GS1 Australia

The Global Language of Business

Submission to the Productivity Commission

Enquiry into Supply Chain Vulnerability - Interim Report

April 2021

Executive Summary and Overview

GS1 Australia commends the Productivity Commission on the interim report for the Enquiry into Vulnerable Supply Chains which provides a platform for broad discussion and input into this important topic.

GS1 Australia's feedback and recommendations are centred on key themes that in our opinion were not fully addressed in the interim report or where a different approach is recommended for consideration.

Our 5 recommendations to the Productivity Commission can be summarised as:

1. One federal agency coordinating, and maintaining, supply chain programs across all areas of government.

2. Government should focus on establishing supply chain frameworks based on data and global data standards (GDS) and not on specific technologies.

3. Inefficient supply chains are more vulnerable. Government should focus on increasing baseline supply chain capabilities for critical supply chains.

4. Government should lead by example in the adoption of global data standards (GDS) for supply chain and improved trade resilience.

5. Government should identify and access existing industry data sources that can assist to overcome supply chain disruption.

Supply chain efficiency is GS1's core mission. GS1 Australia is and has been a trusted advisor to government and industry across a range of sectors on supply chain best-practice for many years. Our feedback and recommendations are based on our day to day engagement activities with key participants across many critical supply chains.

The recommendations made in this paper aim to further the dialogue and bring about a result-oriented focus for positive improvements.

We are eager to make a valuable contribution and support the implementation of the Productivity Commission recommendations. We believe that our core competency of bringing industry and government together to collaborate on supply chain programs will add value and enhance supply chain resilience in Australia.

We look forward to the Productivity Commission's final report and for the opportunity to contribute to the implementation of final recommendations.

Recommendation 1: One federal agency to coordinate supply chain policies across all government portfolios

Problem Statement:
Many state and federal government agencies have programs designed to assist industry innovate around supply chain practices. Some of these programs exist in portfolios including the Department of Industry, Science, Energy and Resources, the Department of Infrastructure, Transport, Regional Development and Communications and the Department of Agriculture and Water Resources, to name just a few.

Our impression from reviewing and actively supporting many of these programs is that there could be greater coordination, alignment and harmonisation on the terms of reference across the various government agencies. Many programs seem to be focused on technology innovation but do not fully consider the required frameworks needed for project outcomes to be effectively implemented in real-life supply chains. This has led to the funding of individual projects without a clear or cohesive post-project benefits realisation strategy.

We feel that some government programs tend to look at the supply chain from the perspective of the specific agency lens or portfolio (or for a specific state and territory) without fully considering activities in other government areas, across the end to end supply chain, or considering how government programs in one sector of the economy can impact others.

This current trajectory may lead us to a situation comparable to that of Australian rail gauges, an issue that has affected transport in Australia for over 150 years due to a foundational lack of early coordination and harmonisation. An example of this is the recent decision, now reversed, by Australia Post opting out of food deliveries quoting "the complex food safety and regulatory requirements differing across states and territories about the transport of certain foods destined for consumption".

Finally, we need to recognise that the COVID-19 pandemic has accelerated the rate of change in digitisation. This has led to new business models that have impacted how supply chains operate, and in turn, what we could consider to be vulnerabilities in critical supply chains. This level of accelerated change is unlikely to ease into the future, and governments need to ensure that programs that aim to address supply chain performance are constantly reviewed and tested to ensure they continue to be relevant and address the changing nature of supply chain networks.

Recommendation:
We recommend that a single federal government agency is appointed with the responsibility to coordinate supply chain programs across all of areas of government, at federal and state levels.

The terms for reference for this agency could be the coordination of supply chain policies and frameworks across all areas of the economy, including health, agriculture, domestic freight and logistics, cross-border trade and other relevant sectors.

This work should be done in a collaborative manner across government and with active input from industry from the onset.

Government reviews on vulnerable supply chains in other countries, for example in the US, have led to submissions from industry peak bodies along similar lines, such as the Consumer Brands Association submission making a case for a US Federal Office for Supply Chain.

Recommendation 2: Government should focus on establishing supply chain frameworks based on Global Data Standards (GDS) and not on specific technologies

Problem Statement:
Government programs recently have focused heavily on the latest new technologies, such as blockchain, shared ledger, artificial intelligence, machine learning, robotics and many others. The appeal of digital technology as a silver bullet solution to many supply chain problems has been compelling. However, the efficacy of these solutions is, often, dependent on data quality, governance frameworks and standards for capturing and delivering value through information.

In certain cases, programs have been established as a result of the availability of new technologies to address shortcomings in the supply chain, as opposed to specific industry demand or need.

For these new technologies to deliver on their promise, they must work in the real world. In the context of supply chain, this includes the foundational need to capture and share data along the chain, such as data about transactions, shipments, products, supply chain events, company data, to name but a few.

