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World Class Supply Chain 2022: Creating a Sustainable Future

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WORLD CLASS SUPPLY CHAIN 2022: CREATING A SUSTAINABLE FUTURE

A White Paper based on the Sixth Annual World Class Supply Chain Summit (May 4th, 2022)

Summit convened by Wilfrid Laurier University's Lazaridis School of Business & Economics in partnership with the Milton Chamber of Commerce and CN Rail in Milton, Ontario (and streamed online)







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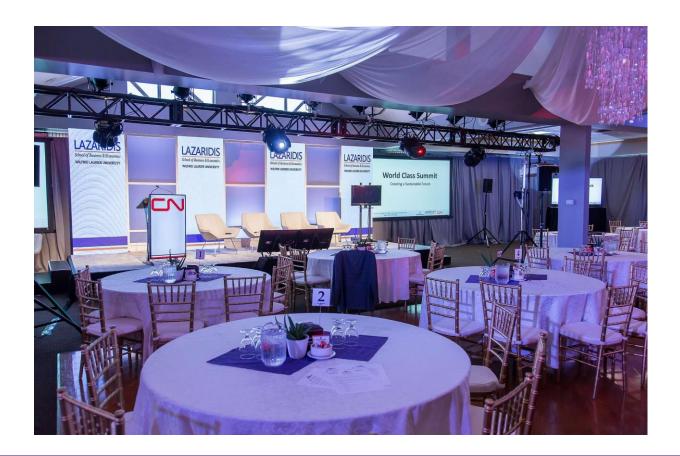
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Acknowledgments

Thank you to the many people who helped with bringing the summit and this white paper to fruition.

SUMMIT DESIGN/PLANNING TEAM

Wilfrid Laurier University's **Danny Aguizi** (Digital Communications Strategist); **Olivia Gottschalk and Gregory Kinsey** (Student Co-Chair); **Danielle Havelka** (Associate Director, Development); and **Kate MacDonald** (Officer, Development); **Mavis Dotse** (Student Summit Planning Facilitator)

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

CN Rail's Keith Reardon (Co-Chair)

Communications and Engagement Advisors: Jim Gray and Elizabeth Young

SPEAKERS

Sustainable Supply Chain Panelists

- Chantale Després, Assistant Vice-President, Sustainability at CN
- David Carruth, CEO at ONE For Freight
- Grace Liang, President at OOCL Canada, Inc.
- Martin Roos, Managing Director Air & Sea Canada at DSV Global Transport & Logistics

Academia Keynote Speaker

Professor Alan Amling, Distinguished Fellow at The University of Tennessee's Haslam College of Business

Student Forum Speakers

- Andrew Dang, Wilfrid Laurier University's Lazaridis School of Business & Economics
- Olivia Gottschalk, Wilfrid Laurier University's Lazaridis School of Business & Economics
- Priyanka Jayaratnam, York University's Schulich School of Business
- Shaili Kadakia, jointly at Wilfrid Laurier University and University of Waterloo (Double Degree student)
- Lindsay Puls, Wilfrid Laurier University's Lazaridis School of Business & Economics

Panel Moderators

- Keith Reardon (Sustainability Panel), Senior Vice-President, Consumer Product Supply Chain at CN
- Gregory Kinsey (Student Forum Panel), Wilfrid Laurier University's Lazaridis School of Business & Economics

EVENT MODERATOR

Scott McCammon (President and CEO of the Milton Chamber of Commerce)

SUMMIT DELEGATES

Much of the credit for the summit's success is due to the 120 delegates' energy, intellectual curiosity, and focused approach to the deliberations.

AUDIOVISUAL AND PHOTOGRAPHY PERSONNEL

The quality of the event day product and items such as the video shoots for the summit invitation messages is due to the meticulous work of Wilfrid Laurier University's **Danny Aguizi** and Granger Digital's **Stephen Granger**.

