REPORT

COMMUNITY OF INTEREST

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LEARNINGS FROM A CROSS-INDUSTRY COMMUNITY OF INTEREST

SUSTAINABILITY DATA SHARING TO IMPROVE SUPPLY CHAINS

POWERED BY CGI | MICHELIN

MOVIN'ON

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Abstract

This paper summarizes the approach, key insights, and recommendations from a Movin'On Community of Interest (COI) focused on improving sustainability across supply chains through cross-organization data sharing.

The COI brought together stakeholders from multiple industries to address the burning question of how companies can work together to collect and share sustainability data to drive measurable improvements for global supply chains.

APPROACH

The COI followed a nine-month process with these phases:

- Hypothesized key data dimensions related to supply chain sustainability.
- Validated dimensions through stakeholder interviews.
- Tested data sharing and analysis for sample metrics (aluminum, recycled content, local sourcing, cybersecurity).
- Developed a framework to assess sustainability opportunities and threats using shared data.

INSIGHTS

- Supply chains are vast and amorphous; they also have many companies as part of their ecosystem, and if left uncontrolled, they can potentially cause significant damage to sustainability.
- Data is one of the critical levers to consider when you want to start to manage sustainability.
- Data access and participation took longer than expected, indicating the need for extended timeframes and internal champions.
- Establishing trust through relationships and transparency is critical for data sharing.
- Lack of standardization and fluctuating requirements pose challenges for suppliers.
- Sustainability is not only about the environment and pollution; it is built on environmental, social, economic and governance pillars.
- Prioritizing high-impact focus areas enables progress despite barriers

RECOMMENDATIONS

- Obtain C-suite buy-in and dedicated resources.
- Allow longer timeframes for data collection and sharing and secure internal champions.
- Communicate how data will be used, protected, and anonymized.
- Identify shared goals and definitions.
- Focus on the highest risk/impact areas first.
- Develop partnerships and standards for greater transparency.
- Appeal for flexible regulations that enable progress.

Conclusion

Despite challenges, voluntary collaboration can yield valuable insights into supply chain sustainability. With leadership commitment, trust, and access to reliable data, companies can pave the way for data-sharing partnerships that drive measurable progress in improving sustainability in the supply chain.

01. Introduction

Supply chain resiliency is critical to the global economy.

Supply chains today involve complex networks of organizations across industries and geographies. This interconnectedness means sustainability challenges cannot be solved by any one company alone. Sustainability requires a group effort and industry-wide participation by many stakeholders. Cross-industry collaboration is essential for gathering comprehensive data, leveraging different perspectives, and challenging and enriching existing data sets to identify and address sustainability hot spots and track measurable progress.

Utilizing environmental, social, and governance (ESG) initiatives to address stakeholder demands continues to influence companies' economic and operational decisions. A company's entire supply chain can significantly impact these ESG initiatives in promoting human rights, fair labor practices, environmental progress, and anti-corruption policies[1], ensuring companies continue to justify their social license to operate. In 2022, the United Nations (UN) Global Compact participants ranked supply chain practices as the biggest challenge to improving their sustainability performance[1]. Progress on ESG initiatives and increasing supply chain resiliency concord with corporate sustainability: **robust, accessible data is essential.**

This paper shares learnings from a Community of Interest (COI) focused on identifying best practices for companies to productively work together on collecting and analyzing sustainability data across the supply chain.

[1] https://unglobalcompact.org/what-is-gc/our-work/supply-chain/

WHAT IS A COMMUNITY OF INTEREST?

Mobility is at the heart of human development. New challenges are emerging for organizations and societies as they strive to make mobility safer, more sustainable, inclusive, and efficient in a world characterized by dramatic technological, climate, and social disruption.

When significant issues arise, a COI is formed, bringing together stakeholders from multiple organizations and industries to focus on solving a specific sustainable mobility challenge. Participants collaborate in a pre-competitive environment to align on a "burning question" and work together to develop solutions over a defined timeframe.

The COI model enables diverse perspectives and knowledge sharing, leveraging the power of cross-industry partnerships to drive sustainability progress on systemic challenges. All participants agree to a code of ethics that provides a foundation of trust and confidentiality for sharing within the COI.

Movin'On was established in 2017 by Michelin with a forward-thinking mission to revolutionize innovation across the value chain, including more than 300 private and public partners, 30 active COIs, and four global LABs in Europe, Asia, Africa, and North America.

Independent and nonprofit, Movin'On facilitates the collective effort from multiple partners and stakeholders through COIs that balance initiatives between thinking and doing.

By dedicating the appropriate time to articulate the right problem to solve and ensuring that the problem can be most effectively addressed via an ecosystem, a COI engages diverse stakeholders to develop concrete solutions for their mutual benefit.

Movin'On approaches this model with scale in mind, which requires understanding the context and friction that inherently exists when you bring together the public sector (who determines the what) and the private sector (who enables the how).

"We **reduce our risks** by engaging the network before committing to action."

"Having **access to experiments** across different SME domains helps us anticipate new markets."

"The **neutrality** of Movin'On is really a benefit in getting different stakeholders to collaborate."

"The mutual **respect for IP and confidentiality** allows me to explore even the most sensitive topics."

"Being able to work in an **international network** matters when so many of our challenges are shared across regions."

