

# A Qualitative Study of Web-Mounted Pathfinders Created by Academic Business Libraries

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The nature of academic business pathfinders or subject guides mounted on the Internet was examined by qualitative content analysis. Specifically, the research sought to understand the concept, purposes and principles of pathfinders; the terminology representing pathfinders; the navigational pathway through the library Website to the pathfinders; and their common contents. Ten Canadian and ten American academic library Websites were sampled for pathfinders on three business topics: company, industry and marketing. Findings showed that the traditional term 'pathfinder' was

not used on these academic Websites; instead 'subject guides' or 'research guides' were the most popular synonyms. The content analysis identified that subject guides have two basic functions, which are to facilitate access and to provide a search strategy. Four principles were found for creating Web-mounted, subject guides: accessibility, consistency, selectivity, and transparency. The research also found that subject guides are important library finding tools as evidenced by the time and effort devoted to their creation, and their placement on valuable library homepage screen space.

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## Introduction

The objective of this study was to examine and describe the nature of Web-mounted pathfinders created by academic business libraries.

Despite the common introduction of new students and library employees to the creation of pathfinders, there was a lack of published information about pathfinders and their creation. The gap in the literature suggested that new information on pathfinders would be timely due to the movement of paper pathfinders into the electronic environment and the opportunities for linking to other electronic information.

This research sought to understand pathfinders through an examination of the literature and by a content analysis of Internet-mounted academic, business pathfinders.

## Research questions

This study into the nature of Web-mounted, academic business pathfinders was divided into four specific research questions:

1. Explicit and implicit purposes, concepts and principles of pathfinders?
2. Pathfinder synonyms used in academic library Websites?
3. Navigational pathway through the university Website to access the pathfinders?
4. Contents of pathfinders as self-described by the table-of-contents or section headings?

## Definition

The ALA Glossary of Library and Information Science contained an indirect definition of pathfinders –

“pathfinders, see topical guides” (Young 1983, 165). The *ALA Glossary of Library and Information Science* defined topical guides as:

bibliographic guides that arrange in search-strategy order the various types of library resources available for doing a literature search on particular topics. Synonymous with pathfinders. An example of such a guide is the Library of Congress-produced *Tracer Bullets*. (Young 1983, 229)

*Tracer Bullets* are pathfinders, which have been published by the Library of Congress since 1972 and now are being published on the Internet. Specifically, *Tracer Bullets* are finding aids to locating published information on science and technology subjects in texts, handbooks, encyclopedias, dictionaries, bibliographies, government documents, and journal articles (Conrad 1988, 49).

### *History of pathfinder precursors*

The concept of helping the public to find resources that answer their information need is very old, coinciding with the development of the reference function in a library. Although the term ‘pathfinders’ was not used historically, the general approach of selecting and recommending books for the reader was recognized and advocated by Samuel Swett Green. Green stated that people using the library for investigative purposes usually need considerable assistance to find the best books that answer their questions (1993, 84–5).

At the turn of the twentieth century, the advances in cataloging and classification, the colossal growth in collection size, the opening of the stacks for patron self-service and browsing, and the increasing literacy of the community, placed greater and greater demands on the collection, which necessitated greater levels of bibliographic control to ensure access (Kaplan 1952, 5, 6). The increasing size of the collection also resulted in increasing numbers and complexity of finding aids. Librarians developed many ways to provide greater access to their collections, such as publishing ‘finding lists’ and special reading lists on various subjects (Kaplan 1952, 7, 9). These finding lists, reading lists, or booklists seem to be forerunners of the pathfinder.

Booklists were generated by the library and provided detailed information regarding specific subjects in order to introduce a reader to a subject (Collison 1963, 36). “Selective booklists” were

helpful for drawing attention to local holdings and subjects of local interest, for highlighting popular books that were usually charged out, and for assisting the reader through the careful selection and annotations of books within the list (Collison 1963, 36–7). Collison described the contents or sections contained within the booklists, and the similarity between his booklist’s contents and a pathfinder’s again provides evidence that booklists were probably forerunners to the pathfinder.

Katz wrote a standard reference textbook and did not index or mention the term ‘pathfinder’ within any of the seven editions of this standard work. Katz (1969) noted that “midway between the formal and informal bibliography is the usual list of sources or citations kept at the reference desk”, which all libraries prepare for their patrons (2: 111). Katz also stated that a selective bibliography was only marginally considered to be a bibliography because it was not comprehensive, and was instead about the “best” works – i.e. works selected on the basis of quality (1969, 1: 41, 75, 81). These selective bibliographies were noted to be targeted to specific audiences. In the fifth edition’s chapter on bibliographic instruction, Katz included brief notes on the use of ‘printed guides’ and described these printed guides as being search strategies and providing “step-by-step instruction which is easy to understand and free of too much library jargon” (1987, 2: 179–80).

To conclude this background, it seems that reading lists, booklists or printed guides developed alongside reference services, and for many years were used in readers’ advisory activities. These reading lists, booklists or printed guides appear to be the pre-cursors to pathfinders. Although readers’ advisory is no longer a distinct department within most libraries, reading lists or booklists have continued on as a function of the reference department and as another point of service for the patrons.

### *Background on pathfinders*

The literature review was one of the methods used to explore the nature of pathfinders. This literature review is arranged chronologically in order to show how pathfinders have evolved. The evolution of that role was thought relevant to understanding modern electronic pathfinders.

Canfield's (1972) paper was the first to be indexed as 'library pathfinders' in *Library Literature*, and it was an extremely useful starting point for researching pathfinders. Canfield was a member of MIT's Model Library Project of Project Intrex, which sought a means for satisfying users' instruction and information requirements at their point-of-need (Cipolla 1980, 326). Canfield described library pathfinders in several ways: as compact "individualized reference aids", as "step-by-step instructional tools", as "printed maps to assist users during the first few hours of library work in specific subject areas", and as a "checklist of references" (1972, 287). Creation of a library pathfinder involved organizing the resources in a very structured, logical search order and according to format-oriented section headings (Canfield 1972, 288).

Canfield's recommended section headings were very similar to Collison's contents for a booklist, and were as follows: scope of pathfinder; introductory overview sources; L.C. subject headings; classic and recent texts on the topic; call numbers for browsing areas; handbooks, encyclopedias and dictionaries; bibliographies; abstracts and indexes; journals; state-of-the art reviews and conference proceedings; and technical reports abstracts and indexes (1972, 288, 292). See *Table 7* for a comparison of Canfield's section headings to those section headings identified by this research on Internet or Web-mounted academic business pathfinders.

Canfield reported that the pathfinders created by M.I.T.'s project and used for two years by the Baker Engineering Library had very "favorable" responses from users, who appreciated the "specificity of topics and the exactness of information" (1972, 288). Wilbert, who later reflected back on the MIT project, also noted that ninety percent of the users of the MIT created pathfinders found them helpful (1981, 346).

In order to draw attention to the presence of pathfinders, Canfield recounted that notices were published in other MIT publications, posters were made, and reference desk copies were available, but that the best means for increasing user awareness of pathfinders was through the card catalogue (Canfield 1972, 291). Despite the hopes of the Model Library Project's team for pathfinder development becoming another cooperative activity amongst libraries, many librarians

preferred to purchase ready-made pathfinders because they did not have the time to reciprocally develop the guides with other libraries. This led the Model Library Project to negotiate with Addison-Wesley Publishing Company for marketing and distribution of MIT-created pathfinders. From 1972 to 1975, the Addison-Wesley Publishing Company marketed approximately 400 different pathfinders to libraries, but discontinued the venture because it was commercially unsuccessful (Wilbert 1981, 346). Libraries were unwilling to purchase the commercial pathfinders because they did not match local collections well enough (Wilbert 1981, 346). Further, pathfinder creation efforts were expensive requiring about twenty hours of librarian time, and so Wilbert advocated the use of library students to create pathfinders as a means of overcoming the expense of pathfinder preparation (1981, 346).

