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Practical Supply Chain Management Knowledge from Industry-Academia Dialogue

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PRACTICAL SUPPLY CHAIN MANAGEMENT KNOWLEDGE FROM INDUSTRY-ACADEMIA DIALOGUE

A White Paper based on the May 10th, 2017 Summit:
"World Class Supply Chain 2017: Value Co-creation"

Summit convened by the Lazaridis School in partnership with the
Milton Chamber of Commerce and CN Rail
in Milton, Ontario



LAZARIDIS
School of Business & Economics



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TABLE OF CONTENTS

Acknowledgments	2
Executive Summary	3
Introduction and Background – The Summit’s Philosophy	4
The Summit’s Design and Operation	5
The Summit’s Content and Insights	7
Content and Insights from the Industry Keynote Speaker	7
Content and Insights from the Expert Panel	8
Content and Insights from the Scholar Keynote Speaker	10
Perspectives from Tomorrow’s Supply Chain Leaders	12
Building on the Summit’s Deliberations: Proposed Future Research	13
Conclusions and A Look Forward	15
References	16
APPENDIX	
Exhibit 1: Summit Event Schedule	17
Exhibit 2: The Pre-Summit Survey Instrument	18

Acknowledgments

I would like to thank the many people who helped with bringing the summit and this white paper to fruition.

SUMMIT DESIGN/PLANNING TEAM

Wilfrid Laurier University's **Betty Bax** and the student Research & Conference Planning Facilitators (**Emily Hierons** and **Tarique Plummer**)

The City of Milton Chamber of Commerce's President and CEO **Scott McCammon**

CN Rail's **Antonio Bianco, Andrew Fuller, Jim Gray, Shauna McMillan, Keith Reardon** (with whom I co-chaired the summit), **Drew Redden**, and **Laura Rogers**.

KEYNOTE SPEAKERS

David Gillen - Professor, Sauder School of Business, University of British Columbia.

Shelley Simpson - Executive Vice President, Chief Commercial Officer, President of Highway Services, JB Hunt.

PANELISTS AND PANEL MODERATOR

Kevin Hendricks – Professor, Wilfrid Laurier University's Lazaridis School of Business & Economics

Jim McKay - Founder and President, AVLECA Group

Michel Rod - Associate Dean, Research and International; Sprott School of Business, Carleton University

Ted Salter - Partner - Advisory Services, Ernst & Young LLP

Kelli Saunders - President, Mode Transportation

SUMMIT DAY RESEARCH ASSISTANTS

During the summit, a team of 19 students systematically catalogued the day's deliberations on which this White Paper is based. These students are:

Doctoral students – Lazaridis School: **Tina Arabian; Sara Babaee; Mohammad Jourabchi**
– Athabasca University: **Shelley-Ann Solomon**

Master's students – Lazaridis School: **Neischa Bazzey; Victor Borjigin; Amy DeHeer; Andrea deVries, Daniel Ferguson; Matt Harrop; Roy Wang; Jingwen Wu; Chen Yang**
– Western University: **Wesley Wen**

Undergraduate students – Lazaridis School: **Daniel Borden; Nick Boyko; Taya Glazier; Jacob Pavan**
– Ryerson University: **Nina Jovanovic**

SUMMIT DELEGATES

Much of the credit for the summit's success is due to the 125 delegates' enthusiasm, high energy, and purposeful approach to the deliberations.

THE GRANITE RIDGE GOLF CLUB

The club's impressive hosting of the summit provided a first-class experience for attendees.

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Executive Summary

Value co-creation, which can be defined as *a joint initiative by two or more supply chain members to create value that cannot be created by the sole effort of one member*, is a cornerstone concept in Supply Chain Management (SCM). To provide needed clarity about the concept, the invitation-only summit "**World Class Supply Chain 2017: Value Co-creation**", was convened on May 10th, 2017 in Milton, Ontario. The summit brought together accomplished executives, scholars, and students in the SCM field to engage in dialogue directed at uncovering actionable insights about three crucial issues:

- (i) *The business benefits of value co-creation*
- (ii) *The actions required for successful value co-creation*
- (iii) *The obstacles to value co-creation and ways to overcome them*

The three partnering organizations that planned the summit –Wilfrid Laurier University’s Lazaridis School of Business & Economics, the City of Milton Chamber of Commerce, and CN Rail– obtained background (pre-summit) evidence revealing the above issues to be of greatest interest to summit participants. To address those issues and, as a result, support SCM professionals’ quest for world class performance, the summit deliberations were led by seven individuals: two keynote speakers, a panel moderator, and a panel of four experts. These seven discussion leaders were carefully chosen to realize the summit objective of drawing on deep SCM expertise from *both* industry and academia.

The deliberations covered an extensive range of content that included concrete real-world examples to reinforce the insights. Those insights can be summarized in the following three major points:

- (1) Information technology innovations can (a) come from an industry’s established players instead of only from new entrants and (b) significantly improve not only standard operational efficiency metrics in supply chains but also how supply chains parties interact with each other to create value
- (2) The suite of key success factors in value co-creation spans three major stages of activities for any organization: (i) *preparing for its discussions with potential co-creation partners*, (ii) *having those discussions with an intent to find common ground on the most important partnership parameters*, and (iii) *managing the ongoing relationship(s) with selected partners*.
- (3) To be better poised for future success in value co-creation, today’s young, upcoming professionals (e.g., internship and entry-level jobs) must have jobs that are designed with a view to nurturing interpersonal skills in forming and sustaining effective inter-organizational business relationships.