This foundational need to share data and ensure that supply chain partners can capture, share and correctly interpret supply chain data is not being recognised by government programs to the extent that it should, given its critical links with national economic infrastructure. Without a strong focus on the data, and the relevant data standards, required by these new technologies, the inevitable result is the late realisation (sometimes at great cost) that technology and data must go hand in hand for the promised value to be realised.

Technology products, services and tools are primarily data processing systems. The value derived from these tools is driven from the data that is provided to them for processing and analysis. Data is the "essential oil" to make business process and decisions more agile and enable industries to better respond to disruption and vulnerabilities.

Recommendation:
We recommend that governments focus on developing frameworks for industry and government modernisation, based on data, global data standards (GDS) and governance.

Ensuring an explicit focus on technology-agnostic consistent data models and frameworks based on GDS will ensure that businesses are free to make technology choices that suit individual companies whilst having the foundational capability to capture and share supply chain information with trading partners. This is referred to as data interoperability (*see Annex for more information on Interoperability*).

This approach would also leverage existing capabilities and investment by industry in GDS which is demonstrated by GS1 Australia's membership reaching over 22,000 Australian organisations.

A great example of such an approach by government is the National Freight and Supply Chain Strategy. The strategy recognises the value of both physical and digital infrastructure as critical components for Australia's freight management task. It also considers both Technology and Data Standards as two different aspects of digital infrastructure.

Recommendation 3: Inefficient supply chains are more vulnerable. Government should focus on increasing baseline supply chain capabilities for critical supply chains

Problem Statement:
Before critical vulnerabilities in the supply chain can be addressed across the economy, there are foundational industry capabilities that must exist, pervasively, across supply chains. There is a real need to lift these foundational capabilities to provide a strong platform upon which more complex programs designed to address vulnerabilities can be designed and implemented.

There are individual organisations across different sectors of the economy that manage their supply chains based on global best practices and do have the ability to respond to disruption effectively. These organisations tend to be those operating more vertically integrated businesses with a reliance of a smaller number of external partners. However, this is not common.

Most organisations operate in highly fragmented and complex supply networks with the need and reliance on many suppliers, service providers and customer channels. Most organisations today still rely heavily on manual processes to execute basic supply chain tasks leading to errors in capturing, processing and sharing of data. This often results in supply chain issues, costs, lost or wasted inventory, significant duplication and re-work. These types of supply chains cannot effectively deal with significant disruption.

Reducing complexity will significantly contribute to more effective supply chains, and recommendations 1 and 2 could contribute to this outcome. However, more needs to be done in this area.

There is a role for government, to lift foundational competencies in their industry support programs. Stronger foundations will also allow a greater number of organisations to leverage new technologies and access new markets.

Recommendation:
Government has a role in lifting supply chain skills and capabilities across the Australian economy and raise effective supply chain management a key requirement for business success.

We therefore recommend government sponsored capacity building programs focused on foundational skills and supply chain processes – commencing with an evaluation of industry readiness to assimilate new capabilities.

Recommendation 4: Government should lead by example in the adoption of Global Data Standards (GDS) for supply chain resilience and improved trade

Problem Statement:
Today, there is no structured approach for industry to exchange supply chain data (domestic and cross border) with government agencies based on a common, harmonised data framework.

In any international transaction of goods, a range of information needs to be exchanged between various parties as the goods move along global supply chains. GDS is adopted to ensure that relevant information is provided in a common format which is easily understood and sharable by all parties. As transactions by governments and the private sector become increasingly electronic, it is more important and useful to ensure that systems used by stakeholders are interoperable.

The use of GDS in APEC is a longstanding initiative that promotes the deep implementation of standards to support increased supply chain visibility and access to more granular data about goods traded cross-border in the APEC region. Adopting GDS offers border agencies the ability to "Improve data quality and efficiency for identification, targeting, enforcement, and risk assessments" (US Customs and Border Protection quote).

GDS has been incorporated as a tool in the *APEC Supply Chain Connectivity Framework II*, aiming "t*o reduce trade costs across supply chains and to improve supply chain reliability in supporting the competitiveness of business in the Asia Pacific region*"; and is listed as one of the tools under Choke Point 1 "*Lack of Coordinated Border Management and Underdeveloped Border*".

The *APEC Guidelines and Best Practices for the Adoption of Global Data Standards* provide useful reference materials to assist APEC economies, government agencies, including customs agencies, traders and logistics companies in their adoption and implementation of GDS, to enhance the overall performance of supply chains and improving risk management.

The guidelines outline the steps for the planning and implementation of GDS, the current state of GDS applications in the APEC region as well as potential areas where APEC economies can explore for further applications of GDS.

Recommendation:
We recommend that government adopts GDS as one of the tools to gain more information about the products traded cross-border and the associated supply chains. The adoption of GDS complements the World Customs Organisation Harmonised System (HS) Classification Code.