Figure 1: Feedback from various Movin'On stakeholders

BURNING QUESTION

CGI, a global IT and business consulting firm, led the establishment of the first Movin'On COI for the North American zone with a focus on addressing and improving sustainability in the supply chain by answering a burning question:

What is the correct data from publicly available and supplier and Original Equipment Manufacturer (OEM) datasets that will help innovate and measurably improve the sustainability of the automotive supply chain?

The organizations that formed the core of this COI include:

CGI, Google, MAGNA, MICH auto, MICHELIN, Pittsburgh Technology Council, SUNDBERGFERAR

While individual companies have made strides in internal sustainability initiatives, comprehensively tracking and measuring supply chain impacts with an eye toward improvement requires transparency and collaboration across multiple organizations. This COI worked to define solutions for more open and effective data-sharing partnerships - beginning with identifying the most meaningful data with the potential to drive more sustainable business decisions.

INTENSIFYING BUSINESS DRIVERS OF SUSTAINABILITY

Sustainability is no longer a "nice to have" but an imperative. Incorporating ESG objectives into your business strategy is tied to revenue and growth. While complex, the benefits of sustainability as a business strategy far outweigh the negative consequences of inaction.

The IDC FutureScape: Worldwide Sustainability 2022 Top 10 Predictions[2] indicate that sustainability will continue to drive significant change in business operations, requiring companies to:

The IDC FutureScape: Worldwide Sustainability 2022 Top 10 Predictions[1] indicate that sustainability will continue to drive significant change in business operations, requiring companies to:

- Completely embed sustainability into operations
- Participate in broader networks of companies engaged in sustainable innovation
- Deploy software tools to monitor utilization on-premises, in the cloud, or at edge locations to improve utilization metrics.
- Develop energy management programs.
- Mandate responsible sourcing policies
- Prioritize responsible Artificial Intelligence (AI) solutions

[2] https://www.idc.com/getdoc.jsp?containerId=US48300021

Business leaders seek to understand the real business value of sustainability for their companies. Many recognize sustainability as a well-founded endeavor, yet many are unclear about where to start and what it means to embed sustainability into their organization's DNA.

Interviews with executives for CGI's 2023 Voice of Clients program regarding sustainability initiatives reflect these challenges:

"Circularity is part of our brand and reputation. It will help us to win tenders"

"Our strategic goal is to supply society with the cleanest and most sustainable energy"

"Clear requirements on what businesses need to do, and how to do it without stopping growth"

"Loss of stock value, based on greenwashing accusations"

"We are the only ones in the industry that can transform into a sustainable organization"

"Rising legislation that is challenging to keep up with, and can be counter-productive to our sustainability strategy and goals"

"Activist-influenced policy making that is bad for overall sustainability"

"We respond to ad hoc wishes instead of a long-term CSR vision"

"Growth is our new business models"

"How do I get my operations to shift paradigms"

02. Process

The COI followed a structured approach over a nine-month timeframe, which included the following phases:

- Align COI goals and the burning question
- Hypothesize data dimensions (Phase 1)
- Validate data dimensions through interviews (Phase 2)
- Test the impact of sharing data for specific ESG metrics (Phase 3)
- Create a sustainability threat and opportunity framework assessment (Phase 4)
- Conclude and share results

The initial alignment for the COI started with an in-person kickoff meeting held in Detroit, MI. This face-to-face meeting helped facilitate relationships, build trust in the process and a willingness to share data.

HYPOTHESIZE

After confirming the burning question, the first step included forming a hypothesis and defining dimensions of the data sets that will impact the sustainability objectives of tier-n suppliers and original equipment manufacturers (OEMs). The following four pillars of sustainability were identified through research and dialogue.

The four pillars of supply chain sustainability

Environmental sustainability refers to the need to reduce the environmental impact of supply chains, such as reducing emissions, waste, and pollution tracked through the following datasets that can be used to determine opportunities for reduced consumption and to develop more sustainable practices.

- Carbon emissions
- Water usage
- Waste generation
- Energy consumption

While not considered part of this study, biodiversity impacts are important and would be a valid area of investigation in the future.

Social sustainability refers to the need to ensure that supply chains are fair and equitable, such as ensuring that workers are paid a fair wage and that working conditions are safe through the following datasets that can be used to develop more sustainable practices.

- Employee satisfaction
- Diversity and inclusion
- Health and safety
- Community engagement

Economic sustainability refers to the need to ensure that supply chains are financially viable, such as reducing costs and improving efficiency, tracked through the following datasets to determine how to accelerate results and develop more sustainable business practices.

- Revenue
- Profit
- Jobs
- Supplier diversity

Governance sustainability refers to the need to ensure that supply chains are well-managed and transparent, implement ethical sourcing practices and provide clear information about supply chain risks tracked through the following datasets to develop areas for improvement and sustainable corporate governance practices.

- Board diversity
- Executive compensation
- Ethical practices
- Transparency
- Cybersecurity

VALIDATE

After the completion of Phase 1, the hypothesized data dimensions were used to conduct Phase 2 of the project, validation research. The goal of this phase was to validate sustainability and ESG objectives for tier-n suppliers and OEMs, as well as validate the data dimensions that would impact their stated sustainability objectives. The research also aimed to uncover insights that would help define attributes of a solution for the subsequent testing phase, including:Accus eosanistiur, sunt volesti onsecus auditin.