This white paper reports on those insights as well as on the summit’s success in realizing its vision of being an essential forum for mutually beneficial dialogue between the academic and practitioner communities in the SCM field. The paper also documents the summit’s forward-looking stance in two ways. First, the paper describes how the day’s deliberations were enriched by the perspectives of those who will spearhead the future of SCM; i.e., current students in business and SCM programs. Second, the paper outlines what arose from those deliberations as matters requiring further scientific research and discussion.

Introduction and Background: The Summit's Philosophy

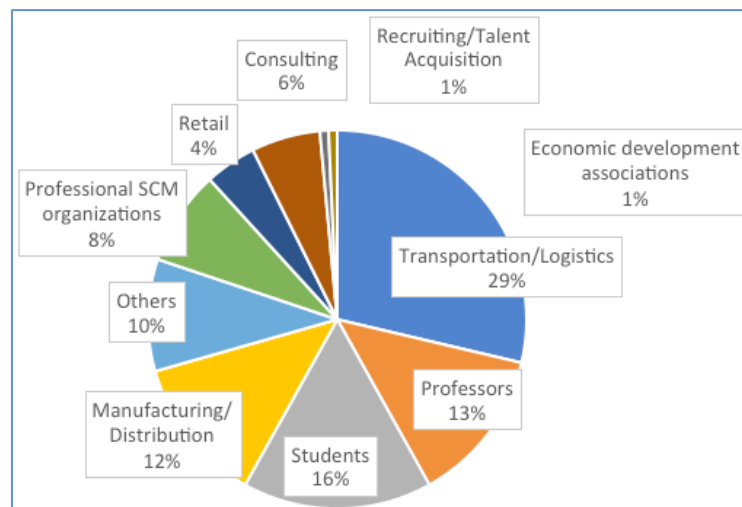
On May 4th, 2016, CN Rail and Wilfrid Laurier University's Lazaridis School of Business & Economics ran the inaugural world class supply chain summit (***World Class Supply Chain 2016: Critical to Prosperity***) as an effort to improve knowledge about what is needed for supply chains to attain and sustain world class levels of excellence. In line with the philosophy that such improvement must be ongoing, the subsequent annual summit on May 10th, 2017 (***World Class Supply Chain 2017: Value Co-creation***) continued that effort. This continuous knowledge improvement process comprises five (5) major steps:

- (1) Have a balanced industry-academia roster of speakers, panelists, etc.; for example, the summit's two keynote speakers comprised one accomplished industry executive and one elite scholar
- (2) Document the summit deliberations and resulting insights in White Papers (e.g., this White Paper)
- (3) Identify major unanswered (inadequately answered) SCM questions arising from those deliberations
- (4) Translate those questions into draft outlines of proposed new research projects
- (5) Further define then undertake those projects (through the fullest possible use of joint industry-academia approaches); e.g., a project identified in the second White Paper from the previous summit (2016) is currently part of a Laurier student's doctoral dissertation research

A significant boost for this continuous knowledge improvement philosophy is having the City of Milton Chamber of Commerce as a new partner working with CN and Laurier's Lazaridis School to plan and convene the 2017 summit. Particularly invaluable value were the Chamber's role as the voice of business in the city and its deep understanding of the city's industrial ecosystem. Those factors helped the summit planning team to connect with more companies that can bring important industry perspectives to any deliberation about critical contemporary topics in SCM.

The breakdown with respect to the affiliation attendees at the 2017 summit (Figure 1) reflects a central principle that was articulated for the inaugural summit: i.e., *optimize knowledge by providing ample opportunity for attendees from diverse affiliations (academia, industry, government, etc.) to exchange and carefully examine their ideas about topical SCM issues.*

Figure 1: Summit Attendee Organizational Affiliations/Roles



The Summit's Design and Operation

The summit's major design elements comprised the (1) key substantive SCM content covered; (2) content coverage structure; and (3) pre-summit participant input to help shape the deliberations.

1. **Substantive content.** As a forum to build knowledge, the summit centred its focus on the following three primary questions about the theme of **value co-creation**:



(1) *What rewards can firms get from value co-creation with supply chain partners?*

(2) *What must firms do to succeed at value co-creation?*

(3) *What are the major obstacles to value co-creation and ways to overcome them?*

2. **Content coverage structure.** The summit's three core questions were addressed through presentations, panel discussions, and exercises led by seven individuals: two keynote presentations (one by a university professor and one by an industry executive), a panel discussion (involving four panelists and a moderator), and a set of roundtable exercises directed by the aforementioned university professor. Those individuals were selected to provide a balanced representation between industry and academic viewpoints. **Exhibit 1** in the appendix shows the summit agenda along with credentials and affiliations of the seven individuals.

