Most of you did very well on your responses to this week’s module. Some issues occurred as to whether you performed the searches limiting to title or keyword. I was happy to see that even with differences, you were able to explore the databases.

A couple of you found an article in Web of Science with a publication date of February 2019. This is an example of the timeline of journal publishing. The articles have been accepted to be published in the journal. They are then assigned to be published in a specific issue. Once they know the articles that will be published they can provide the databases with the table of contents for the future issues. Thus, you know what will be in the Feb 2019 issue even though the article is not available to read yet.

I trust that you will review the answers below to assess how well you learned what was presented in Module 3 and will use your self-assessment to strengthen your research skills.

Do ask questions if you don’t understand the answers! Understanding where mistakes were made and why you made them is key to becoming an efficient and effective researcher. PLEASE READ the “NOTES” and “SPECIAL NOTES” when you review the assignment answers. They typically add information that was not covered in the Module itself.

Research Communication

3. Answer these questions.

a. Name 3 information products that come out of formal communication.

> conference paper (or conference presentation), dissertation (or thesis or technical report), journal article

b. What is the relationship between a gap in knowledge and a research proposal?

> Proposal provides plan for answering the questions that arise from a gap in knowledge.
c. Why is abstracting and indexing useful to a researcher?

> If one had to scan individual issues of journals to find articles or individual conference proceedings to find papers, research in the literature would take a very long time. Indexing and abstracting services provide citations and abstracts for articles from many different journals (and other types of sources) in a single searchable database.

Selecting Research Databases

5. Find the patent for a device called the "amulet" whose inventor is David Kotz. Answer these questions:

Searched Google Patents for: david kotz amulet

a. What is this patent application's publication number? Provide both the US publication number and the WO (short for WIPO) publication number.

> WO2013096954 A1
> US20140300490 A1

b. What is the device?

> "Wearable computing device for secure control of physiological sensors and medical devices, with secure storage of medical records, and bioimpedance biometric"

Conference Proceedings

6. Using the Library Catalog, answer the questions below.

a. Search for the following conference proceedings.


b. Click the "Online Access Online." Where did you end up (that is, which of the Library's research databases has the proceedings)?

> IEEE Xplore

c. Now that you've arrived at the proceedings web page, use the filters on the left side to find the specific article within the proceedings. Is the full text of the article available to you without payment?
Yes, you can access the full text of the conference paper.

Get Books and E-Books

4. Use the Library Catalog to answer these questions. What is the title of the most recent ebook that provides information on the topic: smart card security?

   a. What is the title of the most recent ebook that provides information on the topic: credit card security?

> Analyzing the economics of financial market infrastructures

   b. What year was it published?

>2016

   c. What is the permalink for the book? (You will need to click on the title to get the full record. Look at the Send it section for the permalink. This is the URL to use in order to get back to the book rather than the one in the address bar.)


   Note in the Send it section there are links to add the book to both EndNote Online and Desktop.

Research Database Differences

4. Search in ABI/INFORM, ACM Digital Library, IEEE Xplore, and Web of Science for scholarly publications in which "behavioral biometrics" appears in the title of each journal or proceedings article. Answer the questions below.

   • Do use the quote marks in your search for "behavioral biometrics."

   a. Scan the results of your searches in each database, compare the results, and briefly describe any differences you notice. In your brief comparison, consider:

      • How many items did you retrieve in each database?
      • How much overlap did you find in the results when comparing the databases to each other?
      • What differences did you find, if any, in the types of material (journal articles, conference papers, etc.) found in each database?
ANSWERS are based on searches performed on 9/19/2018. If you obtained different result numbers from mine (below), did you remember to search only in the document titles for “behavioral biometrics”? 

>ABI/INFORM Complete retrieved 4 items that were scholarly. The search for “behavioral biometrics” in document titles initially retrieved 50 results, but this included scholarly articles, trade articles, and wire feeds. Limiting to only scholarly articles retrieved 4 items. These 4 articles were all found with searches of the other databases so you could say that ABI/INFORM Complete added nothing new to the total search results.

>ACM Digital Library retrieved 13 articles, all of which were in conference proceedings, and there was no overlap with the other databases.

>IEEE Xplore retrieved 29 items that included scholarly journal articles, book chapters, and conference proceedings. Articles found in IEEE Xplore were also found in ABI/INFORM Complete and in Web of Science.

>Web of Science retrieved 44 scholarly articles and conference proceedings, including all 4 items found in ABI/INFORM Complete. Articles retrieved by Web of Science was also found in IEEE Xplore. For this particular search, Web of Science was sufficient to eliminate the value of searching ABI/INFORM Complete (although that may not be true for other research topics).

>Summary. All of the databases except ABI/INFORM Complete provided unique items with minimal overlap in results. Do be aware that for another research topic or set of search terms, ABI/INFORM might also provide some unique items. Don’t throw away ABI/INFORM as useless based on this one search.

b. In each research database, what is the title of the most recent item found from the "behavioral biometrics" search?

ANSWER:

>ABI/INFORM Complete:  July 2014
Use Advanced Search, where you can select to search in only the “document title” field. Limit results found to scholarly only. Sort results by “publication date (most recent first).” Most recent scholarly item found is:
Online risk-based authentication using behavioral biometrics.
Traore, Issa; Woungang, Isaac; Obaidat, Mohammad S; Nakkabi, Youssef; Lai, Iris. Multimedia Tools and Applications71.2 (Jul 2014): 575-605.

