Scenario Planning Can Shield Your Global Supply Chain Network From Changes to U.S. Trade Policy

CSCOs around the world must determine how to respond to potential shifts in U.S. trade policy. This research helps CSCOs, responsible for network strategy for the Americas, to evaluate contingency scenarios while continuing with business as usual.

Key Challenges

- With protectionism increasing around the globe and potential shifts looming in U.S. economic policy, business leaders are anxious to understand how their company may be impacted and what they can do to plan for it.
- As companies explore localization for reasons including reducing risk, becoming more tariff-proof or environmentally friendly, critical pieces of information are missing when it comes to decision making on the structure of manufacturing networks.
- A number of potential policy changes have been suggested by the new administration, including renegotiating or scrapping trade agreements, overhauling of U.S. corporate tax laws and an import levy (border adjustment tax). This noise makes it difficult for supply chain leaders to create an actionable path forward.

Recommendations

CSCOs responsible for supply chain network design to optimize costs and service:

- Create a baseline for your level of exposure to imports by understanding where you source, where you sell and where you cross country borders.
Collaborate cross-functionally with sourcing and procurement, trade compliance, taxation and finance by incorporating their input into network models.

Break down the policy elements to determine which scenarios to evaluate now, how to bound the scope of those scenarios and which ones to hold off on until more policy is revealed by using a scenario analysis.

Evaluate potential opportunities in each scenario and be ready to move quickly and capitalize on them by refreshing and refining your what-if analysis.

Table of Contents

Introduction............................................................................................................................................ 2
Analysis..................................................................................................................................................4
  Baseline Your Level of Exposure to Imports by Understanding Where You Source, Where You Sell and Where You Cross Country Borders............................................................................................ 4
  Collaborate With Trade Compliance, Taxation and Finance Teams by Incorporating Their Input Into Network Models............................................................................................................................... 4
  Examine Policy Details to Determine Which Scenarios to Evaluate Now, and Which Ones to Hold Off on Until Policy Direction Is Clear....................................................................................................... 5
Appendix................................................................................................................................................6
  Potential Changes to U.S. Tax Policy or Trade Agreements.................................................................................................................................6
Gartner Recommended Reading............................................................................................................ 7

List of Figures

Figure 1. Network Analysis for the Impact of Changes in Tax or Trade Policies........................................3
Figure 2. Framing Scenarios to Evaluate the Impact of U.S. Tax & Trade Policy Changes.........................6

Introduction

Game theory involves the process of analyzing strategies to deal with competitive situations where the outcome of a participant’s choice of action depends on the actions of other participants. Game theory has long been used in business to model situations with imperfect or limited information. Given all of the unknowns facing the industry, supply chain leaders should create scenarios that can be modified as the underlying assumptions evolve and change.

Each scenario must have defined boundaries. Supply chain leaders need to answer the following questions:

- Do you consider your own manufacturing locations along with those of critical suppliers?
How do you differentiate between assembly and manufacture in the local market?

When it comes to the North American supply chain, how do you differentiate and separate the value added when you have components that are assembled in Mexico, using intermediate parts made in the U.S.?

Should you consider all imports or imports from certain geographies? And how long do you have before you will have to take action?

Given the evolving and tenuous nature of current U.S. trade policy, there is no single right answer for any of these questions. However, companies should consider the following factors in determining where boundaries should be drawn for scenario planning to enable you to consider enough complexity in the network — without making it too complex to solve in a reasonable amount of time.

The key challenges must be to understand the impact of potential trade policy changes on (see Figure 1):

- Product cost
- Lead times in the network
- Inventory strategy
- Taxes and tariffs
- Transportation and logistics costs

**Figure 1. Network Analysis for the Impact of Changes in Tax or Trade Policies**

Source: Gartner (March 2017)
Analysis

Baseline Your Level of Exposure to Imports by Understanding Where You Source, Where You Sell and Where You Cross Country Borders

The impact of changes in tax or trade policies on your supply chain network can vary significantly based on the ecosystem. Understanding the percentage of imported versus locally manufactured components in the network should be a starting point.