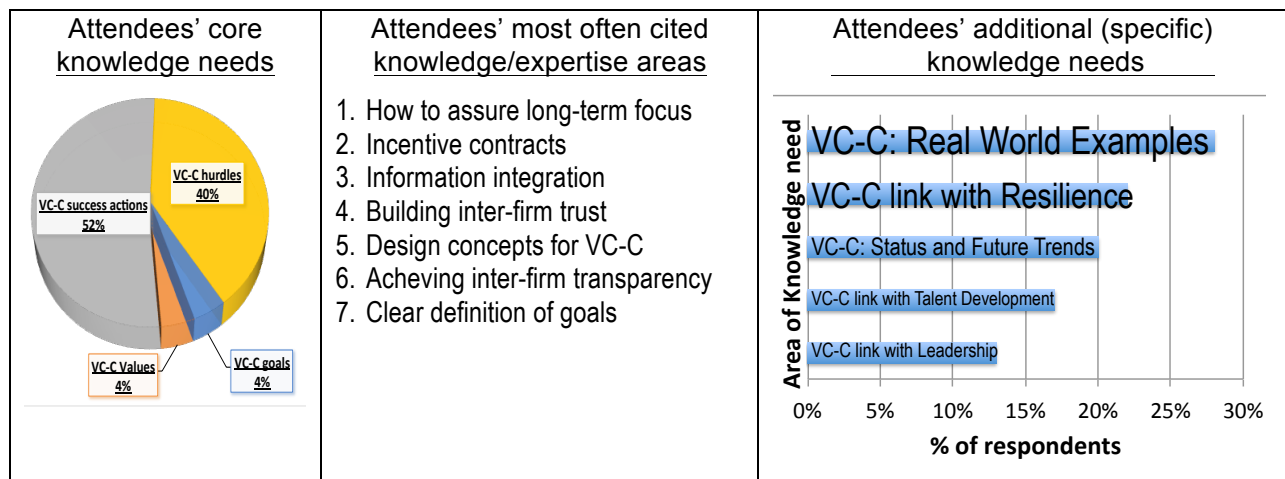
SUMMIT SESSIONS	
<ul style="list-style-type: none"> ○ <i>Industry perspective keynote</i> by Shelley Simpson (Executive Vice President, Chief Commercial Officer, President of Highway Services at JB Hunt). Using the development and operation of the <i>JB Hunt 360®</i> technology platform as a focal example, this presentation addressed what it means to achieve supply chain excellence in today's volatile, uncertain, complex, and ambiguous world. 	
<ul style="list-style-type: none"> ○ <i>Panel discussion.</i> A panel of experts from industry and academia addressed crucial questions concerning the goals, rewards, actions, and challenges associated with inter-organizational value co-creation. 	
<ul style="list-style-type: none"> ○ <i>Academia perspective keynote</i> by David Gillen (Professor, Sauder School of Business, University of British Columbia). Dr. Gillen's keynote address provided research-based insights on the present and future status of value co-creation within and beyond Canada. 	
<ul style="list-style-type: none"> ○ <i>Round table exercises.</i> David Gillen ran these for delegates to brainstorm and share their evidence-based perspectives on some of the most critical current and future supply chain challenges and on how to address those challenges. 	

3. **Pre-summit participant input.** Through a pre-summit survey, participants were given the opportunity for early involvement in shaping how the summit would unfold. **Exhibit 2** reproduces the survey instrument, which was initially sent in February 2017 (to early registrants) followed by periodic distributions to non-respondents and new registrants). The survey’s purpose was to ensure that the SCM knowledge sought and possessed by the summit participants would have meaningful bearing on the day’s dialogue. To that end, the survey asked respondents about their:

- (i) Interest in learning about the four major value co-creation aspects (*goals/purposes, rewards, success actions, and challenges/difficulties*)
- (ii) Expert knowledge and ideas they would like to share the summit deliberations
- (iii) Interest in other co-creation issues such as its *current/future status, relationship to resilience, etc.*

The three panels in **Figure 2** present the summary responses: the order of the panels from left to right corresponds to the order of the three survey questions. For example, the first panel shows that learning about the actions that yield successful value co-creation (VC-C) is of the highest priority to attendees while the third panel shows that approximately most attendees wanted to understand the ideas through real world examples. As the analysis was updated to account for newly received responses, the seven discussion leaders were kept apprised so that they could continue refining their preparation for the summit.

Figure 2: Pre-Summit Survey Results



The Summit's Content and Insights

Overview

To address the issues of greatest interest to the audience (actions required to succeed at value co-creation, including the actions to overcome the major obstacles to success), the summit sessions featured an eclectic mix of approaches. The industry keynote session's centrepiece was information technology that can foster value co-creation among the trucking industry's primary players: shippers, carriers, and freight brokers. The panel discussion concentrated on value co-creation's key success factors: a far-reaching set of factors that spanned the three major stages of a company's value co-creation activities: (i) *preparing for discussions with potential co-creation partners*, (ii) *having those discussions with an intent to agree on mutually acceptable partnership parameters*, and (iii) *managing the ongoing relationship(s) with selected partners*. The scholar keynote speaker focused on (a) underscoring the importance of customers in value co-creation initiatives, (b) encouraging systematic thinking about the issues (by referencing economic principles, research findings, and real world examples), and (c) fostering peer-to-peer discussion of the issues through roundtable exercises. The importance of the customer was a noteworthy emphasis in his presentation. All this content from the keynote presentations and panel discussions was richly complemented by student input, which is described later in this report.