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Executive Summary

The *Sixth Annual World Class Supply Chain Summit* on May 4th, 2022 was a landmark in at least threes ways: First, it marked a return to having the annual summit in-person following the COVID-driven cancellation of the 2020 summit and the virtual delivery format of the 2021 summit. Second, the 2022 summit's hybrid format (simultaneous in-person delivery in Milton, Ontario and online delivery to delegates who attended virtually) required the summit planning team to creatively deploy teleconferencing tools that characterise the pandemic-era. Third, for the very first time, we scheduled a Student Forum segment in which students presented material from their immersive experience with supply chain issues that two Canadian organizations grappled with. This innovative Student Forum, like the panel of executives, and the keynote presentation, yielded thought-provoking perspectives on the summit theme: *Creating a Sustainable Future*.

The panel discussion emphasized five key issues related to supply chain sustainability, the Student Forum addressed issues relevant to established manufacturer as well as start-up manufacturers, and the keynote presentation focused on post-pandemic supply chains. Across the extensive range of topics that these speakers covered during their formal delivery and their less formal but scheduled "fireside chats" with the audience, three topics took the lion's share of the dialogue:

- (i) Sustainability touches a very broad range of a company's internal and external activities
- (ii) The transition from a company's current position to its desired position is very unlikely to be straightforward and direct
- (iii) Companies need to be more proactive in identifying, recruiting, and nurturing new talent for supply chains of the future

The importance of not only considering what has happened and/or is happening in supply chains but also what could happen in the future was featured throughout the day's dialogue and was evidently epitomized in the title of Professor Alan Amling's keynote address: *Post-pandemic SCM Practices, Insights, and Predictions*. Some notable future supply chain items in his presentation include *natural resource scarcity, population growth, demographic shifts*, and *man-made supply chain disruptions*. These are among the insights that will be explicated in this white paper.



Figure 1: An attendee taking notes during the summit

Introduction and Background: The Summit Philosophy and Design

Unlike previous *World Class Supply Chain Summits* (held in person from 2016-2019 and virtually in 2021), the *Sixth Annual Summit* was run in a hybrid format: 96 participants attended in person at the Granite Ridge Golf Club in Milton, and 24 participants teleconferenced via Zoom. The summit agenda (see **Exhibit 1**) was structured and scheduled to give these 120 participants an experience that was driven by a commitment to the summit's principal philosophy: *to provide a valuable invitation-only forum for industry and academia to jointly explore opportunities and challenges inherent in building, operating, and leveraging current and future supply chains*. That commitment involved deploying three summit design principles:

- 1. Extend and deepen attendees' knowledge based on topics they indicate interest in. As always, we conducted surveys (a) at the end of the previous summit (2021) to get attendee suggestions of topics and themes for the current summit (2022) and (b) leading up to the current summit to get a more statistical gauge of the priority that the summit should place on the various supply chain topics. Attendee responses to the survey question asking for suggested themes led to the decision that the right theme for the 2022 summit was Creating a Sustainable Future. Exhibit 2 in the appendix shows the 2022 presummit survey instrument used to solicit the invited attendees' level of interest in discussions about each of the 12 listed topics. The statistical analysis of the survey provided guidance for fine-tuning the content and schedule of the summit's sessions in line with attendees' knowledge seeking priorities.
- 2. Facilitate unstructured interaction through informal fireside chats. For the first time in the summit's 6-year history, informal fireside chats were scheduled for after the end of formal sessions to give attendees a chance for further dialogue with panelists, the keynote speaker, and student speakers. The informality of the fireside chats yielded the desired outcome: free flowing conversations shaped by attendees' interests.
- 3. Elevate the level of student involvement. Every summit provides opportunities for the next generation of supply chain professionals to be meaningfully involved in the summit in ways such as public speaking. That way, the summit serves as a professional development environment for students taking supply chain courses in post-secondary institutions. Beyond the now established process of having students as summit co-chairs and in executing summit plans, we introduced a Student Forum segment for the 2022 summit agenda. As will be detailed later in this report, the material that the students presented showcased their budding competence with supply chain issues faced by both start-up entrepreneurial ventures and established businesses.



