



Department of Labour and Advanced Education
University System Visioning Consultations
Final Report

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1. EXECUTIVE SUMMARY

Introduction

The overall purpose of this engagement was to solicit broad input and ideas from Nova Scotians; members of the business and international communities; university faculty, administration and students; and other stakeholders on the future of the post-secondary education system. Halifax Global accomplished this task primarily by conducting 29 facilitated focus group sessions between October 20 and November 10, 2014. Three sessions were held in Sydney, two in Wolfville and the balance were held in Halifax. A video consultation session was also held with students from the Université Sainte-Anne on March 17, 2015. A total of 240 individuals participated.

Three major themes were explored during each of the sessions:

1. Quality of Education, Competitiveness, Relevance and Graduate Retention;
2. Economic Viability, Sustainability, Affordability and Accessibility; and
3. Research and Development, Commercialization and Strengthening Nova Scotia's Economic Performance.

In addition, this report also summarizes written submissions received from several interested parties and includes supplemental research carried out in two key areas: 1) experiential learning; and 2) research, knowledge transfer, commercialization and economic performance.

The consultations took place in an environment in which much public discussion about the future economic, social and cultural prospects for Nova Scotia has been stimulated by The Report of the Nova Scotia Commission on Building Our New Economy titled "Now or Never: An Urgent Call to Action for Nova Scotians" published early in 2014.

Two other reports provided useful context and background to this project. The first of these "Invest More, Innovate More, Trade More, Learn More: The Way Ahead for Nova Scotia" was authored by Professor Donald J. Savoie of the Université de Moncton and released in July, 2010. The second report "The Report on the University System in Nova Scotia" was authored by Dr. Tim O'Neill and submitted to the Provincial Government in September, 2010.

Consultations

The key research objectives for the three theme areas explored in the consultations were:

- **Quality of Education, Competitiveness, Relevance and Graduate Retention** – to identify the challenges and choices stakeholders agree must be addressed if the ‘high quality’ brand positioning of Nova Scotia’s universities is to be maintained and strengthened, in order for our universities to continue to attract students in an ever more competitive global marketplace.
- **Economic Viability, Sustainability, Affordability and Accessibility** – to identify the challenges and choices to be made if Nova Scotia’s universities are to remain economically viable and sustainable, while also remaining affordable and accessible; recognising these issues must be examined within the context of changing demographics that result in fewer students (and thus reduced tuition revenue) and reduced tax revenues that constrain the Province’s ability to fund universities.
- **Research and Development, Commercialization and Strengthening Nova Scotia’s Economic Performance** – to identify the changes and opportunities through R & D and commercialization activities that stakeholders agree can be developed to help improve Nova Scotia’s economic performance, particularly in the context of innovation and productivity and increasing research and development activity beyond the universities.

At the conclusion of each session, each participant was asked to identify one big, bold initiative that individual would recommend Government implement as an outcome from this process. In reviewing the ideas put forward, three primary categories emerged as a basis for organising and presenting these suggestions in a meaningful context. These categories are: opportunities for investment and further development; opportunities for management and reduction of costs; and opportunities for general improvement.

Conclusions and Considerations

UNIVERSITIES AS AN ECONOMIC SECTOR

Nova Scotia’s universities constitute an important economic sector and asset for the province that delivers significant economic benefit to the entire province and thus warrants continuing, significant public (i.e. taxpayer-funded) investment. There is considerable recognition by stakeholders that our universities constitute assets that other jurisdictions would be pleased to have available; but at the same time, there is equal recognition that these assets are not being managed in a way that maximizes potential returns to stakeholders, including taxpayers.

We heard that responsibility for improving those returns is shared by all stakeholders; however, we also heard that the sector's importance to the provincial economy warrants a policy focus that clearly demonstrates and supports that it be considered a priority sector for economic growth that can also stimulate growth in many other sectors of the economy.

EXPERIENTIAL LEARNING

There is very strong demand, across all disciplines, for increased access to co-operative education and other forms of experiential learning. Participants noted that work experience is often required to gain employment in Nova Scotia. As a result, new graduates often find it difficult to find a job related to their field of study. Access to co-op education / experiential learning was identified in all sessions and by all stakeholders as a way to improve post-secondary education in Nova Scotia and increase the likelihood of graduates finding employment relatively quickly. As an extension to this theme, it was noted in the *Now or Never* report, and mentioned a number of times during the consultations, that relatively few Nova Scotia businesses regularly hire university graduates.

These findings lead us to conclude that consideration should be given to establishing more coordination across all co-op and other experiential learning programs in the province, combined with a significant effort to attract employers not just from Nova Scotia but from other parts of Canada and internationally to provide experiential learning opportunities and future employment opportunities for students. A graduate hiring incentive for Nova Scotia businesses could serve as an effective way to increase graduate retention in the province, as well as to enhance knowledge transfer from university to industry and improve the competitiveness of Nova Scotia businesses.

ALIGNMENT OF UNIVERSITY RESEARCH WITH ECONOMIC DEVELOPMENT PRIORITIES

Consistent with the findings and recommendations presented in the Savoie, O'Neill and *Now or Never* reports, there was considerable recognition in the stakeholder discussions of the need for strategic focus of investment, resources and effort in areas of research in which Nova Scotia can legitimately claim competitive advantage such as ocean sciences and technologies, information and communications technology, and gaming and interactive media.

Therefore, we conclude that explicit alignment of strategic research priorities of the universities with economic sector development of the province will be widely seen as a positive contribution to the overall economic prosperity of Nova Scotia.

LEARNING FROM OTHER JURISDICTIONS

There is much to be learned from how post-secondary education is structured, managed, leveraged and recognized in other jurisdictions. Specific areas and topics that were identified included: collaboration and cost sharing among institutions; co-operative,

entrepreneurship and apprenticeship education; accelerating transfer of knowledge and technology from universities to businesses, vehicles for leveraging universities as engines of economic growth; and, the ownership of IP and commercialization of that IP.

There is likely much to be gained by Nova Scotia from establishment of an ongoing and systematic approach to scanning, evaluating and adapting best practices from elsewhere for implementation within our post-secondary institutions.

RAISING STAKEHOLDER AND PUBLIC UNDERSTANDING

During the consultation process, stakeholders often expressed their concerns about issues in terms of their own direct interests, even though these were frequently portrayed as projecting the preferences and desires of a wider public. We found that stakeholder (and we believe, generally the public) appreciation of the complexity of the issues and choices required, and of the extent to which these choices about our university sector affect our collective prosperity, is quite limited.

We conclude from this discussion that as a first step in moving forward with any form of new vision for Nova Scotia's universities, considerable effort will need to be devoted to addressing limitations in stakeholder and public understanding of how exactly we can achieve a robust post-secondary education sector that will meet the needs of Nova Scotia now and for generations to come.

2. INTRODUCTION

The overall purpose of this project was to solicit broad input and ideas from Nova Scotians; members of the business and international communities; university faculty, administration and students; and other stakeholders on the future of the post-secondary education system.

Halifax Global accomplished this task primarily by conducting 29 facilitated focus group sessions primarily between October 20 and November 10, 2014. Three sessions were held in Sydney, two in Wolfville, one by video conference in French, and the balance were held in Halifax. A total of 240 individuals participated with some attending two or more sessions. The following table summarizes the scope of the consultations:

Stakeholder Group	Opportunities To Participate	Participating Groups
Students	9	Nova Scotia Coalition on Post-Secondary Education, International, Cape Breton University, Acadia University, Nova Scotia Community College, Government Student Leaders Roundtable, graduate/professional students, Students Nova Scotia Executive, Université Sainte-Anne
Faculty	5	Full-time, part-time, Nova Scotia Coalition on Post-Secondary Education, Cape Breton University, Dalhousie Faculty Association
University Administration	4	University Presidents, Board Chairs, Vice-Presidents, and Alumni
University Staff	5	Recruitment, Student Services, Cape Breton University, Librarians, support staff
Business and Industry	5	Business – Halifax, Sydney and Wolfville; professional associations; industry associations
Other	4	Nova Scotia Community College, under-represented groups, Honorary Consuls, Immigrant Settlement Association Nova Scotia

A list of focus group sessions is found in Appendix A.

It should be noted that many of the students and faculty that attended were representatives of the student unions and collective bargaining units for those groups and would not be considered to be “rank and file” students and faculty.

This report organizes the presentation of the consultation findings around the three major question themes explored during each of the sessions:

1. Quality of Education, Competitiveness, Relevance and Graduate Retention;
2. Economic Viability, Sustainability, Affordability and Accessibility; and
3. Research and Development, Commercialization and Strengthening Nova Scotia's Economic Performance.

The layout of these themes is consistent; each theme begins with a discussion of the general issues and concerns expressed by stakeholders in their responses to the questions within the specific theme, followed by detailed responses received to each question.

In addition, Chapter 4 – Consultation Findings – includes a section summarizing responses to a question posed to participants at the conclusion of each session – What one big, bold initiative would you recommend Government implement as an outcome from this process?

Written submissions were received from several groups and individuals. The input received from these sources is summarised in a separate chapter.

Supplemental research was carried out in two key subject areas exploring practices in other jurisdictions:

- Experiential Learning; and
- Research, Knowledge Transfer, Commercialization and Economic Performance.

The final chapter of this document summarizes the responses found across multiple themes and puts forward conclusions that emerged from this research process and suggestions for areas that LAE may want to consider as it moves forward with a new Memorandum of Understanding between Nova Scotia and the province's ten universities.

3. RESEARCH CONTEXT

The consultations which constituted the core of the research undertaken within this project took place in an environment in which much public discussion about the future economic, social and cultural prospects for Nova Scotia has been stimulated by The Report of the Nova Scotia Commission on Building Our New Economy. Titled “*Now or Never: An Urgent Call to Action for Nova Scotians*”, the report was published early in 2014.

As the *Now or Never* report noted, Nova Scotia’s “universities and the Nova Scotia Community College represent one of Nova Scotia’s greatest comparative advantages. These institutions are major employers in their communities, they generate the lion’s share of research and development activity in the province and they increasingly function as an export sector with growing numbers of out-of-province and international students.”¹ The Commission also explicitly expressed the view that Nova Scotia should view its “high concentration of universities and colleges as a fundamental asset in growing our economy.”² As readers will note in later sections of this report, recognition of our university sector as an important asset requiring continuing investment and strengthening was a frequently recurring theme in most of the consultation sessions.

Importantly for this consultation process, the Commission noted the success of our universities in attracting out-of-province and international students; however, the Commission also recognised that for such success to continue it will be essential for these institutions to maintain a competitive position based on quality. The core market from which universities draw new students – 17 to 29 year olds – continues to decline in Nova Scotia, as well as across Canada and much of the developed world. The individual students who make up this shrinking market (and their parents) have an ever-expanding array of choices available as to where they can seek their college or university education. As universities and colleges in other jurisdictions face the same shrinking market pressures as Nova Scotia’s post-secondary institutions, the imperative to continue improvement in competitive offerings will only increase.

The Commission also identifies the ability of Nova Scotia’s universities and college to attract international students as having significant potential to help the province address its challenge of a shrinking population. Noting that a large number of international students who come to Nova Scotia for their post-secondary education would prefer to stay if the option were available, the Commission has established as one of its key population goals for

¹ “*Now or Never*”, p.37

² *Ibid.*

the next ten years a doubling to 10 percent of the percentage of international students choosing to become permanent residents of the province.³

The Commission also identifies the importance of research and development activity at Nova Scotia's universities, noting specifically that "university research in Nova Scotia forms a disproportionate percentage of the total provincial R&D as compared to the Canadian average."⁴ However, the Commission identifies the collective research capabilities of the universities as having an important potential role in advancing the economic prospects of the Province. The Commission states that "[i]f Nova Scotia is to expand its business base and be more productive and competitive, we need more private sector investment in R&D and we need to improve the mechanisms to allow university-based research to contribute to new venture creation."⁵ As an economic goal related to these proposed changes, the Commission establishes a target of doubling research funding to \$360 million⁶ within the next decade, along with a doubling of research and development partnerships between business enterprises and post-secondary institutions to 2,000.

Another issue on which the Commission commented was also frequently encountered during the consultations in this project, as will be reported later in this report. That is the linkages between the overall education system and the labour market. In that regard, the Commission noted in particular the work of the 'Workforce of the Future Table' led by the Department of Labour and Advanced Education. While the work of the Table (which has wrapped up) addressed a wide range of issues related to the linkages between education and labour market, four of five specific issues identified by the Table and cited by the Commission reflected the following recurring themes heard during the consultations:

- Linking Nova Scotians to jobs in growth sectors;
- Pursuing excellence in math and science;
- Improving youth retention; and,
- Promoting entrepreneurship.

We would also note that the fifth issue raised by the Table and referred to by the Commission – '*Expanding employer engagement in apprenticeship*' – represents but a slight variation on perhaps the most common theme voiced by consultation participants. That is,

³ "Now or Never", p. 48

⁴ "Now or Never", p. 38

⁵ Ibid.

⁶ "Now or Never", p. 48

the need for significantly expanded experiential learning opportunities, in the form of co-operative and other forms of work term placements.⁷

Two other reports from 2010 also provided useful context and background to this project.

