

BC COLLEGES

AGGREGATE ECONOMIC IMPACT STUDY

Submitted: August 12, 2016

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1 Introduction

Thank you for considering Emsi to conduct an aggregate economic impact study of BC Colleges' member institutions. This proposal provides a summary of our experience and approach. The scope of work proposed is in response to our recent meeting and phone conversations. We welcome the opportunity to further discuss our experience, your specific needs, and our approach.

The scope of work requested is understood to include an aggregate economic impact study to measure the impacts of BC Colleges' ten member institutions on the province of British Columbia, along with the option for member colleges to complete an individual economic impact study relative to their service region, which can include measuring Applied Research impacts.

Given the timing and national attention likely to be garnered by the national aggregate study being completed by Emsi for Colleges and Institutes Canada (CICan), this proposal represents a unique opportunity for BC Colleges' member institutions to showcase and highlight their regional economic and applied research impacts.

2 Our Resources and Experience

Emsi was founded in 2000 by Dr. Kjell Christophersen and Dr. Hank Robison as a company designed to conduct economic impact studies of the economic contribution of higher education. Since 2000, Emsi has conducted over 1,700 comprehensive socioeconomic impact studies for higher education institutions in the US, Canada, the UK, and Australia. Based in the university town of Moscow, Idaho, we now employ over 120 professionals who are passionate about better connecting students, colleges and universities, and employers.

Our firm and approach to economic impact studies are distinguished from others in that:

- We have more experience conducting complex multi-institution economic impact studies than any other firm. This is evidenced by the projects highlighted below. Through these, we have developed the expertise necessary to deliver a service and client experience that are robust to the various challenges inherent to economic impact studies.
- We are committed to delivering an objective and truly defensible study. We employ a methodology where we directly account for the fact that provincial and local dollars spent on colleges and universities could have been spent elsewhere in the province, and thus would have created some economic impacts regardless.

- To account for the fact that most of the benefits from higher education accrue over time, all of our economic impact studies are accompanied by an investment analysis for the various stakeholder groups.

Our Team

Dr. Aaron Olanie is the Vice President of Consulting and will provide project oversight. He has three years of experience leading economic impact studies with Emsi. During his time as Director, he led Emsi's efforts in conducting their most high profile work to date. Currently he is overseeing the nation-wide study being completed for Colleges and Institutes Canada (CICan). His responsibilities include, but are not limited to, overseeing Emsi higher education consulting team, managing project timelines, developing new methodology, creating report content, and presenting results. Aaron holds a PhD in Economics from Washington State University and joined Emsi in 2013.

Anna Brown is the Director of Consulting and will provide day-to-day project oversight of data collection, methodology and modeling, and report writing. Anna has over five years of experience with Emsi conducting economic impact studies and has helped manage some of Emsi's highest profile work. Anna served as the Project Manager on the Colleges Ontario aggregate study, Atlantic Province Community College Consortium study and the previous BC Colleges aggregate study. Her responsibilities include, but are not limited to, designing survey instruments, facilitating data collection, answering data questions, maintaining project deadlines and schedules, and coordinating deliverables. Anna has her Master's degree in Applied Economics from the University of Idaho. She also holds Bachelor's degrees in Economics, International Studies, and German from the University of Idaho. She has worked with Emsi since 2010.

Hannah Hallock is a Staff Economist and will likely be the project manager for the BC Colleges project. Hannah was responsible for managing the data collection, modeling, communications, and deliverables for the University of New Brunswick (UNB) economic impact study. Hannah's responsibilities include conducting and analyzing primary research, designing survey instruments, and modeling. Hannah has her Master's degree in Applied Economics from the University of Idaho. She also holds a Bachelor's degree in Mathematics from the University of Idaho. She has worked with Emsi since 2015.

Fraser Martens is the Content Manager and creates the narrative and qualitative aspects of Emsi's economic impact studies. Fraser created the narrative and qualitative content for the University of New Brunswick and Niagara College Applied Research projects. Fraser's responsibilities include working with representatives from the institution to gather non-

economic information about the institution so the report accurately describes the institution and its relation to the province and region. He also ensures that the report's text balances readability and professionalism so the client can easily communicate the results to a variety of audiences. Fraser received a Master's Degree in Theology and Letters from New St. Andrew's College. He also holds a Bachelor's Degree in Liberal Arts from New St. Andrew's College. He has worked with Emsi since 2013.

Relevant Experience

University of New Brunswick (UNB)

In the fall of 2015, Emsi conducted an economic impact study for the University of New Brunswick (UNB). The results showed that in 2013-2014 study period, the university added \$1.2 billion in added income to the provincial economy while its research contributed to 13 inventions, 19 patent applications and four licenses.