Jackson, a business-economics reference librarian at the University of Houston, defined library guides as brochures, or printed library publications, which function as finding aids for library users (*User Education* 1984, 58). Jackson suggested organizing the guide along the typical questions that users might have, and that librarians should first identify the most common subjects and questions that users bring to the reference desk (*User Education* 1984, 60). Jackson (1984) stated that guides should convey meaning "transparently to the reader, so that the reader does not have to think about what is meant" (*User Education* 59).

Jarvis (1985, 65) noted the many variant titles for a pathfinder, including library handouts, bibliographic guides, and *L.C. Science Tracer Bullets*. Jarvis recommended that subject pathfinders should go online, and also be included in public access catalogs; otherwise they would remain underutilized. Written in 1985, some aspects of this article are no longer relevant, for instance Jarvis warned against leaving pathfinders in a ring binder beside the OPAC terminal, which is no longer a relevant concern as pathfinders have definitely moved into the electronic realm. However, Jarvis's recommendation (1985, 66) that pathfinders should have bibliographic entries within the catalog as a means of informing beginning researchers that the pathfinders exist, is highly relevant. Canfield (1972, 291) also noted the importance of the catalogue for user awareness of pathfinders.

Cox (1996) stated that the electronic library guide had the advantage of being available at the point of need around the clock. Electronic library guides also allowed the user to go to the topic or level they need, and to work at their own speed. As well, they could serve as the library's Web presence.

Cooper (1997, 52–53) discussed basic design principles for electronic guides, such as use of simple color schemes, use of white space to enhance organization and visual appeal, and a hyperlinked table-of-contents that also shows the scope of the guide. Simple color schemes, plain backgrounds, and well-organized headings and contents were thought to contribute to electronic guides basic design principles.

In conclusion, this background traced the development of pathfinders from their initial reading list role within the reference area of library to the current online versions. The evolution of pathfinders had several major evolutionary stages. The first major stage was the development of the reading lists as a means to save the user's time and to facilitate access to the collection. The next stage occurred when the literature began to note the very formal components of these lists, such as the bibliographies, indexes and abstracts, etc. At this point the reading list seems to have acquired a search strategy role. By the early 1970's, the reading lists began to be called 'pathfinders'. Pathfinders then moved from a format-oriented approach to a topic-oriented approach, and finally in the 1990's, pathfinders went online and transformed the pathfinder function of facilitating access through search strategies to also directly linking to the information.

### *Review of pathfinder literature*

Peterson and Coniglio (1987) investigated the readability of academic, library guides and found that excessive use of library and professional jargon limited the readability of the guides, and affected how well the library guides communicated (Peterson and Coniglio 1987, abstract, 235). Library publications, guides or pathfinders were also noted to be difficult to write because the information sources were sometimes quite complicated and difficult to explain clearly (Peterson and Coniglio 1987, 236).

Sowards' (1998) explored two relevant questions regarding reference Websites: Sowards asked why librarians build reference Web sites and why should the design of these library reference Websites be examined. Sowards argued that librarians provide a reference Website to supplement their physical collection with electronic resources, which efficiently find and gather together quality information from the best online sources. Further, librarians invest time and effort in creating reference Websites because they extend into the virtual realm the library's four functions of: selection of materials, endorsement of information resources, organization of quality information, and cooperation in sharing knowledge. Sowards concluded that large reference Websites could be better navigated through controlled vocabularies and strict naming conventions for authors and titles, and noted that classification and call numbers work well in the Internet environment.

Dean (1998, 80) noted that Web guides use the linking abilities of the Web. Guidelines were developed regarding the development of subject pages, such as: subject pages should be low maintenance, designed for student usage, list existing resources instead of creating content and not just list URLs, and should carefully select and support seamless access to all subject-related resources, both on campus and on the Internet (Dean 1998, 83). Dean (1998, 88) also found that faculty and student users needed a scope note to show what the guide contained and to present information about the guide's organization, structure and terminology.

Morris and Grimes (1999) conducted a survey of fifty-nine libraries, some of which were academic libraries, to discover the libraries' experience in creating and maintaining Internet-based pathfinders. The authors found that reference librarians believed these pathfinders directed their students to reliable, accurate information more quickly, which justified the time-consuming labor of creating and maintaining pathfinders. Their survey noted that there was little uniformity in the organization of the different libraries' subject guides, specifically in their size, annotations, interface and content.

O'Sullivan and Scott (2000) investigated high school students' use of electronic pathfinders as a research tool. The authors identified that unguided use of the Internet resulted in students

feeling frustrated and believing that they wasted time looking for information, which the authors identified as "navigational problems" (O'Sullivan and Scott 2000). The authors recommended that an electronic version of traditional library pathfinders would enable the students to focus their search efforts, and instruct them on effective search strategies. However, the authors found one issue with the electronic pathfinder, which was that even though it led to appropriate sites, the students still had difficulties choosing the most appropriate of the listed Websites. Furthermore, the hyperlinked environment inside the Websites was still confusing to the students as "they did not know where and how to find answers to the questions once they entered a site" (O'Sullivan and Scott 2000). The authors expressed that modeling of the pathfinder was necessary because of the complexity of the Internet environment (O'Sullivan and Scott 2000). O'Sullivan and Scott concluded that navigating the Internet is a new form of information literacy and that students should be taught navigational and critical evaluation of Web resources as basic information literacy skills.

Dahl (2001) selected forty-five Canadian academic electronic pathfinders to assess their consistency, scope, overall readability, and usability and she found that the pathfinders were inconsistent with regards to these characteristics across the different universities.

The literature has several strong themes. One theme that has been directly expressed or indirectly inferred is that pathfinders are important library publications. Another theme is that libraries are struggling with pathfinder issues of consistency and usability. A third theme is the impact of information going online and of how to produce pathfinders that are mounted on the Internet. These themes are also covered by this research.

### *Bibliographic instruction of business students*

Within the introduction to this research paper, the pathfinder function of bibliographic instruction was touched upon. Bibliographic instruction is a very important function for pathfinders, particularly given the complexity of the research process, the multitude of resources in business, and because so many students are able to electronically access the library from a distance. Conceivably,

the importance of the bibliographic instruction function of pathfinders should increase because of the rise in remote usage of the library, such as would occur with distance education students. The following two articles address specific issues regarding business information, and seem supportive of pathfinders for finding good quality business information.

Hanson (1985, 186) noted that business information is unique for its interdisciplinary nature and complexity. Business information is sourced from the sciences, social sciences, and law; and is disseminated through many resource formats, including: newspapers, directories, government documents, surveys, statistical sources, reports, etc. Hanson (1985, 189) cited and explained other studies that suggested business students would understand business research better if it were presented as a systematic search strategy.

O'Keefe described the relatively recent growth of diverse business resources, particularly for company and industry information sources. O'Keefe thought that the diversity of business sources was confusing to undergraduate business students, which meant that librarians would need strategies to help students understand and use the reference business collection. She thought that an instructional framework should start with introductory materials before working up to more complex and narrower information sources, and should have an orderly, logical progression from one information source to another (O'Keefe 1998, 72).

