

Supply Chain Risk - the harsh lessons of Tianjin

Mark Millar, November 2015

In his recently published book *Global Supply Chain Ecosystems* (*) logistics industry expert and international speaker Mark Millar devoted a full chapter to the topic of risk and supply chain resilience. Just a few months later the events in Tianjin brought his insights and guidance into stark focus, in a manner and scale that few could have predicted. Mark now reviews the implications of the Tianjin disaster and what lessons companies can learn that may help cushion the effects of any future upheaval in global supply chains.

Almost any event such as the one that occurred in Tianjin could be described as a disaster, not least because of the loss of 173 lives and hundreds more injured. But what make this particularly shocking is that this happened in Tianjin - the largest port in Northern China, the main maritime gateway to China's capital city Beijing, handling some 500m tonnes of cargo annually and ranked number eleven in the world for container traffic with 2014 throughput of over 14 million TEU containers.

It's difficult to think of any on-shore event that could have had a greater impact on international maritime logistics, particularly for the global automotive and chemical sectors for which Tianjin was such a major hub. As a result of the explosions, Fitch Ratings now expect property, liability and cargo insurance claims to surge past USD 1.5 billion - and there will undoubtedly be more claims to come.

It is likely to be several more months before the port is anywhere near up and running with business as usual. Although container traffic is being diverted to other north eastern container ports in Qingdao and Dalian, there will certainly be continuing delays and disruption as shipping lines need to adjust schedules and routes and cargo owners need to redesign their supply chains. Major companies affected include DHL, Maersk's logistics arm Damco, Deere & Co, Caterpillar, Airbus,

Wal-Mart Stores and Toyota Motor Corporation, to mention just a few.

Toyota reportedly halted manufacturing for at least several days at their plant in Tianjin and also at another operation about 40

miles away that receives parts from the Tianjin factory, with the company saying it was still looking at the impact on its broader global supply chain. Their experience has uncomfortable echoes of March 2013 when leading automotive manufacturers were taken unawares by the earthquake in Japan which closed down the sole provider of metallic paint pigment for two months, adversely impacting production around the world for companies such as Ford, Toyota, GM and Honda.

For the longer term, the Tianjin explosion raises some serious questions about handling and storing of dangerous and hazardous materials, which should prompt every port, hub or terminal dealing with such merchandise to take a close look at their operational disciplines, methods, processes and risk management strategies.

Alongside China's accelerated economic expansion, the local chemical industry has also grown rapidly and involves many global manufacturers, as well as numerous local logistics providers. However, obtaining the appropriate operational licences in China is notoriously difficult for foreign companies, in the case of Tianjin fuelling rife speculation about the ownership of the facilities affected and the exact nature of the licences in force, at the operational sites involved in the disaster.

International media reports state that eleven government and port officials have been accused of negligence, with twelve company executives detained - mostly from Ruihai International Logistics, which owned and operated the warehouse that blew up. With such a mix of politics, legislation and potential negligence it's unlikely the whole story will become clear anytime soon, if ever.

It's important to recognise however that China's major ports often have highly sophisticated port management infrastructures that draw on global best practice. Nevertheless, handling hazardous cargo is one of the most complex challenges that any major logistics facility can face and the related operational management practices place huge demands on the available infrastructure.

To meet internationally accepted standards, every such storage facility must be equipped with fire-detection and management systems, be able to isolate and separate different types of chemicals, and be constructed on appropriate land plots that prevent the spreading of any spillage or leakage of hazardous materials. The port or any other storage facility must also have comprehensive procedures in place to deal with the case of fire, including trained staff and the specialist equipment required to handle chemical fires.

Tianjin Port was believed to have a fire-fighting team but some reports indicate that the firefighters were poorly trained migrant workers, many of whom sadly lost their lives in the fire. Hong Kong's South China Morning Post reported that "the local fire department does not appear to have collected sufficient information about what materials were in the warehouse, one firefighter said that no one at the scene had alerted crews that there were chemicals that should not come into contact with water".

The increased vulnerability of global industries such as chemical and automotive – both with large scale presence in and around Tianjin's industrial heartland - is to some extent a result of their own growth and success. Supply chains that were once local or regional are now truly global and have consequently become more complex, comprising multi-layered, inter-connected ecosystems, with numerous and profound inter-dependencies and embracing multiple participating stakeholders. The myriad supply chain risks include component shortages, product failure, supplier failure, systems malfunction, commodity price fluctuations – and of course major transport breakdowns - of which the repercussions of the Tianjin explosions are a prime and extreme example.

So what can be done to at least mitigate the worst effects of the unforeseen?

Every business has – or should have – its own unique supply chain risk management strategy that continually evaluates potential risk together with the tactics to address and counter potential weaknesses in the supply chains and logistics networks specific to their business. A resilient supply chain will typically feature a soundly based risk management framework

structured around four key pillars - visibility, speed, flexibility and collaboration.

