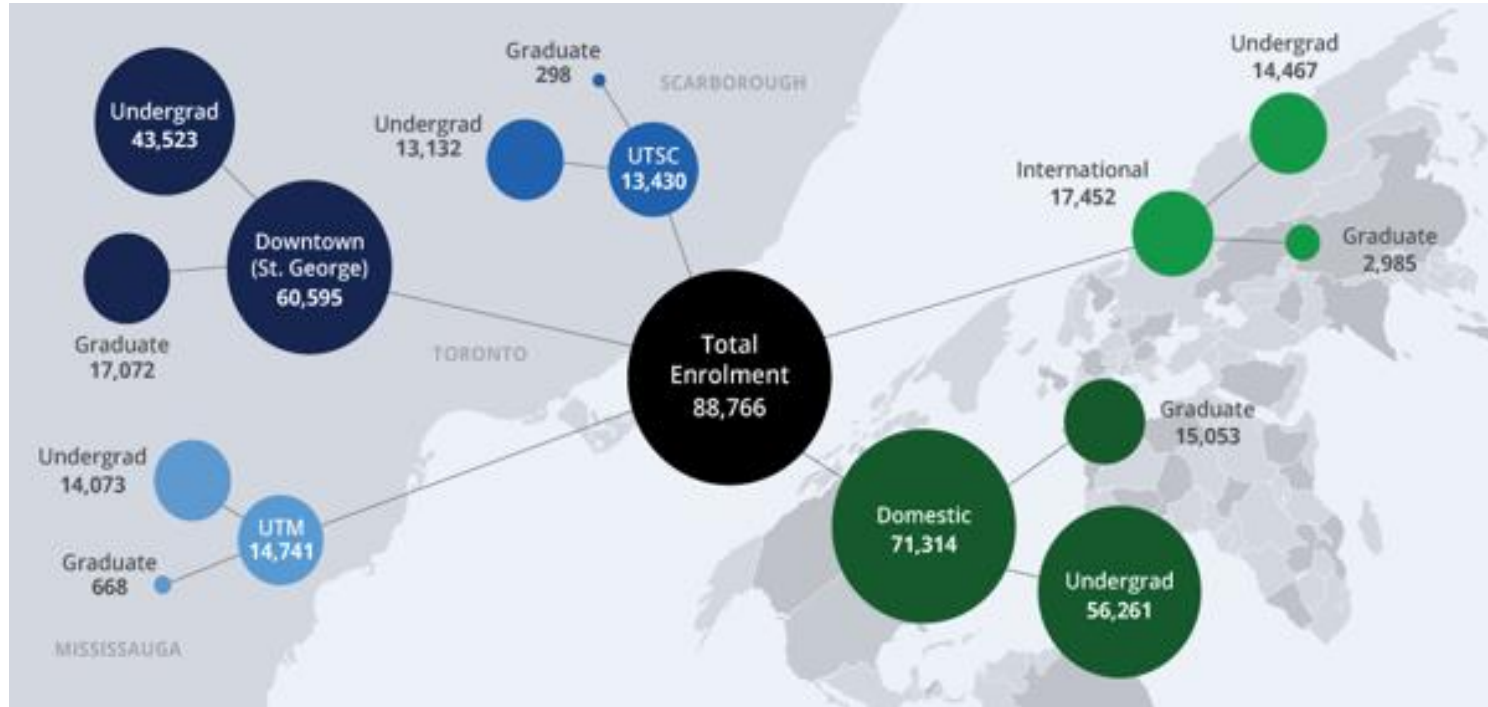

Library Support for Engineering Innovation

— Angela Henshilwood & Holly Inglis —
University of Toronto

Overview

- Background and context
- Implementing information literacy standards
- Workshop content, statistics, and feedback
- Developments and future directions
- Recommendations

University of Toronto



Source: University of Toronto Quick Facts <https://www.utoronto.ca/about-u-of-t/quick-facts>

Engineering & Computer Science Library (ECSL)



Milt Harris Library (MHL)



How it all began

ECSL courses

ECSL reference questions

MHL reference questions/consultations

How do I find
historical wireless
industry ads?

Where can I find
market research
reports on medical
devices?

*Who are the main
companies in the nano
and microsatellite
markets?*

Where can I find information about suppliers and market share information?

Student in entrepreneurship course with questions about market research.

How do I find business news about a particular company?

Looking at Information Literacy

Information Literacy Standards for Science and Engineering/Technology

<http://www.ala.org/acrl/standards/infolitscitech>

Information Competency Skills for Business Students

<http://www.ala.org/rusa/sections/brass/brasspubs/academicbrass/acadarchives/volume1number1/academicbrassv1%20>

Information Creation as a Process

Information Literacy Standards for Science and Engineering/Technology

1.2 Identifies a variety of types and formats of potential sources for information.

Information Competency Skills for Business Students

Understands what type of business information is freely available on the Internet and in both public and academic libraries

Understands the sources and types of company information available and the differences between them (i.e., public versus private, 10K versus company annual report)

Authority is Constructed and Contextual

Information Literacy Standards for Science and Engineering/Technology

Identifies the purpose and audience of potential resources (e.g. popular vs. scholarly, current vs. historical, external vs. internal, primary vs. secondary vs. tertiary).