Figure 2: Summit Co-Chairs making their opening remarks

Summit's Summarized Content and Insights

The Pre-Summit Survey Insights

A statistical analysis of the responses to the pre-summit survey revealed the six topics of most interest to the attendees listed in the left column of Table 1 below. The position of 21st century supply chain management (SCM) talent/skills atop this list is indicative of persistent calls for greater efforts to sustain a robust availability of personnel who can competently navigate modern supply chains. For a related question in the pre-summit survey (to identify the most valuable skills for contemporary SCM), a statistical analysis of the responses indicated that respondents see both technical skills (a.k.a. "hard skills") and soft skills as valuable. Table 1 (right column) shows that these key hard skills include analytics and digital/technology literacy, while the soft skills include creativity, adaptability/flexibility, and communication (which is unsurprising when one looks at the high frequency that communication skills is stated as a requirement in job postings).

It must be noted that the topics that fell outside of the top six (and thus given less coverage at the summit) are still all very important. In fact, every one of these bottom six topics was rated as being very highly important by at least one respondent: e.g., topics such as non-traditional/unfamiliar competitors and industry disruptors. Therefore, the limited coverage planned for those topics did not represent disinterest in them. Rather, it was merely an indication that a larger number of attendees considered other topics as highly important. Satisfyingly though, the inextricable and sometimes eye-opening linkages across ostensibly different topics facilitated organic and seamless integration of several bottom six topics into the summit deliberations.

Table 1: Attendees Knowledge Interest Areas

SIX TOPICS OF GREATEST INTEREST	<u>SIX SKILLS CITED AS MOST VALUABLE</u>
[1] 21st century supply chain talent/skill requirements	[1] Analytics
[2] Supply chain risk, vulnerability, and resilience	[2] Adaptable/Flexible
[3] Environmental sustainability in supply chains	[3] Communication
[4] Technology-enhanced supply chains	[4] Collaboration/Teamwork/Interpersonal Skills
[5] Emerging SC network structures	[5] Digital/technology literacy
[6] Supply side visibility/relations	[6] Creativity/Imagination

Panel Discussion Insights

Industry Co-Chair, **Keith Reardon**, moderated a panel discussion on **Supply Chain and Sustainability**. The panelists were **Chantale Després** (Assistant Vice-President, Sustainability at CN), **David Carruth** (CEO at ONE For Freight), **Grace Liang** (President at OOCL Canada, Inc.), and **Martin Roos** (Managing Director Air & Sea Canada at DSV Global Transport & Logistics). The panel discussion was organized around five (5) topics related to environmentally sustainable supply chains. Table 2 lists the five topics and summarizes a few highlight points from the panelists' responses to the moderator and the audience. Beyond those five topics, the panelists offered some advice to attendees in the middle of their supply chain studies or about to embark on their career in supply chain. A key message to those attendees was to consistently have a mindset of wanting to continue learning because the learning required to succeed as a supply chain professional does not end when one acquires a degree or professional certification.

Table 2: A Summary of the Panel Discussion

MAIN PANEL DISCUSSION TOPICS	A SELECTION OF RESPONSE HIGHLIGHTS
1. Resilience to supply chain	■ Geopolitical developments (China/US trade disputes, etc.) will likely cause the effects
disruptions	of pandemic disruption to last beyond 2022
	■ The maritime sector is a target for cyber attacks, so the sector's players (ports,
	shipping lines, etc.) must prioritize resilience of their Information, Communication & Technology (ICT) infrastructure
	 Switching from less-than-truckload (LTL) deliveries to intermodal is one way to both be resilient to truck driver shortages and reduce carbon emissions from transportation
2. The road to Net Zero emissions	 Operating according to valid and reliable scientific evidence is an essential element of pursuing Net Zero carbon emissions
	■ Through tactics such as efficiency of locomotive fleets and operational practices, CN is targeting no later than 2030 to reduce emissions by 43% vis-à-vis 2019 levels
	■ The mindset cannot be merely how to reduce emissions, but <i>how to grow without increasing emissions</i>
3. Technology	■ The transportation sector must stay abreast of developments in renewable energy
	technologies and be prepared to adopt those technologies
	■ The Net Zero target date of 2050 may seem to be in the distant future, but companies
	today cannot afford to delay investments in the available technologies
	■ It is not only about physical technologies, but also about digital technologies (e.g., Big
	Data) to ensure that sustainability actions are based on high quality data and analysis
4. Collaboration	Collaboration among supply chain partners is essential because environmental
	sustainability is a supply chain goal rather than an individual company goal
	 Sensible collaboration means being cognizant of and understanding of the reality that
	not every supply chain partner is at the same stage of the sustainability journey
	 Even competitors (e.g., rail and trucking) must be open to collaborative actions that support sustainability (e.g., intermodal transportation arrangements)
5. Human capital	■ Firms with seasoned management teams must embrace the opportunity to get fresh
	ideas from people who are close to the start of their professional journey
	 Canada's 22,000 job vacancies for truck drivers signal a need for improvements in the recruitment and retention of truck drivers
	 A focus on equity, diversity, and inclusion (EDI) and employee wellness should not be about virtue signalling, but as a key aspect of talent management