Website: http://www.unb.ca/president/_assets/documents/econ-impact-summary15.pdf

Contact: Dr. Eddy Campbell, President, UNB (Direct inquiries to Melissa Dawe) Office: 506-453-4567, Email: mdawe@unb.ca

Colleges Ontario

In the spring of 2014, Emsi delivered an aggregate and individual economic impact studies for 19 of Ontario's 24 public colleges. The results show that Colleges Ontario institutions and their alumni added \$42.8 billion to the Ontario economy.

Contact: Linda Franklin, President Office: 647-258-7676, Email: chard@collegesontario.org

Atlantic Province Community College Consortium (APCCC)

In February 2014, Emsi delivered an aggregate and individual economic impact studies for the member colleges of the Atlantic Province Community College Consortium (APCCC). The results show that Atlantic Province colleges and their alumni added \$4.7 billion to the Atlantic Province Region.

Contact: Ken MacRae, Executive Director; Office: 902-491-1190, Email: ken.macrae@nscc.ca

Colleges and Institutes Canada (CICan)

Currently Emsi is completing a nation-wide aggregate impact study for Colleges and Institutes Canada. Results are due to be released in the fall of 2016.

Contact: Denise Amyot, President; Office: 613-746-2222, Email: damyot@collegesinstitutes.ca

3 Suggested Approach

There are two sides to Emsi's economic impact study: an economic impact analysis and an investment analysis. The economic impact analysis examines the direct and indirect multiplier effects that occur as BC Colleges member institutions and their employees and students spend money in the region, as well as the economic benefits generated by alumni who are living and working within the local economy. Meanwhile, Emsi's investment analysis indicates the strength of BC Colleges member institutions as an investment from the perspectives of students, taxpayers, and society as a whole. This analysis projects various benefits into the future, discounts them to current dollars, and compares the present values with the costs of generating the benefits.

Economic Impact Analysis

The purpose of our economic impact analysis is to measure the new economic activity generated across the province of British Columbia as a result of the presence of BC Colleges' member institutions.

We pride ourselves on our conservative and robust methodology. We directly account for the fact that provincial and local dollars spent on colleges could have been spent elsewhere in the province, and thus would have created some economic impacts regardless. We account for these alternative uses of funds in our analysis by (i) assuming that if funds were not directed to the colleges, they would have been returned to the taxpayer and generated economic impacts through household spending on goods and services, and (ii) subtracting these alternatively generated impacts from the total economic impact. Thus, Emsi reports a net impact of the colleges that is above and beyond what would have occurred had the funds been returned to the taxpayer. Emsi's multiplier effects are derived using our Canadian Regional Input-Output (CRIO) model and the results will be reported in terms of jobs, income, and sales.

With respect to individual studies, the methodology and level of effort applied to the analysis is the same for each institution regardless of size, headcount or the number of programs being offered. With each college serving a unique geographical service region, the economic model must be adjusted regionally to compensate for differences.

Operations Spending Impact

This analysis will estimate the impact of the day-to-day operation spending of BC Colleges member institutions, less research spending (the impact of research spending is estimated separately and is outlined in the following subsection). To measure the operations spending impact, Emsi will request revenues and expenditures data, as well as data on the residency of employees.

Applied Research Spending Impact (optional analysis for individual studies)

The research spending impact measures the impacts of research expenditures and funding in the province. Any external sources of funding will represent injections of new money into the provincial economy. The research spending impact is created as these monies are spent employing people and purchasing equipment, supplies, and services.

Student Spending Impact

Emsi will measure the impact that students relocating to BC Colleges member have on the economy. This impact measures the economic activity generated by the spending of students who would not have been in the province if they had not attended on of BC Colleges member institutions. This represents new monies brought to the provincial economy. Emsi will also estimate the spending impact of students retained in the province; in other words, if not for BC Colleges member institutions, these students would have left the province. Their monies therefore remain in the provincial economy, generating economic impacts.

Student Productivity Impact

The impact that alumni have on the provincial economy is significant and unique to higher education. The student productivity impact depends upon the number of alumni who are active in the provincial workforce. As part of this analysis, Emsi will request data from BC Colleges member institutions on the number of students served over the last 30 years and an estimate for the percentage of alumni remaining in the province upon leaving the institutions. Where data is not available, Emsi will work with BC Colleges member institutions to make reasonable inferences.

Investment Analysis

The investment analysis weighs the benefits generated by BC Colleges member institutions and its students against the associated costs of supporting and attending the institutions. The investment analysis consists of three main components: the student, taxpayer, and societal perspectives.

Student perspective

Analyzes whether students are better off attending BC Colleges member institutions than not. The analysis accounts for student costs (i.e., tuition and fees, books and supplies, and opportunity costs) and the benefits of education, measured in terms of higher earnings. Higher student earnings are based on up-to-date regional data embedded in the Emsi model linking earnings to education levels. Benefits are projected into the future and discounted back to the present, deriving a lifetime earnings trajectory used to estimate the students' return on investment.