To summarize, business students need guidance to effectively and efficiently use diverse and complex business information resources. Research indicated that search strategies, systematic searching, and instructional frameworks would aid business students, and that pathfinders should be an appropriate tool to meet business students' bibliographic instruction needs.

### *Methodology*

Pathfinders were selected from universities with well-recognized business schools. Annual business school rankings published by *Canadian Business* (2000) and *US News* (2001) established the list of universities from which to download the pathfinders. Both Canadian and American rankings were for data drawn during the year 2000, despite the later date of 2001 for *US News*. The

top ten universities from each business school ranking list, *Canadian Business* and *US News*, were searched for pathfinders of interest on three different business topics: company, industry, and marketing. Ten universities had all 3 pathfinders of interest, while eight universities had 2 of the pathfinders of interest, and two universities had just 1 pathfinder of interest. Only one university, Manitoba, did not appear to have any of the pathfinders of interest for this research, and so it was replaced with the eleventh ranked Canadian school, the University of Windsor. The sample of forty-eight pathfinders consisted of seventeen company, nineteen industry and twelve marketing pathfinders. Please refer to Appendix A for a listing of the universities and a listing of the business pathfinders carried on the university libraries' Websites and used in this research.

In order to answer the overarching research question on the nature of Internet mounted academic business pathfinders, a qualitative content analysis methodology was chosen. Given the relative lack of information on pathfinders and especially on Web-mounted pathfinders, this research sought to explore these typical library publications. The content analyses examined common themes for the four research questions.

Question one explored the explicit purposes, concepts and principles of pathfinders as expressed within the pathfinders' introductory comments. For the purposes of this research, the "introductory paragraph" was information that was located at the beginning of the actual pathfinder, and not on the links that hyperlinked to the pathfinder. Although other introductory types of comments were observed along the navigational path linking to the pathfinders, this information was not used. The information within the introductory paragraph was categorized according to explicit themes that emerged from examining the introductory commentary.

Question two analyzed pathfinder terminology discovered along the navigational pathway and on the guides themselves, in order to sort out the synonym problem. The synonym problem had been identified in the literature review section of this paper, and during the difficult process of finding related literature. It should be highlighted that this study differentiated between 'source' links and 'destination' pathfinders. The links were thought of as a form of index directing the user

through the Website, with the pathfinder being the ultimate destination.

Question three examined the navigational pathway to the pathfinders, in order to see how accessible the pathfinders would be to their intended user group. When a new user knows about pathfinders and would like to find them on the library Website, they may have difficulty effectively searching the many variant synonyms, and instead would have to navigate through the Website to find pathfinders. The accessibility of the guides was examined by recording a variation on the breadcrumb trail to the pathfinders (see Appendix B for the Pathway to the Pathfinders).

Breadcrumb trails are unique to the Internet environment, and their use in this study was thought to be specific and informative about navigating through a hierarchically arranged system. The term "breadcrumb trails" was based on the fairytale "Hansel and Gretel", and they attempt to prevent the traveler from becoming lost (Lopuck 2001, 48-9). Breadcrumb trails are a list of links that orient the Web searcher; showing where they have been, or where they are within a Website's hierarchy. For example, the University of Alberta Library (2001) shows the following breadcrumb trail for its industry pathfinder: "Home > Subject > Business > Industry > Industry Information".

The variation on breadcrumb trails used here was due to the need to show not just where the searcher has already been, but to map the path for other searchers to repeat. This was more difficult as not all links named the destination Webpage accurately. For example, the source link is called "subject guides" and the destination page's title is "e-guides". In such a case, how do you indicate the pathway? Therefore, both the apparent title of the Webpage and the link label name to the next Webpage was included in the breadcrumb trail employed here. Thus, the pathway was generally described as follows: Library home page title : source link's name hyperlinking to the next Webpage > 2<sup>nd</sup> level Web page title : link's name > ... > Xth Web page title : company pathfinder link's name; industry pathfinder link's name ; marketing pathfinder link's name > Title(s) of Pathfinder(s). The arrowhead, ">", indicates a move from one Webpage to another. The colon, ":", separates the Web page title from the link's name. The semi-colon, ";", separates al-

Table 1. Content Analysis of Explicit Themes In Introductory Matter

Themes identified	Examples of phrases used here (Websites referenced 2001)	# of pathfinders
Sources of Information listed here	<ul style="list-style-type: none"> <li>• "The sources listed below are available in print or electronically at..." (York)</li> <li>• "The resources found in this guide have been selected librarians at the ..." (MIT)</li> <li>• "Many of the sources listed below are located in the Reference Collection ..." (Stanford)</li> <li>• "All materials listed below are in the ..." (U of Alberta)</li> </ul>	13
Research starting point	<ul style="list-style-type: none"> <li>• "This guide is a starting point for company research" (SFU)</li> <li>• "This guide is an introduction to sources used to research companies" (York)</li> </ul>	8
Scope note	<ul style="list-style-type: none"> <li>• "The guides are generally broad in scope, presenting information and information resources that cover the industry as a whole and its major segments" (Harvard)</li> <li>• "This is a selected guide to sources on Business in the ... and on the Web" (Queen's)</li> </ul>	6
Redirect to reference services	<ul style="list-style-type: none"> <li>• "Take advantage of the specialized consultation offered at the ..." (UBC)</li> <li>• "Remember to ask for point-of-use help at the Reference Desk on the ..." (SFU)</li> <li>• "If you need help, ask a reference librarian" (Duke)</li> </ul>	6
Not comprehensive	<ul style="list-style-type: none"> <li>• "It is not a comprehensive list of sources" (U of Victoria)</li> <li>• "The guides are not comprehensive..." (Harvard)</li> </ul>	5
Definitions & explanations	<ul style="list-style-type: none"> <li>• "Marketing is more than just advertising &amp; merchandising" (UBC)</li> <li>• "Industry analysis is a type of business research that..." (Duke)</li> </ul>	3
How to search the catalogue	<ul style="list-style-type: none"> <li>• "Search the library catalogue by KEYWORD or SUBJECT ..." (SFU)</li> </ul>	3
Guide's purpose	<ul style="list-style-type: none"> <li>• "The purpose of this brief guide is to direct you to the ..." (Western)</li> <li>• "...to support the academic and career research needs of the HBS community" (Harvard)</li> </ul>	2
Total number of pathfinders examined for introductory paragraphs or sentences		48

ternative pathfinder links or titles found on the same Webpage. The Webpage level was defined as the number of Webpages that the searcher would click through before reaching their destination. The Webpage level of the first pathfinder link and the actual pathfinder was thought to indicate the accessibility of the guide. Occasionally there were multiple pathways through a library Website, which enhanced access for the user, but complicated this research. For the purposes of this analysis, only the quickest route was utilized to evaluate the navigational pathway.

Finally, question four analyzed the table-of-contents' and section headings on the pathfinders, in order to discover common themes. If a pathfinder did not have a table of contents, then its section headings were gathered for analysis. Frequently the themes were difficult to identify because there was so little consistency between libraries for labeling their table-of-contents and section headings. It was found to be necessary to consider the resources listed within the sections, in order to identify the thematic category into which a particular section heading belonged. Un-

fortunately, this comparison of resources listed under different pathfinders' subject headings was also a hit and miss method, as some of the resources that were tidily gathered together under one section heading in one pathfinder would be spread amongst several section headings in another pathfinder.

### *Results*

The results of this analysis are presented in the same order as the list of four research questions set down in the "research questions" section of this paper.