- Understand the value of data and sustainable supply chains for business outcomes.
- Identify current tools
- Determine stakeholders' comfort level with data sharing
- Identify opportunities to make the most impact with better data

Virtual 1:1 interviews were conducted with six key decision-makers from global OEMs and tier-n suppliers in the automotive supply chain in May 2023. Participants included:

1. OEM
   - Supply Chain Sustainability Manager
2. Tier Ones
   - Director, Sustainability
   - VP Renewable Energy and Sustainability
3. Tier Twos
   - VP EHS and Sustainability
   - Head of Sustainability
4. Tier Three
   - Mobility Marketing Manager Americas
   - Marketing Segment Lead, Automotive Polyurethanes

This phase successfully validated the importance of the data dimensions hypothesized in Phase 1 for achieving the sustainability objectives in the automotive supply chain but prioritized three data dimensions. ***Ethical Practices*** and ***Health and Safety*** were tied for highest priority, followed by ***Carbon Emissions*** as data dimensions most prioritized among participants for tracking and measurably improving supply chain sustainability. While these priorities are helping participants make meaningful progress toward more sustain nable supply chains, significant barriers to data accessibility, reliability and usability threaten this progress.

These, along with the following research insights from this phase, are presented in Appendix A of this document and include:

- Highest priority sustainability objectives named by participant companies
- Methods for prioritization of initiatives
- Motivations for investing resources into improving supply chain sustainability
- Current methods used to track supply chain sustainability
- Barriers and challenges in enhancing supply chain reporting and data collection
- Proposed solutions to challenges / aspirational future desires
- Areas of opportunity for the COI to make a meaningful impact

Given the insights uncovered in the validation research phase, the COI narrowed the focus of Phase 3: Test to four specific data dimensions: aluminum, recycled content, local sourcing, and cybersecurity.

These data dimensions are different from those identified as top priorities by industry stakeholders in this Validation phase. This is because, upon discovering the extent of industry-wide challenges surrounding data accessibility, reliability and usability identified in this phase, the COI agreed to focus the Testing phase on data that they hypothesized would be least difficult to access and which could be directly provided by existing COI member companies in the event that no other companies were willing or able to access or share their data.

Domain	Item	Metric	Data Source	Insight
Environmental	Aluminum	Emission CO2E/ metric tonne produced	Company reporting: Volume emissions by supplier (zip code) Public sourcing: Carbon border taxes	How can changing sourcing improve Scope 3 emissions? How can better sourcing affect local carbon taxes?
Environmental	Recycled content	Recycled content by part	Life cycle assessment (LCA) for products	Improved decision making for more recycled materials
Social	Local sourcing	Percentage of supplies sourced within a 500-mile radius	Company reporting using percentage of local supply by plant (plant zip code)	Understand the strength and commitment to local communities
Governance	Cyber security	Security certifications	What data security certificates do you have currently ? (ISO standards, etc.)	Ability to better understand the risk and resiliency associated with the data in the supply chain

TESTING

During this phase, objectives included identifying priority use cases, collecting the data, and illustrating how the data might be accessed and utilized across a diverse supplier base.

It is important to note that access to data proved to be a significant challenge in conducting this testing phase. Only the companies with deep ties to the COI provided data. This and other challenges companies faced became immediately apparent, including sourcing, accessing, and collecting accurate, complete, consistent, and robust data sets for the sustainable/ESG initiatives pursued. Depending on the chosen initiative and the metric used, data sets were insufficient to provide an informative investigation within the bounds of the COI's available resources.

Based on the challenge of access to data, the COI chose aluminum to be the primary use case of the four metrics selected for testing and used anonymized company data alongside publicly available data.

Use case: aluminum

This use case aims to understand the environmental impact of purchased aluminum products for automotive manufacturing. This focused on two significant outcomes:

1. Creating a pathway to utilize data from multiple sources and find insights to incorporate sustainability
2. Showcasing how sustainable solution s positively impact overall cost optimization and address corporate ESG initiatives

In part, Aluminum was chosen as the COI use case because it is a crucial material used in the automotive industry. Due to its light weight, it is used as an alternative to steel to improve fuel efficiency and reduce vehicle emissions. For example, choosing to use aluminum body panels rather than comparative steel body panels can lead to a ten percent improvement in fuel efficiency.

Aluminum is a sustainable material that can be recycled infinitely without losing its properties. It is also a relatively energy-efficient metal to produce when recycled. For example, it takes about 95% less energy to produce aluminum from recycled scrap than from bauxite ore. However, the production of aluminum has a significant environmental impact. The primary contributor is the release of greenhouse gases during production.

For this use case, the team established a controlled cloud data storage space to ensure data security and related analysis, with access rights granted only to those specifically engaged. Additionally, the team considered where the aluminum is sourced and the mitigation activities done by the supplier. Overall, it will be possible to summarize the sustainability impact of each supplier and the costs incurred by the import of their product.