Taxpayer perspective

Assesses the economic feasibility of taxpayer support for BC Colleges member institutions by weighing provincial and local costs against the higher tax revenues and avoided social costs that stem from the activities of BC Colleges member institutions and their students. In the taxpayer perspective, only those benefits that result in actual dollars saved or added to provincial and local government treasuries are counted as benefits to the taxpayers.

Societal perspective

Measures the benefits to the public as whole in terms of added taxable income and a variety of external social benefits associated with increases in education, including improved health, reduced crime, and reduced welfare and unemployment claims. These benefits accrue to all provincial and local residents – students, employers, and taxpayers. Under the social perspective all benefits – regardless of recipient – will be weighed against all costs of BC Colleges member institutions and educations.

4 Work Plan and Deliverables

The project timeframe appears in the table below. Note that Emsi's ability to complete the project within this timeframe is dependent upon the timely completion and submission of the data and feedback from BC Colleges member institutions. If more or less time is needed for the data collection and review phases, Emsi and BC Colleges member institutions can adjust the target dates accordingly.

Task	Time Frame
Project kickoff	
Emsi prepares and sends data survey to BC Colleges member institutions	--
Data collection phase	
BC College member institutions complete data survey	4-6 weeks
Emsi reviews data, works with BC Colleges member institutions to address data issues	2-4 weeks
Draft phase	
Emsi customizes model to reflect BC Colleges member institutions	2-4 weeks
Emsi prepares draft reports, sends to BC Colleges member institutions for review	2-4 weeks
Final phase	
BC Colleges member institutions review revised draft, provides final feedback	2-3 weeks
Emsi incorporates final edits, formats reports, and sends finals to BC Colleges	2-3 weeks
Total	14-24 weeks*
Note: (*) Total time frame of 14-24 weeks is dependent on client response times	

Data Collection Phase

In Emsi's experience, it is best to establish a single point of contact to act as a liaison between Emsi and institution staff. This will improve communication across both parties and streamline the data collection process. At the start of the data collection phase, Emsi will conduct a conference call or webinar with this representative to identify the target dates and go over the data requirements. Emsi will work with the representative through the data collection phase to make any necessary adjustments to the survey to ensure that the variables and instructions are clear to the people gathering the information.

For BC Colleges member institutions, the personnel most likely to be relevant to the process include the and colleges' Institutional Researchers and Financial Officers. Some portions of the survey may also require information from the Directors of Human Resources and Registrars.

Most of the data elements will be self-explanatory, while those that require additional explanation will be accompanied with instructions and examples (where appropriate). Default variables for certain data elements will also be provided. At all times during the data collection phase, Emsi staff will be available to answer questions or resolve data issues as they come up.

Emsi will also review the survey once it is complete to ensure that the data elements are reasonable and accurate. If there are any variables that appear to be incorrect or out of range, Emsi will work with assigned staff to resolve the issues.

Draft Phase

Upon completion of the data collection phase, Emsi will generate a draft report showing the preliminary results of the analysis. Emsi will post this report at a secure online location from which personnel connected to the project can download it. During the draft phase, Emsi will request that the appropriate personnel from BC Colleges member institutions review the draft report to ensure that everything is in order or if any corrections are necessary.

Final Phase

Emsi will prepare the final written report, along with an Executive Summary and Fact Sheet. The deliverables will include charts and graphs presenting the data and results in an easy-to-understand format in order to effectively communicate the economic impact and return on investment of BC Colleges member institutions to different audiences.

After the final reports have been released, Emsi consultants will be available for an optional on-site visit to present the key findings of the analysis to BC Colleges member institutions' administration and local constituents. Emsi is also available to present the results via webinar or conference call. In addition, Emsi can provide examples of press releases, websites, brochures, and other promotional materials that other colleges and universities have prepared based on the results on the analysis.

Deliverables

The analysis as a whole generates a wealth of information. This information is broken into a number of reports varying in target audience and scope. Each report will be customized with colors and stock photos. The following deliverables will be received by BC Colleges member institutions:

Main report – Presents all of the findings of the analysis in the context of clearly spelled-out assumptions, theory, and data sources, along with a glossary of terms. The report will be intended mostly for economists and researchers interested in confirming that the approach and documented data sources used are fully credible and transparent.

Executive summary – Contains the major findings written in layperson's terms. This document is suitable for popular and media circulation.

Fact sheet – Summarizes the main results in bullet form. Also designed for a broad audience. In our experience, this is one of the most utilized documents.

PowerPoint – Presents key findings in a manner accessible to a broad audience.

5 Investment

Option 1 \$50,000 CAD

- Aggregate economic impact study of BC Colleges' ten member institutions

Option 2 (2a) \$10,000 CAD / (2b) \$13,000 CAD

- 2a. - Individual economic impact study
- 2b. - Individual economic impact study plus analysis of applied research activities

Option 3 \$7,500 CAD

- Individual economic impact analysis of applied research activities