Figure 3: Photo of the panelists and moderator during the discussions



Academia Keynote Presentation Insights

Professor Alan Amling (Distinguished Fellow at The University of Tennessee's Haslam College of Business) delivered the keynote presentation titled *Post-Pandemic SCM Practices Insights and Predictions*. At the outset of his presentation, he provided some context by referencing (a) research done within his network of peer scholars over the past decade and (b) larger societal developments over that period. These larger developments included the COVID-19 pandemic, population growth, resource scarcity, technological advancements (artificial intelligence (AI), Internet of Things (IoT), etc.), urbanization and explosive eCommerce growth, irreversible globalization, and of course, a few recent macro-economic and geopolitical phenomena such as inflation and Russia's invasion of Ukraine, respectively.

The presentation then got deeper into the specifics of SCM practices that companies are implementing or must seriously consider implementing. Professor Amling related these recommended practices to predictions based on evidence (e.g., available evidence that company profits have grown at a faster rate than wages since 2000). One angle from which to interpret his presentation is that it is effectively a call to action: *adopt practices that available evidence suggests are essential for companies to remain viable*. Based on that angle, Table 3 summarizes six of the most recommended practices that Professor Amling cited in his keynote address. To some extent, these practices draw on ideas from his recent book (titled *Organizational Velocity*): ideas that transcend the supply chain domain to cover the broader domain of the business ecosystem.

 Table 3: A Sample of Professor Alan Amling's Recommended Supply Chain Practices

RECOMMENDED PRACTICE	EXAMPLES
1. Leverage AI and IoT for supply chain optimization/balancing	 Real-time tracking of inventory availability, product conditions, and fleet location Future applications include vendor management, production scheduling, and dynamic vehicle routing
2. Prioritize risk management and agility over leanness/JIT	 Treat inventory holding as an acceptable business activity Redesign networks to minimize the risk of uncertain sources and routes
3. Rethink metrics	➤ Use metrics such as "what would be the revenue impact if a source fails" and "time to recover after a disruption"
	➤ Have a suite of metrics that includes <i>ESG</i> (<i>Environmental, Social, Governance</i>) items
4. Creatively tackle imminent material shortages	 Cost-effective extraction of reusable materials from the closed-loop supply chain Strategic sourcing through forward buying contracts with desirable supply partners
5. Raise the priority of managing talent instead of on getting	> Focus on attracting local/regional talent to reduce dependence on (the shrinking supply of) cheap overseas labour
cheap labour	➤ Deploy ongoing reskilling along the lines of Procter & Gamble's 70-20-10 model (i.e., 70% of learning is from on-the-job experience, 20% from mentoring/coaching, and 10% from formal classroom instruction and reading)
6. Move beyond the hype of	➤ Utilize pilot studies to properly gauge its specific impacts on companies
blockchain	➤ Walmart Canada's use of blockchain significantly reduced invoice discrepancy disputes with carriers and saved \$30 million

In the summary of Professor Amling's presentation, the item that is arguably the most profound was his point that in implementing a transformative new practice, a company must accept that the path towards truly reaping the benefits is not guaranteed to be direct and easy. Figure 4 from his presentation illustrates the point with a path that includes periods of doubt and pessimism before success is achieved. As such, companies must manage the implementation in strategic and tactical ways that prevent those bothersome periods from derailing their accomplishment of success.