#### *1. Explicit and implicit purposes, concepts and principles*

Sixty-two percent of the pathfinders had an introductory paragraph. Table 1 identified eight major themes that emerged from the content analysis of the introductory matter. These eight major themes were: 'sources of information listed here' description, the 'research starting point' statement, the

scope note', a 'redirect to reference services for help', the 'not comprehensive' caution, definitions and explanations on the pathfinder topic, catalogue search instructions, and the guide's purpose.

Some of the themes appeared to be more prevalent than other themes. The most prevalent themes contained within the introductory matter were: the sources of information listed here, research starting point statement, the redirect to the reference librarian / desk for help, and the not comprehensive caution. These themes are displayed in the table as small phrases, which illustrates that several concepts can be communicated in a very short introduction. For instance, "start your research with these recommended, selective resources located in the library or on the Internet. Please see a reference librarian, if you have questions". This example contained the most prevalent themes within a twenty-five-word introduction.

The themes about definitions, the catalogue and the guide's purpose were less prevalent than the other themes. Due to the relatively low numbers of guides that recorded these themes, this researcher interpreted these themes as probably being less useful for the guide's user. On reflection, the guide's purpose and scope should be self-evident from the pathfinder's title and table-of-contents, and therefore describing the scope in the introduction would seem redundant. Similarly, the themes regarding the use of the catalogue, and definitions and explanations, were not considered to be necessary in the introduction because they should be covered in the body of the pathfinder.

One theme that seemed of particular importance was that on the sources of information. Many pathfinders stressed that they are guides to print, electronic and Web resources. Even though there has been recognition in the library field that sources of quality information come in all formats, the fact that librarians were stressing that the pathfinders accessed these formats may be informative as to what business librarians believe their students are seeking.

Furthermore, even in the library literature the format inclusiveness of pathfinders seemed to be specially addressed. Dahl (2001), for instance, carefully differentiated between lists of electronic sources from electronic pathfinders, and only included in her research pathfinders with both print and electronic resources. Thus, electronic pathfinders seem to be treated by researchers and li-

brarians as those library publications that include electronic, Web and print sources.

Finally, the introductory paragraph appeared to be influenced by bibliographic instruction concerns. Introductions tended to be descriptive and explanatory in nature, offering information about how the guide could help the student find information.

## 2. Terminology for labeling pathfinders

A well-understood maxim among librarians is that a controlled vocabulary is important for facilitating access to a collection of information. A controlled vocabulary should also be helpful in the electronic environment and allow the user to easily navigate through a Website's contents and more quickly find the destination pathfinder. The sampled academic library Websites were examined for the prevalence of pathfinder synonyms used on hyperlinks and on the pathfinders.

There was considerable variation among library Websites in the labeling of source links and the actual destination pathfinders. Many synonyms were used by the sampled university library Websites to represent the pathfinder concept, such as: subject starting points, subject-based resource guides, resources by subject, reference guides, selected library and Internet resources, subject, quickstart guides, research guides, electronic handouts, e-guides, subject guides, etc. These various synonyms were very confusing and difficult to navigate. However, all of these synonyms centered on the concepts of resources, research, subject and guides.

Table 2 shows that ninety percent of the universities used the component term 'guide' to indicate or represent the pathfinder. The next most common component word was 'subject' at seventy percent of the sample, which was followed closely by 'research' at sixty-five percent. However, when the component words were combined, the most common was 'research guides' (forty percent) and 'subject guides' (thirty percent). The reason that the component words had much higher prevalence than the combined terms (i.e. compare 'subject' at seventy percent with 'subject guide' at thirty percent) was because the terms were found in a variety of combinations with other words, such as 'subject starting points', 'subject based resource guides', or 'research subject guides'. There-



Table 2. Pathfinder Synonyms and Component Words

Pathfinder Component Word	Number of universities using this component word, or synonym, in source links or destination pathfinders
... Guides ... (synonym coinage)	18
... subject ...	14
... research ...	13
... resource ...	7
... reference ...	2
Pathfinder Synonyms	
Research Guides (term used)	8
Subject Guides	6
Pathfinders	1
Total number of universities	20

fore, although the term ‘research guides’ or ‘subject guides’ appeared to have much lower usage than the component words, they had relatively high usage considering the variety of alternatives.

The term ‘pathfinder’ was not used to name source links by any library Websites, suggesting that ‘pathfinder’ was not considered to be meaningful to the business patron. Only one university used the term ‘pathfinder’ on the actual destination guide and in its URL. None of the library Websites used the term ‘pathfinder’ to label their hyperlinks.

A meaningful and representative pathfinder synonym was thought critical for browsing or for searching. When a user knows the correct terminology for connecting to a destination pathfinder, they may use the search feature on the Website. On the other hand, many users do not search for a known item, but may browse and follow a navigational pathway through the Website to the destination pathfinder, but only if the terminology represents the pathfinder concept in a transparent and easy to understand manner.

### *3. Academic library Websites’ navigational pathways to pathfinders*

Ease of navigation through a library Website should enhance access to the guides. The pathway through the library Websites was evaluated using a modified ‘breadcrumb trail’ as described in the methodology. Some pathways to the pathfinders were easier and more straightforward to navigate than others.

Table 3 shows that half the university library Websites mentioned pathfinders on their homepage, and virtually all mentioned pathfinders by

the third Webpage from the library’s homepage. Eight of the Canadian library homepages first mentioned pathfinders on their homepage, whereas only three American library Websites mentioned pathfinders on their homepage. One reason that a library’s homepage did not contain a pathfinder link was that the library Website was divided into branch libraries first, and then on the second Webpage level or branch library Webpage introduced the pathfinder link. Generally, the actual pathfinders were found at the fourth and fifth level of the Website. The most common Webpage levels to first mention the link to access the pathfinders was on the library homepage, and to actually arrive at the destination pathfinder was on level four. It was noted that a few library Websites could reach content on a level three Webpage, and they accomplished this through the use of pop-up or drop down lists that effectively acted as the next Webpage and reduced the number of Webpages to click through. However, the presence of the information contained in drop down or pop up lists was not readily obvious from a scan of the Webpage,

Table 3. Navigational Pathway to Pathfinders (based on Appendix B)

Number of Webpage levels from the library homepage ...	to first ‘pathfinders’ source link	To reach destination pathfinders
Level 1		0
Level 2		0
Level 3		2
Level 4		12
Level 5		4
Level 6		2
Total		20

Table 4. Company Guides and their Table-of-contents &amp; Section Headings [1]

Section Heading Themes	Samples of information resources included under this section heading	Number of company pathfinders with this theme
Introductory paragraph	refer to Table 1 for an c information found in marketing, company and industry pathfinders.	6
Addresses, Contact Information [Directories]	Canadian Key Business; Thomas Register of American Manufacturers; D & B Million Dollar Directory	12
Company Overview [2]	The Blue Book of Canada; Corporate Reports; Hoover's Handbook of American Business; Ward's Private Company Profiles	5
Analyst Reports	Financial Post Investor	8
Company Rankings	Financial Post 500; Business Rankings; Moody's Industry Review	8
Financial Information [this section is usually divided into private vs. public ownership, and / or geographically]	Annual report collection; Documents Service; Dow Jones Interactive; Investext	17
Stock Exchange Information	TSE 300 Composite Index; Stock Price Record; Datastream	7
Web Sites	CEOExpress; TheStreet	7
Newspaper and journal articles	ABI; CBCA, Canadian Business; Lexis/Nexis	9
Total	Number of University Number of Company Number of Canadian Number of American	20 17 8 9

which limited the accessibility of the information therein contained.