The first of these "*Invest More, Innovate More, Trade More, Learn More: The Way Ahead for Nova Scotia*" was authored by Professor Donald J. Savoie of the Université de Moncton and released in July, 2010. Dr. Savoie is a recognised national expert on economic development policy and the focus of his research, and the related report, was to assess then current economic development efforts in Nova Scotia and bring forward recommendations "on how governments can position themselves better to promote economic development."⁸

Savoie's research and report are focused primarily on economic development policies and programs and particularly on the machinery of government related to implementation of those policies and programs. However, he does cite recent research conducted by David Shaffer and David Wright under the auspices of the Nelson A. Rockefeller Foundation which suggests a new paradigm for universities as a force for sustainable economic development. The ideas put forward in the research cited by Savoie mirrored ideas that emerged from several of the consultation sessions. The key arguments put forward by Shaffer and Wright were summarised by Savoie as follows:

- "They must innovate, using their research power to create knowledge that can have an economic impact and then helping to move their new ideas into the marketplace;
- They must transfer knowledge that helps businesses grow and prosper, through programs such as job training, technical and other consulting assistance, and assistance to start-ups;
- They must revitalize the communities in which they are located, with efforts to help local elementary and secondary schools and local businesses, for example; and,
- They must produce the educated populace that is needed to build, run, and work in the innovation economy, which is their core mission."⁹

Savoie notes that Nova Scotia's universities had not to that point played much of an *activist role* in revitalising communities (though he did mention the emerging collaboration between

⁷ The concept of apprenticeships of course relates to trades, which is not within the purview of universities nor of this project; however, experiential learning is fundamental to the concept of apprenticeships and was probably the most frequently raised issue as an area needing improvement.

⁸ Savoie, Donald J., *Invest More, Innovate More, Trade More, Learn More: The Way Ahead for Nova Scotia*, p.1

⁹ Shaffer, David and Wright, David, *A New Paradigm for Economic Development*, The Nelson A. Rockefeller Institute on Government, New York, 2010, as cited in Savoie, Donald J., *Invest More, Innovate More, Trade More, Learn More: The Way Ahead for Nova Scotia*, p. 6

Acadia University and the wine industry as a useful start) but that such initiatives should be encouraged.¹⁰

The second report from 2010 that provides useful context to these consultations and to this project is *“The Report on the University System in Nova Scotia”* authored by Dr. Tim O’Neill and submitted to the then Premier in September, 2010. Dr. O’Neill is a very highly regarded economist who served as head of the Atlantic Provinces Economic Council earlier in his career and later as Vice President and Chief Economist of the Bank of Montreal.

O’Neill’s report results from a comprehensive examination of Nova Scotia’s university system undertaken in the immediate aftermath of the Great Recession of 2008-09. This was also at a time when the province’s finances were under some pressure and the 2008-2011 Memorandum of Understanding relating to government funding of the universities was coming to its end. As the author notes in his introduction to the report, it “describes and assesses the current state of that system in the context of emerging financial and demographic challenges in the province, and in relation to wider trends in post-secondary education (PSE) regionally, nationally, and internationally. The evidence clearly confirms that the environment in which Nova Scotia’s [then] eleven universities now operate is changing significantly. The report calls for expanded collaboration among the universities, and between them and the government, to develop and implement new policy approaches to address emerging challenges.”¹¹

In his examination of the university system, O’Neil addresses essentially all the issues that emerged during the consultation sessions conducted for this project. It is also noteworthy that at least one part of the background environment within which O’Neill’s work was undertaken parallels the environment within which this project was undertaken – that is, renewal of the current Memorandum of Understanding between the Province and the universities which sets out the terms and conditions of public funding support to the universities is imminent.

It would be redundant to set out here the full range and scope of analysis of the issues presented in the O’Neill Report. However, it is worth noting that virtually the entire range of policy options and considerations assessed in that report remain valid today. As an example, in his discussion of tuition fees, the O’Neill report notes that “[p]ublic discussion of tuition fees often focuses on the impact of tuition levels on accessibility to post-secondary education for low-income individuals, on affordability generally, and on the levels of debt that students carry after graduation. However, this focus on accessibility and affordability ignores four significant issues: the interests of universities and taxpayers; the long-term benefits to graduates of post-secondary education (which are many); the actual impacts of

¹⁰ Ibid.

¹¹ O’Neill, T., *The Report on the University System in Nova Scotia*, p. 1

tuition fee levels on accessibility (which are modest); and equity within a system in which lower-income taxpayers now heavily subsidize university education for students from better-off families.”¹²

The report goes on to address a wide range of issues including:

- Student Financial Assistance;
- Government Funding (of the system);
- University System Restructuring;
- University Administrative Integration;
- Key Performance Indicators (KPIs) for Quality Assessment and Accountability;
- Infrastructure;
- Research, Technology Transfer, and Commercialization; and,
- University Funding Formula;

Each issue area is assessed in detail and the interests of all *stakeholders* – students, parents / families, university institutions, faculty, the provincial government, performance of the Nova Scotia economy, the business sector, and, most importantly, the public interest. O’Neill’s report sets out the policy choices available to government and their implications.

As the discussion of the findings from the consultation sessions presented in the following sections demonstrates, that full set of policy choices and related implications remain in play today, as demonstrated by the concerns raised by stakeholders participating in the sessions.

¹² O’Neill, p. 2

4. CONSULTATION FINDINGS

QUALITY OF EDUCATION, COMPETITIVENESS, RELEVANCE AND GRADUATE RETENTION

Key Research Objective

To identify the challenges and choices stakeholders agree must be addressed if the 'high quality' brand positioning of Nova Scotia's universities is to be maintained and strengthened, in order for our universities to continue to attract and retain students in an ever more competitive global marketplace.

Concerns & Issues

Throughout the consultations a number of concerns and issues were raised by stakeholders with regard to maintaining the quality of education offered by Nova Scotia's universities. They have been grouped into the following three categories:

- Education – quality and model;
- Quality and preparedness of students; and
- Business model.

EDUCATION QUALITY AND MODEL

The first concern, which was raised by several stakeholder groups, was that there may be a false assumption that there is a high quality education offered in Nova Scotia. Many stakeholders described university education in Nova Scotia as mediocre at best and not near the top in terms of quality and overall experience. Several groups felt the recent rankings, national and international, supported this opinion.

Several groups raised a concern with regard to protecting the liberal arts education model. They feel this approach provides wide exposure to ideas and learning for students and that too narrow a focus on vocation and job related course alignment with the labour market can deprive students of valuable opportunities to become "critical thinkers and global citizens." It was noted that younger students, who are 17-18 years old, often do not know what job they want and forcing them to focus early in their academic career can be detrimental. It is interesting to note, however, that even those stakeholders who argued strongly in favour of the liberal arts education model still recognized the potential benefits of co-operative education and experiential learning opportunities.

There was a sense, predominantly among faculty, that there is a trend to diverting funds away from operating budgets, teaching, libraries and tenure track faculty towards increased administrative positions and capital budgets to fund construction of new buildings, thereby negatively impacting on the quality of education. They promoted the notion that faculties, departments and programs need to have specific levels of tenure track faculty in order to maintain their accreditations, and this cannot be accomplished with part-time or contract faculty.

Stakeholders raised questions in relation to discrepancies between the promises made to international students by recruiters/agents in overseas markets and what is actually being delivered at Nova Scotia institutions. Some stakeholders felt that the quality that was promised did not materialize, and some students claimed to have transferred to other institutions in order to get the education they require.

QUALITY AND PREPAREDNESS OF STUDENTS

A number of stakeholder groups expressed concern with regard to the quality of students that are being admitted into the province's universities. Several stakeholders mentioned that the English language proficiency of some international students is inadequate, and can have negative impacts on the entire class and program. Others expressed concerns that generally, admissions standards appear to be declining in some institutions and the need for increased revenues compel them to admit more marginal students.

The level of preparedness of Nova Scotia high school students was also seen as a concern. Some stakeholders felt that more work needs to be done at the high school level before students arrive at university to ensure their success. There were suggestions that there is a need to identify the specific areas where students are failing in university, and then work with the high school system to address these specific areas of weakness.

Many stakeholders agreed that the student services systems at several universities are not sufficient to provide the needed supports required by some international students. A number of international students felt they are being treated like "cash cows" who have been admitted primarily so the institution can reap the benefit of higher tuition fees.

BUSINESS MODEL

Several stakeholders expressed concern regarding the tension between growing the university business model and economic prosperity, and delivering quality education. They felt that universities are regularly asked to do more with less, precipitating an increasing reliance on contract staff and faculty, while in some cases administration continues to grow.

Lastly, it was suggested that universities are not operating in a Nova Scotian education system, they are operating in a highly competitive Canadian/global education system and

just happen to be located in Nova Scotia. As such, Nova Scotia's universities need to decide on their target markets. Two ends of the market spectrum were discussed; on one end of the spectrum are students who are highly motivated and likely to succeed and perhaps are prepared to pay a premium for a high quality education, and on the other end are students who may not be as highly motivated but are nonetheless interested in attaining a university education, potentially leading to a model that offers a lower quality of education.

Responses to specific questions

QUESTION: What would you identify as the key attributes of Nova Scotia's universities that contribute to the high quality of the education delivered?

SUMMARY OF RESPONSES:

Stakeholders identified a wide range of attributes that contribute to the high quality education offered by Nova Scotia's universities.

The communities in which our universities are located are seen to be significant contributors. The small size of the communities, including Halifax, makes them safe and welcoming. The natural surroundings offer opportunities to explore and learn. And the people in the communities and at the institutions are friendly, helpful and welcoming and make students feel at ease. Overall Nova Scotia was seen as being education focused, creating an environment conducive to learning.

Stakeholders felt that the diversity of institutions – size, location, and focus – and the diversity of programs within the institutions allow varying learning styles, values and priorities of students to be accommodated including the opportunity to study in French and earn a degree from a Francophone university. The reputation of the institutions within specific areas of expertise is recognized, although some felt our international reputation may not be strong. The accreditation process for many programs ensures the quality is maintained by adhering to national and international program requirements.

The performance of our universities in national and international rankings is seen as both a strength and a weakness. The smaller, liberal arts universities frequently rank in the top 10 in Canada, but Dalhousie struggles to maintain a high ranking when compared to larger research intensive institutions in Canada and the world. While rankings do not contribute to the quality of education, stakeholders felt that they are seen as a public reflection of that quality.

Many stakeholders recognized that the small class sizes offered at Nova Scotia universities is a differentiator, and access to professors that comes with small class sizes can mean the difference between success and failure for many students. All stakeholder groups recognized that the student to faculty ratios in our universities is an attribute of quality. For

the most part, they felt that the corporatization of education that has occurred in other jurisdictions is not yet apparent in Nova Scotia.

The high quality faculty, recognized by teaching awards, research funding awarded, and articles published are seen as a primary contributor to the quality of education. Students recognize the value of having tenure track faculty teaching their classes, particularly at the first and second-year levels in the smaller institutions. The percentage of PhD's among faculty was also recognized as a contributor to quality.

Diversity in the classroom, through the contribution of international students, adds to the quality of the programs. As well, the value added through co-operative/ experiential learning was recognized by all stakeholders. The ability to customize learning, by taking on courses from multiple departments and faculties, in an interdisciplinary environment is another contributor to the quality of the learning.

Unique programs and courses that are offered in Nova Scotia, connecting learning to the community (i.e., Aboriginal) and to industry (i.e., Atlantic Wine Institute) were identified as positive attributes. As well, service learning opportunities, where students earn credits while working with not-for-profit community groups were seen to be valuable.

The mobility of education within the province was seen to be another contributor to quality. Nova Scotia students can stay in their home province and attend a high quality institution, and all students can start their post-secondary education at one institution (including NSCC) and transfer to another to achieve success or enter a program that is more applicable to their long-term goals.

Campus life and student services were also identified as contributors to the quality of education. Overall, stakeholders expressed a high level of satisfaction with the education delivered, and felt that students and alumni take great pride in their institutions and their degrees.

QUESTION: What needs to be changed, in academic programming, experiential learning, (e.g. co-op programs), and non-academic services and facilities, to improve the quality of education delivered by our universities, to ensure they continue to attract students in an increasingly competitive global market?

SUMMARY OF RESPONSES:

Student services – students, faculty, alumni and staff identified that there is a need for enhanced student services on most campuses, specifically in the areas of mental health support, counselling, language skills, retention, learning strategies, and international and

indigenous services. It was noted that there are very few services available for students in French, both on and off campus.

Tools & technology – there was recognition that the availability and use of up-to-date technologies in the classroom, software in computer labs, and equipment in laboratories is essential if the quality of education is to be maintained but that this is not consistently available across all institutions. As well, some groups identified that fibre optic Internet should be available throughout the province to allow more students to participate in distance learning opportunities.

Programs – Stakeholders generally believed that the variety and flexibility of university programs is a strength that must be maintained. Comments and suggestions included:

- Universities could develop more programs and delivery options that will allow more students to participate through online learning; individualized programming, graduate programs, and more collaboration within and between institutions would improve quality;
- Interdisciplinary programming should be encouraged, particularly at the undergraduate level; and
- Programs that meet local demand, build on local strengths, and make a difference in our communities are important contributors to the quality of the education system and the general economic and social well-being of the province generally.

