% of the MTKN citations as opposed to 36.5% for Google.

Discussion

The focus of this study is, of course, access to the full-text of transportation related information resources. The results of this study show that, for the 300 citations identified in this study, only 108, or 36% are readily accessible in electronic format. Library or other document delivery services would be needed to access the remainder.

The very nature of this study required searching the Transport CD-ROM, the Internet and WorldCat for items known to exist. At least as common, and more vexing for the average member of the transportation community, is searching for information resources relating to a specific topic. Since the arrival of nearly universal access to the Internet and the availability of seemingly simple to use search engines such as Google, most people, including transportation officials and practitioners, rely on these resources to locate needed information.

Unfortunately few of these experts in their own disciplines will ever become skilled at locating either known resources or identifying relevant materials on the Internet. Evidence of this is shown by statistics of services provided in the Mn/DOT Library. In calendar year 2002, in providing answers to reference questions, librarians provided customers with the URLs of more websites (747) which they could have, in theory, found for themselves, than with photocopies of information resources (698) held in the library.

The problems met by the average professional or technical person using the Internet to find information on their own are spelled out well in the following quote:

We have all experienced the issues surrounding electronic information sources: a long list of URLs, searches that retrieve thousands of items, a lack of logical associations between related things (e.g., from a journal index to the online article) or myriad stand-alone and overlapping services.

Wendy Pradt Lougee, University Librarian and McKnight Presidential Professor of Library Science, University of Minnesota, in "Digital Library News," Spring, 2003, v.3:1,
www.lib.umn.edu/about/dln

Many Sectors of the transportation community have traditionally been innovation oriented and those sectors that haven't are increasingly being pressured to find innovative practices. There is a growing awareness, as evidenced by the support within AASHTO's Region 3 for the development of MTKN, of the role library services play in innovation and research. The importance of libraries to innovation is supported by a recent article ("Knowledge Management: Philosophy, Processes and Pitfalls," California Management Review, v44:4, Summer, 2002, p.129-150). It reported on a study of 317 private sector firms. The study attempted to understand "the relationship between networking, knowledge creation, innovation, and financial and market performance."

The authors of the article reported:

The top fifth of firms and individuals □ significantly outperform all others in terms of information and know-how generated from external and internal sources and also in terms of new knowledge created □ Firms with the largest available stocks of information and knowledge are more likely to create new knowledge predominantly through the level of comprehensiveness and creativity of their decision-making. What is interesting is that information stocks are more important to new knowledge creation than knowledge stocks. (Emphasis, mine)

Of course, the authors included libraries in their definition of "information stocks."

Conclusion

The transportation community, no doubt due to its orientation towards technological solutions, seems to be enamored with the concept of digital and virtual libraries. On that topic, a recent white paper prepared by Sun Microsystems stated:

It is clear that digital library technology is becoming an essential enabler of library services. □ [T]he term "digital library" is starting to sound as anachronistic as "horseless carriage." Just as the term "electronic banking" lost favor and was subsumed by the more generic "banking," so we will see "digital libraries" discussed less and less often as employment of these technologies becomes universal. It is certain that all libraries of the future will be characterized by technology-based information services that extend and enhance the traditional mission of libraries in our society

[Digital Library Technology Trends](#). (pdf)

For her part, Wendy Pradt Lougee, in the same source cited above, goes on to say, "The real challenge of the research library lies in creating a virtual library that is as tangible and functional as our physical libraries □ embracing collections, services, and expertise." It is toward that end that we are developing the Midwest Transportation Knowledge Network. This study shows that, in order to provide the information and corresponding knowledge creation the transportation community needs, it cannot rely on just a single resource. It requires increased investment in and attention to its library collections, to services such as TRIS, and to the expertise needed in contributing resources to WorldCat and assisting its members in identifying and accessing information. Collections, services and expertise constitute the three-legged stool MTKN is working to develop that will provide a stable foundation for access to transportation knowledge.