Inputs

The following inputs were utilized to build out the solution:

1. Aluminum Emissions Anonymized – 2022 CDP disclosures and supplier sustainability reports
2. Aluminum Emissions Mock – Magna generated data as an example of potential supplier-reported data.
3. Carbon tax data - https://carbonpricingdashboard.worldbank.org/map_data
4. CBAM information – https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en
5. CBAM not impacted countries (countries participating in the EU ETS) - https://www.eea.europa.eu/data-and-maps/dashboards/emissions-trading-viewer-1
6. Pricing data will be a user input; however, guidance on aluminum pricing can be found here:
7. Day pricing - https://www.lme.com/en/metals/non-ferrous/lme-aluminium#Trading+day+summary
8. Historic pricing - https://tradingeconomics.com/commodity/aluminum
9. The analytical model used a weekly auction price – a benchmark sample input parameter.

Findings

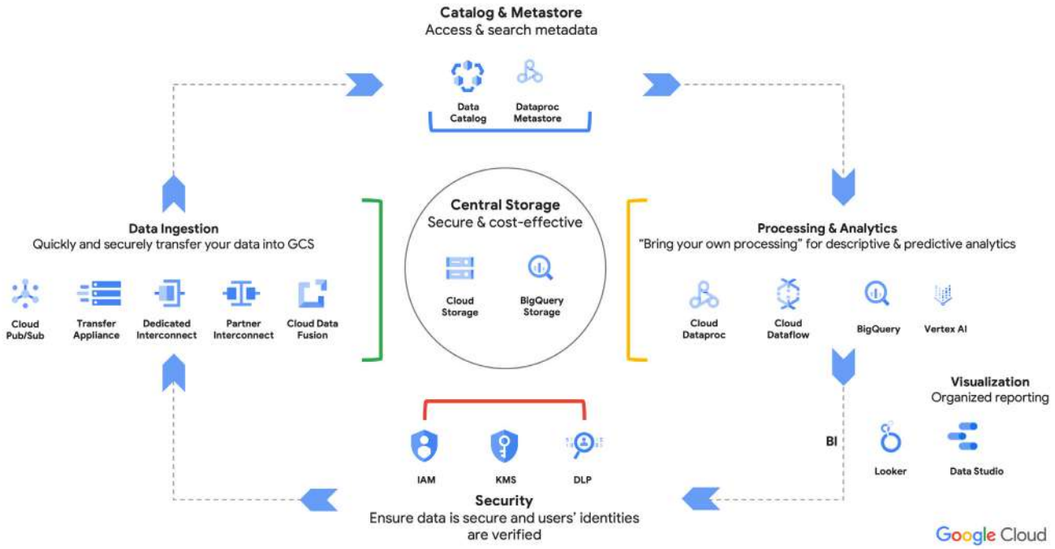
Based on the inputs provided, the COI team developed a dashboard that shows the cost implications of purchasing from various aluminum suppliers. Inputs included the aluminum supplier type, price, and carbon border tax rate. The output shows the aluminum supplier's country of origin, carbon emissions, whether a carbon tax should be applied, the expected cost of the tax, and the total cost of the aluminum with the tax included.

Leaders can realize significant value from the dashboard by visualizing a clear link between sustainability and the teams who make purchasing decisions within an organization. The business impact of the solution is that it shows where emissions are embedded into a supply chain and takes it a step further to show the financial impact of utilizing suppliers with high carbon emissions. The purchase of materials typically happens at an individual facility level or even in separate business units. Providing a solution such as this dashboard helps enable sustainable decisions that align with financial opportunities for the business.

It is also noted that while aluminum was the focus of this case study, the same framework and approach applies to other raw materials and goods and can also be adapted to various parts of the supply chain.

Broader solution architecture

The COI used Google Cloud to build the use case for aluminum. The following diagram provides an example framework for the solution architecture.



*For the testing phase, only a small subset of this solution architecture is utilized

Cybersecurity

Cybersecurity data sets, a top supply chain issue for most companies, are immature and more descriptive than quantitative. In June 2023, Forbes released its first "America's Most Cyber Secure Companies" list[3]. Cybersecurity is critical to sustainable supply chains because of the interconnectedness of the participants in supply chains today. Supply chains are like highways filled with traffic; all it takes is one weak driver or bad-acting car to enter the traffic to cause an accident or worse. In their 2023 Cost of a data breach report, IBM stated that the global average cost of a data breach in 2023 was USD 4.45 million; this represented a 15% increase over three years[4].

Since the 2020 SolarWinds cyberattack, the level of sophistication and coordination of cyber-attacks has advanced. The SolarWinds attack was sobering because it highlighted global cyber vulnerabilities. It also highlighted the interconnectedness of cyber-attack impacts: SolarWinds was a global attack targeting global supply chains[5].

The character of cyber threats has also changed. In an annual global cyber security report by the World Economic Forum, respondents cited that cyber attackers are more likely to focus on business disruption and reputational damage, which are their top two concerns. Global geopolitical instability has helped to close the perception gap between business and cyber leaders' views on the importance of cyber risk management, with 91% of all respondents believing that a far-reaching, catastrophic cyber event is at least somewhat likely in the next two years. Following this, 43% of organizational leaders think a cyberattack is expected to have a material effect on their organization in the next two years. For example, in February 2022, a cyberattack on commercial satellite services in Ukraine caused electricity-generating wind farms to shut down across central Europe, and in July 2021, supermarkets in Sweden were forced to close their doors after a cyberattack on IT services provider Kaseya, based in Florida, USA. Lastly, business executives acknowledge

[3] America's Most Cybersecure Companies 2023 (forbes.com)
[4] Cost of a data breach 2023 | IBM
[5] The SolarWinds Software Hack: A Threat to Global Cybersecurity - Harvard Journal of Law & Technology

that their organization's cybersecurity risk is influenced by the quality of security across their supply chain of commercial partners and clients.