Information Competency Skills for Business Students

Understands the role of authoritative literature and standards in some business disciplines (i.e., accounting, tax, etc.)

Understands that business periodical literature can be of a scholarly, popular, or professional nature

Information Creation as a Process

Information Literacy Standards for Science and Engineering/Technology

Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, patent, Geographic Information Systems, 3-D technology, open file report, audio/visual, book, graph, map).

Information Competency Skills for Business Students

Understands the multi-format and timely nature of business information (i.e., online, print, microform, etc.)

Information Has Value

Information Literacy Standards for Science and Engineering/Technology

Recognizes that potentially useful information or data in a variety of formats may be proprietary, have limited access, or may be freely available online.

Information Competency Skills for Business Students

Understands what type of business information is freely available on the Internet and in both public and academic libraries

Research as Inquiry/Scholarship as Conversation

Information Literacy Standards for Science and Engineering/Technology

Recognizes that knowledge can be organized into disciplines and combinations of disciplines (multidisciplinary) that influence the way information is accessed and considers the possibility that the literature of other disciplines may be relevant to the information need.

Information Competency Skills for Business Students

Understands how to find information in other disciplines, which may relate to a business topic (i.e., psychology, education, etc.)

Searching as Strategic Exploration

Information Literacy Standards for Science and Engineering/Technology

2.3.b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration.

1.1.6 Identifies key concepts and terms that describe the information need.

Information Competency Skills for Business Students

- Understands the use of classification schemes (SIC, NAICS, etc.) to extract information
- Identifies key concepts and business terms to use in searching which describe the business problem in a case analysis or other type of assignment

About the workshop

Finding Data

- ▶ You could determine that you want to target people in urban Ontario who make \$65,000 a year and own cars that are 3+ years old
- ▶ Reality: the statistics may not be available or may not be easy to compile to find ideal target populations
- ▶ Think outside of the box: what other statistics could help? Should you do your own market research?

Getting Started with Your Own Market Research

Look for demographic information
Who will buy your product?
For example, you've designed a camera sensor system for cars that alerts drivers when something is too close to the vehicle
Your market is for older cars because newer ones can already have this installed.

Databases

- ▶ Company Profile and SWOT - Business Source Premier
- ▶ Company lists - LexisNexis
- ▶ Industry Reports - IBIS World
- ▶ Market Research - MarketResearch.com/Academic

Global Research

- ▶ Databases: EMIS, Passport GMD (consumer product focus), IBISWorld
- ▶ BRICS LibGuide
- ▶ Use IMF, OECD ILibrary, Economist Intelligence Unit, or government websites for resources

Levels of industry research

- ▶ Local, province/state, national level information
- ▶ Canada is a small market so industry information isn't always easily available
- ▶ Stats Can and Industry Canada have some data or industry studies as well as ratios.

News and Trade Publication Articles

- ▶ Good sources of information on smaller markets as well as for finding sources of data
- ▶ ProQuest is an excellent resource for both

What makes up a market research report?

- ▶ Demographics - potential market
- ▶ Industry analysis - size, trends
- ▶ Main competitors



MaRS Startup Library



Additional Resources

- ▶ Entrepreneurship LibGuide
- ▶ The BIC has links for [entrepreneurs and start-up information](#)
- ▶ If you can't find a Canadian report, look for a global or US report to give you ideas on the state of the market or industry in general

Types of Documents and Data Available

- ▶ Companies: annual reports, company profiles, analyst reports, SWOT analysis, ratios, financial data
- ▶ Industries: industry profiles, statistics, data
- ▶ Markets: market research reports, statistics, data

Statistics

- ▶ # of car owners within demographic range and region - level in Ontario
- ▶ Statistics Canada - Motor Vehicle Registration Summary
- ▶ Transport Canada - Canadian Motor Vehicle Traffic Custom Statistics
- ▶ Ontario Ministry of Transportation - Ontario Road Safety Annual Report
- ▶ CAA
- ▶ Check out industry reports or news articles for resources

Company Information

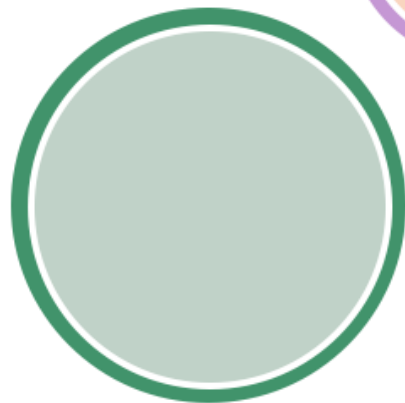
- ▶ Only public companies have to disclose their finances; private companies do not have to disclose anything
- ▶ Using an industry code (usually NAICS or SIC), you can compile lists of companies operating within a certain industry

Government Information

- ▶ Government websites can be helpful because they are also trying to support investment
- ▶ If you form a company, you can search for information on required licenses, tax breaks,