Rationalization – A common theme expressed by a number of stakeholders was that in communities with multiple institutions, there should be some rationalization of programs, so there is one institution offering a great program rather than two or more adequate or good programs. Every university cannot offer every program, so some specialization would enhance each institution.

Administration – Stakeholders identified the need for university administration to be cost effective, which means using the latest technologies to communicate with students and to manage the day-to-day operations of the institution, and in some instances, that means eliminating manual and inefficient processes. Staffing levels need to be sufficient to ensure the work can be done, while also ensuring that staff costs are affordable. One suggestion was to hire more new graduates with fresh ideas into the administrative ranks.

Governance – Some faculty felt that their voice is not being heard at the Board of Governors level. There were other comments that the Boards have become too corporatized distancing them from the real mandate of the institutions which is to offer high quality education.

Tuition & fees – Reducing the student debt load was a recommendation from students, faculty, staff and the business community. There were a number of different suggestions

about how this might be accomplished: by reducing tuition and ancillary fees; by increasing access to employment opportunities for both domestic and international students; and by increasing scholarships and bursaries for both domestic and international students. Some felt that with reduced debt loads, more students will be able to afford to remain in Nova Scotia.

Diversity – many institutions have increased the diversity of their student population in recent years; however, many stakeholders felt that the funding for on-campus supports for international, aboriginal, African Nova Scotian, and disabled students has not kept pace with the increase in enrolment. At the same time the professoriate has not been diversified, nor has the curriculum, so it is often difficult for Aboriginal or African Nova Scotian students in particular, to feel a strong connection to the learning process.

International students – there was general recognition that the integration of international students into our campuses and communities will benefit the province as a whole. Local settlement organizations should be allowed/encouraged to work with international students and government should speak with students about becoming permanent residents. Improving the foreign credential recognition process and offering scholarships for international students would also be beneficial.

Faculty – Stakeholders generally felt that universities need to continue to invest in faculty to maintain the quality of education. Ensuring faculty have the tools and capacity to teach, conduct quality research, and provide support to students is essential. Less reliance on part-time faculty, realignment of faculty complement based on enrolment levels, and aligning faculty recognition with teaching and not just research were identified as approaches that could be implemented.

Mobility – The ability of students to move between programs, faculties and institutions was seen to be a positive attribute and stakeholders commonly felt that it should be enhanced. There was a strong feeling that there should be more articulation agreements between NSCC and the universities in Nova Scotia. Encouraging blended programs between institutions can create unique learning opportunities which could be a differentiator.

Collaboration – shared services were seen as one way of making better use of scarce resources. The libraries are doing this already, so more effort should be put into finding other services that can be shared while maintaining the individual culture of the ten universities.

Experiential learning – There was overwhelming agreement that all students should have the opportunity to gain hands-on work experience during their university education to enhance their opportunities at academic and post-graduation success. Both domestic and

international students would benefit from the experience of applying their university education in a work setting.

Skills training – there was a strong feeling among many stakeholder groups that university is not the place to learn specific job-related skills; it is a place of higher learning to create critical thinkers and global citizens. Soft skills, while important, can be developed through co-operative education, by taking online courses, or through applied learning programs at NSCC or as a second degree. Students need to understand what they will come out with when they finish their degree, and how it can be applied in the work world.

Business partnerships – Stakeholders felt that universities need to establish closer relationships with business to ensure students have co-operative education opportunities and greater employment opportunities after they graduate.

Entrepreneurship – There was recognition that more programs should be developed that will improve entrepreneurial thinking, as well as students' access to entrepreneurial skills development and idea generation/incubation.

QUESTION: How can Nova Scotia's universities more effectively continue to align programs and courses offered to meet the needs of the Province's labour market, while maintaining a balance between transferable skills and specific labour skills?

SUMMARY OF RESPONSES:

There were many divergent views expressed by stakeholders in response to this question. Some felt that because the Nova Scotia labour market is shrinking, there is little critical mass of businesses in the province that need university graduates, therefore universities need to make the education more relevant to business. Programs should be responsive to labour market trends and needs and prepare students for the current and future economy.

Some suggested that university programs should be examined through the lens of the business environment – supply and demand. For example, in medicine, we know we have issues of population decline and other demographic challenges. The business plan for the profession clearly states we need more family doctors. It was suggested that the system should reduce residency positions in areas which are not growing, e.g., plastic surgery, and re-allocate those positions to family medicine, and make positions for these specialists available in communities where they are needed, like Yarmouth, Kentville, and Sydney.

However, there was concern in many stakeholder groups that the value of a university education is being lost in the drive to connect university education to employment opportunities. They felt the role of universities is to “educate” and not “train,” and that universities should be allowed to focus on their core mission of teaching and research, with

less focus on job preparedness. However, many stakeholders recognized that graduates need to be both critical broad thinkers and have hard skills that are transferrable to work – finding this balance is the challenge.

Overwhelmingly, stakeholders supported the notion that experiential learning, through co-operative education, mentoring, job shadowing and volunteering, is one way to balance the development of transferrable skills with pure education. Enabling students to have the opportunity to engage in some form of experiential learning, regardless of the faculty or program, would be a differentiator for Nova Scotia. It was noted that there is a need to also ensure these opportunities are available in French for French speaking students.

There was recognition that many students need to better understand how what they are learning in university can be translated into employment, where those opportunities are, what skills are needed in which industries, and how to demonstrate that they have those transferable skills. They need to prepare for the transition from school to work. Some stakeholders suggested that these services can be provided collaboratively among universities that are located in close proximity to one another or online. The goal should be to help graduates find jobs which require skills and knowledge they do not acquire from regular university courses – there may be an opportunity to work with human resources experts in the community to deliver this information.

There were stakeholders who expressed frustration that the university sector is somewhat inflexible in terms of responding to market demands; the community college system is seen to be much more nimble. There was a suggestion that the “system” should let the students drive the demand for programs, and let the universities respond to that demand the same way any successful business responds to the needs of its customers.

Increasing mobility between universities and between NSCC and universities is seen by many as a way to improve the relevance of university education. Whether transferring from one university to another to pursue a particular program, or transferring from NSCC to university to take their education further, some stakeholders felt that students need to be able to easily move between the two systems, without having to duplicate learning and pay additional tuition.

Increasing the entrepreneurial skills of university graduates through targeted programming was seen to be another way of making university education relevant to the labour market. There was general agreement across stakeholder groups that all students should have the opportunity to choose to enhance their entrepreneurial skills, leaving it up to them whether to pursue it or not.

QUESTION: What changes can our universities make, individually or collectively, to increase the likelihood that graduates will remain in Nova Scotia?

SUMMARY OF RESPONSES:

In summary, stakeholders felt that in order to ensure more graduates remain in Nova Scotia, more needs to be done to improve transition from school to work, reduce student debt loads, enhance entrepreneurship, and establish pathways for specific groups.

Transition from School to Work – One suggested option was to build strong partnerships with business and community organizations to better understand what they need from graduates, and then meeting those needs through specific programming for students who want to pursue those opportunities is one option.

Another option was to establish a provincial co-operative education program that would enable all students, regardless of program or faculty, to gain hands-on work experience during their education. Stakeholders generally felt that students coming back from co-op placements bring a greater breadth of knowledge to the classroom, thereby enhancing the learning of all students. Co-op placements also allow students to “test-drive” potential employers, and employers to “test-drive” potential employees.

Some stakeholders suggested that building connections to employers can also be achieved through mentorship, volunteering, and networking – as the programs at Acadia and St FX have proven. Engaging with alumni to become mentors to students and new graduates may be one way to help students, domestic and international, integrate into employment.

Another suggestion was to establish a provincial research strategy and encourage students to pursue research opportunities with local industry, business, or community groups that meet identified needs to allow students to make connections into the community and establish networks with future potential employers. Building more collaborative environments, i.e. sandboxes, where students can establish linkages with industry and create new linkages was another approach.

There was recognition that international students may need additional help in transitioning to work, whether that be permanent or co-op, so additional effort should be applied to this group.

Other suggestions included getting information to students about employment and career opportunities, hosting job fairs for graduates, offering incentives for businesses to hire new graduates, and maintaining supports for students after they graduate to help them with the transition.

Debt load – Many stakeholders felt that reducing the debt load of students will encourage them to remain in university and complete their program, thereby reducing the drop-out rate. This can be achieved through reduced tuition or increased bursaries or scholarships.

Entrepreneurship – Enhancing entrepreneurship training at university was seen to be a positive development to the universities' program offering enabling students to create new companies from their own research or to meet an identified need in the community. Ensuring all students, regardless of faculty, have the opportunity to take entrepreneurship training would differentiate the university offerings in Nova Scotia.

Pathways – Stakeholders felt that establishing support programs and creating specific pathways into professional and post graduate programs that address the needs of traditionally underrepresented groups including Aborigines, African Nova Scotians and persons with disabilities will not only encourage them to attend university but will help them succeed.

ECONOMIC VIABILITY, SUSTAINABILITY, AFFORDABILITY AND ACCESSIBILITY

Key Research Objective:

To identify the challenges and choices to be made if Nova Scotia's universities are to remain economically viable and sustainable, while also remaining affordable and accessible; recognising these issues must be examined within the context of changing demographics that result in fewer students (and thus reduced tuition revenue) and reduced tax revenues that will further constrain the Province's ability to fund universities.

Concerns & Issues

Within this theme, the key issues raised can be categorized into the following five concerns:

- Validity of the \$50 million funding gap;
- Tuition and student debt;
- Cost structure;
- Jobs for students on graduation; and
- Amalgamation / rationalization.

VALIDITY OF THE \$50 MILLION FUNDING GAP

Nova Scotia taxpayers invest almost half-a-billion dollars in post-secondary education each year. The Minister has publicly stated that without changes to the university funding formula or major reductions in university operating costs, a funding gap of \$50 million will exist by 2018. This gap will continue to grow in subsequent years.

Stakeholders, particularly from student and faculty groups, questioned both the validity of the stated funding gap and the government's inability to fund the gap. Some stakeholders indicated that quantification of the gap may or may not be accurate as it is based on university-initiated projections with a complex and inconsistent set of assumptions. Some stakeholders opined that it was not a gap at all; that it consists instead of costs that should have been funded in the past and were not. Other stakeholders cautioned that the \$50 million will seem like a small cost compared to the impact on a community and its economy if an individual institution fails.

On the other hand, there were suggestions that while the funding gap may be real, the solution lies in curtailing the costs of the institutions and that if government were to fund the gap, it would only be delaying the process of finding a solution to the problem. Some stakeholders felt that with the significant investments in many of the universities' infrastructure, it is difficult to believe that universities have a funding problem at all. Others expressed concern that there was more support for capital projects than for curriculum and quality.

TUITION & STUDENT DEBT

Stakeholders felt that the government will need to consider its priorities for this sector, and among them is the cost of tuition and the need to set competitive tuition rates. There was concern that the government will look to students to fund increased costs of the post-secondary system. There was much discussion about different tuition models that included: free tuition, reduced tuition, forgivable student loans, and free market tuition (by which stakeholders meant that universities should be allowed to raise their tuition rates to whatever the market will bear). Many stakeholders were concerned about the high debt load borne by students and examples were cited of some students who need to hold as many as three part-time jobs to afford their tuition and living expenses.

While some stakeholders suggested that there is a need to balance student loans, grants, and bursaries, students and faculty in particular advocated for significantly reduced or free tuition and the conversion of student loans to grants as a way to make post-secondary education accessible to the greatest number of students. Other stakeholders felt that it is unfair to promote student debt when students face an uncertain future/job market on graduation. And yet others suggested that there is a need to change the thinking around the

cost of education and student debt. Their view was that it is in fact an investment in the student's future.

The Nova Scotia bursary program was seen to be a good and essential program for Nova Scotia students but there were varying opinions about the bursary for students coming from other parts of Canada. Some felt that the amount (\$261 per year) is too insignificant to matter and others believed and the amount may be a differentiator. There were suggestions that the total cost of the latter at \$3 million could be put to better use and most often, it was suggested that it be used to increase the amount of the bursary for Nova Scotia students. It was noted that the bursary program is not generally referenced during student recruitment efforts.

COST STRUCTURE

There were concerns that the cost structure of the universities is not well understood, and in particular, that there is a lack of transparency of where the money is being spent, and that there should be an examination of the cost structure. There were expressed opinions that there is a generally a lack of accountability and transparency around the institutions' management of government funding.

Collective agreements are seen to be a major constraint and impediment to flexibility. Stakeholders noted that with salaries consuming 70 to 80 per cent of the costs, there is little room for options to cutting operational costs. Many felt universities should eliminate programs that do not cover their costs or which have very low enrolments and that there is the need to have candid and open conversations around these two issues.

JOBS FOR STUDENTS ON GRADUATION

Most stakeholders across the spectrum recognized the demographic challenges that the province faces. They felt that to retain students from outside the province would require good paying jobs and employers who will hire recent graduates. If we want students to stay, the private sector has a role to play. The most often identified issue was employers' requirement for three to five years' experience. It was also noted that students need to have realistic expectations so they are prepared for the available jobs in the market.