Addressing cybersecurity within global supply chains is in the interest of all participants as it is a vital part of corporate sustainability addressing governance.

Like many governance topics within ESG initiatives, there needs to be more specific data publicly available to measure, track, and benchmark. This is unsurprising due to the sensitive nature of this data and the increased threat of industrial sabotage from cyber terrorists. Data on cybersecurity is largely incident-related and obtained after the fact through voluntary or mandatory (in the case of litigation) disclosure. Regulations and standards are immature on cybersecurity and are jurisdictional or industry-specific. The COI looked to challenge the assumption that personal data in sensitive industries such as banking would be more concerned than others over cybersecurity threats. The COI was not able to academically investigate this assumption.

Among the COI's considerations were that:

- Industries with numerous trade secrets at stake might have more material interest in protecting their assets
- Industry regulators have begun to include cybersecurity considerations in their audits.
- There is a question within specific industries if the regulator has the expertise to review third-party audits
- Insurance against cybersecurity events exists in most jurisdictions
- Guidelines on best practices are available publicly and through consultation with regulatory bodies and advisory firms
- Data privacy and protection are a far more developed area than cybersecurity

The COI team limited the scope of the investigation to consider whether participants were tracking cybersecurity standards or if the organizations held certifications.

Through the testing phase, it was found that organizations are tracking this information to some extent, including: The following certifications - which vary by the organization's size - were shared:

- SOC2
- ISO 27001
- ISO 27001 ISMS
- Multi-Layer Protection Scheme (MLPS)
- Trusted Information Security Assessment Exchange

Most organizations had minimum international certifications such as SOC2 and ISO and met jurisdictional requirements. The limited size of the data set, varying jurisdictional regulations, and differing subject domains prohibited comparison between organizations.

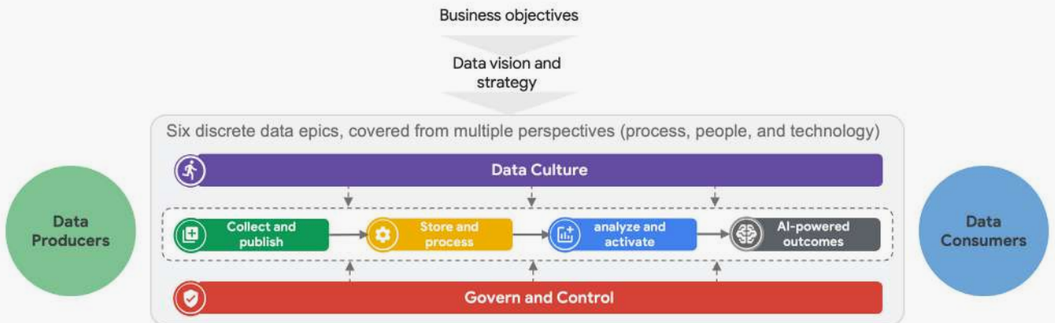
Overall, the investigation provided a list of valuable questions for consideration, such as:

- Do industries and jurisdictions have a minimal standard for the organizations to follow? How is this organized? Are expectations for companies tiered by size, etc., and cybersecurity domain?
- To what extent are companies within industries auditing their counterparties? How often?
- Audit questions include how often, verification by whom, what metrics are utilized etc.
- How often are organizations renewing their existing certifications? Are there policies and programs governing this process (i.e., if a certificate expires or the company fails to pass, are counterparties in the supply chain notified?) It is assumed that the legal framework addresses this issue, but the question remains – are companies tracking this as a part of business-as-usual activities?
- How is ownership managed? Is it different for organizations without a CIO function, etc.?
- Should companies internally tier their counterparts, and if specific standards still need to be met, should data not be shared, or should business be deemed unviable or suspended until improvements are made?

Sustainable supply chains mean resilient supply chains, mitigating the risks of cyber threats. Overall, the data set investigated for cybersecurity presented challenges that indicate a need for better solutions to manage the supply chain.

FRAMEWORK

The data capability framework focuses on six data epics critical for organizations to build widespread data competency and accessibility. By utilizing this framework, organizations gain a high-level view of their business objectives and data capabilities – allowing them to better understand how to merge the two into a strategy that puts sustainability at the forefront.



Data and insights

Organizations can ensure increased supply chain sustainability by using data insights to inform procurement decisions. In addition, by sharing data insights with suppliers, organizations can help them to improve their sustainability performance.

As the demand for sustainable products and services continues to grow, data insights will become increasingly important for organizations looking to improve corporate sustainability in general and the sustainability of their supply chains specifically.

Enhancing data culture

Data provides the backbone for all sustainability improvements throughout the supply chain. Therefore, organizations need to approach data thoughtfully and holistically. The following guiding principles provide a pathway for successfully enhancing the data culture within an organization.

Establish credibility for building a data culture.

- Demonstrate value via new data, analytics, and artificial intelligence (AI) solutions. Building your talent and skills will make sure the organization is poised to deliver insights for the long-term.
- Showcase new behaviors and growing capabilities to elicit buy-in, excitement, and sponsorship.
- Take a data-centric approach to practices across the organization, which involves a deep consideration of data governance and data policy.
- Create data champions by identifying key organizational stakeholders within departments who can bridge the gap between silos and help develop a common lexicon for data to foster collaboration.