Attendee Statistics

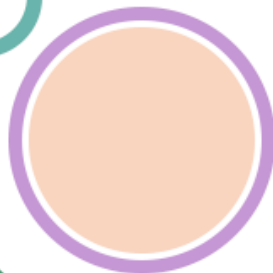
183 graduate
student sign ups



108+ actual
attendees



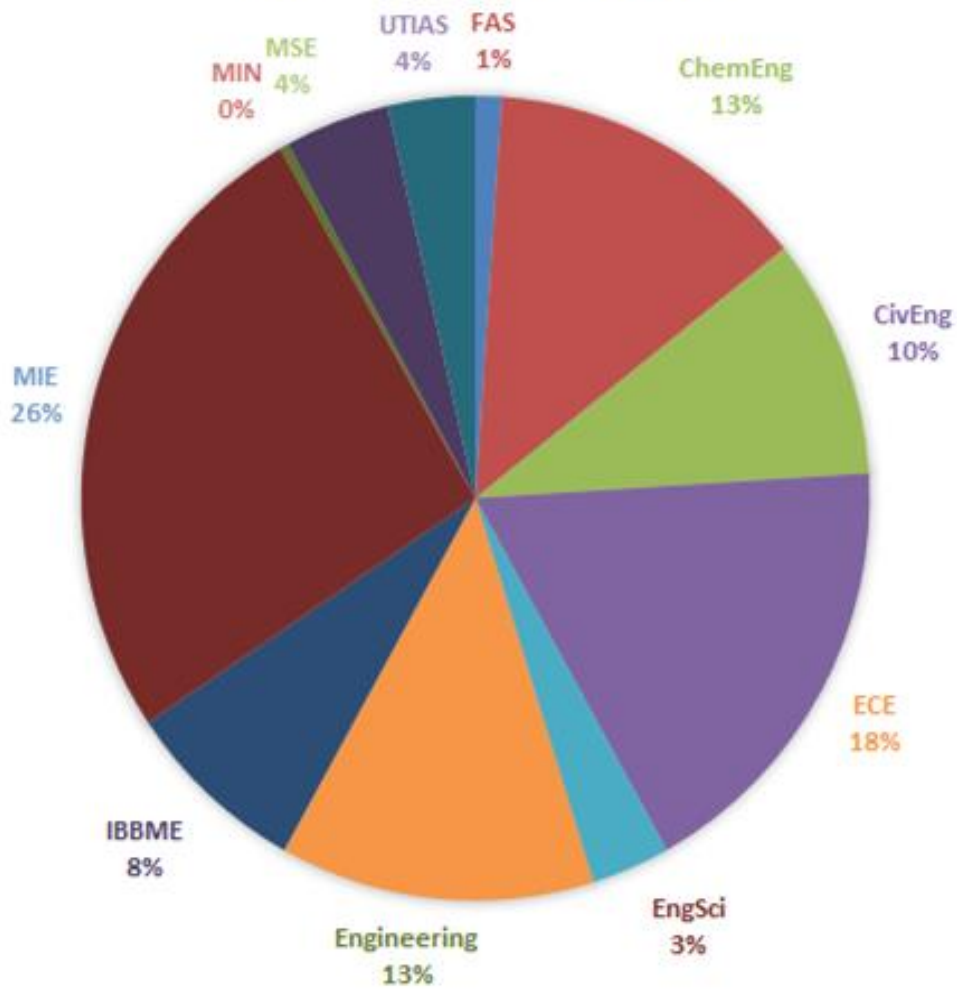
Another 240 on
waitlists



120 undergrad
student sign ups



SIGN UPS BY DEPARTMENT



Feedback - What did you find most useful about the workshop?

- "The concept of business resources for engineers. "
- "I like it for giving me a bigger picture of market research and business sources."
- "Generating reports on companies and industries."
- "Would love to see more workshops on this, more in-depth analysis for market research."
- "Tips to know how to save time searching (especially for things that don't exist or are sparse)."

Student Reception and Content Gaps

- Reports - they wanted to know who was producing them, third party or direct, bias tips
- Expanded screening capabilities (Capital IQ)
- Language (jargon) barrier
- Resources for after graduation
- More hands-on searching
- Legal tools

Follow-up Research

- Research consultations based on library resources in general
- Drawing attention to engineering support as well as business/entrepreneurship research
- Start-up specific questions or about research commercialization

Exciting Developments - Entrepreneurship Librarian!

- Developing partnerships
- Expanding workshop series for Entrepreneurship Co-Curricular Record (including our Intro to Business workshop, adapted for different subjects)
- Direct support for campus startups and U of T's nine campus-linked accelerators

What's Next

- Expanding workshop to add more hands-on searching and highlight new resources
- Working closely with Entrepreneurship librarian
- Digital approach?
- Curriculum Mapping



Recommendations

- Look at reference questions
- Environmental scan of workshops/class instruction/libguides, including from external partners such as campus linked accelerators
- Look for common elements within IL framework
- Evolve, evolve, evolve

Questions?

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