Content and Insights From The Industry Keynote Speaker

This presentation was anchored to the JB Hunt 360® technology platform: its inspiration/rationale, observed impacts, ongoing refinement, and prospects for further radical disruption of processes involving shippers, carriers, and freight brokers. To help set the stage for discussing the technology platform, Ms. Simpson presented a very informative picture of the spot market for freight transportation services. Specifically, she outlined the current transactional process (from posting a truckload shipment (load) through to final agreement between the carrier that will handle the load and either the shipper (owner of the load) or the freight broker acting on the shipper's behalf). Five major insights can be distilled from the presentation.

- [1] ***The customer's voice matters.*** Although this is not a novel observation and is certainly not unique to the case of the customer being a buyer of freight transportation services, its reiteration was still very instructive. In particular, Ms. Simpson described how listening to and working with customers led her company designing JB Hunt 360® to be tuned to the concerns of customers.
- [2] ***Freight transportation processes need modernization.*** Ms. Simpson highlighted the many inefficiencies and unnecessarily manual activities in the spot market transactional process. One example was that, to get a good rate for moving a load, brokers can spend inordinately long periods in multiple telephone calls haggling over rates with several different carriers. Another notable example was about productivity losses that can be attributed to the difficulties that many older drivers have in getting comfortable with today's ubiquitous tools; i.e., smart phones, on-board vehicle technology, etc.

-
- [3] **Let the computer do the work.** Ms. Simpson used this phrase to summarize how JB Hunt 360® has been set up to continue improving efficiency in how shippers, carriers, and brokers work with each other; e.g., (i) providing valid rate estimates in order to eliminate wasteful rate negotiations and (ii) using analytics and machine learning to suggest loads to carriers (based on the carriers' load choice histories), thereby reducing time spent searching for loads.
- [4] **The brokerage sector is larger than necessary.** Depending on perspective, this insight may be seen as either provocative or, as presented, a signal of value co-creation opportunity. On one hand, many of the USA's estimated 17,000 freight brokers would probably argue that their work as intermediaries between shippers and carriers is indispensable and that they are key value co-creation partners for both parties. Yet others (including some brokers) see many of those as partnerships in name only; i.e., superficial and merely transactional since only some brokers are genuine value co-creation partners. Thus, the implied opportunity for surviving brokers in a smaller broker population is in using technology platforms such as JB Hunt 360® to foster deeper value co-creation relationships (in addition to greater efficiency).
- [5] **Industry incumbents can and must be innovative.** Presented material on the JB Hunt 360® initiative reinforced a point about who will be the vanguards of disruptive changes in the trucking industry. Specifically, it provided a powerful example that, when necessary (new customer demands, competitive threat, etc.), a long-time industry incumbent can be among leaders of such changes. This example is particularly noteworthy because it contrasts with the fanfare around prophecies and announcements about imminent disruption by new players in the industry; e.g., start-ups with technological tools akin to what Uber uses for passenger transportation.

Content and Insights From The Expert Panel

In line with the interests expressed by attendees in the pre-summit survey, the panel moderator organized the questions for the panel members into three categories: the rationale for value co-creation, the actions required for successful value co-creation, and the challenges to success (including counter measures to confront the challenges. Under each category, five major ideas that came out of the panel members' responses are summarized below.

Rationale for Value Co-creation (why partners are needed)

1. Supply chains are getting longer and more complex so no single firm can master all the complexity
2. It has been shown to positively impact key performance metrics; i.e., metrics that contribute to triple bottom line
3. Without effective value co-creation partners, a firm might put itself at a competitive disadvantage
4. More direct access to a wider network of knowledge, markets, resources, etc.
5. Shared partnership resources mean lower resource duplication and capital expenditure and higher resource efficiency

Actions to Enhance Success in Value Co-creation

1. Exercise due diligence in evaluating multiple potential partners (just like getting multiple quotes for a roof repair job)
2. Know your strengths and weaknesses so you can seek out partners who (a) have complementary strengths to minimize the competitive disadvantage of your weaknesses and (b) can benefit from your strengths
3. Have clear guidelines about key parameters; e.g., (a) *expectations* (e.g., improvement goals for specific supply chain performance metrics and minimum standards for the partnership to be deemed as still viable); (b) *procedures* (e.g., deciding the information to be shared instead of using pure *Open Book* systems (i.e., partners have unfettered access to your internal records), which may prove ineffective or even damaging); (c) *assessment milestones* to gauge the partnership's viability and renewal prospects.
4. Rationally and rigorously measure the health of the relationship by adhering to the agreed assessment milestones; e.g., periodically measure relevant metrics (from the range of *triple bottom line* metrics) to assess the prospects for continuing the relationship beyond the initially agreed duration
5. Take an approach that involves empathy for partners; i.e., while nothing is inherently wrong in considering "*what's in it for me*" as an important criterion in assessing a co-creation partnership, it cannot be the sole criterion. Without the empathy of seeing things from your co-creation partner's perspective, then the so-called partnership is likely to be nothing more than a toxic case of each party making selfish and cantankerous grabs for all the benefits.