- Differentiate between the impact from a tariff imposed on imports from a specific country (or countries) versus an import tax that is imposed on all imports irrespective of country of origin. Companies usually know when they are reliant on a single country for large portions of their supply, but knowing the level of exposure to different countries in their bills of materials (BOMs) and understanding the differences in tariffs by product class can be challenging. Conduct a country of import analysis to understand this split for specific BOMs that are critical to the network or that drive a large portion of cost.

- Map product flows in your network to understand where you source from, where you sell to and where you cross borders with raw materials, intermediate components or finished goods. Such a baseline analysis will be the starting point for network optimization for taxes or duties where you need to define the split between the raw materials and manufacturing costs in a cost of goods sold.

- For risk mitigation, understand the location and capabilities of key suppliers and logistics partners. Map partner locations with manufacturing locations (or centers of demand) for future network sites and to understand the trade-off between lead time increases and logistics costs. Check transfer pricing calculations for moving product to distribution locations to ensure tariffs and logistics costs are considered in the total landed cost calculation.

Such analysis can be done by aggregating master data drawn from ERP systems, tariff rates by product class and tax rates by source and destination. This information can be obtained from benchmarks provided by tax consultants or the internal tax/finance team, BOM, production and logistics costs from internal sources or from suppliers and third-party logistics (3PLs). The analysis can be carried out in network optimization or network planning applications, supply chain visibility (SCV) applications or in spreadsheets, depending on the breadth of the analysis.

Collaborate With Trade Compliance, Taxation and Finance Teams by Incorporating Their Input Into Network Models

In some cases, the business case for where a manufacturing location is sited has to be made to fit specific requirements, and therefore the strategy evaluation should precede the quantitative analysis. Take localization, for example: Companies look to localization strategies for a number of different reasons, such as being closer to the centers of demand growth, to meet localization quotas in specific countries, to reduce lead times to the customer, take advantage of R&D tax credits or to reduce the impact of cross-border tariffs. In such cases, the need for input from compliance and finance to conduct trade-off analysis in the network rises.
In complex networks where the BOM contains parts from multiple countries or where a part crosses a border more than once while being finished, work with finance to determine how such components will be classified and valued at different steps of the manufacturing process. This is particularly relevant in closely integrated markets such as the North American supply chain with the U.S., Canada and Mexico.

Have your compliance manager run a report that lists the total financial exposure for the company as it relates directly to duty savings. The manager could also run several what-if scenarios to see if and how supply sources could be changed to mitigate any potential changes to a regional trade agreement (RTA). Remember to factor in how source of supply may affect country of origin. Customs determines country of origin by country where the defining assembly was conducted. This is often a convoluted process with complex assets with many subassemblies.

The functionality to manage and analyze RTAs resides in global trade management software often bought by the compliance team, which more often than not reports to supply chain. Therefore, it often falls on the CSCO to make sure these tasks are carried out, and the budget for the software comes out of the supply chain group.

To address the issues above adequately, you may find it necessary to add additional skills or services to your compliance team and/or invest in software.

Examine Policy Details to Determine Which Scenarios to Evaluate Now, and Which Ones to Hold Off on Until Policy Direction Is Clear

When potential protectionist sentiments or external influences, such as trade, impact decision making on where products should be manufactured, a scenario analysis on total landed costs should be considered.

- Build one or two high-level scenarios on calculating total landed costs. Cost elements should include raw materials, production costs, inbound and outbound freight, inventory holding costs, and taxes or duties.

- Compare the baseline (as-is scenario) with the to-be scenario to determine the impact of changes in production costs (between locations in different countries), freight costs (should transportation modes vary) or taxes and duties on the total landed costs.

- Modifying any of these elements will determine the elasticity of the scenario to a particular factor.

In a static environment, this analysis can be conducted in-depth with detailed assumptions made on sourcing changes, manufacturing costs, freight mode or route changes, and on taxes. However, when this analysis is conducted to evaluate the potential impact of tax or trade policy changes or in an environment prone to uncertainty, several complexities emerge. The interdependence of factors that are a few degrees apart cannot be predicted correctly or even completely.