Figure 4: The non-linear path of transformative change





Student Forum Insights

The Student Forum segment comprised the following two distinct student presentations.

- 1. The first presentation was by Wilfrid Laurier University's **Olivia Gottschalk** and **Lindsay Puls** about a start-up company: Earth Suds, Inc. (https://earthsuds.co/). The company was a brainchild of the students and started as an entrepreneurial project under the auspices Enactus Laurier (https://www.enactuslaurier.ca/), which facilitates students' efforts to innovatively solve real-world issues. At the 2021 Enactus World Cup (a student competition among Enactus teams representing post-secondary institutions from 33 nations), Laurier's Earth Suds team earned an impressive second place finish. Since then, Earth Suds, Inc. launched has an official corporation, so it has moved beyond being a school venture under Enactus Laurier.
 - In line with the summit's theme, the presenters described the environmental sustainability concerns that led them to create Earth Suds. They explained that their products (tablets of body wash, shampoo, and conditioner) are more environmentally sustainable than the hygiene products they bought before the inception of Earth Suds. The presentation also addressed the supply chain and logistics issues they had to confront and overcome in growing their start-up: issues such as finding and working with the right suppliers of input materials and the right options to meet their transportation and warehousing needs. That part of the presentation was very insightful in highlighting that if entrepreneurs are to realize the dreams of their start-up venture, they cannot ignore practical matters concerning the start-up's logistics and supply chain ecosystem.
- 2. The second presentation was by the three-member team that won the 2022 Nestlé Canada Student Case Competition. The team comprised two Wilfrid Laurier University students (Andrew Dang and Shaili Kadakia) and a York University student (Priyanka Jayarathan). For the competition, the team tackled a real-world business case in which issues of environmentally sustainable supply chain management were paramount. The case enabled the students to gain the kinds of practical insights that SCM professionals (both emerging and experienced) need to help companies strive for environmental sustainability. The students illustrated how they strengthened their grasp of those insights by applying sound theory and conceptual frameworks to analyze the case: e.g., the PESTLE framework to understand relevant Political, Economic, Social, Technological, Legal, and Environmental considerations in sustainability decisions. Though nuanced to particulars of the case (which Nestlé Canada provided), the students' presentation affirmed the key ideas in discussions that occurred in the summit's other sessions.

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Figure 6: Photo of student presenters during the Student Forum sessions



Building on the Summit's Deliberations: Some Guidelines for Future Research

Supply chains are vital to economic prosperity at multiple levels: from local/regional through to national and global. Yet, supply chain activities (transportation, warehousing, etc.) put stress on the environment and result in higher risks that the environment —trees, oceans, minerals, etc.— could soon lack the capacity to sustain those activities. Recognition of this risk, government mandates (e.g., to reduce carbon emission), and societal and market pressures (e.g., customer preference for products from low emission supply chains) have made supply chain sustainability an imperative, not an optional pursuit. The challenge for firms is not *whether* to operate environmentally sustainable supply chains, but *how* to do so, effectively. The summit discussion highlighted that this is not an easy challenge and is inextricably intertwined with considerations such as those presented earlier in Table 2. Human talent can be viewed as being central in these considerations because success in handling the challenge requires inter-departmental and interorganizational teams with the collective wisdom about matters such as:

- ✓ Measurable key performance indicators (KPIs) for sustainability
- ✓ Strategies and tactics that can reduce environmental harm from supply chain activities
- ✓ Identifying the appropriate personnel to be on the supply chain sustainability improvement team
- ✓ Sustainability-related regulations (regarding recycling, anti-dumping, carbon emissions targets, etc.)
- ✓ Effective collaboration with upstream and downstream supply chain partners on carbon-reduction strategies
- ✓ Analytics to quantify the carbon footprint of SCM processes and the costs/benefits of footprint reduction initiatives