Potential Obstacles to Successful Value Co-Creation (VC-C)

1. Trust and lengthy process of building the partnership.
A proposed remedy: Test new partners' fidelity with small low-risk/low-cost projects
2. Impatience in expecting immediate realization of all the benefits – some benefits cannot be foreseen at the outset because they arise only because of the relationship's longevity and depth
A proposed remedy: Take a long term view of partnerships that could may have strategic value
3. Typically, collaboration beyond organizational boundaries is not explicitly stated in job descriptions so personnel are unlikely to direct their time and talents to VC-C
A proposed remedy: Signal an organizational philosophy in which inter-firm VC-C is prized
4. Fear of potential legal trouble associated with (a) running afoul of collusion regulations and (b) protecting a partner's intellectual property (that the other partner might just take without providing appropriately due compensation)
A proposed remedy: Call on the expertise of the partners' legal teams early in partnership formation
5. Partner complacency as reflected in lack of innovation and performance failures
A proposed remedy: Item #4 under "actions" list above plus enforcement of sanctions for unacceptable performance failures

Content and Insights From The Scholar Keynote Speaker

To address what the pre-summit survey revealed as the audience's high priority issues, Prof. Gillen placed emphasis on:

- (a) Highlighting the importance of the customer as a value co-creation partner (he drew the audience's attention to the timeless article by Prahalad and Ramaswamy, 2002)
- (b) Clarifying the insights through the lens in economic theory; e.g., demonstrating the benefit to firms that can use co-creation to transcend existing price versus quality trade-off boundaries, thereby outperforming competitors by giving customers superior quality-price combinations
- (c) Discussing insights that have firm grounding in current scholarly research (e.g., Xie *et al.*, 2016)
- (d) Real world examples such as:
 - CN Rail and CP Rail – co-running arrangement to yield efficient usage of track capacity
 - Frito-Lay – co-create new products through deep and sustained interaction with customers
 - FedEx and Canada Post – combining forces in 2008 to develop Priority Worldwide
 - Co-operative arrangements among competitors in the airline sector

Beyond addressing macro-level questions concerning current and future possible trends in value co-creation (e.g., questions about future success rates of value co-creation efforts), Professor Gillen re-phrased those questions for attendees to carefully consider at the micro-level of their own companies' supply chains. The re-phrasing not only reinforced insights covered in earlier summit sessions but, more importantly, provided a rough diagnostic for executives to gauge their companies' readiness to participate in value co-creation. The following eight (8) questions are representative of those covered. Basically, confident affirmative answers to the questions signal readiness. To provide a rational structure, the questions are classified according to the *lever of excellence framework* introduced at the inaugural summit (Haughton, 2016); i.e., the material below shows the lever that is being most directly addressed in each question.

Lever I: **Collaboration** (working effectively with value co-creation partners)

Question 1: Is there full consideration of the perspectives of all stakeholders in the co-creation initiative?

Question 2: Are the partner selection criteria focused on opportunity to do new things (innovate) instead of only on doing existing things better (e.g., incremental product/process changes)?

Lever II: **Information** (business intelligence supply chain parties need in order to make optimal decisions)

Question 3: Is the information being shared (requested) relevant to success of the co-creation initiative?

Question 4: Is information treated as an asset that can yield greater returns when shared?

Lever III: **Technology** (physical and informational tools used for supply chain activities)

Question 5: Is there a platform for stakeholders' direct interaction and for gathering/sharing ideas?

Question 6: Are we able to draw meaning from unstructured data (customer's social media posts, etc.)?

Lever IV: **Talent** (aptitude and attitude of personnel in supply chain roles)

Question 7: Do employees have traits that engender appropriate work with personnel from other organizations (traits such as curious, "social butterflies", entrepreneurial, etc.)?

Question 8: Does the compensation scheme reward and encourage such work?

To provide further opportunity to for attendees to stretch their thinking and vocalize their thoughts on the above questions and on other value co-creation issues, Prof. Gillen conducted a roundtable exercise. In the exercise, attendees shared and discussed with tablemates ideas concerning:

- Real constraints on how much data can/should be shared in a co-creation partnership
- Factors that determine how much data they are willing to share with partners
- The prospects for *leapfrogging* by co-creating value with non-adjacent supply chain partners
- Appropriate inter-firm responses to external pressure that could radically alter supply chains (e.g., the push by Canada's Federal government and environmental groups for electric powered vehicles to be produced by firms currently producing internal combustion engines for a big 3 automakers)
- Valid alternative co-creation models - from simple marketing agreements to major co-investments
- Potential impacts of whether the co-creation partners are manufacturers or service producers
- Relevance of product stage where co-creation occurs: primary resources/commodities, final goods, etc.
- Ways to configure student co-op jobs to equip the next generation's supply chain professionals with the skills and attitudes required for successful value co-creation

Following the roundtable exercises, students at randomly selected tables were tasked with presenting a *lightning talk* summary of their assigned table's insights. Highlights of those talks are summarized under the next section on "**Perspectives From Tomorrow's Supply Chain Leaders**".