AMALGAMATION / RATIONALIZATION

Many stakeholders expressed concerns about the viability of 10 institutions in a province that has a population of fewer than one million people. Centralization, amalgamation and rationalization were raised in many sessions providing a variety of perspectives:

- A completely centralized system with one university in Nova Scotia as the most logical way to manage and control costs;

- A partially centralized and partially decentralized system with one university in Halifax and the retention of the universities in other parts of Nova Scotia, recognizing their importance to the local economies;
- Rationalization of programs and courses to reduce the redundancy in the system;

Further suggestions tended to focus on two key areas – the admission and registration processes, and the library system:

- The admissions process could be centralized by creating one entry point for post-secondary education similar to the Ontario Universities' Application Centre. By offering one registration system for all universities within the province, there could potentially be significant administrative cost savings. In fact, it was mentioned that work is already underway to implement a centralized application information portal.
- One library across the province would allow for further cost savings through staff reductions and economies of scale. A successful example is Novanet, which has already shown that it is possible to do things much more economically through collaboration.

Business and professional groups stated that nothing should be considered off the table in terms of discussions around cost savings. They voiced the opinion that as government has limited funding for post-secondary education it needs to examine the entire environment, just as a business would when facing a shrinking and competitive market.

Responses to specific questions

QUESTION:

The Minister had stated publicly that if we continue on the path that we are on there will be a funding gap of \$50 million by 2018, which the Province cannot pay for What can our universities do to generate needed additional revenues, other than raising tuition? Where does the additional money come from to sustain universities?

SUMMARY OF RESPONSES:

Overall, the responses to this question recognised and acknowledged that the challenge of sustaining ten universities in a jurisdiction as small as Nova Scotia was significant. As noted above, in many sessions concern about the validity and precision of the \$50 million amount of the funding gap was raised.

While expressed in many different ways, most respondents expressed understanding of two key elements of the situation:

- That sources of revenue are generally limited to tuition, research funding, philanthropy and government funding; and,
- With roughly 70 – 80 per cent of the combined operating costs of the ten institutions comprised of salaries, achieving meaningful reductions on the expense side of the universities' collective ledgers would be very difficult.

There was general concern among a majority of stakeholders that costs of attending university and the related debt loads of graduating students should not be increased. Predictably, this view was expressed most frequently by those closest to this issue – student and faculty group respondents, and other stakeholders who happen to have children who are currently university students. It is also worth noting that these concerns were raised primarily in the context of affordability and accessibility to universities by Nova Scotian students.

In response to the specific question regarding “where does the additional money come from,” there were few specific solutions. Those that were mentioned with more or less equal frequency included:

- Generate increased revenues from increased numbers of students that could be attracted by investing in the university sector and promoting Nova Scotia as a preferred education destination;
- Allowing the institutions to raise tuition rates and letting them succeed or fail in the competitive global marketplace for university education;
- Implement additional consolidation and streamlining of services wherever possible;
- Rationalize programs and possibly institutions to eliminate program overlap and duplication; and
- Increase efforts to promote a strengthened culture of giving and support among alumni as our universities do not receive nearly the level of financial support that is common in the United States.

QUESTION:

How important is the Nova Scotia Bursary to maintaining affordability of our universities? Should tuition caps be lifted as a means of enabling the universities to generate revenues needed to continue improving quality?

SUMMARY OF RESPONSES:

In response to the specific query regarding the importance of the Nova Scotia Bursary there was widespread agreement among respondents in all stakeholder groups that the Bursary is definitely important to Nova Scotia students, and welcomed by Canadian students from

other provinces but likely not a differentiator with respect to their decision to attend a university here.

There was a widely expressed view that the Bursary increased accessibility to and affordability of university education for many students from Nova Scotia; but there was also a significant portion of respondents who seriously questioned whether its availability had any impact on which institutions students decided to attend. (This likely reflects some unclear understanding of the provisions of the program which could not be explored / corrected within the constraints of the consultation process.)

It should also be mentioned that several respondents, in different groups, suggested that some measurement data regarding the importance of the Bursary to affordability should be developed, if not already in place.

With respect to whether tuition caps should be lifted as a means of enabling the universities to generate incremental revenues, the responses, in approximate descending order of frequency of mention, can be summarised as follows:

- If tuition limits can be raised in a manner that does not constrain the ability of Nova Scotia students to access university (through increased assistance to these students or by focusing increases on those from elsewhere) there is very limited opposition;
 - In connection with this specific issue, there were a number of suggestions regarding the need for increased emphasis on enhanced advancement efforts focused on development of funds specifically to support increased bursaries. There was a specific suggestion to investigate a program of the New Brunswick Government in which funds raised by universities to explicitly support bursaries and scholarships are matched dollar for dollar by the NB Government;
- Noting that even with caps in place, tuitions continue to rise without any apparent impact on enrolments (that any recent declines in enrolment are demographically based and not attributable to any tuition differentials), and that if students and their parents see a direct connection between tuition and value of education, price will not constrain attendance and thus the cap serves no purpose other than to constrain revenues; and
- Universities operate in a competitive global marketplace and they should therefore be allowed to compete in all ways, including by adjusting tuition as needed to meet costs and to invest in faculty and programs to improve competitive positions.

Readers should note that all three of the responses highlighted above were mentioned by respondents representing a wide selection of the stakeholders consulted.

QUESTION:

What changes do you think universities could implement to reduce costs? What is needed for the university sector to be financially and structurally sustainable to ensure that constant negative financial positions can be avoided?

SUMMARY OF RESPONSES:

The responses to this question revealed an interesting dichotomy in perceptions of the potential for cost reductions. Those stakeholders external to the institutions perceived potential for cost reductions through such efforts as combined and rationalized administrative and management systems, rationalization of programs, and increased collaborative use of technology. By contrast, those stakeholders from within the institutions, including faculty, staff and students, indicated that there are few options for achieving significant cost reductions, with the phrase ‘it’s tough to get blood from a stone’ heard in multiple sessions.

Across all sessions, a myriad of generic suggestions were put forward. These ranged from proposed reductions in administrator salaries, elimination of “administrative bloat,” reductions in numbers of senior administrative positions, increased implementation of technology, reduced use of printed text books, and elimination of academic programs that attract insufficient numbers of students through to rationalization and elimination of duplicate program offerings, and complete closure of one or more institutions.

None of these suggestions came with specific proposals regarding how these ideas could be implemented, nor with any sense of actual costs that might be saved.

There were several suggestions that were more indirect with respect to cost reductions, but which could prove useful if pursued. These focused on conducting detailed investigations of recent and relatively recent consolidations – i.e. TUNS and Nova Scotia Agricultural College with Dalhousie – to determine which specific elements of the integrations resulted in actual cost savings, with a view to applying similar approaches with other institutions in the province.

QUESTION:

Our universities receive significant revenues from tuition and taxpayer funds. Which specific, measurable outcomes should Nova Scotians expect from their universities in return for that funding and how can attainment of those outcomes be most effectively measured and reported?

SUMMARY OF RESPONSES:

Again, very few specific, actionable suggestions emerged from the discussions of this question. However, there were some general themes which were common across most of the sessions, particularly those involving “external” stakeholders. In approximate descending order of frequency of mention, these included:

- There is a need for greater transparency which was most frequently articulated as establishment of a requirement that universities publish a similar set of financial reports containing a common set of key performance metrics, which were not specified, but which would enable taxpayers to understand more clearly what the province and its economy receive from the universities in return for the public funding provided;
- Extending the theme of reporting and measurement, there were suggestions from respondents in multiple sessions that universities should report on and be held accountable to contribute directly to improving the economy in the area in which they are located, as well as for the province as a whole; and,
- There were a number of suggestions, both from within the universities and from external stakeholders, that Nova Scotians should also have a basis for making regular comparisons to how our universities perform compared to institutions in other comparable jurisdictions.

QUESTION:

What other changes can be considered to encourage more Nova Scotians to attend university, particularly groups that have been under-represented in university attendance?

SUMMARY OF RESPONSES:

Readers are asked to note that as a result of time constraints, this question was not addressed explicitly in about half the sessions; however, as has been reported elsewhere in this document, issues, concerns and suggestions were put forward in other parts of the discussion that also pertain to this question.

In those sessions in which this question was discussed directly, respondents were very actively engaged and forthcoming with a number of suggestions. In approximate descending order of frequency of mention, these ideas included:

- There is a need for increased recognition by the institutions and within government that reality for many under-represented groups is that post-secondary education is virtually never thought of as a possibility. Therefore communications and outreach to these groups needs to begin at a much earlier stage, such as in early grades in the public school system, to introduce the concept that progression from secondary to post-secondary education can be normal;

- Students from under-represented populations need to be able to “see themselves” in a university environment and that will require universities to follow examples in place at some institutions (CBU and Dalhousie mentioned specifically) through which individuals from these communities have been hired in visible roles in student recruitment and, in particular, in on-campus support roles;
 - Similarly several respondents identified the need to hire faculty from such populations;
- There was recognition that students from these populations are likely to need extra support until the experience of progression from secondary to post-secondary becomes commonplace and therefore the universities, potentially with incremental, focused provincial support, should establish such programs;
 - Several respondents noted the Nova Scotia Community College has effective programs of this sort in place which could provide useful guidance to universities;
 - Several respondents also noted explicitly that these groups often exhibit lower socio-economic profiles than the total population and that as a result affordability is a significant challenge requiring increased, focused financial support; and
- Accessibility needs to be thought of in geographic terms which requires institutions to develop mechanisms for being present in the communities in which these populations are located, including providing classes in remote facilities located directly in such communities and through enhanced online, distance learning.

RESEARCH, DEVELOPMENT, COMMERCIALIZATION – STRENGTHENING NOVA SCOTIA’S ECONOMIC PERFORMANCE

Key Research Objective

To identify the changes and opportunities through new approaches to R & D and commercialization activities that stakeholders agree can be developed to help improve Nova Scotia’s economic performance, particularly in the context of innovation and productivity and increasing research and development activity beyond the universities.

Issues and Concerns

Issues and concerns expressed by stakeholders within this theme can generally be categorized into four groupings:

- Lack of familiarity between the universities and Nova Scotia businesses;
- Collaborations between universities, and businesses and communities;
- Programs in other jurisdictions; and
- Resistance to change.

LACK OF FAMILIARITY BETWEEN THE UNIVERSITIES AND NOVA SCOTIA BUSINESSES

Perhaps the most commonly expressed issue during discussion of this theme is that neither universities nor businesses in Nova Scotia have a sufficient level of mutual familiarity to facilitate easy exchanges that could lead to knowledge or technology transfer. That lack of familiarity was expressed in a number of different ways, including:

- Explicit wariness and suspicion expressed by some students and faculty of the motivations of business with regard to engagement with university researchers and, in particular that such engagement could lead to reduction of resources available to support research in the university environment;
- Similarly, several faculty members and some students expressed concerns that the whole idea of commercialized research is deeply problematic, raising questions related to academic freedom and what the researchers can do and say and that the direction of research cannot be dictated by industry;
- Lack of knowledge and awareness expressed by business and other external stakeholders of the nature, extent and scope of research being conducted within universities and, in particular, how such research could be utilized by local businesses in development and introduction of new products and services;
- The limited use of experiential learning, including co-op programs, particularly in non-STEM disciplines was widely identified as a constraint to better understanding by students and faculty of the needs and opportunities in the private, public and not-for-profit sectors and, equally, to wider awareness by business, government and NGO's / voluntary sector enterprises of the skills and knowledge available within our universities; and,
- Misunderstanding from businesses in particular of intellectual property (IP) ownership and licensing protocols, but also from faculty and other "internal stakeholders" of how IP can be protected while collaborating with businesses and, from both external and internal stakeholders, of how knowledge and technology transfer from universities to local enterprises, including social enterprises, can be used to generate increased prosperity within the province.

It should also be noted that a small number of stakeholder groups expressed concerns about the validity of the consultation process, suggesting the questions posed during the consultations were guided by a tainted set of assumptions. These groups also suggested the consultation process hinted at the direction of things to come in relation to the relationships between university and government; that the process could be perceived as presupposing the future of that relationship.

COLLABORATIONS BETWEEN UNIVERSITIES, AND BUSINESSES AND COMMUNITIES

Yet, in contrast to this somewhat negative perspective, businesses, university leaders, university staff, individual faculty members, and graduate and undergraduate students made references to specific experiences in which there had been collaborations through which research and / or knowledge had been transferred from universities to various types of enterprises. Many of these were small, local and rural enterprises and the collaborations addressed particular problems with considerable success. Similarly, we learned of some longstanding and some newer collaborations that have led to advances in our natural resource industries, including agriculture, aquaculture, Christmas trees, and renewable energy, as well as in other diverse fields such as justice and community medicine.

We also learned of growing relationships between several of the smaller institutions in the province and organisations in those communities through which the community organisations engage with students and faculty as active advisors and support resources.

It was also noted in several sessions that it must be recognised that relationships between various types of enterprises and universities are necessary and will be formed. In this context, however, it was also suggested that the nature and structures of these relationships should be transparent with respect to the benefits to be gained by all parties – students, faculty / researchers, universities and the external enterprise.