While all the library homepages contained a link to their catalogue, only eleven out of twenty library homepages also contained a link to their pathfinders. The pathfinder-synonym was usually located vertically lower than the catalogue link. Additionally most of the pathfinder-synonym links, although vertically placed lower than catalogue, had the same font and equality of presentation as the catalogue link. The occupation and placement of the pathfinder-synonym on the library homepage had interesting implications for the importance that academic libraries placed on their pathfinders. Perhaps their homepage presence indicated that pathfinders have risen in esteem because of their ability to connect the searcher with vetted Web documents.

#### 4. Common themes for the table-of-contents and section heading terms

The presence of a table of contents was very helpful for outlining the scope of the guide and for hyperlinking the user to the matching section.

Additionally, the use of a table of contents allowed the guide to become quite large while still permitting ease-of-navigation, as shown by Simon Fraser and Duke University's substantial, but easy to use guides. In general, an examination of the table-of-contents or section headings contained in the Canadian and American academic business pathfinders revealed that the libraries used a variety of section headings.

#### Company guides

Table 4 listed the themes that emerged from the content analysis of the seventeen company guides that were examined. These themes were: an introductory paragraph to the guide, company overview sources, analyst reports, company rankings, financial information, stock exchange information, contact information, newspaper and journal articles, and Websites.

A strong finding that arose through an examination of the subject headings used in the pathfinder was that the section headings were topic-oriented and not format-oriented. This supports Jackson's recommendation to organize the information in a

Table 5. Industry Guides and their Table-of-contents & Section Headings, logically ordered

Section Heading Themes	Samples of information resources included under this section heading	Number of Industry pathfinders with this theme
Introductory paragraph	See Table 1 for a listing	2
Industry Overview	Strategis; Financial Post North American Industry; Encyclopedia of American Industry; Standard & Poor; US Trade & Outlook; Panorama of EU; World Market Share ...	16
Standard Industrial Classification (SIC)	SIC Manual; NAICS	7
Industry Ratios	Almanac of Business and Industry; Standard & Poor's; Dun & Bradstreet Industry Norms & Ratios; RMA Annual Statement Studies...	12
Statistics	CANSIM; Business Statistics Canada Service Industry USA; Statistical Abstract of US; Fedstats; Stat Universe; Tablebase; International Yearbook of Industry Statistics	10
Associations	National Trade & Professional Association Directory Encyclopedia of Associations	8
Web Sites	Search engines; selected websites	3
Newspaper and Journal Articles	ABI; Business & Industry; Lexis/Nexis; Reuters ...	12
Finding Books in the Library	A statement on finding books in the library catalogue, and suggested subject headings for using the catalog.	3
Total	Number of University Pathfinders Number of Industry Pathfinders Number of Canadian Pathfinders Number of American Pathfinders	20 19 9 10

way the user would look for it, rather than format oriented approach. For instance, the headings of analyst reports or company rankings should make perfect sense to a business student, but they are not library-lingo and do not present the information sources in terms that a librarian would understand, such as 'bibliographies' and 'indexes and abstracts'.

All of the company pathfinders contained financial information resources. This very strong, 100% finding for financial information indicated how important this one theme was for the company pathfinders. No other theme in any of the pathfinders studied here was so ubiquitously present. Another major theme was the directory or contact information. Finding company addresses and contact information was a primary theme and was often addressed first before then presenting financial information resources. Both the directories and the financial information had a geographic perspective.

A secondary and surprising finding was that no company pathfinder within this sample included a reference or a link to the library cata-

logue. Upon reflection, this made sense because most company information is not published in monographs (except for reference texts, such as those already listed in the pathfinders) and most company researchers would probably desire more current information than a book could provide.

#### *Industry guides*

A content analysis of the industry guides' section headings revealed again that the guides are usually organized by terminology that reflects the topic and that a business patron would understand. The basic section heading themes found within the industry guide were: an introductory paragraph, industry overview, standard industrial classification resources, industry ratios, statistics, associations, Websites, newspaper and journal articles, and finding books in the library.

One question that arose during the analysis was the difference between industry ratios, and statistics. Both are numeric types of information. Within the industry pathfinders, statistics tended to be treated as those information products pro-

Table 6. Marketing Guides and their Table-of-contents/ Section Headings, logically ordered

Section Heading Term	Samples of information resources included under this section heading	Number of marketing pathfinders with this theme
Introductory paragraph	See Table 1	7
Market Overview	Manufacturing USA; S Reporter; Global Access; Encyclopedia of Global Industries; etc [very diverse sources]	5
Consumer Information	Statistical Profile of Ca Lifestyle Market Analyst; Statistical Universe; Statistical Portrait of the US; etc	8
Market Research	Investext; AC Nielson Marketing Research & Management Consultants; Findex; FP Canadian Markets	5
Market Share	Market Share Reporter their Companies; Manufacturers and their Products	5
Media & Advertising	Broadcasting & Cable Advertising rates and Data (CARD); Gale Directory of Publications and Broadcast Media; Mediamark Research Reports; Ad \$ Summary	4
Associations	Canadian Marketing A Association; Encyclopedia of Assoc.	3
Web Sites	Yahoo marketing; Dem Marketing research, Tilburg University	6
Journal and Newspaper Articles	ABI; CBCA; Business & PsychINFO; etc	8
Finding Books in the Library	A statement on finding library catalogue, and suggested subject headings for using the catalog.	2
Total	Number of University Number of Marketing Number of Canadian Number of American	20 12 5 7

duced by governmental organizations. Whereas industry ratios (i.e. price/earnings ratios) contained resources produced by private companies, such as *Dun and Bradstreet* or the *Financial Post*.

The industry guide broke down the information resources according to a step-wise and logical pattern. First the student needed overview information to understand the industry, next they needed to reference a standard industrial classification scheme, and then to refer to government information that utilized the SIC code. The student could also refer to commercial products that offered finer comparative detail on industries, and signed analyst reports.

The industry guides' section headings differed from the company guides in that the industry guides included a link to the catalogue. Another difference between company and industry guides is that company guides unilaterally cited 'financial information', whereas industry guides had 'industry overviews' as the most prevalent theme.

### *Marketing guides*

Again, the content analysis of the section headings within the marketing guides revealed that the guides were usually organized by terminology that reflected the topic. The basic section heading themes found within the marketing guides were: an introductory paragraph, market overview, market research, market share, media and advertising, associations, Websites, newspaper and journal articles, and finding books in the library.

Consumer information was the most prevalent theme. Marketing resources also included the same resources listed in the industry guides, which indicated that marketing and industry are closely related. However, marketing pathfinders approached the information from a consumer perspective.