Illustrative Photos of The Roundtable Discussion Exercises



Perspectives From Tomorrow's Supply Chain Leaders

Consistent with the goal of enriching SCM discourse with input from those who represent the field's future, the summit featured (i) poster presentations by three doctoral students and (ii) selected students' 3-minute lightning talks about their main career-relevant takeaways from the summit sessions (keynote talks, panel discussions, and roundtable exercises). The three doctoral student poster presentations were by:

- (1) Tina Arabian (Wilfrid Laurier University); Poster Title - "*The Impact of Environmental Regulatory Stringency on Innovation in Canada's Pulp and Paper Industry*"
- (2) Mohammad Jourabchi (Wilfrid Laurier University); Poster Title - "*Analysis of Joint Emissions Targeting Decisions in Logistics Service Provider-Shipper Interface*"
- (3) Shelley-Ann Solomon (Athabasca University); Poster Title - "*Integrating Sustainability in Infrastructure Projects: The Influence of Stakeholder Engagement on the Relationship Between Return on Investment and Environmental Performance*"

The content of the students' 3-minute lightning talks can be categorized under three main areas: **business relationships**, **change/disruption**, and **the human element**. For concision, the students' cited takeaways (nuggets of wisdom) under each area are distilled into 5 statements without details such as specific summit material the students cited as bases for their nuggets (e.g., a speaker's comment).

Business Relationships

- ❖ Very little can be accomplished by a company that lacks quality relationships with outside parties
- ❖ Relationship quality (trust, value created, etc.) is not reached immediately but can grow over time
- ❖ Growth in relationship quality depends on each party's actions and on fair distribution of benefits
- ❖ A lot of background work must be done to evaluate potential value co-creation partners
- ❖ Success is not guaranteed in every co-creation partnership so always retain a termination option

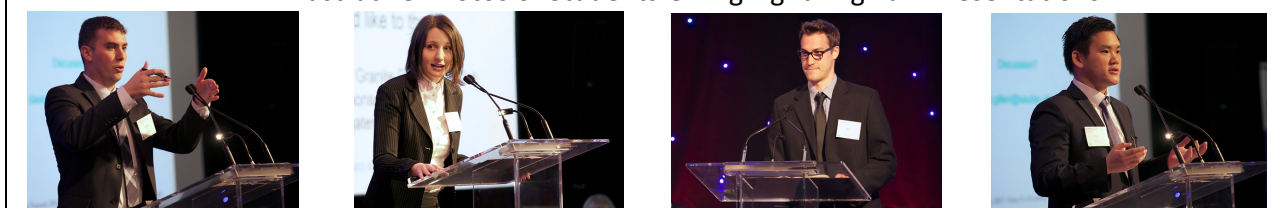
Change/Disruption

- ❖ The trucking sector's disruptive changes show that no process is ever immune from major change
- ❖ Technology-driven change in trucking is not only about driverless trucks but also data and analytics
- ❖ Like any small entrepreneurial firm, a large established firm can also be an innovative change agent
- ❖ Change may be uncomfortable but if it is inevitable then lamenting the change is a waste of time
- ❖ Value co-creation (VC-C) partners who see change as opportunity to innovate are very desirable

Human Element

- ❖ If feasible, communicate with VC-C partners via more personal means: phone, face-to-face, etc.
- ❖ Raising future human capacity for inter-firm value co-creation must be a key goal in co-op job design
- ❖ To become future leaders, young/entry-level staff crave their superiors' feedback, even if unflattering
- ❖ Engender people's courage to try novel ideas despite the risks of failure and experimentation slip-ups
- ❖ Relationships between people across company borders can affect inter-company business success

Illustrative Photos of Students Giving Lightning Talk Presentations



Building on the Summit's Deliberations: Proposed Future Research

Throughout the one-day summit, there were either implicit or explicit questions for which reliable answers are yet to be found in the research literature; i.e., there are important gaps in body of scientifically sound knowledge. As per step 4 of the continuous knowledge improvement process described in this paper's introduction (p. 4), these questions were translated into draft outlines of proposed research projects to plug the knowledge gaps. To succinctly portray the many projects deemed to be highly important, this section presents a representative sample of those projects. The sample of four projects is selected to span the four summit sessions; i.e., one project based on material in each summit session: (1) industry keynote; (2) panel discussion; (3) scholar keynote; (4) roundtable exercises.

Each project's draft outline covers the issue to be researched, the main research aim, and citation of a few scholarly works that could among useful background readings for working on the project. Being outlines, these are very open to refinement input from interested scholars, practitioners, and students. Input can include reshaping the research aims and suggesting new aims, valid research methods, and data sources.