Provide progressive data pathways for all

- Foster a culture that promotes data literacy across the business – not just among those already familiar with data and AI.
- Lay the foundation for core concepts to establish a shared understanding and provide continuous learning and improvements to processes and technology to improve your organizational capabilities.

Data culture must be built to scale

- Build strong technology foundations to create scale through more data access, easier data manageability, and world-class AI tools.

03. Findings and recommendations

Strengths of the COI approach

The COI model offered a robust platform to explore this complex sustainability challenge:

- Cross-industry participation provided diverse insights into the challenges and opportunities for supply chain data sharing.
- Establishing trust through personal relationship development and compliance with a COI ethics charter created openness for sharing knowledge and data.
- Alignment on the shared goal of driving measurable sustainability progress created buy-in.
- The COI's extensive network enabled outreach to critical players across sectors.
- Providing transparency about how data would be used and anonymized protected confidential information.

OPPORTUNITIES FOR IMPROVEMENT AND LESSONS LEARNED

While the COI yielded productive insights, the process also identified areas for improvement:

- Data collection took longer than expected, indicating a need for extended timeframes for voluntary participation across multiple companies. When participation is not mandated or paid for, it often falls lower in priority amidst competing initiatives.
- Companies need help prioritizing and resourcing the data gathering, mainly when not driven by customer or regulatory requirements. Having internal champions and decision-makers helps drive prioritization.
- The voluntary nature of the COI meant reliance on participants' best efforts versus mandated compliance.
- Sustainability must be championed and built in across the organization. In many cases, the data requested across ESG metrics lived in various teams across organizations. For instance, sustainability teams would have access to emissions and recycled content. However, logistics and supply chains need to provide input for local sourcing. Cybersecurity certifications, even for suppliers, often require information from IT in addition to procurement.
- Establishing trust is foundational to success. Organizations participating in the COI were significantly more forthcoming than organizations that were not. However, organizations within the COI were reluctant to provide certain types of data. Organizations outside of the COI were not inclined to give even anonymized data.
- Structuring an agreement for stakeholders and participants that works for all at the onset is critical to fostering mutually beneficial competition. Establishing a level playing field is vital to getting buy-in and active participation among competitors.

These learnings underline the importance of setting realistic timeframes, defining internal decision-makers, and communicating the value proposition for voluntary sustainability partnerships.

RECOMMENDATIONS

While challenging, cross-industry data sharing holds immense potential for accelerating sustainability progress in today's interconnected supply chains. With concerted leadership, commitment, trust, and partnership, organizations can transform how they work together to build transparent, sustainable, and socially responsible supply networks.

The following recommendations can enable effective collaboration for sustainability data sharing across supply chains:

1. A top-down approach and engagement from the C-suite are critical to ensure teams have the support and authority to engage in an eco-systemic approach to sustainability.
2. Allow longer timeframes for voluntary data collection efforts, setting expectations accordingly. Seek a three-to-six-month commitment from internal champions.
3. Note that multiple internal champions may be required to cover the range of ESG metrics that are tracked and measured.
4. A well-structured collaboration agreement must be agreed upon at the onset to ensure all participants are committed to the endeavor and on the same page.
5. Communicate how data will be used, protected, and anonymized to build trust.
6. Identify shared sustainability goals and standard definitions to enable aggregation and comparison.
7. Prioritize data-sharing efforts based on environmental, social, and economic impact assessments. Focus on the most at-risk or critical areas.
8. Engage internal executive champions to advocate for participation and ensure needed resources are allocated.
9. Use impartial third-party facilitators that don't pose a competitive threat and implement non-disclosure agreements.
10. Develop partnerships, industry coalitions, and policy advocacy to align standards and regulations that enable sustainability data transparency.
11. Appeal for government sustainability regulations that are feasible and effective across sectors. Avoid one-size-fits-all mandates. Champion flexibility and phased approaches.
12. Stringency on the part of the regulators to stem inaccurate or deceptive sustainability reporting is highly recommended. This will ensure that the ecosystem stays on the path to achieving tangible goals.
13. Concerted effort and collaboration among public and private sector organizations is needed. This can help create platforms that facilitate and foster more accurate, robust, reliable, and complete data sets accessible by all to address the more considerable challenges.
14. Many subjects within the ESG domain need more publicly available data. Understanding what is available and what data is required is essential, and this starts with understanding the questions of "what data is required and why." To be clear, this does not mean progress should not be made. On the contrary, work should progress and can progress in many areas while data sets are developing and maturing.
15. Organizations must invest in education and training in departments that need to reinvent their work. They should embrace sustainable practices - e.g., product design, supply chain, and manufacturing - to rethink how they will keep sustainability and profits as their guiding stars.

Data sharing becomes a significant enabler for the ecosystem to achieve sustainability goals. Individual entity solutions are not sustainable. The ability to create and use standard metrics to measure sustainability becomes critical and requires data sharing to be seamless across the ecosystem. This COI has observed hesitancy on the part of the ecosystem to share data. This hesitancy has been caused by concerns that data sharing may create a competitive advantage for certain players and that data may have monetary value. To overcome these barriers and enhance trust amongst all supply chain players, some regulation and policy changes, third-party engagement, and brokering are recommended to fully allow companies to realize the shared data vision required for success.