PROGRAMS IN OTHER JURISDICTIONS

A considerable number of respondents, particularly from the business community but also from among university leadership, honorary consuls and immigration partners, cited direct experiences elsewhere and noted that there is much to be learned from how other institutions and jurisdictions address the university / enterprise interface. Specific examples cited included:

- Different and more ‘entrepreneurial’ approaches to IP policies and protocols at institutions (e.g. MIT, Stanford and several European institutions) are seen to be considerably more successful than Nova Scotia, and indeed Canada, and its universities in ensuring effective transfer of knowledge and technology into the wider economy and should be investigated more fully to identify practices that could be adapted for implementation here;
- The integration of apprenticeship programs with Germany’s universities was cited by many stakeholders as contributing to that country’s productivity growth and again, upon investigation would likely lead to identification of practices and approaches that could usefully be adopted here; and
- The explicit linkages between universities and the arts and cultural sector in Switzerland and how this had advanced that sector was identified as likely having

applicability here, particularly with respect to programs at NSCAD and the theatre and costume design programs at Dalhousie.

RESISTANCE TO CHANGE

Finally, an underlying theme that was voiced in almost all sessions during discussion of this theme was institutional and cultural resistance to change. Concerns were articulated in the context of rigidities within: the academic institutions; faculty groups; government; businesses; professional associations; and across Nova Scotia society as a whole. In many ways these concerns reflected the issues identified in the *Now or Never* Report that collectively we must find new ways, and sometimes dramatic new ways, of doing things or progress will elude us and decline will be inevitable.

Or, as several individuals noted during the discussions, to keep our universities moving on their current trajectory while expecting different outcomes is not practical.

Responses to Specific Questions

QUESTION:

What specific changes might be introduced to expand linkages and working relationships between businesses and universities – including faculty and students –to accelerate knowledge transfer from universities to businesses in Nova Scotia?

SUMMARY OF RESPONSES:

There were several frequently mentioned responses to this question about specific changes that could be introduced to expand linkages and working relationships. In approximate, descending order of frequency of response, these included:

- Expansion of co-op programs and other forms of experiential learning, including linking a specific research project designed to benefit the co-op placement receiving enterprise;
- Expansion of linkages between specific industry groups and individual institutions, with examples such as the relationship between Acadia and the wine industry, the Dalhousie Faculty of Agriculture and Federation of Agriculture and the Christmas Tree Growers Association were but a few of the examples cited;
- Establishment of a business accelerator / incubator or similar entity was suggested frequently – Waterloo’s Communitech was often cited as an example, as were the recently created ‘Sandboxes’ in Nova Scotia;
- Expansion of the Provincial Nominee Program and shifting its focus to international students already here and who want to stay, and various other similar initiatives to make it easier for such students to stay in Nova Scotia were

mentioned in most sessions, with generally wide recognition of the limitations on the Province's jurisdiction in this domain;

- Expansion of the Province's research and development voucher program and implementation of other such programs that could serve as incentives for small and medium enterprises to approach and become engaged with university researchers;
- Alignment of strategic research priorities of universities with key economic sector development priorities of the province;
- Establishment of industry advisory boards, as has been done in the Faculty of Computer Science at Dalhousie as a means of bringing industry and education together effectively; and,
- Re-introduction of the small ('starter') research grants that were awarded to university professors that could be used to support hiring students, or to undertake some initial research that could be used as the basis for a proposal for a much larger grant from other sources. This would be a way to introduce students to research and development and could be helpful in retaining students in Nova Scotia. *(Note: The Department of Economic and Rural Development and Tourism Productivity and Innovation Voucher Program could be used for these purposes.)*

QUESTION:

What other changes are needed to increase commercialization of university-developed R & D and technology by companies in Nova Scotia? What actions could be taken by universities? What actions could be taken by businesses?

SUMMARY OF RESPONSES:

With respect to changes that could be undertaken by either businesses or universities to increase commercialization of university-developed technology, knowledge or other research and development, we heard few specific suggestions that could be implemented. Those interesting ideas that were put forward included:

- Development and implementation of a province-wide "portal" that would enable businesses and other enterprises to view an "inventory" of active research underway in the province and to identify researchers working on ideas applicable to the activities of the enterprise and, similarly, that would enable researchers to identify enterprises which may have an interest in further development of current research;
- Examine the history of the 'Celtic Colours Festival' as a case study example of how a university can be an effective catalyst for a new venture and as a means of

identifying other similar opportunities, especially in culture and the arts, for potential 'spin offs' from activities, not just research and development, within universities;

- Establish a provincial knowledge transfer group that would take research from the academic sphere and put it into practice, working collaboratively with universities and business partners, as modelled by the Institute for Work and Health in Ontario; and,
- Consider establishing a province-wide "reverse trade show" which would be held somewhere other than on a university campus and which would provide a vehicle for university researchers to explain their research activity to the public, and in particular to businesses and other ventures.

QUESTION:

What specific actions are needed to increase hiring of university students and graduates by employers in Nova Scotia?

SUMMARY OF RESPONSES:

Session participants put forward a number of ideas that could contribute to increased hiring of university students and graduates by Nova Scotia employers. In approximate, descending order of frequency of response, these included:

- Many groups identified the need for expanded co-op and experiential learning programs as an effective way through which students can gain worthwhile experience that can be cited following graduation when they emerge into an employment market which rarely considers someone without experience;
- Consider as well creating incentives, such as tax credits or payroll rebates (as offered by NSBI), to encourage local organizations to hire recent graduates;
- Consider establishing a "profile" of graduates to help employers across the province understand the skills and capabilities that can be gained for their organizations when they hire a recent university (or college) graduate;
- Student and faculty participants frequently suggested that tuition be reduced or eliminated and that loans be converted to grants as a means to enabling students to graduate with less or no debt;
- Investigate the START Program offered by Service Canada as a means of supporting entry to the workforce by recent immigrants and consider creating a similar provincial program that would support workforce entry by new university graduates.

BIG BOLD IDEAS

At the conclusion of each session, each participant was asked to identify one big, bold initiative that individual would recommend Government implement as an outcome from this process. Many interesting and creative ideas were put forward.

In reviewing the ideas put forward, two primary categories emerged as a basis for organising and presenting these suggestions in a meaningful context. These categories are:

- Opportunities for investment and further development; and,
- Opportunities for management and reduction of costs.

Of course, the two categories presented are not mutually exclusive, nor were they generally viewed or discussed as such as individuals presented their ideas; though it was noted frequently by participants that the two sets of opportunities could be perceived to imply different policy orientations.

We have also established a third category – Opportunities for General Improvement – to capture those ideas which did not fit easily into either of the other two.

As well, not all ideas presented can be placed neatly in one or the other of the three defined categories and some were described by different respondents in a manner that would place the same idea in multiple categories.

Within each of the three categories below, the ideas and suggestions put forward by session participants are presented roughly in order of descending frequency of mention.

Opportunities for Investment and Development

- Expand co-op and other experiential learning programs and establish a central office to manage the programs and relationships with employers for all universities in the province;
- Have government adopt a philosophy that no longer considers the universities an expense and a drain on the economy, but rather looks at them as a benefit and an investment and resource for everyone in the province, that should be properly funded, and make Nova Scotia a global “destination” for high quality university education;
 - Consider modelling this change on the Boston area which has some 65 universities and colleges and focus the conversation on how to maximize the leverage that can be gained from the diversity of capability in the province;
- Remove tuition caps and allow universities to align program offerings with market demands and compete nationally and internationally on providing high value for

- money invested through tuition and, generally change system structure to enable increased flexibility to develop and implement program changes;
- Reduce tuition to zero; or at least to 2011, or 2008 levels, to help improve accessibility and affordability, or provide assistance through some other mechanism such as tax credits;
 - Promote / encourage fundraising focused on increasing funds available for bursaries and scholarships and investigate whether a New Brunswick government program of matching such fundraising proceeds could be applied effectively in Nova Scotia;
 - As a related initiative, increase bursaries and scholarships available specifically for Aboriginal and African-Nova Scotian students and other populations traditionally under-represented in Nova Scotia's universities;
 - Establish a Nova Scotia Online Institute or something similar, underwritten by government, that would deliver online learning equal to or better than available in class, and that would be 100 per cent available for credit at all universities in the province, and link to that a province-wide "sandbox" in which all university students can participate;
 - Invest in information technology capacity to ensure that all Nova Scotia universities are connected globally to the fastest, highest capacity networks;
 - Invest in research that could be proactive in building the Nova Scotia economy – e.g. health care, agriculture, green economy, let universities experiment with research activities, and focus on and promote areas in which we have recognised, leading capabilities (e.g. Oceans);
 - Increase funding to support increased numbers of tenure track positions;
 - As a related idea, link the increased numbers of tenure track positions to include such performance criteria as contribution to the local economy, international experience, commercialization, good teaching, and engagement with business;
 - Establish and fund a new venture incubator / accelerator (potentially based on the Communitech model in Waterloo as one example cited), as well as develop a research park (based on one of various models that have been successful elsewhere) with private sector leadership, but also supported by the public sector;
 - As a related initiative, establish a centralized "mechanism" to facilitate engagement between universities and industry at the research level; and,
 - Move away from traditional grade-based transcript approach to grading and student performance reporting and move towards a competency-based transcript that would describe transferable skills acquired to help employers understand the capabilities of new graduates. Extend this approach to competency rather than credential-focused

learning and ensure learning opportunities are framed to bring out those competencies through mechanisms such as community or research projects.

Opportunities for Management and Reduction of Costs

- Centralize administration of the universities and rationalize programs to eliminate duplication and overlap (including a unified senate and program approval process) beginning in Halifax, though it was noted by at least one respondent that rationalization in Halifax would almost certainly mean absorption into Dalhousie of smaller universities in Halifax and that also could be problematic for smaller institutions elsewhere in the province;
- Provide increased funding to universities to support increased early retirement programs and become engaged in helping the universities manage / change the collective agreements to achieve increased flexibility in managing work force resources; and,
- Clearly state a provincial commitment to wage constraint levels as input to the collective bargaining process and help create a university-business think tank that can address questions of labour costs and economics of the sector more effectively.

Readers are cautioned here to avoid concluding from this section that the small number of *'Big, bold Initiatives'* presented implies a similarly low frequency of mention. To the contrary, at least one of the three initiatives described above was mentioned multiple times and in almost every session. With the exception of faculty and student representative groups not proposing changes to the collective agreement structure, these three initiatives were mentioned by a broad spectrum of respondents, including individual faculty members, staff and students who participated in the sessions independently.

Opportunities for General Improvement

- Provide international students with a guaranteed job following graduation to enable these students to gain Canadian experience, as well as to enable Nova Scotia employers to gain a better understanding of the capabilities and skills university graduates can bring to a job, and provide support for such students to ensure they can readily access financial services such as bank accounts, loans, credit cards and the like;
- Enable international students to have immediate access to the province's public health care system;
- Clearly articulate the amount of funding that will be available to support universities and with equal clarity articulate what is expected of universities in return for that funding commitment, including defining specific, key performance indicators (that

- should include contribution to economic growth) and providing for consistent and transparent reporting by all universities;
- Establish a mechanism to facilitate increased collaboration and cooperation among the universities, covering all levels from boards and chairs to presidents, senior administrators and management, and faculty, and engage all three levels of government in that process;
 - Change system structure to enable increased flexibility to develop and implement program changes;
 - Increase access to mental health and other counselling services as support for both international and domestic students;
 - Provide international students with more comprehensive and accurate information about what to expect when they come to Nova Scotia, covering everything from cultural practices and norms, to guidance in use of the financial and banking systems, typical costs for food, accommodation and other essential services;
 - Review and reform the transfer credit system and foster establishment of more articulation agreements to facilitate increased student mobility between universities and colleges, and clarify memoranda of understandings and mandates to minimise red tape and bureaucracy associated with such transfers; and,
 - Implement rent controls and strengthen the Residential Tenancies Act as a means to provide students with a guarantee of reasonable, affordable places to live.

5. SUMMARY OF WRITTEN SUBMISSIONS

As part of the consultation process, stakeholders and the public were invited to submit their thoughts and suggestions in writing. Five submissions were received as part of this process and are summarized below. In addition, during the consultation process, the Chronicle Herald published an article on November 18th, 2014 authored by two professors which offers several innovative solutions to the issue of sustainability of the system. We have included this article in our summary below. Lastly, a professor sent an unsolicited letter and paper to the Deputy Minister, Office of Planning and Priorities, in April 2014, well in advance of the consultation process, a summary of which is also included here.

Human resource development based on a lifelong and life-wider learning model

The context for this seven page paper comes from two of the structural problems the oneNS Commission identified: an uncompetitive labour market and insufficient labour force training. It discusses lessons from other jurisdictions and in particular the authors point to the UK, France, Australia, South Africa and New Zealand as countries that have been “instrumental in pioneering the development of the national vocational, credit and qualification frameworks... essentially a compilation of a society’s certificates diplomas and degrees – translated into statements of learning (learning outcomes) articulating what a person should know and be able to do as a result of achieving a particular ‘qualification’. Over 100 countries from around the world have developed, or are now developing, national qualifications frameworks (NQFs) as the policy mechanism for updating and modernizing their education systems.”

The authors indicate that internationally, the key features of a modern education system are that they are learner-centered and outcomes-oriented. Such a system is built on the Recognition of Prior Learning model, is stakeholder driven, and is comprehensive, inclusive and permeable. In the United States, another model has emerged called the Alliance of Quality Career Pathways. This approach “reorients existing education and workforce services from a myriad of disconnected programs to a structure that focuses on the workforce needs of employers, and on individuals in need of education and training.”