While there is a rich body of scholarly research on these matters, there is a need for ongoing research to provide fresh knowledge that is tuned to the dynamic nature of the challenge. That dynamism is driven by the volatile, uncertain, complex, and uncertain (VUCA) world in which companies strive for supply chain sustainability. The research literature references on page 12 herein are presented as sources for:

- (a) discerning the current state of research-based knowledge about supply chain sustainability
- (b) identifying research projects that can help to fill critical gaps in that knowledge
- (c) deriving insights from detailed cases studies of companies' supply chain sustainability activities

To this end, articles listed in the bibliography are categorized into systematic reviews of the research literature and case studies. Articles in the literature review category are helpful for both depicting current knowledge and providing guidance on research directions that have genuine potential to yield knowledge needed by personnel responsible for supply chain sustainability initiatives. From the articles on case studies, these personnel can derive potentially implementable insights from studies of such initiatives at organizations in industries that include aerospace: (e.g., British Aerospace Systems), coffee production, cleaning products, forestry, wood products, and electronics. Another rich source of cases in the bibliography herein is the Bak (2021) collection of case studies on how organizations are trying to green their supply chains with initiatives such as waste reduction, supplier management, circular economy, and cross-industry collaboration. In addition to the articles listed in the bibliography, relevant research articles can also be found in the following three special issues of the journal *Sustainability* (https://www.mdpi.com/journal/sustainability):

- (i) Special Issue on "Sustainable Supply Chain System Design and Optimization"
- (ii) Special Issue on "Sustainability in Supply Chains System with Behavioral Concerns"
- (iii) Special Issue on "Toward Sustainability: Supply Chain Collaboration and Governance"

Conclusions, Plans, and Projections

The **2022 World Class Supply Chain Summit** featured ten speakers across four sessions: a panel discussion, a keynote address by a scholar, a student forum, and an informal fireside chat (involving the audience with a subset of the speakers). The summit focused on issues in the domain of environmentally sustainable SCM. These issues ran the gamut from the nature of the supply chain sustainability problem through to features of effective solutions. Like any inherently complex matter, supply chain sustainability necessitates ongoing research to facilitate progress towards such solutions. The still thorny questions raised during the summit deliberations underscore that necessity: e.g., audience questions in the fireside chat about the supply of talent to tackle contemporary supply chain sustainability challenges.

The student forum was a newly introduced element for the 2022 summit, and its introduction was driven by a commitment to the summit principle of facilitating the next generation's professional development through involving them meaningfully in the summit. Also newly introduced was the hybrid in-person/remote format, which is essentially a given in this era of societal recovery from the pandemic). For the next summit, we anticipate continued use of this opportunity to provide convenient access for the supply chain community's members who cannot be in Milton, Ontario for in-person participation in the 2023 event: to be convened on **Wednesday May 3rd**, 2023 at the **Granite Ridge Golf Club**.

Along with having begun plans to refine the use of teleconferencing technologies to deliver the summit, the summit organizing team has also begun planning several of the summit's content-related aspects. One such aspect is the theme. Based on early analysis of attendees' theme suggestions for 2023, the concepts *dynamic* and *collaboration* seem to occur very frequently. Consequently, the team has begun compiling short lists of potential speakers who have the content knowledge of those concepts within a supply chain context. As at this year's summit, fresh ideas on practical matters concerning these and related concepts will come from the next generation of supply chain professionals: both those still being formally trained and those in the early phases of their professional journey.