One aspect of the COI that worked particularly well was an impact event held on June 15, 2023, in Montreal, Canada. The event was constructed as an executive summit on "The Future of Sustainable Mobility" and was co-hosted by CGI, Michelin, and Movin'On executives. Almost 200 senior leaders gathered to discuss sustainability, and during this summit, an SME panel from the COI presented the in-progress work related to sustainable supply chains. This provided a platform for bringing first outputs and insights from the COI to a broader audience and also served as a way to promote understanding and participation in the COI.

04. Conclusion

The COI demonstrated that significant progress can be made when industry stakeholders engage in pre-competitive or coopetition environments with common goals.

While cross-organizational sustainability data sharing has challenges, an initial stakeholder consensus on purpose supported by clear communication, transparency, and structured facilitation enables collaboration that leads to valuable insights and results.

The most important takeaway from this COI is highlighting the approach to building sustainable supply chain solutions. The COI model provides a framework for catalyzing the cross-industry collaboration urgently needed to improve supply chain sustainability.

Moreover, embedding sustainability across organizations and supply networks requires more than isolated initiatives – it necessitates fundamentally reinventing systems and processes with sustainability fully integrated into operations. To do this, organizations are encouraged to work with a trusted partner with relevant technical and domain expertise to develop and integrate a sustainability and data strategy for their organization.

With ongoing leadership commitment and adopting the recommendations in this report, companies can pave the way for productive data-sharing partnerships that drive measurable environmental, social, and governance progress.

The COI model offered a robust platform to explore this complex sustainability challenge:

- CGI – facilitation of the COI, consulting framework, technical expertise
- Google – provision of tools and resources supporting the Google Cloud Platform
- Magna – aluminum use case and sustainability expertise
- Sundberg Ferar – interview framework and stakeholder engagement
- Michelin – supply chain expertise
- Movin'On – COI framework and facilitation
- MICHauto – engagement of community members and support
- Pittsburgh Technology Council – engagement of community members and support

05. Appendix A

Validation Phase Research Insights

Validating sustainability objectives and data dimensions that impact those objectives

For each data dimension identified in Phase 1, participants were asked the level of relevance each held for achieving their publicly stated sustainability objectives for supply chain development. They unanimously agreed that all data dimensions presented were essential; the challenge lies in prioritizing what data to collect to make the most meaningful progress.

In some cases, unique aspects of a participant's business operations, manufacturing processes, materials used, geographical operations and other factors also impacted their responses and the priority placed on specific data dimensions. For example, companies whose products and procedures require minimal water use scored that data dimension as a lower priority due to the low level of environmental impact.

Top priority data dimensions

Ethical practices and health and safety

Maintaining and safeguarding ethical practices and the health and safety of human resources within supply chains has been a consistent priority. With recently imposed regulatory standards around ethical practices and health and safety, this data dimension is gaining prominence in the industry's consciousness. Most interviewees expressed that while vigilance over this dimension has always been of utmost importance, they are ramping up investigation, data reporting, and improvements in this area.

Participants placed high importance on the social sustainability dimension of health and safety around health and fair practices because:

- Human lives are involved.
- Automotive companies and suppliers with global operations must meet emerging regulatory standards such as the German Supply Chain Act and others that explicitly address socially ethical practices in the supply chain.
- Accessing data and information on sustainable and equitable social practices across the supply chain is very challenging.

Carbon emissions

Reducing carbon emissions has become a top priority for many companies. Most have a publicly stated "net zero" goal target date. Stated carbon emissions objectives could mostly be captured through net zero emissions by 2030 and carbon neutrality by 2050.

While other aspects of overall environmental sustainability (such as waste and water usage) were less of a focal point in publicly stated sustainability objectives, for most companies, carbon emissions are explicitly addressed in their sustainability objectives and reports and identified as the top area for resource allocation.

Interviewees reported reasonable progress on their carbon emissions objectives and data tracking and reporting with the caveat that data visibility beyond the next tier level becomes exponentially more difficult.

Reasons to invest in improving supply chain sustainability

Participants identified four areas where supply chain reporting affects their business:

1. Compliance with government regulations: adhering to the legal rules set by federal, state and local entities.
2. Customer pressure: consumers' increasing desire for sustainable solutions and regulatory pressures affect OEM decisions and supply chain requirements, impacting all downstream suppliers.
3. ong-term survival: companies perceive a real threat to long-term business survival if supply chain sustainability isn't significantly improved.
4. Talent acquisition and retention: the workforce increasingly cares about working for companies with goals that align with their values and making concrete steps toward them.

Additional insights

While participants believe that making progress in their supply chain sustainability objectives impacts their sales and customer relationships, the quantifiable cause-effect relationship between a more sustainable supply chain and increased sales revenue must still be clarified.

Suppliers face customer pushback when a more sustainable product comes with a higher price tag. In most cases, customers will still opt for a more cost-effective option.

While supplier supply chain departments face customer demands for improved sustainability, those customers don't seem to withhold their continued business.