>ACM Digital Library: May 2018
Use Advanced Search. Switch the “where” to “title” search and make sure that the “matches all” option is selected; then enter "behavioral biometrics" in the search box. After getting results, sort results by “publication date.” Most recent scholarly item found is:
IEEE XPlore: 2018
Use Advanced Search. Change “metadata only” to “document title” and enter "behavioral biometrics" in the box to the left of it. Sort results to “newest first.” Most recent scholarly item found is:

>Web of Science:  Feb 2018
Change “topic” field to “title” field search and enter “behavioral biometrics” to the searchbox on the left. Most recent article found is:
fusion of eye movement and mouse dynamics for reliable behavioral biometrics
By: Kasprowski, Pawel; Harezlak, Katarzyna
Pattern Analysis and Applications Volume 21 Issue 1 Page 91 – 103. Published: Feb 2018

Look at the publication dates of each of the items found in answer to b. Did any of the databases standout as being particularly up-to-date (if so, which ones) or were they all fairly similar in the currency of results?

> IEEE, ACM, and Web of Science had the most recent publications. ABI was 2014.

Note: However, if you were actually collecting information on this topic, you would be unlikely to limit your search to titles. Without that limit, you would retrieve additional items which could potentially include newer material than what you found in this search.

Transforming a research topic

2. ... Let's say that I'm interested in exploring the topic of biometrics for security purposes. I don't have a specific focus yet, so I'm curious about what is going on in that broad research area. I want to make sure I retrieve items with the words biometric, biometrics, biometrical security, secure.

a. How would you enter the search in a research database?

> biometric* secur*

Note: Find the letters in common, delete the endings not held in common, and add the asterisk:
biometric, biometrics, biometrical = biometric*
security, secure = secur*

3. You should also keep in mind potential spelling alternatives. Take, for example, the difference between the American English spelling of the word "behavioral" and the British English spelling "behavioural." Some research databases may handle these differences for you. If not, you will want to do searches for the alternative spellings in order to maximize results. Do the searches described below and answer the questions. You will be comparing search results in two different databases.

a. Go to the research database ACM Digital Library. You can find ACM Digital Library in the Research dropdown menu on the Library's homepage. You will find the search box for ACM in the upper right corner of ACM Digital Library.
1) How many items do you find if you enter this search: behavioral biometrics

> 36,704 (9/19/2018 search)

2) How many items do you find if enter this search: behavioural biometrics

> 6,694 (9/19/2018 search)

3) Was there overlap in the results

> While there may be a couple of duplicates, there was not much overlap in the results.

Special NOTE 1: The result sets for ACM Digital Library in 3.a.1) and 3.a.2) are large because ACM Digital Library is connecting the words with the OR Boolean operator rather than the AND operator. So in 3.a.1), it is searching for behavioral OR biometrics, and is retrieving items that use either the word behavioral OR the word biometrics. If you use the Advanced search option in ACM Digital Library, you can switch from “match any” which is OR logic to “match all” which will AND the two words so that both behavioral AND biometrics must be present in every item found.

Special NOTE 2: A grad student here on campus mentioned to me the other day how difficult it can be to select a dissertation topic. He said that he found scanning technical/trade articles (in contrast to research articles) helpful, because he could see what issues/problems/interests were of concern to people working in a profession. Also, the language and writing style used is more readable. He was focused on health informatics, and he stopped by later to say how helpful he found the technical/trade journal for health information managers (which I had pointed out to him) for identifying the issues with which they were currently concerned.

I describe this conversation for a few reasons.

One, it serves as a reminder that the type of professional literature that will be useful depends on the nature of the information problem you have. Even though research articles in journals and conference proceedings are the primary “coin” for literature reviews, if your purpose in scanning the literature is to find a dissertation topic, technical/trade journals might be more helpful as a starting point.

Two, in Module 3, you did a search in ABI/INFORM and found that it didn’t contribute anything unique in its results compared to the other databases. However, ABI/INFORM does provide the option to limit results specifically to “trade journals.” Therefore, it might be the best starting point if you specifically want to focus on articles in trade journals rather than on research articles.

Three, IEEE and ACM do have trade journals in addition to research journals, but figuring out how to separate the trade from the research journals is not obvious.

- In ACM Digital Library, the Advanced Search doesn’t offer the option. However, when you first arrive on the ACM Digital Library screen, there is a Browse option and one of the browsable options is “Magazines.” In the context of a professional association such as ACM, a “magazine” is essentially a trade journal. Once you click to browse “magazines”, they provide a search box so that you can search within their magazines for a topic (for example, bioinformatics).

- In IEEE Xplore, the Advanced Search does have the option to limit to a particular “Content type,” but “Journals and Magazines” are combined as one content type. I haven’t found a way to separate the two in search results so that a person could scan only the trade journal articles in
IEEE Xplore. So the “scan trade journal articles” approach for identifying a potential dissertation topic would not seem to be possible in IEEE Xplore. Let me know if you discover a method in IEEE Xplore to just get magazine articles in search results!