International best practices in cultivating supply chain resilience typically involve the business firstly undertaking a comprehensive mapping of their global supply chain ecosystem. The resulting supply chain landscape enables them to identify potential areas of vulnerability and embark on what-if scenario modelling exercises to help understand the implications of a supply chain disruption - and therefore develop react-and-respond mitigation plans. In considering potential disruptions, it is important to evaluate probability versus impact ie factoring the likelihood of an event occurring, versus the potential disruption to your supply chain as a result of that event. Developing such capabilities will empower an organisation with timely information that feeds into response mechanisms that underpin the company's supply chain resilience and organisational preparedness – harnessing its readiness, intelligence and resources to manage supply chain risk. Due diligence in selecting business partners in your supply chain ecosystem

In today's extended and multi-layered networks, it is ever more important to choose your business partners with appropriate care; their reliability and performance could well have a profound effect on your business, for better or for worse. During their 2014 supply chain briefing in China, Baker & McKenzie reported the sobering statistic that 90% of actions brought before the US Department of Justice involved misconduct by the principal's third parties.

More than ever companies need to carry out extensive due diligence in the selection of their supply chain partners, adopting evaluation processes that involve not just an assessment of the potential partner's capabilities, but which also scrutinises their reputation, track record, background and financial status. When disaster strikes, or any disruptive event that negatively affects your business and your company's relationship with customers, suppliers and partners, then your corporate reputation will inevitably be at risk. With the lighting speed and omnipresence of modern digital communications, bad news gets around even faster these days. So an essential part of the corporate risk strategy must be to understand how to defend your company's reputation in the eyes of all concerned, taking positive steps to mitigate the effects of what has happened and providing clear, positive and helpful information, promptly to all stakeholders.



Mark Millar 马克 – Bio



"One of the Region's Supply Chain Leaders"

China Supply Chain magazine CHAINA

"One of the most Progressive People in World Logistics"

Global Institute of Logistics

Acknowledged as an engaging and energetic presenter, **Mark Millar** has been engaged by clients as Speaker, Moderator, MC or Conference Chairman at more than 350 corporate events, client functions and industry conferences across 23 countries - he is renowned for delivering an impact that is professional, knowledgeable and memorable.

Author of "[Global Supply Chain Ecosystems](#)" commissioned and published by Kogan Page of London, Mark is a Visiting Lecturer at Hong Kong Polytechnic University and has delivered Guest Lectures at Georgia Tech (Atlanta), RMIT (Ho Chi Minh City) and SP Jain (Singapore & Dubai).

Mark leverages over 30 years global business experience to provide value for clients with informed and independent perspectives on their supply chain strategies.

His 'Asia Supply Chain Insights' series of corporate briefings, consultations and seminars deliver practical knowledge and educated insights that help companies navigate the complex landscapes in Asia, develop new business opportunities and make better informed business decisions.

His international track record in the B2B services sector includes 20 years in the Asia Pacific region, where Mark led business development initiatives across ten Asian countries. His distinguished corporate career included executive positions at Thorn EMI, RR Donnelley, ModusLink, Platinum Logistix, Exel Contract Logistics (now DHL) and UPS Supply Chain Solutions - serving many leading companies in the Consumer Retail and High Tech Electronics sectors.

He is a Graduate of the Australian Institute of Company Directors (GAICD), Chartered Fellow of the Chartered Institute of Logistics and Transportation (FCILT), Fellow of the Chartered Institute of Marketing (FCIM) and an APICS SCOR-P certified Supply Chain Professional.

Mark achieved an MBA with Distinction from the University of the West of England, is a Graduate of the Chartered Institute of Marketing and holds a post-graduate Diploma in Management Studies.

He has lived and worked in the UK, the Netherlands, Australia, Singapore, USA, Ireland, mainland China and Hong Kong. Whilst with the Thorn EMI group in the UK, Mark's international sales leadership earned Thorn Secure Science the "Queen's Award for Exports".

Appointments: an active and enthusiastic industry contributor, Mark currently serves as:

- Asia Ambassador, East West Transport Corridor Association, Europe
- Advisory Board Member, Institute for Supply Management, Hong Kong
- Council Member and Chair of Logistics Policy Committee, CILT Hong Kong
- Head of International Relations, Vietnam Supply Chain, Ho Chi Minh City
- Chairman, Logistics Committee, British Chamber of Commerce, Hong Kong
- Chairman, International Relations Committee, Hong Kong Logistics Association
- Advisory Board Member, Logistics & Supply Chain Management Society, Singapore
- International Advisor, Logistics & Supply Chain Management Association, Shenzhen
- APAC Regional Leader and International Advisor, Supply Chain & Logistics Group, Dubai

Accolades: Mark's commitment and expertise has been recognised with several accolades:

- "Asia's Top 50 Influencers in Supply Chain and Logistics" 2015
- "Pro's to Know, Supply Chain Providers" 2014
- "Chartered Fellowship" awarded by Chartered Institute of Logistics & Transport 2010
- "Supply Chain Thought Leader" Pro's to Know 2009
- "One of the most Progressive People in World Logistics" 2008
- "Supply Chain Veteran" - Who's Who of Supply Chain in Asia 2008
- "China Supply Chain 20: the Who, What and Why of China Supply Chain" 2007
- "Who's Who Top 20 Power Players in Supply Chain Management in China" 2006