- In uncertain environments, conduct a tipping point analysis to determine the scale of impact that is likely and use sensitivity analysis to test the robustness of the proposed scenario.
In uncertain environments, use ranges of costs (taxes, tariffs or production costs) to stress test the network with sensitivity analysis. Refrain from making any guesses on the absolute nature of external factors outside your control such as the level of duties or tariffs.

Draw a distinction between short-term fixes that can be planned for using a high-level what-if analysis and making modifications to long-term strategic decisions.

Refresh and refine your what-if analysis as policy details are revealed to make judicious changes to long-term decisions. Structural decisions should not be re-evaluated without a clear understanding on the policy details and a clear sense of the timing for such policies to make it through the legislative process and become law.

We will demonstrate how to use this approach with the potential policy changes that have been discussed in the U.S. (see Figure 2).

Figure 2. Framing Scenarios to Evaluate the Impact of U.S. Tax & Trade Policy Changes

Source: Gartner (March 2017)

Appendix

Potential Changes to U.S. Tax Policy or Trade Agreements

Changes to NAFTA:

- The White House has to issue six-month's notice to Mexico and Canada to indicate the United States' intention to leave NAFTA unilaterally. After this time, trade relationships between the U.S., Canada and Mexico should revert to the WTO most-favored nation (MFN) status. A return to MFN status means neither party can offer a different deal than is offered to any other WTO member (tariff percentages in the low single digits). At this time, bilateral trade agreements may be pursued with Canada or Mexico, or both nations, which need to be negotiated and ratified.

- The White House issues three-month's notice to Congress to begin renegotiating NAFTA. Tariffs may be levied on specific classes of goods.
Tariffs on imports:

- Tariffs may be imposed on imports from a specific country or on all imports, which would likely break down WTO agreements. This opens up the possibility for retaliation or claims raised with the WTO against the United States. The strength of the respective country as a trading partner of the U.S. could determine the scope of the retaliatory measures.

US corporate tax overhaul:

- The current tax plan that has been proposed (as of February 2017) plans an overhaul of the corporate tax by reducing it from 35% to 20%, which is generally received positively by all U.S. businesses.

- The controversial aspect of this plan is the destination-based cash flow tax (DBCFT) aka "border adjustment tax." Border adjustments would work by not letting U.S. companies deduct the cost of foreign inputs (imported goods) as costs from their revenue for tax purposes, while giving a rebate to exporters by allowing them to exclude revenue from foreign sales from their taxable income. Border adjustments will shift the burden of taxation from manufacturing locations to selling locations.

- A border adjustment tax can be good for industrial manufacturers that are exporters of high-value products, and crushingly bad for net importers such as retailers and businesses focused on consumers. Cascading effects of border adjustments on network costs can get very complicated with an impact on fuel prices and container shipping rates, currency rates and wage inflation across the impacted countries.

- According to the Brookings Institution, in its current form, the border adjustment plan is likely not WTO compatible. Indeed, as of 13 February, it has been announced that lawyers for the EU and trading partners have begun preparing for a legal challenge to this proposal (registration required). With the potential for $385 billion a year of trade retaliation against the U.S., this is a situation of a magnitude that cannot be comprehensively planned for by individual corporations at this time.

Gartner Recommended Reading

Some documents may not be available as part of your current Gartner subscription.

"Uncertainties Over New Tariffs Send Supply Chain Leaders Scrambling for Short- and Long-Term Solutions"

"Design Resilience Into Your Supply Chain With Scenario Planning to Weather the Unexpected"

"Enabling a Manufacturing Ecosystem Needs a Long-Term View"

"Optimize Your Supply Chain for Tax Efficiency to Support Growth and Manage Cost"
Evidence

This research is based on over twenty inquiries and interviews conducted between December 2016 and February 2017 with large, multinational firms that are actively reviewing their response to shifts in global trade policies.


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