Supply chain management in challenging times

In a world which has become increasingly volatile and unpredictable, supply chain managers need to prepare themselves for potential disruptions. As there are many (potential) disruptors, it helps to address these in a methodical fashion, for example with in easy 4-step process.

By Stephen Cherlet

Major disruptors, such as hurricane Sandy, can lead to serious supply chain issues.

Both business, and personal, life typically develops into a routine. In business we know much of what to expect on a daily, weekly, monthly, quarterly and annual basis. There is a cadence of meetings, reports, and activities.

As an example, executives and their teams are aligned around quarterly reviews, whether publicly traded or not. On the shop floor, the time horizon is usually shorter with the focus on toolbox and stand-up meetings. Many disruptions to these ongoing events are almost routine. Customers will change requirements; suppliers will be late and there will be problems arising on the production floor. Most of us will have developed coping mechanisms and kick into a routine to solve these.

And then something like the COVID-19-pandemic arises as it did earlier this year. Almost everyone was caught unprepared for such an event. There was (almost) no warning. The impact has been immense. There are also other fundamental dangers, some of which will come to prominence over the next months or years and which will be discussed later in this article.

Major disruptors

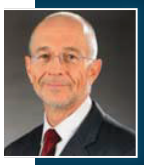
There are several disrupting events that can cause serious supply chain issues. First, the climate and environment: climate change is having a severe impact on the environment and weather. As the world warms, storm frequency and intensity seem to be increasing. In 2012, the storm Sandy hit New York City leaving it in darkness. More recently, wildfires in Australia resulted in toxic air hampering outdoor operations. These events can impact transport in the short term.

The overall change also increases the risk of disruption based on geography. Customers or suppliers close to locations prone to earthquakes and storms will be at risk that needs to be accounted for. Companies might respond by continuing to shorten supply chains, which has already started thanks to trade wars and the current pandemic. Another way to improve resiliency is through redundancy by duplicating equipment, entire facilities or suppliers. Firms are dependent on critical infrastructure such as water, electrical supplies and transportation links. Companies can plan for backup power through temporary generators at their facilities, lobby government for more resilient infrastructure or consider locations less at risk.

Regulation

As the impact of climate change becomes clearer, some regulators are asking for publicly traded firms to disclose their climate risks. This is mandatory in France and coming shortly to the European Union, Britain and Canada. As companies disclose their exposure, shareholders will ask for remediation. Trade sanctions fall out of regulatory change or through the use of current regulation. Countries are impacted by invocation of "national security" clauses in trade regulation. Canada has been subject to tariffs by the US using these

About the author



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clauses to protect domestic aluminum and steel. China has been impacted in terms of integrated circuit manufacturing. Sanctions are being imposed that limit trade with specific countries, regimes or named persons.

> *Supply chain risk management is the systematic identification, assessment and mitigation of potential disruptions in logistics networks with the objective to reduce their negative impact on the logistics network's performance.*

Contravening a trade sanction, even accidentally, can have serious repercussions for an organization. There are more examples of regulatory risks and likely new ones to follow.

Politics

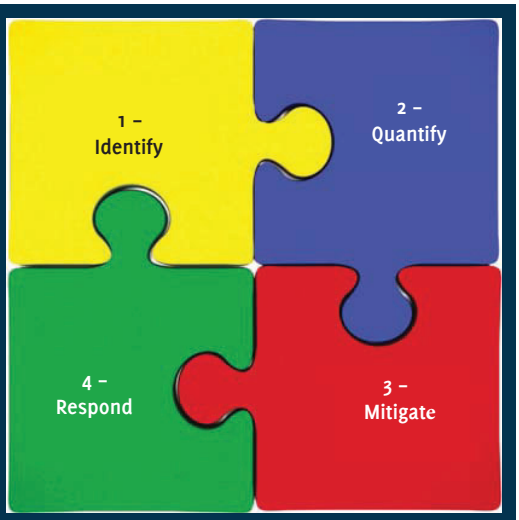
The party that will come to power on January 20th, 2021 in the United States will have a significant influence on trade. The US has an impact on the WTO (World Trade Organization) including whether to participate or not. They have major input into the selection of senior members of various other trade organizations and development banks. All of which have ripple down effects on trade. BREXIT is nearly upon us as well with little time to finalize a trade agreement between the UK and the EU. The choice of US President - Joe Biden - will also have an impact on a UK-US trade deal. Nationalist policies emanating from various countries and trade blocks can quickly lead to "fortress" concepts of attempting to force trade within specific zones at the expense of others. With Biden at the helm, it is likely that the US will open up more to the world.