According to this paper, these models offer greater transparency and accountability and allow academic and vocational programs to be translated into measureable learning outcomes. The models “empower the individual to articulate what s/he knows and is able to do” and provide an employer with information beyond that normally shown in a resume.

The authors argue that given the province’s demographics, and pressing social and economic needs, this is the time to reach out to mature learners. Innovations to do so might include short cycle degrees and more options for individuals to enter and exit the system.

The career pathways approach could be applied to specific industries such as tourism, food and agriculture to address economic challenges in specific areas of the province.

In conclusion, the paper notes that the province should develop a “sustained and coordinated vision of human resource development” based on a lifelong and life-wider learning model that would draw on the expertise that already exists in the province’s education, business and government communities. This transformational change should be led by one institution working collaboratively with a working group or steering committee whose members represent all stakeholders.

Universities are good public investment

In summary, this two-page letter takes exception to the Framing Document and points out several areas with which the authors are in disagreement. The letter begins by noting that the Framing Document presents a very narrow perspective of the university as a “training centre and resource generator for economic growth” and because markets change faster than universities, they (universities) will be perpetually chasing market trends rather than providing students with a general education that will provide them with a foundation for lifetime earning potential.

The authors state that rationalizing university programs across the system is not a role for the provincial government. Universities already regularly review and revise their programs to meet the needs of their students and to remain competitive and therefore, they disagree with the need for any rationalization.

They go on to note that universities at present collaborate with local communities and support local small businesses through mechanisms such as joint faculty-community research projects and student placements and that the suggestion that universities align their research priorities with the private sector ignores these efforts. The letter quotes data from Statistics Canada that indicates that Nova Scotia universities “do more than their fair share in attracting R&D funding (39.76 per cent of total NS funding) which creates jobs and adds to the provincial economy.”

In conclusion, the letter indicates that “the university sector is a good investment for tax payers of this province and should be a priority for further investment.”

Universities should be publically funded

This six page submission begins with the authors stating their belief that the core function of a university is to teach, learn and research not to “work more closely with the private sector to grow the economy... Universities are public institutions that exist for the public good... and should be evaluated on the basis of the quality of educational programs they

deliver...not their ability to attract corporate funding and commercialize their research.” Universities are economic drivers and have the potential to create even more jobs.

The paper makes the case that the Provincial Government is not adequately funding the system by noting that only Ontario provides less funding on a per student basis than Nova Scotia and that proportionately, only in Ontario did universities receive less of their operating revenue from government than Nova Scotia universities (2012). It states that the consequences of corporatization put at risk academic excellence and the quality of education; it constrains research that is critical of “mainstream (i.e. corporate) economic, political or social thinking”; it views universities as training grounds rather than teaching students transferable skills; and students see themselves as consumers of education and their degrees as commodities, rather than experiencing university to become better citizens and workers.

The author refers to the “disposable academy” by which she means that universities are relying increasingly on contract academics rather than tenured faculty. Contract academics have little opportunity to conduct research because of their heavy workloads and therefore, are less competitive when pursuing the decreasing number of tenured-track positions. They also find it difficult to commit to being thesis advisors because they are uncertain about the renewal of their contracts. In addition, “several Dalhousie departments, including Nursing and the School of Social Work, have had accreditation challenges because they lacked the resources to run their programs.”

The paper contends that universities are making the wrong choices with regard to their budget allocations and notes that between the period 2002/2003 and 2011/2012, Dalhousie’s operating budget increased by 71 percent yet the increase in the Academic and Academic Support centres grew by only 48 percent. It goes on to note that spending has increased significantly in the “Administration” and “General” categories and in the increased number of senior administrative positions, yet there was actually a decrease (of 3.4per cent) in the number of academic staff. Lastly, it makes the case that operating funds should not be used for capital projects as has been the case over the past 10 years or more.

In conclusion, the authors note that the oneNS Commission’s report states that the province’s post-secondary institutions are one of Nova Scotia’s greatest competitive advantages and because they are public institutions, universities should be funded by Nova Scotians, not corporations.

A strong university sector is important to Nova Scotia’s economy

This letter notes three pressing issues facing the university sector: Nova Scotia’s shrinking prime university demographic; public accountability by the universities for public money they receive; and providing students with the skills needed to succeed in the job market.

The author goes on to comment on the critically important role that universities play in the Nova Scotia economy in terms of attracting a large number of international and other Canadian students which strengthens our export market and provides the potential to retain some of the students past graduation. Also critical to the economy are the universities' roles in research, commercialization and productivity, and providing an educated workforce.

The author calls on the provincial government and universities to come together to build a post-secondary sector that is fiscally sustainable and publically accountable; provides all graduates with the tools needed to succeed in today's labour market; focuses on delivering high quality education to students from Nova Scotia, the rest of Canada and around the world; and delivers ground-breaking research discoveries to bring to market.

Library and archive community offers quality services to support student learning

This letter from Novanet discusses the benefits of shared services among university libraries and the partnership with Libraries Nova Scotia. It goes on to note that libraries and archives provide services to the business community and play important roles in supporting research and student learning, and integrating technology into higher education.

It suggests a variety of ideas for change and calls on businesses, students and parents, international students, universities, faculty and taxpayers to consider opportunities such as: how businesses might access library consortia content including demographic data, industry surveys and other market research sources; open text book projects to support knowledge creation, reduced costs and increased student engagement; investment in province-wide online language support tools for public libraries to offer immigrants and international students; partnering with the community college library, provincial museums, archives, libraries and galleries to share repositories; redistributing faculty through attrition to more demanding programs; and promoting universities to the wider public through course auditing, free library services and lifelong learning programs.

Universities must adapt to the evolution of the student body

These two authors make the case for focusing on three key areas to position the university system for sustainability and relevance, "as a fulcrum for wealth creation and employment within a knowledge-based global economy" and not as a means to save money.

First, they make the point that "digitally integrating (course) offerings across all universities and in all programs of undergraduate study" would reduce program redundancies in the system. The article goes on to talk about a need to understand changing demands from students and the example it sites makes the link between the decline in demand for liberal arts programs and the need for more international students to offset the drop in the number of graduates from Nova Scotia high schools. The authors argue that international students

study mainly in the business, engineering and science disciplines which has increased the demand for these programs while liberal arts programs have remained static. If this trend is allowed to continue, it will “create unfairness and dissension in campus faculties, while compromising the educational quality of over-subscribed and under-resourced programs” reinforcing the argument for greater course integration across universities with the potential to create significant centres of excellence at each institution.

Lastly, they argue that “glacial program approval processes within universities” work contrary to the need to fast track research and development to focus on wealth creation and social development.

The authors are “betting” that the current government will not move in the direction of closing or privatizing any of Nova Scotia’s universities which would be the only outcome if it seeks to “save a significant sum of money” without increasing tuition.

A Case for a New Graduate School/Policy Institute for Nova Scotia

This author argues that the dispersed nature of the universities’ course offerings dilutes the “collective academic capacities” of the faculty resulting in diminished opportunities for graduate training and research to be of “service to the province.” By way of example, there are about 50 political scientists (his disciple) in the province, distributed across six institutions, with only two Masters degree offerings and one doctorate offering at Dalhousie. However, combined, this cadre of political scientists rivals the numbers at some of the largest institutions in the country (Toronto, York) and is substantially more than at UBC and Alberta. Combined, this group could be involved in “a qualitatively superior form of advanced training and research.”

He offers two models to achieve this objective. The first is a consolidated Graduate School of Nova Scotia which would have the potential to “enhance the offerings and opportunities for Nova Scotia students and put the province within the top echelon of graduate academic research with an increased flow of highly trained graduates”. The second model speaks to an “arms-length but government supported public policy institute...that would include public service as well as civil society partners. The goal would be to promote and support socially and policy-relevant research on provincial and regional issues”.

The author concludes that the institutional configuration in Nova Scotia is well suited for undergraduate teaching but not for advanced studies and research, precisely where the province could benefit most from the “impressive establishment of academic talent.”

6. SUPPLEMENTAL RESEARCH FINDINGS

In addition to reporting on the actual consultations, the authors have undertaken additional research, looking at best practices in the areas of experiential learning and innovation. These areas were mentioned time and again by stakeholders as having potential to both strengthen and differentiate the university sector in Nova Scotia.

EXPERIENTIAL LEARNING

Experiential learning, or work-integrated learning (WIL), is “learning that is based on students being directly involved in a learning experience rather than their being recipients of ready-made content in the form of lectures”¹³ and “provides a meaningful directed experience of the workplace application that is intentional, organised and recognised by the institution, usually involving placement in a workplace.”¹⁴

Experiential learning can take many forms, including:

- Co-operative Education;
- Community Service-Learning;
- Applied Research Projects;
- Apprenticeships;
- Field Experience; and
- Internships.

It is also possible to integrate experiential learning into regular courses. At Waterloo, some instructors build experiential learning in their teaching practices:

- In a Social Determinants of Health course, the instructor takes her students on a guided walking tour of downtown Waterloo with Duff, a man who lived on the streets for more than three years.
- In Theory and Practice of Translation, students work with the NGO World Accord; this gives them the opportunity to apply their knowledge of translation in a humanitarian context.

¹³ University of Waterloo - <https://uwaterloo.ca/centre-for-teaching-excellence/resources/integrative-learning/experiential-learning>

¹⁴ Work-Integrated Learning, Workload and Recognition – Review. Griffith University. Online: <http://acen.edu.au/wp-content/uploads/2013/06/Work-Integrated-Learning-Workload-and-Recognition-Review.pdf>

- In Program Management and Evaluation, students meet with a community group in order to develop actual recreation programs for them.¹⁵

Many universities include experiential learning in academic programs and have developed effective programs, services and tools to support students, faculty and staff involved in this type of programming. Following are some interesting examples that may, in part or in whole, be adoptable by universities in Nova Scotia.

The **University of Waterloo** adopted a co-operative education model when it opened in 1957; the first school in Canada to do so. Currently there are more than 18,400 students enrolled in 140 accredited co-op programs at the university. They have a world-wide network of more than 5,200 regularly hiring employers, resulting in 97 percent co-op employment rate in 2013/14.¹⁶

The William M. Tatham Centre for Co-operative Education and Career Action is a space dedicated to supporting co-op education and students in all faculties. The Centre hosts more than 50,000 job interviews each year conducted by more than 6,000 recruiters.¹⁷ Another key tool in the Waterloo arsenal is *JobMine* which is their online system for students and employers to manage recruitment.

Two unique programs at Waterloo are:

- Enterprise Co-op (E Co-op) in which students can earn a work-term credit for running their own company; and
- Co-op Students Council where representatives from each faculty provide student input into policies and procedures of co-op education and report issues to the Department.

Drexel University, in Philadelphia, recognizes the need for students interested in pursuing a career in post-secondary education to develop their research skills, and have created a Research Co-op program. Through this program, funding is provided for students to work with faculty researchers on a six-month, full-time placement. They work on active research projects with deliverables that include peer-reviewed papers and presentations. Students receive \$14,000 salary over the six-month session. Research co-ops are identified through a competitive process on campus and have been hosted in all faculties, with most placements in the faculties of Engineering, Arts & Science, and Medicine.