Figure 7: Photo of the Master of Ceremonies (Scott McCammon) giving closing remarks

A CONCISE BIBLIOGRAPHY OF SCHOLARLY WORK ON SUSTAINABLE SUPPLY CHAINS SINCE 2009

Literature Reviews

- 1. Barbosa-Póvoa, A.P.; da Silva, C.; & Carvalho, A. (2018), "Opportunities and challenges in sustainable supply chain: An operations research perspective", *European Journal of Operational Research*, 268(2): 399-431
- 2. Beske-Jansen, P.; Johnson, M.P.; & Schaltegger, S. (2015), "20 years of performance measurement in sustainable supply chain management what has been achieved?", *Supply Chain Management: An international Journal* 20(6): 664–680.
- 3. Flores-Sigüenza, P.; Marmolejo-Saucedo, J.O.; Niembro-Garcia, J.; & Lopez-Sanchez, V.M. (2021). "A systematic literature review of quantitative models for sustainable supply chain management", *Mathematical Biosciences and Engineering* 18(3): 2206-2229.
- 4. Gold, S.; Seuring, S. & Beske, P. (2010). "Sustainable supply chain management and inter-organizational resources", *Corporate Social Responsibility and Environmental Management* 17(4): 230-245
- 5. Hassini, E.; Surti, C.; & Searcy, C. (2012), "A literature review and a case study of sustainable supply chains with a focus on metrics", *International Journal of Production Economics* 140(1): 69–82.
- 6. Islam, S.; Karia, N.; Fauzi, F.B.A.; & Soliman, M.S.M. (2017), "A review on green supply chain aspects and practices", *Management and Marketing. Challenges for the Knowledge Society* 12(1): 12-36
- 7. Koberg, E. & Longoni, A, (2019), "A systematic review of sustainable supply chain management in global supply chains", Journal of Cleaner Production Volume 207(10): 1084-1098
- 8. Morali, O. & Searcy, C. (2013), "A Review of Sustainable Supply Chain Management Practices in Canada", *Journal of Business Ethics* 117(3): 635-658
- 9. Panigrahi, S.S.; Bahinipati, B.; & Jain, V. (2019), "Sustainable supply chain management: A review of literature and implications for future research", *Management of Environmental Quality* 30(5): 1001-1049.
- 10. Tonelli, F.; Taticchi, P.; & Pasqualino, R. (2013), "Performance measurement of sustainable supply chains: A literature review and a research agenda", *International Journal of Productivity and Performance Management* 62(8):782-804
- 11. Tseng, M.; Islam, S.; Karia, N.; Fauzi, F.B.A.; & Samina, A. (2019), "A literature review on green supply chain management: Trends and future challenges", *Resources, Conservation and Recycling* 141: 145-162
- 12. Wangsa, I.D., Vanany, I.; & Siswanto, N. (2022), "Issues in sustainable supply chain's futuristic technologies: a bibliometric and research trend analysis", *Environmental Science and Pollution Research* 29: 22885–22912.

Case studies

- 1. Bak, Ozlem. Sustainable and Green Supply Chains and Logistics Case Study Collection. Kogan Page, Ltd., 2021.
- 2. Gopalakrishnan, K.; Yusuf, Y.Y.; Musa, A.; Abubakar, T.; & Ambursa, H.M. (2012), "Sustainable supply chain management: A case study of British Aerospace (BAe) Systems", *International Journal of Production Economics* 140(1): 193-203
- 3. Nguyen, G.N.T. & Sarker, T. (2018), "Sustainable coffee supply chain management: a case study in Buon Me Thuot City, Daklak, Vietnam", *International Journal of Corporate Social Responsibility* 3(1): 1-17
- 4. Laurin, F. & Fantazy, K. (2017), "Sustainable supply chain management: a case study at IKEA", *Transnational Corporations Review* 9(4): 300-318
- 5. Pagell, M. & Wu, Z. (2009), "Building a more complete theory of sustainable supply chain management using case studies of 10 exemplars", *Journal of Supply Chain Management* 45(2): 37-56