It was evident within the marketing pathfinders that the 'Websites' theme seemed to be a catchall for category misfits. Some pathfinders grouped associations and Websites together, other pathfind-

Table 7. Comparison of Section Headings Used in Traditional Pathfinders' Versus Current Electronic Subject Guides'

Historical Model	Current Electronic Subject Guides		
Model for the traditional, format-oriented pathfinder (Canfield 1972, 288)	Company Pathfinders (See Table 4)	Industry Pathfinders (See Table 5)	Marketing Pathfinders (See Table 6)
A descriptive pathfinder title	A descriptive pathfinder title	A descriptive pathfinder title	A descriptive pathfinder title
A scope note	Introductory paragraph	Introductory paragraph	Introductory paragraph
Introductory classic or recent texts	Company Overview	Industry Overview	Market Overview
Books on the topic, and L.C. subject headings to find these books	Analyst Reports	Standard Industrial Classification	Consumer Information
Handbooks, encyclopedias and dictionaries	Company Rankings	Industry Ratios	Market Research
Bibliographies	Financial Information	Statistics	Market Share
–	Stock Exchange Information	–	Media and Advertising
Abstracts and indexes	Addresses, Contact Information	Associations	Associations
State-of-the-art reviews and Conference Proceedings	Websites	Websites	Websites
Journals of interest	Newspaper and journal articles	Newspaper and journal articles	Newspaper and journal articles
Technical reports abstracts and indexes	–	Finding books in the library	Finding books in the library
Ending statement requesting comments and crediting the library pathfinder's creator.	Ending statement requesting comments and crediting the library pathfinder's creator.	Ending statement requesting comments and crediting the library pathfinder's creator.	Ending statement requesting comments and crediting the library pathfinder's creator.

ers grouped together online databases, government information and Websites. The 'Websites' examples recorded above reflected those that were not associations or government information, as these categories were covered under other themes.

*Comparison of section headings in traditional pathfinder vs. Current electronic guides*

Table 7 compared the common themes found by this research with Canfield's (1972) format-oriented section headings.

The dashes within the above table are meant to indicate that the guide does not have an equivalent heading.

This table showed the differences and similarities between Canfield's (1972) format-oriented approach to organizing a pathfinder and the organization discovered through the current research. Some of the section headings between the different guides were quite similar, such as 'journals of interest' and 'databases', and were placed in the same row for comparative purposes.

Other similar section headings were not horizontally placed, such as the catalogue, which was

very early mentioned in the traditional pathfinder, but occupied a much lower position within the modern electronic guides. This illustrated that despite the centrality of the catalogue to librarians, the business client with a need for extremely current information would find the catalogue with its relatively older material to be less useful. Reference librarians have instead listed useful reference books in the pathfinder, and moved the catalogue to a lower position within the industry and marketing guides.

Traditional format organization of pathfinders was superseded by organizing modern, electronic guides according to the topical subsets of information. Another major difference between the traditional and modern pathfinder was the inclusion of 'Websites' as a category or section heading, which highlighted the linking ability of the electronic pathfinder. However, the Websites that were listed within the various guides were not consistently grouped into this 'Websites' theme, as many pathfinders grouped them under other categories, such as, associations, governmental statistics and non-governmental organizations. Incorrect categorization within a pathfinder resulted in the 'Websites' category becoming a

catchall for differently labeled themes. Finally the traditional, format-oriented organization used library jargon to describe the contents of the pathfinder, which has been replaced with more business-oriented language in modern electronic pathfinders.

Generally, the section headings that were topically related were very specific to the pathfinder topic, and therefore were inconsistent between the company, industry and marketing guides. This inconsistency was not considered to be a problem because each topic would necessarily contain different section headings to answer those typical research questions associated with the topic. This specificity is consistent with the movement of pathfinders towards the presentation of information sources in the way that a user would look for the information (Jackson 1984, 469).

### *Discussion*

The findings of the four research questions are discussed further in this section, and are presented in the same order as the research questions section of this paper. This order also progresses from the more general and higher level findings to the more specific and business-level findings.

#### *Concepts, purposes and principles*

The natural growth and evolution of pathfinders from booklists into search strategies and electronic pointers to Web resources has occurred through minimal standardization or other formal influences upon the pathfinder area of reference. However, it may be useful to examine some of the common understandings on the nature of pathfinders as expressed by authors in the background and literature review portions of this paper, combined with the findings from this research.

The concept of pathfinders was defined in 1983 by the ALA. The 1983 definition of pathfinders was a very useful starting point for this research, but it should be updated to reflect some of the information raised in the literature and found in this research. For example, an updated version could be:

Pathfinders arrange information resources in a search strategy order, in order to introduce a researcher to an unfamiliar topic and to facilitate access to information.

Pathfinders are bibliographic guides that list selective resources of any format, provide location information (i.e. call numbers and library locations), and annotate these resources to differentiate them for the user. Synonymous with subject guides.

Two major functions for pathfinders were facilitating access, and providing a search strategy. Pathfinder purposes, or the reason for creating and using pathfinders, were gleaned as follows: to connect to quality resources regardless of the format; to save the time of the beginning researcher; to offer an alternative to the reference desk; and to instruct library students, library staff and users about resources and search strategies.

Generally accepted principles or rules for pathfinder creation were thought to be: transparency, consistency, selectivity, and accessibility. Transparency meant that the pathfinder should communicate meaning effortlessly to the reader and should not include library jargon (Jackson 1984; Coniglio and Peterson 1987). Consistency was important for achieving a recognizable presentation, organization and terminology between pathfinders. Selectivity involved choosing resources based on quality. Finally, accessibility of pathfinders within the online domain was a necessary requirement for Web-mounted pathfinders, as pathfinders must first be located before they can be used.

There were many advantages to creating and mounting pathfinders on the Web, including: using the linking abilities of the Web; cooperatively sharing pathfinders between libraries; ensuring 24/7 availability; assisting remote or distant users; saving print costs of paper versions; and updating pathfinder content easily.

An implicit understanding of pathfinders was gained by speculating that pathfinders act as another finding layer on top of the subject catalogue. To explain this idea, an analogy to computer software was drawn. Computer software has been built layer upon layer in order to improve functionality and user-friendliness. Each progressive layer of software served the user by providing a more intuitive and transparent user interface. Similarly, cataloguing language can be very complex and librarian oriented, and the catalog itself sometimes requires a more user-friendly interface, in order to be used effectively. Subject guides could be considered a more, user-friendly interface to the collection.

*Accessibility of Web-mounted pathfinders:  
pathway to the pathfinders*

The hyperlinked library Websites introduced new considerations for pathfinders. Traditionally, print pathfinders were easily displayed in racks or available at the reference desk. However, now electronic pathfinders were difficult to find online. Hyperlinking offered opportunities to jump quickly to the guide, but the hypertext environment also made it easy to inadvertently bypass the guides.

The principle of access was important in studying the pathway to the subject guides. The pathway to the subject guides had three basic methods of ensuring ease of access: one, the pathway should be short; two, the labeling of the each destination Web page's title and each source link within the Web page should be transparent and consistent; and three, the final subject guide should be totally contained within the destination Webpage. A single Webpage container was desired because it was easier to download and read as a print copy, than to read on-screen. When a subject guide was spread between several Web pages at several different levels, the user was forced to read each Web page on-screen to ensure that another Webpage did not need to be downloaded. In other words, by presenting a subject guide over several Webpages, it increased the risk of missing some link and not downloading all the information. This researcher much preferred to download a single subject guide from one Web page and know with confidence that all related and relevant information regarding this subject was captured.

*Pathfinder synonyms*

The terminology indicating a pathfinder and the terminology used within a pathfinder was inconsistent, uncontrolled, and interfered with pathfinders' intended purpose of facilitating access. The lack of consistency for pathfinder synonyms did not support searching and browsing functions for the users. This imposed an unnecessary burden on the user to dig for information. In order to prevent confusion and frustration, it was important that pathfinders have a recognizable name and presentation to the user. Furthermore, the use of consistent terminology for labeling

pathfinders was thought to be extremely important in a digital environment, because users may be distant and less able to contact a reference librarian to ask for help.

The term 'pathfinder' did not get used much by practicing librarians, suggesting that this term was not considered relevant or meaningful to academic business patrons. The use of 'pathfinder' also violated the principle of transparently communicating what is meant by the term. The term 'pathfinders' was used most frequently as a L.C. subject heading in library databases and indexes, which meant that 'pathfinder' could be considered another piece of library jargon. Again the literature indicated that library jargon should be avoided because it interferes with transparent communication and readability (Peterson and Coniglio 1987).