Barriers and pain points in improving supply chain reporting and data collection

Participants identified several common obstacles to improving supply chain reporting and data collection:

- The need for standardization of data tracking, sharing, and reporting platforms and metrics and the constant flux of priorities in the supply chain make providing or accessing accurate information especially difficult.
- Concerns about sharing data related to cost and materials used
- The ability to report on supply chain sustainability is increasingly dependent on the recycling industry, which is even less regulated or well-established at the tier-three level
- Standards and data collection methods vary internally and externally, making it impossible to compare "apples to apples" when collecting and reporting supply chain data
- Abundance of "clunky" tools for sharing and lack of unified requirements
- Frequent pivots and customer requests lead to rework and wasted time for suppliers

Current methods to track sustainability

There is a universally recognized need for better data accessibility and sharing to track and report on supply chain sustainability objectives accurately.

All participant companies collect and report on data related to their supply chain sustainability objectives. However, supply chain data collection and reporting maturity varies widely across stakeholders.

The level of maturity in supply chain data collection and reporting depends on the availability of resources (time, money, employees) dedicated to this aspect of operations. As a result, mostly smaller suppliers need to be more mature in this area.

Many participants make use of existing platforms, third-party providers, or internal tools to input and share data with customers and suppliers.

Deeper dive: difficulty fulfilling customer requests

Suppliers receive daily customer requests for supply chain data related to a particular product or material.

This could come in the form of asking for the location where the raw material was extracted or for information on the sustainable practices of the company(s) that extracted the material for a product unit the customer is using. It could come as a request for information on all the suppliers used within a particular geographical region.

For one Tier Two participant, because of the nature of their business, the materials used in production come from multiple suppliers and fluctuate daily depending on volumes and material availability. Therefore, they must track down information on the lot number of the specific unit, which suppliers materials within the timeframe. Then, each supplier must be contacted individually to determine where that batch of material was extracted.

This is a huge undertaking, and with multiple customers, each with different ways of consuming and tracking data metrics, the supplier teams responsible for responding to requests need help streamlining their tasks. This requires a larger, more dedicated workforce and ultimately burdens downstream suppliers while cutting their profit margins.

Prioritization tactics of participants

Changing requirements and interdependent variables in the supply chain pose significant challenges to making meaningful progress on sustainability objectives. To maintain momentum, participants shared a specific approach to prioritize their supply chain sustainability data collection and reporting activities despite these challenges.

- At risk - Suppliers considered at risk in social, environmental, or governance aspects of sustainability are identified based on geographical location, suppliers of "conflict metals," etc. Efforts are prioritized on collecting supply chain sustainability data from those suppliers related to the identified risk areas.
- Red flag - All suppliers report on a base set of data dimensions. Set up a red flag system where suppliers are flagged for certain aspects of their supply chain that don't meet requirements. Efforts are focused on remediating those red-flag areas.
- As needed - Supply chain data is manually collected based on customer requests as required.

Deeper dive: risks of sharing data with customers

One Tier One participant provided insight into the problems and risks of freely sharing supply chain data with customers.

Because of the acute need for more standardization of requirements and data collection and reporting practices across stakeholder companies in the automotive supply chain, most companies are particularly reticent to share specific data related to materials and financials with customers. The question is, "How will this be used?" There's insufficient clarity to reassure them that their shared data won't reflect poorly on them.

What we heard: pain points and needs

We need:

- A tool that will help calculate the direct correlation between their supply chain improvements and decarbonization
- A tool to help collect and report on data for the recycling feedstock part of the supply chain
- A way to share better data with customers without giving away proprietary information
- A standard platform for sharing data among customers
- A more robust program to access data from at-risk suppliers
- Reporting tools that decrease the burden on suppliers

Where is there an opportunity for this COI to make the most significant impact?

The COI can help by identifying the most manageable data sets for stakeholders in the automotive supply chain. The stakeholders can utilize this data to access and identify key contributors. An effort to combine these data sets with publicly available data will significantly enhance insights for tracking and measurably improve their supply chain sustainability.

The four data sets for the automotive supply chain selected were:

- Aluminum use
- Recycled content
- Percentage of local sourcing
- Cyber security certifications

Appendix: Participant responses on the relevance of the data dimensions for participants' current efforts in achieving sustainability objectives

	OEM	Tier 1	Tier 1	Tier 2	Tier 2	Tier 3	Points out of 480	Average rank
Environmental Sustainability								
Carbon Emissions	5	5	4	5	4	5	5.8%	3
Water Usage	2	3	3	2	2	4	3.3%	9
Waste Generation	2	3	2	3	3	5	3.8%	8
Energy Consumption	5	5	4	4	4	5	5.6%	4
Social Sustainability								
Employee Satisfaction	5	5	3	5	3	5	5.4%	5
Diversity, Equity and Inclusion	5	5	3	4	4	5	5.4%	5
Health and Safety	5	5	4	4	5	5	5.8%	3
Community Engagement	5	5	2	3	3	5	4.8%	6
Economic Sustainability								
Revenue	5	5	4	5	5	5	6.0%	2
Profit	5	5	4	5	4	5	5.8%	3
Jobs Created	3	3	3	0	1	5	3.1%	10
Supplier Diversity	didn't know	5	4	0	1	5	3.1%	10
Governance Sustainability								
Board Diversity	5	5	3	4	5	5	5.6%	4
Executive Compensation	5	5	2	0	2	5	4.0%	7
Ethical Practices	5	5	5	5	5	5	6.3%	1
Transparency	5	4	4	5	3	5	5.4%	5

5 = highest priority

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