Project 1: **To what extent does transactional efficiency affect freight transportation operations?**

The issue:	As detailed in the industry keynote presentation, there are many inefficiencies in the truckload transportation spot market transactional process; i.e., the process from posting a load (truckload shipment) through to final agreement between carrier and either the shipper or the shipper's representative. There was indication that these <i>transactional</i> inefficiencies (e.g., lengthy price haggles between brokers and carriers) can manifest in sub-optimal <i>transportation</i> outcomes (e.g., excessive empty travel). However, the magnitude of such outcomes remains unknown.
Research Aim:	Quantify how improvements in the transactional process might improve transportation operations to benefit (a) the transacting parties (e.g., improved carrier profits) and (b) the wider society (e.g., lower transportation emissions).
Some Readings:	Lindsey & Mahmassani (2017); Lindsey <i>et al.</i> (2013); Ramanathan <i>et al.</i> (2013); Tsai <i>et al.</i> (2011)

Project 2: **Does single sourcing mean having less innovative suppliers?**

The issue:	During the panel discussion, the question of whether a firm's use of a single supply source will result in the supplier becoming complacent and unmotivated to innovate was given an answer of " <i>it depends on the situation</i> ". The qualified answer is reasonable because of the many possible situational factors; e.g., the firm's corporate strategy was among those mentioned. Thus, the question is ultimately an empirical one. Along the lines of how some researchers have examined the impact of single sourcing on a firm's speed of recovery from supply disruptions (see Jain <i>et al.</i> , 2016), researchers could also examine the impact on innovativeness.
Research Aim:	To (a) empirically test the hypothesis that firms using a single supply source for key inputs have less innovative suppliers and (b) ascertain what factors are at play in firms for which the hypothesis does not hold up; i.e., single source firms with innovative suppliers and multi-source firms with less innovative suppliers.
Some Readings:	Chen <i>et al.</i> (2016); Jain <i>et al.</i> (2016); Wagner & Bode (2014)

Project 3: **What explains success in VC-C efforts spanning high and low income economies?**

The issue:	In describing a non-business exemplar of effective co-creation, Prof. Gillen cited Denmark's Copenhagen Climate Consortium in his keynote presentation. He explained how traditionally adversarial government departments overcame silos to collaborate effectively with each other as well as with the private sector and civil society to craft a mutually beneficial plan for addressing climate change. In the supply chain realm, such public-private collaboration can be very complex when a company from one country must work collaboratively with another country's stakeholders: civil society, NGOs, etc. This is especially so if the entered country believes that its businesses (e.g., small suppliers), workers, and environment are vulnerable to exploitation, so they need to be protected. Alongside cases of success (in working with the entered country's stakeholders), there are cases of failures. Yet, why some companies succeeded while others failed is yet to be rigorously analyzed in order to provide reliable "how to" guides for companies.
Research Aim:	Develop suitable guidelines for companies based on systematic analysis of case studies of success and case studies of failures in establishing effective collaboration with entered countries' business and non-business stakeholders.
Some Readings:	Fawcett & Waller (2015); Hall & Matos (2010); Sodhi & Tang (2016); Yawar & Seuring (2017)

Project 4: **Are early career jobs nurturing the skills required for future supply chain leadership?**

The issue:	A question that executives tackled during the roundtable discussion concerned how to configure student co-op jobs to equip the next generation's supply chain professionals with the skills and attitudes required for successful value co-creation. The students' <i>lightning talks</i> on the matter and audience reaction to the talks indicated that the student perspectives are insightful and that there is value in understanding the specifics of those perspectives. The value lies in being able to design early/pre career jobs to nurture skills such as building/sustaining inter-organizational VC-C relationships, leadership, and <i>managing up</i> (i.e., managing superiors). To this end, a worthwhile research project would be to determine the current state and trends in young and aspiring SCM professionals' perspectives on the <i>school-to-work transition</i> period (from about the mid-way point of post-secondary study through to the first few post-graduation working years. The perspectives would come from signals that students and recent graduate get from their pre-career and early career jobs, internships, and from the entry-level job search process itself.
Research Aim:	Study trends in young aspiring SCM professionals' perspectives on how well the <i>school-to-work transition</i> period is enabling the development of skills needed to become the SCM field's future leaders.
Some Readings:	Boudarbat & Chernoff (2012); Graham <i>et al.</i> (2014); Hendricks (2014); Kim <i>et al.</i> (2015);

Conclusions and A Look Forward

With **value co-creation** as its central theme, *World Class Supply Chain 2017* was convened with the core purpose of being a forum for the SCM community to exchange and grow its knowledge about how to continuously improve SCM practice. The attendees' encouraging feedback validated that purpose; e.g., on a 5-point scale, the average score was 4.37 for the extent to which the summit met or exceeded their expectations. Attendee feedback was also sought to ensure that future summits pursue knowledge growth in line with the SCM community's interests. This involved ascertaining the topics for which they would like further discussion. Prominent among those topics are ***innovation in supply chains, business analytics, supply chain complexity and uncertainty, capacity management, and new developments in international supply chains.***

The summit planning team's review of these topics will yield the theme for the next summit: a theme that will elicit the same positive attendee qualities that were on full display at the 2017 summit: an energetic, enthusiastic, and earnest approach to the discussions. In addition to the theme and sub-topics, alternative formats for future summits will also be considered in order to optimize the beneficial impact of features that received the most positive feedback; e.g., industry-academia collaboration, student presentations, and networking.