However, given that 'pathfinders' have meaning within the library community but not within the user community, then either: how do you raise its recognition within the user community, or how do you replace 'pathfinders' with another synonym that seems to encapsulate the 'aboutness' of pathfinders and would be recognized by both librarians and the user community? The assumption here is that one term enhances communication between all stakeholders better than one term for librarians and one term for users.

The most common pathfinder synonyms were 'subject guides' and 'research guides'. This researcher preferred the term 'subject guides' over the term 'research guides' for several reasons. Subject guides are about 'subjects', and this synonym seemed to best describe what a pathfinder would contain. It should be noted that librarians are also accustomed to organizing information according to L.C. subject headings, or other topical organization schemes, and would understand subject-oriented organization better. Another point in favor of subject guides, was that the table-of-contents and section headings were also organized by topic or sub-topic, and as such, keeping the terminology consistently focused on subject makes good sense. Thus, the use of 'subject guides' to replace the term pathfinders would be consistent with the internal structure of the pathfinder, librarian training and existing organizational schemes.

To summarize, although 'pathfinders' have achieved some consensus of understanding

among librarians, they are not meaningful to patrons. Therefore, 'pathfinders' should either become a term of choice for all guides, their source links, and be taught during bibliographic instruction sessions; or 'pathfinders' should be dropped as a term and replaced with another more transparent term, such as 'subject guides'.

### *Common themes in the table-of-contents and section headings*

An examination of the table-of-contents terms against Canfield's recommended format revealed that present day pathfinders are framed by how the user would typically search for information, which followed Jackson's (1984) recommendation. The format of the resources contained within the subject guides was irrelevant and what's pertinent was clearly answering the user's question from the user's perspective. This implied that pathfinders should be user friendly.

Business guides presented very strong search strategy organization of resource categories, and they offered time-saving direction to business students by selecting and arranging the complex maze of business information resources the students must reference as part of their coursework. In fact, business pathfinders were noted as more numerous than many other disciplines' pathfinders, disclosing their importance for business research. For instance, the University of Alberta's online business subject area contained approximately sixty different guides. Additionally, business guides have embraced the resources available on the World Wide Web, and amply demonstrated that information resources come in all formats.

### *Conclusions*

Pathfinders or subject guides have been a fascinating study in the evolving nature of librarianship and reference work. Subject guides have a long history within the library environment, but have not received much attention despite the considerable time and effort that goes into their creation. Pathfinders support access to the collection but from a reference point of view, and their creation and use should receive more research attention. Creation and Web-mounting standards would enhance these ubiquitous guides, and would com-

municate to all stakeholders that pathfinders are legitimate library tools.

Suggestions for future research on pathfinders could examine their usability and bibliographic instruction role. Usability studies would help to understand why these guides may be underutilized, and whether their users are satisfied? Bibliographic instruction (BI) research could examine: how librarians can best introduce or model these guides for students during BI sessions; and whether these guides help to build information literacy skills in the student user group?

It is hoped that this research contributes to the body of knowledge regarding pathfinders and bibliographic instruction in the digital environment.

### *Acknowledgment*

Thank you to Dr. Alvin Schrader, my professor in the advanced research course in which I explored pathfinders, and who provided a great deal of time, encouragement, and guidance. Also, thank you to Dr. Lisa Given, my advisor, who gave advice and suggestions for the research proposal and the final edit.

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## Appendix A: Pathfinders Sampled for Research and their Universities

University	Library's URL	Company Pathfinder	Industry Pathfinder	Marketing Pathfinder
Top Canadian Business Schools' Universities per <i>Canadian Business</i> (2000)				
Queen's University	<a href="http://library.queensu.ca/">http://library.queensu.ca/</a>	x		
York University	<a href="http://www.library.yorku.ca/">http://www.library.yorku.ca/</a>	x	x	
University of British Columbia	<a href="http://www.library.ubc.ca/">http://www.library.ubc.ca/</a>	x	x	x
University of Western Ontario	<a href="http://www.lib.uwo.ca/">http://www.lib.uwo.ca/</a>	x	x	x
Simon Fraser University	<a href="http://www.lib.sfu.ca/">http://www.lib.sfu.ca/</a>	x	x	x
University of Victoria	<a href="http://gateway.uvic.ca/">http://gateway.uvic.ca/</a>	x	x	
Wilfrid Laurier University	<a href="http://www.wlu.ca/academic/library.shtml">http://www.wlu.ca/academic/library.shtml</a>	x	x	
University of Alberta	<a href="http://www.library.ualberta.ca/">http://www.library.ualberta.ca/</a>	x	x	x
Dalhousie University	<a href="http://www.library.dal.ca/">http://www.library.dal.ca/</a>		x	x
University of Windsor	<a href="http://cronus.uwindsor.ca/leddy/">http://cronus.uwindsor.ca/leddy/</a>	x	x	
Top American Business Schools' Universities per <i>U.S. News</i> (2001)				
Stanford University	<a href="http://www.stanford.edu/home/libraries/index.html">http://www.stanford.edu/home/libraries/index.html</a>	x	x	
Harvard University	<a href="http://lib.harvard.edu/">http://lib.harvard.edu/</a>	x	x	
Northwestern University (Kellogg)	<a href="http://www.library.northwestern.edu/">http://www.library.northwestern.edu/</a>	x	x	x
University of Pennsylvania (Wharton)	<a href="http://library.upenn.edu/">http://library.upenn.edu/</a>		x	x
Massachusetts Institute of Technology (Sloan)	<a href="http://libraries.mit.edu/">http://libraries.mit.edu/</a>	x	x	x
Columbia University	<a href="http://www.columbia.edu/cu/lWeb/">http://www.columbia.edu/cu/lWeb/</a>	x	x	x
University of California – Berkeley (Haas)	<a href="http://www.berkeley.edu/libraries/">http://www.berkeley.edu/libraries/</a>	x	x	x
Duke University (Fuqua)	<a href="http://www.lib.duke.edu/">http://www.lib.duke.edu/</a>	x	x	x
University of Chicago	<a href="http://www.lib.uchicago.edu/e/index.html">http://www.lib.uchicago.edu/e/index.html</a>	x	x	x
University of Michigan – Ann Arbor	<a href="http://www.umich.edu/UM-Libraries.html">http://www.umich.edu/UM-Libraries.html</a>		x	
Total	20 universities' libraries' Websites	17	19	12
Total number of pathfinders is 48				

## Appendix B: Pathway to the Pathfinders

### Canadian Pathfinders

Queen's University Libraries : Subject Starting Points > Subject Starting Points: Business> Business : Canadian Company Information > Canadian Company Information [ti] (Queen's)

York University Libraries : Research & Instruction> Research & Instruction: I'm unfamiliar with the topic I'm researching. Where can I find subject research guides? > Subject based resource guides for the York University Libraries : Business and Economics [internal Webpage links] ; Researching information on companies ; Researching information on industries > Pathfinder for resources in ... Company Research [ti]; Pathfinder for resources in ... Industry Research [ti] (York)

UBC Library : Branch Libraries > Branches and Divisions : Lam Library (Commerce) > David Lam Management Research Library : Subject Guides > Subject Guides : Company Research ; Industry Research ; Marketing > Subject Resources for Researching Company Information [ti] ; Subject Resources for Researching Industry Information [ti] ; Subject Resources for Marketing [ti]. (UBC)