Business environment/market

Globalization has had a significant impact on supply chains. Part of that is concentration of supply. In some cases, it is a concentration of firms in a "cluster" or geographic area. The cluster has knock-on benefits for firms located there, such as access to specialized labor. Think of Silicon Valley in the US and specific areas in China or Asia that focus on specific commodities. In some cases, it is proximity to resources like rare earth minerals (China) or low-cost hydro electric power for smelting (Canada). There are benefits to such concentration to customers, but also risks.

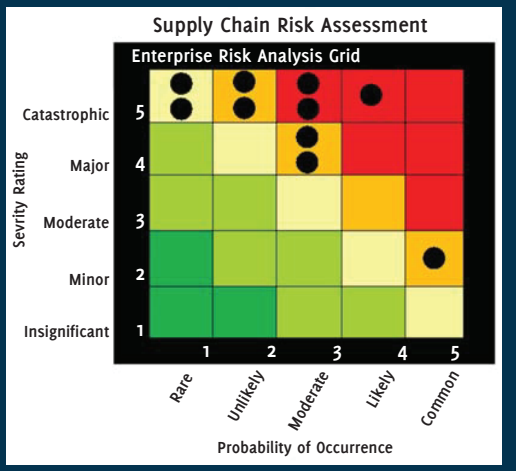
The foregoing is not an in-depth treatise on risk management but should provide food for thought. "Prepare and prevent rather repair and repent".

The question for any supply chain management team is: how to plan ahead and be better prepared? We need to accept that we can't foresee everything but still improve. A key part of the solution is a robust risk management process. Supply Chain Risk Management (SCRM) is a SCOR™ best practice. The SCOR framework, version 11.0, provides us with the following:
There are a number of frameworks for the risk management process including either four or five steps. I like a simple four-step process that resembles the well-known P-D-C-A (Plan-Do-Check-Act) format of lean.



Step 1: Identify the risks
Start a review of your supply chains both within the supply chain and outside. Inside the supply chain we should be considering supplier reliability, forecast accuracy, price fluctuations, transportation delays, equipment availability, and product conformance. External factors can include environmental factors such as storms and natural disasters, geographical issues like proximity to earthquake-prone areas, as well as trade and regulatory changes like tariffs.

Step 2: Assess the risks
There are two elements to risk assessment, namely probability of occurrence and degree of impact. This first element is around the chance of a specific event happening. Different firms use different scales, ranging from a simply high-medium-low to 0-100 percent. The degree is impact is a focus on the outcome. If this happens, how badly with it affect the business, its operations and customers. Again, the scales can be as simple as high-medium-low to ranges of revenue/profit/cost impact in the operating current or a range of "no impact" through to "close the business". Each risk is typically recorded in a risk register or log. The register can be as simple as a spreadsheet or as complex as a data element of specialized software. At the end of it, the two elements (probability and impact) are plotted on a standard x-y chart or priority ranking matrix.



Step 3: Risk mitigation
There are four fairly standard risk mitigation strategies that can be adopted for each risk. The location of a risk on the prioritization matrix will be a major determinant of the strategy that will be deployed. The strategies are: mitigation (plans and activities to reduce either the probability or the impact), avoidance (typically chosen for items high on either of the two scales, for which the organization deems the risk too high to accept), transfer (part of the risk can be transferred to another process or party where it will be easier to mitigate or less costly to the organization) and acceptance (where the probability and impacts are both quite low, organizations can simply accept the event as a part of doing business.)

Step 4: Monitor and respond
Once a company has arrived at this step, the task is to monitor the risks listed in the register and prepare to respond should they occur. The key is to follow the response plans developed as part of the mitigation strategy with a goal to returning to normal operation as quickly as possible. Then repeat the cycle, starting at Step 1.