A crucial post-summit activity will remain a fixture of the summit series. That is, upon detecting what each summit's deliberations indicate as substantive SCM matters requiring further scientific investigation, the requisite research proposals for conducting such investigations will be drafted. This reflects a philosophy that a successful journey towards SCM excellence will require continuous knowledge improvement through scientifically sound research.

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EXHIBIT 1: The World Class Supply Chain 2017 Event Schedule

AGENDA

7:00 – 8:00 REGISTRATION & BREAKFAST

8:00 – 9:00 WELCOME REMARKS

Teresa Fularczuk, Chair of the Milton Chamber of Commerce, will serve as our Master of Ceremonies, and welcome attendees. Also speaking: Summit Co-Chairs Dr. Michael Haughton of the Lazaridis School of Business & Economics, Wilfrid Laurier University, and Keith Reardon of CN

9:00 – 10:00 KEYNOTE PRESENTATION

Shelley Simpson, EVP, Chief Commercial Officer, President of Highway Services, J.B. Hunt Transport Services, Inc. will share her knowledge about what it means to achieve supply chain excellence in today's volatile, uncertain, complex, and ambiguous world.

10:00 – 10:15 BREAK

10:15 – 11:55 PANEL DISCUSSION

A panel of experts from industry and academia address crucial questions concerning the goals, rewards, actions, and challenges associated with inter-organizational value co-creation.

Moderator:

Kevin B. Hendricks, Professor, Lazaridis School of Business & Economics, Wilfrid Laurier University

Panelists:

Michel Rod, Associate Dean, Research and International; Sprott School of Business, Carleton University

Jim McKay, Founder and President, AVLECA Group

Kelli Saunders, President, Mode Transportation

Ted Salter, Partner - Advisory Services, Ernst & Young LLP

12:00 – 1:30 LUNCH AND KEYNOTE PRESENTATION

David Gillen, Professor, Sauder School of Business, University of British Columbia, will provide research-based insights on the present and future status of value co-creation within and beyond Canada.

1:30 – 2:45 ROUND TABLE EXERCISE

Summit delegates will discuss and share evidence-based perspectives on some of the most critical current and future supply chain challenges and on how to address those challenges.

2:45 – 3:00 BREAK

3:00 – 3:30 DISCUSSION AND Q&A

Professor David Gillen will address the key insights and questions arising from the round table discussions.

3:30 – 3:45 FINAL REMARKS AND CLOSING

Dr. Michael Haughton of the Lazaridis School of Business & Economics and CN's Keith Reardon share their insights and observations on the Summit, and officially close the proceedings.

3:45 – 5:00 POST-SUMMIT NETWORKING OPPORTUNITY



Exhibit 2: PRE-SUMMIT SURVEY

By answering the three questions below, you will help to enhance the quality of the 2017 summit's discussion on **Value Co-creation** (simply defined as *the act of two or more parties in a supply chain working together to create value that can not be created by the sole effort of one party*).

The following summary of a value co-creation example provides some context to help frame your thinking as you answer the survey:

Bob Evans Farms (BEF) and Gordon Food Services (GFS) joined forces in a relationship built on *value co-creation*. BEF chose GFS as its only distributor. The benefits became fully obvious only when both firms had to specify their objectives of the partnership. Over ten of those goals were mutual. These included offering GFS's freight management services to BEF's suppliers and having product development teams from both firms participate in joint culinary ideation sessions. One year later, those collaborative actions increased the total profit for both firms by 15% to nearly \$4.5 million. That outcome underscored the success that firms can attain from genuine and mutually supportive initiatives to co-create value.

1. **What are you most interested in knowing about value co-creation?**

Please state up to three questions/themes you are most interested in getting answered by the speakers at the summit. To guide your thinking, your questions may touch on one or more of the following four major aspects of value co-creation: (1) the **goals/purposes** of value co-creation; (2) the **rewards** from value co-creation; (3) the **actions** required to attain successful value co-creation; (4) the **challenges/difficulties** of attaining successful value co-creation. Please note if you want to direct your questions at a speaker who is an industry executive or at a scholar by indicating (E) or (S) at the end of each question/theme you provide.

- I. _____
- II. _____
- III. _____

2. **What knowledge and ideas would you like to bring to the summit deliberations?**

Based on your own experience and/or study, please state up to three ideas you think can help organizations achieve supply chain excellence through successful value co-creation. Your ideas may touch on one or more of the four major value co-creation aspects specified in the first survey question.

- I. _____
- II. _____
- III. _____

3. **What other issues related to value co-creation are you interested in?**

Please state up to three additional issues you think the summit speakers should cover in order to provide a more complete discussion of value co-creation. You can select your three highest priority issues from the list below but if you don't see your issue(s) of interest in the list, please use the option labeled "OTHER" to write what you have in mind.

- I. The current and possible future value co-creation performance of Canadian supply chains
- II. Real world examples of successful value co-creation
- III. Connections between value co-creation and supply chain risk/resilience
- IV. Connections between value co-creation and leadership within supply chains
- V. Initiatives to develop supply chain leaders with the capacity to succeed in value co-creation
- VI. OTHER