APPENDICES

Exhibit 1: The Summit Event Schedule

	WORLD CLASS SUPPLY CHAIN SUMMIT 2022
	Creating a Sustainable Future
	Wednesday, May 4, 2022
8:30 am	Welcome MC, Scott McCammon, President and CEO of the Milton Chamber of Commerce, welcomes attendees.
8:35 am	Opening remarks By Dr. Michael Haughton, Professor, Supply Chain Management at the Lazaridis School of Business and Economics at Wilfrid Laurier University, Keith Reardon, Senior Vice-President, Consumer Product Supply Chain, CN, and Student Co-Chairs Olivia Gottschalk and Gregory Kinsey, Co-Presidents of the Laurier Supply Chain Association.
9:00 am	Supply Chain and Sustainability Panel A leading panel moderated by Janet Drysdale, Vice-President, Sustainability, CN, explores the challenges in creating a sustainable supply chain, as well as the opportunities that can result. Our panelists: David Carruth, CEO, ONE For Freight, Chantale Despres, Assistant Vice-President, Sustainability, CN, Grace Liang, President, OOCL Canada Inc., and Martin Roos, Managing Director, Air & Sea Canada, DSV Global Transport and Logistics.
10:00 am	Keynote By TED speaker and supply chain thought leader Alan Amling, a Distinguished Fellow at The University of Tennessee, CEO of the advisory firm Thrive and Advance LLC, and a member of the Executive Advisory Board for the Georgia Tech Manufacturing Institute.
11:00 am	Networking Break
11:15 am	Student Forum Five students in supply chain and logistics from across Canada discuss the responsibility of the sector to operate sustainably, and present ideas on how to achieve it.
12:00 noon	Closing Remarks By Co-Chairs Dr. Michael Haughton, Keith Reardon, Olivia Gottschalk, and Gregory Kinsey.
12:30 pm	Networking Lunch CN's Keith Reardon conducts "live" interviews with speakers and attendees.
1:15 pm	Fireside Chats An opportunity for further dialogue with panelists, keynote speaker, and students.
3:00 pm	Adjournment Until World Class Supply Chain 2023, on Wednesday, May 3 rd , 2023, Milton.

Exhibit 2: The Pre-Summit Survey Instrument

World Class Supply Chain 2022 Creating a Sustainable Future **PRE-SUMMIT SURVEY**

Dear summit attendee,

By responding to this survey, which should take you less than 12 minutes, you will help to enhance the quality of the 2022 summit's discussion on the theme of *Creating a Sustainable Future*.

SURVEY ETHICS COMPLIANCE POLICY NOTICE

This survey has been approved by Wilfrid Laurier University's Office of Research Services under file # 2019-59 as per University

be attributed to you personally. Data will be kept confide White Paper is written, the data will be securely destroye format due to a disability, please contact Michael Haugh phone 519-884-0710, ext. 6205).	ential for a period o d. If you have que	of 8 sti	3 <i>months, ar</i> ons, or if yo	<i>nd or</i> u red	<i>ce the f</i> Juire thi	<i>inal v</i> s surv	<i>ersion o</i> ey in an	f the summit alternate
YOUR BACKGROUND								
1: Which of the following roles do you play in your organiz	ation? (check all th	hat	apply)					
Executive - Executive - Executive -	Executive — Other	E	Executive –	 	Professor	S	tudent	OTHER
Retail Manufacturing Transportation Services	SCM Services	(Other sectors					
YOUR LEVEL OF INTEREST IN VARIOUS SUPPLY CHAI	N TOPICS							
2: How would you describe your level of interest in learning		10	f the followin	ng to	pics?			
SUPPLY CHAIN TOPIC			Very high	Hig	h Mod	erate	Low	Very low
(1) Technology-enabled SCM (Artificial Intelligence, Interne	t of Things, etc.)							
(2) 21st century SCM skill/talent/labour requirements								
(3) Supply chain risk management								
(4) Role of social media in SCM								
(5) Changing nature of supply chain and distribution networ resources; resource sharing, etc.)	ks (on-demand							
(6) Customer "individualization" (uniqueness)								
(7) Environmental/ecological sustainability								
(8) Effective use of supply chain analytics								
(9) Supply side visibility and supplier relationship managem	ent							
(10) Building flexibility/responsiveness in logistics capacity								
(11) Complexity in global and domestic supply chain network	S							
(12) Non-traditional/unfamiliar competitors and industry disr	uptors							
3: If you are interested in other supply chain topics that an YOUR TOPIC A:	re not in the above	lis	t, what are t	those	e topics?	,		
YOUR TOPIC B:								
YOUR TOPIC C:								
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