Western Libraries : Find Research Resources : pop up list to "Resources by Subject" > Resources by Subject ... > Resources by Subject ... : Marketing >Marketing [ti]

Western Libraries: Visit Western Libraries : pop up list includes "Business Library" > Western Libraries Business : Reference Guides : [pop up] "Company information", "Bibliographies" > Company Information [ti]; Bibliography : Industry Information > Industry Information [ti]

Simon Fraser University Library : Subject guides to library research > Library research help : Business Administration > Business Administration : Resources at SFU and beyond : Topic Format : Company Information ; Industry Surveys ; Marketing Research > Company Information [ti]; Industry Surveys [ti] ; Marketing Research [ti] (SFU)

UVic Library Gateway: Library Units > Library Units : Electronic Business Library >Electronic Business Library : Research Guides > Electronic Business Library : Locating Company Information? Canada > Electronic Business Library : Locating Company Information [ti]; Electronic Business Library : Looking for Industry Information? [ti] Standard Classifications, Associations (Uvic)

Laurier Library : Resources by Subject > Resources by Subject: Selected Library and Internet Resources : Business > Business: Selected Library and Internet Resources : Company Information; Industry Information > Company Information [ti]; Industry Information [ti] (WLU)

Breadcrumb trail copied from the "Industry Information" subject guide:

"Library Home Page > Resources by Subject > Business > Industry Information > Canada"

University of Alberta Libraries: What are you researching?: "Business" > Subject: Companies & People; Industry; Marketing, Advertising & Retail> Companies & People; Industry ; Marketing, Advertising & Retail : Quickstart Guides: Canadian Companies; U.S. Industry Information; Marketing > Canadian Companies [ti]; U.S. Industry Information [ti]; Marketing [ti]; (UA)

Breadcrumb trail copied from the U.S. Industry Information subject guide:

"Home > Subject > Business > Industry > Industry Information"

Dal Libraries : Subject Guides & Web Resources > Subject guides & Web Resources: drop down "Choose a Subject" list: Business > Business : Course Assignment Guides : Industry Analysis and Competitive Intelligence Gathering ; Marketing Intelligence > MBA 6004 - Industry Analysis & Competitive Intelligence Gathering [ti] ; Market Research [ti] (Dalhousie)

University of Windsor: Leddy Library: Research Guides > Research Guides: Business Information > Research Guides: Business Information [ti]:

Note that this single pathfinder contains all the business information sources and both company and industry are used as section headings within this pathfinder. (Windsor)

### *United States Pathfinders*

Stanford University Libraries : Libraries / Units > Stanford Libraries, Units and Programs : Business Library (Jackson) > Jackson Library : Research Guides > Research Guides : Key Sources for Company Information; Key Sources for Industry Information > Key Sources for Company Information [ti]; Key Sources for Industry Information [ti] (Stanford)

Harvard University Libraries & Museums : Harvard University Libraries > Hollis libraries : By Faculty (School) > Hollis libraries : Business School : Baker Library > Hollis Libraries Baker Library : <http://www.library.hbs.edu/> > Baker Library : Company & Industry Information : Company Research ; Industry information > Company Profiles [ti] [a linking Webpage]; Industry Profiles & Analysis : Bakery Library Industry Guides > About the Baker Library Industry Guides [ti] [breaks down into industry segment guides] > Publishing & Printing [ti]

Breadcrumb trail copied from the "Industry Profiles & Analysis" subject guide:

Baker Library Home > Company & Industry Information > Industry Information  
Industry Profiles & Analysis ; Industry Statistics ; Industry Directories ; Industry Associations ; Finding Industry News

Northwestern University Library : Electronic Reference Tools > Electronic Reference Tools : Electronic Handouts > Electronic Handouts : Locating Information on United States Companies ; Locating Information on United States Industries ; Locating Information on Marketing > Locating U.S. Company Information [ti]; Locating Information on U.S. Industries [ti]; Locating U.S. Marketing Information [pdf] [ti] (NorthWestern University)

University of Pennsylvania Library : Penn's 15 libraries > Penn's 15 libraries : Lippincott Library > Lippincott Library @ Wharton : Research Guides > Lippincott – Resource Guides and Database Search Aids : Lippincott Research Guides > Lippincott Research Guides : RG-9 Industry Studies; RG-2 Advertising & Marketing Industries and Marketing Intelligence > Industry Studies: United States [ti]; Advertising and Marketing Industries [ti]; (U Penn)

MIT Libraries: Subject + Courses > Subjects + Courses: Business & Management > Business & Management : Company Information: US; Industry Information; Marketing Research>Consumer Information & Demographics > Company Information: U.S. [ti]; Industry Information [ti]; Marketing [ti] (MIT)

LibraryWeb : Subject Guides > E-Guides : Business and Economics > Research Guides : Marketing and Advertising; U.S. Company Information; U.S. Industry Information > U.S. Company Information [ti] ; Sources of Industry Information [ti]; Marketing and Advertising Resources [ti]

University of California Library Berkeley: drop down list of "Libraries and Collections" : Business & Economics Library > Thomas J. Long Business & Economics Library : drop down list "Research Guides" : Marketing data; Research a company; Research an industry > No. 4: Sources of information about U.S. companies [ti]; No. 10: Marketing Research [ti]; No. 8: Industry Information (U of California)

Duke University Libraries: [left hand column has list of links] Research subject guides > Research Subject Guides: Business Guides > Business Resources : Demographics & Market Research; Industry Analysis; Company Research > Demographics & Market Research: Commercial Sources [ti]; Introduction to Company Research [ti]; Resources for Industry Analysis [ti] (Duke U)

The University of Chicago Library : reference > [No title] : Business & Economics Resource Center > Business & Economics Reference Services : subject guides > Business & Economics Subject Guides : Company Information, Industry Information (general), Marketing & Demographics > Business & Economics Subject Guides ; Company Information [ti]; Business & Economics Subject Guides ; Industry Information [ti]; Business & Economic Subject Guides ; Marketing and Demographic Information [ti] (U of Chicago)

University of Michigan Libraries: Kresge Business Administration Library > Kresge Business Administration Library: Research Guides > Research Guides: Library Resources for Industry Research > Library Resources for Industry Research [ti] (U of Michigan)

Reading skills for postgraduate study. Finding appropriate academic material, current page. Comparing academic sources. Reading efficiently. Critical reading. You can use the OU's online library to source material; it has links to journals, articles, e-books and more. Listen to OU Information Literacy Manager Jo's advice on the services on offer at the OU library, and searching for the information you might need for an assignment. Sign in to listen the audio content available to OU students. Searching online. Wikipedia is not a reliable source of academic information, primarily because there are no checks on the academic credibility of the material that is posted there. However, Wikipedia can be a useful source of further references. Evaluating academic material. Value of Academic Libraries: A Comprehensive Research Review and Report. Researched by Megan Oakleaf. Chicago: Association of College and Research Libraries, 2010. Urgency around this issue, ACRL created the Value of Academic Libraries Initiative to help academic librarians participate in the conversation and to identify resources to support them in demonstrating the value of academic libraries in clear, measurable ways. ACRL has long been interested in accountability and assessment. Qualitative research involves collecting and analyzing non-numerical data to understand concepts, opinions or experiences. Qualitative research is commonly used in the humanities and social sciences, in subjects such as anthropology, sociology, education, health sciences, history, etc. Qualitative research question examples. How does social media shape body image in teenagers? How do children and adults interpret healthy eating in the UK? What factors influence employee retention in a large organization? How is anxiety experienced around the world?