In alignment with our recommendation for government to focus on data frameworks in support of supply chain processes (recommendation 2), we suggest government lead by example and begin to support GDS frameworks in its interaction with industry in alignment with APEC direction.

This will provide further impetus for industry to leverage GDS and will also lead to alignment with APEC, creating more efficiency in import and export processes with our major trading partners.

Recommendation 5: Government should identify and access existing industry data sources that can assist in overcoming supply chain disruption.

Problem Statement:
Industry data sources about critical products and supply chains could be leveraged to assist in times of crisis. However, government is often not aware of their existence and value and are therefore not fully leveraged during disruptions.

The ability to have multiple sources of supply for critical products or inputs into manufacturing has been identified in the interim report as a strategy to address systemic vulnerabilities. The challenge and assumption often made is that industry and governments know where alternate sources of supply may exist locally or internationally. This became apparent during the pandemic and the resulting shortages of PPE across the health system. Healthcare providers, both public and private, had the challenging task of quickly identifying companies that could supply the much-needed equipment without having access to a "directory" where such information could be found.

In this example, one such industry data source managed by GS1 Australia on behalf of industry, the National Product Catalogue (NPC), became useful. Used in the healthcare and grocery supply chains (and across many other categories worldwide), the product catalogue contains details of over one million products and the companies that manufacture or distribute them. It has a defined set of useful data attributes not limited to manufacturer contact details, product information and country of origin.

Based on a request from several public and private healthcare providers GS1 Australia was able to identify and provide the contact details for companies that could supply PPE products that were not in the healthcare providers' systems by simply referring to this database.

Recommendation:
We recommend a comprehensive review and agency information share of the available data sources related to supply chain and product data to determine how these could be further developed or could be leveraged to meet future disruptions.

In preparation for future supply shocks, including pandemics, natural disasters and geopolitical events, explore how GS1 platforms and other product catalogues (Australian and global) may be combined with risk event knowledge bases and early warning systems to enhance industry readiness and government's ability to manage shocks or crisis events.

Overview of GS1

GS1[1] is a global, not for profit, neutral and member-based organisation that develops and maintains the most widely used ISO Certified supply chain standards in the world with over 2 million companies across 20+ different sectors and in over 150 countries leveraging GS1 standards to improve supply chain efficiency and traceability.

GS1 global data standards offer a comprehensive, out of the box toolkit of enabling data structures, dictionaries, definitions and vocabularies that work to streamline system to system integration, independent of any specific technology platform.

Efficiency gains are typically realised by using unambiguous globally unique Identification codes along with electronic data capture technologies (such as barcode markings/EPC RFID tags) and electronic exchange of non-commercial data across the value chain thus effectively "connecting" a myriad of disparate systems.

Our network of 115 GS1 national organisations provide direct representation and support to our members across the globe. GS1 Australia is one of those organisations servicing over 22,000 Australian businesses from multi-national corporations through to micro businesses.

The GS1 supply chain standards "toolkit"

Identification – of all physical "things" including physical marking; includes unique identifiers for products, locations, shipments, assets, documents and people.

Capture – the automatic capture of data about those "things"; this is typically via electronic scanning or reading using technologies such as 1D and 2D barcodes, RFID tags or other data capture devices such as IoT sensors etc.

Share - the ability to share and exchange electronically captured data with relevant value chain partners and being certain about what is being shared [electronically] is fundamental to end to end integration.

[1] GS1 – Global Standards Organisation www.gs1.org and for Australia www.gs1au.org

ANNEX - The Principles of Interoperability

The principles of interoperability for customs single windows, derived from UN/CEFACT Recommendation No. 36 which defined interoperability as; "the ability of two or more systems or components to exchange and use information across borders without additional effort on the part of the user." and defined Single Window Interoperability (SWI) as; "the exchange of specified foreign trade-related information in a structured format between two or more Single Window systems in different economies."

1. Autonomy – each operating economy functions without having to know details about other members to seamlessly exchange digital information.

2. Responsiveness – 'acting on demand' to respond to a request received using automation.

3. Agreement – existing understanding among two or more economies to follow a specific course of conduct on the exchange of information.

4. Consensus – technical process to uphold confidence by digitally seeking widespread agreement amongst interoperating economies.

5. Connectivity – capabilities of economies to interconnect NSW systems across transnational boundaries in a highly-secured manner.

6. Data flow, security, privacy, and confidentiality – based on trust, this include conducting appropriate risk assessment activities prior to the set-up of interoperability functions.

7. Data harmonisation and standardisation – interactive process of capturing, defining, analysing, reconciling government information requirements.

8. Terminology – the consistent use of internationally recognised trade facilitation standards terms and definition.

9. Upgrading existing IT infrastructure – advances in technology and the modernisation efforts of governments.

10. Adoption of open standards – emphasis placed on an open architecture based on international standards and protocol.

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