¹⁵ University of Waterloo - <https://uwaterloo.ca/centre-for-teaching-excellence/resources/integrative-learning/experiential-learning>

¹⁶ University of Waterloo - <https://uwaterloo.ca/about/who-we-are/waterloo-facts>

¹⁷ University of Waterloo - <https://uwaterloo.ca/co-operative-education/about-co-operative-education/our-facility>

The Steinbright Career Development Centre (SCDC) supports the delivery of co-operative education at Drexel through a variety of services for students in all faculties. The SCDC also delivers Co-op 101, a required introductory course in career planning, policies & procedures, interview skills, and résumé development. Ninety-three per cent of Drexel's 13,000 full-time undergraduate students participate in six-month co-ops in their programs. The Centre places 5,700 student in co-ops each year, 77 percent of which are paid.¹⁸

At **Northeastern University** in Boston emphasis is on international co-op placements, which sees students placed in 128 countries on all 7 continents (including Antarctica). Close to 500 of these placements are research co-ops, which can take place anywhere in the world.¹⁹

Northeastern's co-op students are supported by two co-op scholarships:

- Presidential Global Scholarship provides up to 400 students annually with the financial means (\$6,000) to participate in an international co-op experience; and
- Presidential Global Fellows – provides up to an additional \$10,000 for top students which compensate them for taking placements that may pay less than local employers.²⁰

Western University in London, ON, has developed a Job Shadow program to allow students to test-drive a specific job or employment sector to see if it is a good fit for their skills, interests, and career paths. The placement may be half-day or full-day and is targeted to upper-year students from the Faculty of Arts & Humanities and the Faculty of Social Science.²¹

Western also partners with local and international organizations to mobilize knowledge and exchange resources in order to address critical societal issues through Community Engaged Learning. By engaging students, staff, and faculty in meaningful experiential learning opportunities, CEL helps meet community defined needs while promoting students' sense of civic engagement and social responsibility.²²

Several other Canadian universities are providing specialized information on their websites for both employers and students involved in the co-op education programs:

- **Lakehead University** recognizes that international students have additional challenges with work placements, so they provide specific information for the

¹⁸ Drexel University - <http://www.drexel.edu/scdc/>

¹⁹ Northeastern University - <http://www.northeastern.edu/experiential-learning/co-op/index.html>

²⁰ Northeastern University - <http://www.northeastern.edu/globalscholars/program.html>

²¹ Western - http://success.uwo.ca/experience/job_shadow/index.html

²² Western - http://success.uwo.ca/experience/community_engaged_learning/index.html

- students who are interested in participating in a co-op placement, including steps to applying for a co-op work permit from Citizenship and Immigration Canada (CIC).²³
- **Brock University** includes a list of past co-op employers by program/faculty and the results of the annual salary survey, so students can see the types of employers they may have access to and both employers and students have a sense of the salary requirements/expectations. Brock has also developed an “Employers guide to managing a co-op assignment” which details the roles, responsibilities, and regulations governing co-operative education.²⁴
 - **Wilfrid Laurier University** publishes salary information by faculty/program as a guide for employers. They also include a list of past employers with short jobs descriptions to help both students and employers identify possible co-op placement opportunities.²⁵

Recognizing the value of co-operative education is another way students and employers can be encouraged to participate. **Wilfrid Laurier University** awards the *Laurier Alumni Co-op Employer of Excellence Award* which recognizes an alumnus/a who has made an outstanding contribution to Laurier’s Co-operative Education program by:

- Being a consistent and longstanding employer of Laurier students;
- Providing outstanding support, training, and mentorship to Laurier co-op students ensuring the best possible co-op experience; and
- Demonstrating broad-based interest in and support of co-op education at Laurier.²⁶

Co-op students from any Canadian university or college can be nominated by their co-op employer for the **Canadian Association for Co-operative Education (CAFCE)** Student of the Year award. The award recognizes a wide variety of achievements – job performance, academic performance and responsibility, and particular contributions to their co-op employer, to Co-operative Education, and the community-at-large.²⁷ Several Canadian universities include reference to this award on their website and encourage employers to nominate outstanding co-op students.

The **Government of Ontario** recognizes that some employers may need financial assistance to hire co-op students, and have created the co-operative education tax credit.²⁸ Employers can claim their co-operative education tax credit if they are a corporation that provided a

²³ Lakehead University - <https://www.lakeheadu.ca/academics/other-programs/co-op/for-students/international>

²⁴ Brock University - <http://brocku.ca/co-op/prospective-employers>

²⁵ Wilfrid Laurier University - <https://navigator.wlu.ca/co-op/resources/employers.htm>

²⁶ Wilfrid Laurier University - <https://navigator.wlu.ca/co-op/resources/awards/alumni-employer-award.htm>

²⁷ CAFCE - <http://www.cafce.ca/awardsCSOTY.html>

²⁸ Government of Ontario - <http://www.fin.gov.on.ca/en/credit/cetc/index.html>

qualifying work placement at a permanent establishment in Ontario for a student enrolled in a qualifying post-secondary co-operative education program. The credit is equal to an eligible percentage (25 to 30 percent) of the eligible expenditures incurred by the corporation to a maximum of \$3,000.

Education providers that offer co-operative education/experiential learning programs can get support through a variety of support organizations across Canada and internationally. In Ontario both EWO – Education at Work Ontario (www.ewo.ca) and OCEA – Ontario Co-operative Education Association (www.ocea.on.ca), and in British Columbia the Association for Co-operative Education (ACE) (www.co-op.bc.ca) provide support. Nationally, support is available from the CACEE – Canadian Association of Career Educators (www.cacee.com) and Employers and the CAFCE – Canadian Association for Co-operative Education (www.cafce.ca). Internationally, the WACE – World Association for Co-operative Education (www.waceinc.org) provides support. All of these organizations provide opportunities for information sharing through their websites, targeted research projects and papers, and conferences or seminars.

Most of Nova Scotia's universities are actively engaged in delivering various forms of experiential learning to their students. Co-operative education work placements are the most common, but some institutions also offer unpaid internship and community service learning options. Several Nova Scotia institutions have multiple co-op offices on campus, divided by faculty. Some, but not all, have centralized job banks for students and employers.

Conclusions

The main conclusion that can be drawn from the research is that institutions with a focus on co-operative education deliver high quality services and information to students and employers through a centralized co-operative education division. By employing some of the approaches listed above, our institutions may be able to expand the experiential learning opportunities offered to their students, and create greater knowledge transfer opportunities between the post-secondary institutions and businesses in Nova Scotia, thereby enhancing our economic outlook.

RESEARCH, KNOWLEDGE TRANSFER, COMMERCIALIZATION AND ECONOMIC PERFORMANCE

As stated by the Commission on Building Our New Economy, a major contribution of our universities, indeed our PSE sector, to the overall strength of the provincial economy occurs through research and development; and in particular through transfer of knowledge and technology that can occur “where there is potential for expanded collaboration and partnership among institutions and with government and the business sector”²⁹.

The report also explains that university research (about \$170 million in 2012, of which more than 80 percent takes place at Dalhousie) “accounts for 74 percent of all R&D expenditures in Nova Scotia versus 38 percent for Canada as a whole. Private business generates more than half of this [R & D] spending in Canada but accounts for only 15 percent in this province.”³⁰

The Commission notes that more private sector investment in R&D is needed, as are improved mechanisms to facilitate knowledge and technology transfer that will enable university-based research to contribute to new venture creation. This requires optimisation of knowledge / technology transfer and commercialization processes between universities and industry.³¹

Much attention and literature has been focused on the knowledge transfer and related commercialization issues across the globe. Indeed, it is no exaggeration to say that doctoral level theses can be and are devoted to understanding more about how knowledge / technology transfer works and how the process can be made more efficient and effective. The focus of this section is to provide a high level overview of some of this research and to highlight examples that can potentially be adapted and applied in Nova Scotia to contribute to improved economic performance for the province.

Innovation at the Institution

In his 1998 book *“Creating Entrepreneurial Universities: Organizational Pathways of Transformation”* Burton Clark examines how universities that have successfully implemented significant and lasting organisational change “differ systematically from those that remain encapsulated in a traditional mode.”³² Clark argues that institutional change at

²⁹ Now or Never Report, p.38

³⁰ Ibid.

³¹ Ibid.

³² Clark, Burton, *Creating Entrepreneurial Universities: Organisational Pathways of Transformation*, International Association of Universities and Elsevier Science, New York, 1998, p.3

universities is neither accidental nor incidental; but rather originates when there is a collective will within institutions to “explore and experiment with changes in how they are composed and how they react to internal and external demands” ... sensing that “in fast-moving times the prudent course of action is to be out front.”³³

Based on case studies of five European institutions that successfully transformed themselves, Clark identifies five elements as the minimum requirements needed for such change:

- *A strengthened steering core* – represents a more organised way to change capabilities and react to changing demands. That core must embrace both central management groups and academic departments and reconcile new managerial values with traditional academic values.
- *An expanded development periphery* – consists of units that reach across old university boundaries to connect and link up with outside organisations and groups more readily than do traditional academic departments and units.
- *A diversified funding base* – is essential to generating funds over which the institution can exercise discretion and involves development of a wider and deeper portfolio of ‘third-stream’ income sources that can include industrial firms, local governments, philanthropic foundations, royalties from intellectual property, earned income from services and fees, and alumni fundraising.
- *A stimulated academic heartland* – consists of academic units that themselves take on entrepreneurial characteristics, reaching outside the institution with new programs and relationships, participating in central steering groups, and accepting a modified belief system.
- *An integrated entrepreneurial culture* – begins with relatively simplified ideas about change that evolve and are diffused across the institution to become an embedded, university-wide culture.³⁴

The case studies in ‘*Creating Entrepreneurial Universities*’ are expanded in Clark’s second book on change in universities³⁵. Together, both books examine cases of individual institutions facing major challenges and successfully implemented significant organisational change imperative. Case examples discussed include:

- University of Warwick, UK (England)
- University of Twente, Netherlands

³³ Ibid. p.5

³⁴ Ibid. Pp 5-8

³⁵ Clark, Burton, *Sustaining Change in Universities: Continuities in case studies and concepts*, Society for Research into Higher Education and Open university Press, New York, 2004

- University of Strathclyde, UK (Scotland)
- Chalmers University of Technology, Sweden
- University of Joensuu, Finland
- Makerere University, Uganda
- Catholic University of Chile, Chile
- Monash University, Australia

In each of the cases discussed elements of similarity to the situation in Nova Scotia can be found. Whether the situations involve remote or otherwise less than optimal locations (Twente, Joensuu, Makerere), transformation from a narrow focus to a more sustainable, comprehensive set of program offerings (Strathclyde, Chalmers), or evolution from relatively smaller and newer institutions perceived to be less attractive and of lower calibre than more traditional, established elite institutions into magnets for students and researchers from across the globe (Warwick, Twente, Monash), parallels to one or more Nova Scotia institutions are evident and demonstrate the scope and extent of change that is possible.

In addition, there is a useful examination and discussion of what Burton characterises as the '*genetic entrepreneurialism*' among a mix of well-known American universities and how those entrepreneurial instincts have helped transform these institutions into the top level organisations they have become. The schools examined represent a cross-section of the post-secondary sector in the USA and include: private universities Stanford and MIT; public universities Michigan and the University of California at Los Angeles (UCLA); and state institutions, North Carolina State, and Georgia Tech.

It is also worth noting here that throughout the discussion of these cases, Clark states that the changes implemented in the institutions were not and cannot be brought about simply through public policy directive. What Clark identifies as important about public policy direction as it relates to the universities studied is that a policy environment was created in which change was motivated, perhaps even incented, and in which change could take hold.

Nor can the changes identified be sustainably implemented through the leadership of a particularly entrepreneurial President or other senior executive. Clark notes that within the context of the institutional life of universities, these senior officials are personnel that 'come and go'. As noted above, Clark explains that successful change requires a collective will within institutions to pursue change in response to evolving internal and external demands

Fostering a New Strategic Direction

Throughout the literature reviewed, the historical context of universities perceiving themselves as somewhat apart from the 'hurly burly' of economic growth and activity is

widely evident. Equally evident, however, is the realisation that such separation is no longer sustainable, especially with respect to the constraints on public sector financial support that constitutes an important revenue source for universities almost everywhere.

As we noted in our earlier discussion of Savoie's report on *'The Way Ahead for Nova Scotia'*, the author cited a report published by the Nelson Rockefeller Institute for Government which articulated a new approach – *paradigm* – to the role of universities and colleges in local and regional economic development.³⁶

This report provides numerous examples from across the United States, involving both large, high profile institutions and smaller, less well known schools, where higher education institutions and systems are working to become key drivers of economic development and community revitalization. Examples cited by Shaffer and Wright illustrate how universities and colleges are:

- Putting their research power to work by developing new ideas that will strengthen the country's competitive edge in the new economy – and then by helping to deploy those innovations into commercial use;
- Providing a wide range of knowledge-focused services to businesses and other employers, including customized job-training programs, hands-on counselling, technical help, and management assistance;
- Embracing a role in the cultural, social, and educational revitalization of their home communities; and,
- Educating people to succeed in the innovation age.

For Nova Scotia, the most critical element in what Shaffer and Wright suggest is a “new paradigm for economic development” is that higher education, and more particularly, the *research activity carried out at these institutions is the central force of the efforts* by states to succeed in the knowledge economy.

The Shaffer Wright report focuses on four major themes – (1) Innovation: Building the Economy of the Future; (2) Strengthening Employers for Success and Growth; (3) Community Revitalization; and (4) An Educated Population. A small sample of the examples cited that could be relevant to Nova Scotia include:

INNOVATION: BUILDING THE ECONOMY OF THE FUTURE

- **Georgia Research Alliance (GRA)** – The GRA is a private, non-profit corporation run by a Board of Trustees that includes nineteen major business leaders, and the presidents of the six participating research universities – Clark Atlanta University,

³⁶ Shaffer, David and Wright, David, *A New Paradigm for Economic Development*, The Nelson A. Rockefeller Institute on Government, New York, 2010, as cited in Savoie, Donald J., *Invest More, Innovate More, Trade More, Learn More: The Way Ahead for Nova Scotia*, p. 6

Emory University, the Georgia Institute of Technology, Georgia State University, the Medical College of Georgia, and the University of Georgia. The linchpin of the plan was an Eminent Scholars program, through which GRA set out to lure major, renowned, and entrepreneurial researchers to the state. With the early support of then Governor and the state legislature, GRA secured a state commitment of \$750,000 to match \$750,000 put up by one of the universities to sponsor each “eminent scholar” recruited. To date GRA has attracted some 60 top-shelf researchers and invested some \$510 million, which it calculates has leveraged another \$2.6 billion in federal and private research grants, creating more than 5,500 new science and research jobs, establishing more than 150 new companies, and helping a long list of existing Georgia companies grow³⁷.

STRENGTHENING EMPLOYERS FOR SUCCESS AND GROWTH

- The **Georgia Institute of Technology** operates a broad spectrum of programs that is described as “the largest and most comprehensive university-based program of business and economic development assistance in the United States.” The objective of this Enterprise Innovation Institute is to assist outside enterprises (a term it uses to include for-profit companies, government agencies, and not-for-profits) improve their competitiveness through the application of science, technology, and innovation. The Institute was created three years ago out of the consolidation of previously separate programs. It is endowed with the legal flexibility to enter into technology partnerships and offer service agreements in various fields relating to the Georgia Tech’s core interests in innovation. The university sees a seamless connection between its education and research, and its assistance to outside enterprises, including working to commercialize ideas growing out of Georgia Tech’s research labs — helping faculty become entrepreneurs. In 2009, the Institute reported it helped form 20 new companies based on Georgia Tech research — companies that attracted almost \$100 million in new capital³⁸.

COMMUNITY REVITALIZATION

- The **University of Minnesota** is one of the original land grant institutions created by Congress and President Lincoln in 1862. For many years, the university coordinated outreach to rural communities through an organized system of locally based Extension offices, and Research and Outreach Centers that conduct both basic and applied research to address problems and issues affecting the lives of rural Minnesotans. But recognizing it is located in the heart of a major metropolis, the university in 2005 decided to make institutional changes to ensure its urban engagement activities matched its historical efforts on behalf of rural parts of the

³⁷ Ibid. pp 14-15

³⁸ Ibid. pp 31-32

state. It's Urban Research and Outreach/Engagement Center weaves together research and public engagement, and is based on an interdisciplinary approach dedicated to developing long-term sustainable partnerships. To create a visible symbol and vehicle for stimulating economic development, the university purchased a 21,000-square-foot Northside shopping plaza to be used as the operating facility for the center, with many community partners housed in the renovated space³⁹.

AN EDUCATED POPULATION

- **New York's Excelsior College**, now entering its 40th year, is a pioneer in distance learning.
- **The State University of New York's Empire State College** caters to adult learners with a combination of online courses, and small learning centers in 35 locations scattered across the state.
- **Western Governors University** (www.wgu.edu), created in 1997 as a consortium of 19 Western states, is an entirely online, "virtual" university; it currently enrolls 17,000 students, with an average age of 36.

These experiments with new delivery models represent another insight that has emerged from policymakers and educators who want to see the population achieve progressively higher levels of education is: *Don't stop thinking about college when "the college years" are over.* For adult learners, new delivery models can be significant; the hours of regular college classes often don't fit with their working lives. An increasingly important response is online learning, which is not only convenient, but effective.

Other Research Papers and Sources

There is much additional research available that addresses the relationship between universities and knowledge transfer, including many papers with a specific focus on the activities related to commercialization of university-generated knowledge and technology.

Publications that have been reviewed during this supplemental research and which can be consulted for additional examples of how universities can contribute to improved economic performance include (in no particular order of priority):

- Journal of Technology Transfer
- Journal of Knowledge Management
- Papers in Regional Science
- Research Policy
- International Regional Science Review

³⁹ Ibid. pp 37-38

- Higher Education Management
- Higher Education
- Journal of Higher Education
- Tertiary Education and Management

Readers should also note the European Commission has a major initiative focused on 'Investing in European Research: Towards 3% of GDP'. There is much useful research and relevant information published at the web site for this program – http://ec.europa.eu/invest-in-research/policy/ipr_en.htm

7. CONCLUSIONS AND CONSIDERATIONS

Taken together, previously completed research – Savoie, O’Neill and *Now or Never* – combined with the written submissions, findings from the consultation sessions and findings from the supplemental research leads us to the following conclusions with respect to a future vision for Nova Scotia’s university sector.

Universities as an economic sector

- Nova Scotia’s universities constitute an important economic sector and asset for the province that delivers significant economic benefit to the entire province and thus warrants continuing, significant public investment (i.e. taxpayer-funded).

The term ‘economic sector’ is used here deliberately and carefully and is intended to convey to readers that Nova Scotia does not have a university ‘system’ as can be found in some other jurisdictions. As O’Neill’s report describes, and as the comments we heard during the consultations reinforce, there are ten independent universities in Nova Scotia that demonstrate significant and sufficiently different characteristics that attempts to move towards a greater level of integration – as would be implied by a ‘system’ approach – would almost certainly result in greater costs, at least in the short term, than could be saved through increased integration.

As the discussions during the consultations demonstrate, there is considerable recognition by stakeholders that our universities constitute assets that other jurisdictions would be pleased to have available; but at the same time, there is equal recognition that these assets are not being managed in a way that maximises potential returns to stakeholders, including taxpayers.

We heard that responsibility for improving those returns is shared by all stakeholders. We also heard that the sector’s importance to the provincial economy warrants a policy focus that clearly supports education and training as a priority sector for economic growth; one that can also stimulate growth in many other sectors of the economy.

Experiential learning and graduate hiring

- There is very strong demand, across all disciplines, for increased access to co-operative education or other forms of experiential learning. Such access was identified in all sessions and by all stakeholders as a way to improve post-secondary education in Nova Scotia and increase the likelihood of graduates finding employment relatively quickly. As well, and as noted in both the O’Neill and Ivany reports, experiential learning can achieve several things –

- Establish connections to business and industry for both individual students and the universities;
- Enhance knowledge transfer from university to business and vice versa; and,
- Enable students to learn about various employment options, particularly for non-STEM programs.

Many stakeholders also noted that experiential learning can be particularly helpful for international students as a vehicle through which they can obtain needed ‘Canadian experience’ and as a mechanism that can also increase the likelihood of such students settling in Nova Scotia for the longer term.

As an extension to this theme, it was noted in the *Now or Never* report, and mentioned a number of times during the consultations, that relatively few Nova Scotia businesses regularly hire university graduates. It has been speculated that this phenomenon may be a direct result of the relative dominance of very small firms in our economy; but it was noted as well that such enterprises potentially have much to gain from employment of young people with advanced education and skills.

These findings lead us to conclude that consideration should be given to establishing more coordination across all co-op and other experiential learning programs in the province, combined with a significant effort to attract employers not just from Nova Scotia but from other parts of Canada and internationally to provide experiential learning opportunities and ultimately to hire our graduates.

One of the suggestions we heard numerous times during the consultation process was that the Province should provide employers with a new graduate hiring incentive. At time of writing, the Department of Economic and Rural Development and Tourism has announced the *Graduate to Opportunity* program which provides eligible employers with a percentage of the salary paid to a new graduate in the first and second years of employment with the intent of increasing graduate retention in the province. As an additional benefit, we expect that this will also enhance knowledge transfer from university to industry and improve the competitiveness of Nova Scotia businesses.

Alignment of university research with economic development priorities

- Consistent with the findings and recommendations presented in the Savoie, O’Neill and *Now or Never* reports, there was considerable recognition in the stakeholder discussions of the need for strategic focus of investment, resources and effort on areas in which Nova Scotia can legitimately claim competitive advantage such as ocean sciences and technologies, information and communications technology, and gaming and interactive media.

Therefore, we conclude that explicit alignment of strategic research priorities of the universities with economic sector development of the province will be widely seen as a positive contribution to the overall economic prosperity of Nova Scotia. Specifically, such alignment would allow student researchers to develop expertise in sectors that are important to our province and make connections with local industry and business, thereby creating opportunities for future employment or new company creation. Such alignment will also enhance the transfer of knowledge from universities to industry, and back.

Learning from other jurisdictions

- As Savoie noted in his reference to the Rockefeller Institute work on leveraging universities as the foundation for a new paradigm in economic development, as both the O'Neill and *Now or Never* reports mentioned, and as we heard in virtually all the consultations sessions, there is much to be learned from how post-secondary education is structured, managed, leveraged and recognized in other places. Specific areas and topics that were identified included: collaboration and cost sharing among institutions; co-operative, entrepreneur and apprenticeship education; accelerating transfer of knowledge and technology from universities to businesses and a vehicle for leveraging universities as engines of economic growth; and, the ownership of IP and commercialization of that IP. Some of these issues and suggestions have been addressed in the chapter on the supplemental research findings.

However, the frequency with which these ideas recur throughout the research and the consultations combined with what we know to be the magnitude and scope of the published research related to these domains, indicate that there is likely much to be gained for Nova Scotia from establishment of an ongoing and systematic approach to scanning, evaluating and adapting best practices from elsewhere for implementation within our post-secondary institutions.

Raising stakeholder and public understanding

The O'Neill report examined various policy options for Nova Scotia's universities in depth, including specifically: Tuition Fees and Student Financial Assistance; Government Funding; System Restructuring; Administrative Integration and Cost Savings; Key Performance Indicators (KPIs) for Quality Assessment and Accountability; and, Infrastructure. Various perspectives on all these issues emerged across the entire range of stakeholder consultations conducted during this project. Predictably, and consistent with the findings from O'Neill's consultations, various stakeholders expressed their concerns about these issues in terms of their own direct interests, even though these were frequently portrayed as projecting the preferences and desires of a wider public.

However, as O'Neill identifies, these views most typically ignore several significant issues of critical importance to public policy: the interests of universities and taxpayers; the long-term benefits to graduates of post-secondary education (which are many); the actual impacts of tuition fee levels on accessibility (which are modest); and equity within a system in which lower-income taxpayers now heavily subsidize university education for students from better-off families.

The easy conclusion to draw here is that the more things change the more they stay the same, and that, as a result, development of a consensus around a new vision for the future of Nova Scotia's universities may not be achievable as it pertains at least to these financially-driven choices. However, the debates and discussions around these issues in Nova Scotia, which as O'Neill helpfully illustrates, can be traced to the mid-19th century, lead us to conclude that stakeholder, and generally public appreciation of the complexity of the issues and choices required, and of the extent to which these choices about our university sector affect our collective prosperity is often limited to immediate interests.

APPENDICES

APPENDIX A – FOCUS GROUP SESSIONS LISTING

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#	Group	Date	Time	Venue
1.	Nova Scotia Post-Secondary Education (NSPSE) Coalition	October 20	5:30 – 7:30 pm	Dalhousie – Student Union Building (SUB), Room 307
2.	University Full-time Faculty	October 20	9:30 – 11:30 am	MSVU – Rosaria Centre, Boardroom
3.	University Presidents	October 21	3:00 pm – 5:00 pm	LAE – Room 7A
4.	Alumni Associations	October 21	8:00 – 10:00 am	Best Western Chocolate Lake Hotel, Sambro Room
5.	University Students – International	October 22	5:30 – 7:30 pm	Dalhousie – SUB, Room 224
6.	University Students – Cape Breton University (CBU)	October 23	5:30 – 7:30 pm	Sydney – CBU Students' Union Building, Dingwall Room
7.	University Staff (Student Services and Recruitment & Retention)	October 24	12:00 – 2:00 pm	Sydney – CBU Students' Union Building, Dingwall Room
8.	University Vice-Presidents	October 24	8:00 – 10:00 a.m.	Best Western Chocolate Lake Hotel (Chebucto Room)
9.	Business groups – Sydney	October 24	8:00 – 10:00 am	Sydney Area Chamber of Commerce
10.	Nova Scotia Community College (NSCC)	October 27	9:00 – 11:00 am	NSCC – IT Campus, Leeds Street, Room A-238
11.	University Students – Student Leaders Roundtable	October 28	5:30 – 7:30 pm	LAE Room 7B
12.	University Students – Graduate and Professional Students	October 28	5:30 – 7:30 pm	SMU – Loyola, Room 280
13.	Business groups	October 28	8:00 – 10:00 am	Best Western Chocolate Lake Hotel, Lakeview A
14.	International Partners – Immigration	October 28	2:45 – 4:30 pm	Immigrant Settlement Association Nova Scotia
15.	University Chairs	October 29	10:00 – 12:00 pm	LAE – Room 7B
16.	University Staff (Student Services)	October 30	1:00 – 3:00 pm	SMU – Secunda Marine Boardroom, Sobey 401
17.	University Staff (Recruitment and Retention)	October 30	10:00 – 12:00 pm	SMU – Secunda Marine Boardroom, Sobey 401
18.	Industry Associations	October 30	8:00 – 10:00 am	Best Western Chocolate Lake Hotel, Chebucto Room

#	Group	Date	Time	Venue
19.	Unionized Support Staff	October 30	1:30 – 3:30 pm	Dalhousie – SUB, Room 316
20.	Professional Associations	October 31	8:00 – 10:00 am	Best Western Chocolate Lake Hotel – Sambro Room
21.	Librarians	November 3	2:30 – 4:30 pm	Dalhousie – SUB, Room 316
22.	Part-time faculty	November 3	5:30 – 7:30 pm	Dalhousie SUB, Room 316
23.	Students Nova Scotia Executive	November 4	2:00 – 4:00 pm	Dalhousie – SUB, Room 316
24.	International Partners – Honorary Consuls	November 4	8:00 – 10:00 am	Westin Nova Scotian – Harbourview Suite A
25.	Under-represented groups – Employability Roundtables	November 7	9:30 – 11:30 am	LAE, Room 7B
26.	Business Groups – Wolfville	November 7	9:00 – 11:00 am	Acadia – Alumni Boardroom, Fountain Commons
28.	Students – Acadia	November 7	12:00 – 2:00 pm	Acadia – Alumni Boardroom, Fountain Commons
29.	Students – Université Sainte-Anne	March 17, 2015	6:00 – 8:00 pm	Video conference