RESILIENCE360

IMPACT OF THE US-CHINA TRADE WAR ON GLOBAL SUPPLY CHAINS



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RESILIENCE360

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EXECUTIVE SUMMARY



The volatility of the US-China trade war has brought about considerable uncertainty for companies with global manufacturing networks. Successive tariff escalations, regulatory burdens, and other non-tariff barriers have raised serious questions about how companies can adapt their supply chains to prepare for commercial risks amid escalating trade tensions.

Resilience360 is constantly looking for ways to provide its customers with actionable insights to help drive better business decisions and navigate impactful issues. To this effect, a customer survey was initiated to identify major trends and understand what actions companies are undertaking to minimize business disruption amid significant operational and regulatory turbulence.

The survey received 267 responses on questions that sought the views of supply chain professionals from across multiple industries and regions on the global challenges presented to them by the US-China trade war. The views presented here come from diverse industries, such as life sciences & healthcare, technology, automotive & mobility, engineering & manufacturing, consumer, retail, energy, chemicals, aerospace, and transportation & logistics. Key findings from the study show that:

- Companies are still falling short when it comes to forward-looking contingency planning to mitigate the risks posed by the trade war. One-quarter of all respondents cited that they had not planned any contingency plans. In particular, 47.6 percent of respondents from the engineering & manufacturing and 40 percent of automotive & mobility sectors declared that they had no contingency plans at all despite being industries heavily targeted in the trade war.
- More than two-thirds of the total respondents have been impacted by the trade war. However, more than one-third (34.8 percent) of respondents also stated that they were currently not planning to take any actions but intend to continue monitoring the situation closely over the next six months.
- When asked what actions organizations were taking to mitigate the impact of the trade war on their supply chain operations in China, nearly two-thirds of respondents stated that they were adopting short-term measures and applying for tariff exemptions for Chinese imports, seeking source components or assembly outside of China, or identifying alternative suppliers.



- Around 27 percent of respondents are not looking to relocate or shift production out of China due to the trade war. However, those that are considering such options are driven by the need to avoid tariff costs (36.1 percent), followed by market access and regulatory restrictions (21.1 percent), rising labor costs (19.7 percent), and increasing domestic competition from Chinese firms (8.2 percent).
- India and Vietnam are the preferred destinations for 11 percent of respondents each when looking to shift production or move manufacturing operations outside of China. Other major areas that were identified include the European Union (7.7 percent), Mexico (6.7 percent), US (6.5 percent), Malaysia (6.1 percent), Thailand (5.8 percent), Indonesia (5.5 percent), Cambodia (3.2 percent) and Japan (2.5 percent).
- For multinational companies with supply chain operations in China, more than half of the respondents view regulatory uncertainty and restrictions as being the largest non-tariff barrier (35.7 percent); followed by customs clearance delays (24 percent); increased inspections such as environmental, product review, or security audits (18.7 percent); and business licensing and administrative barriers (11.3 percent).

Several major themes emerged through the survey responses.

First, while companies are recognizing the impact of the trade war, a considerable portion of respondents indicated that they have not developed sufficient contingency plans to cope with the disruptions and are adopting a wait-and-see approach.

Second, technology firms tended to be the most consistent in highlighting the overall impact of the trade war, indicating their willingness to consider shifting supply chain networks elsewhere, and preparing for contingency plans into the longer term.

And third, strategic momentum appears to be building with a majority of respondents in favor of shifting production or relocating manufacturing to alternative markets – although a strong contingent of respondents indicated that they had no intention of operationally leaving China.

The findings from this report intends to provide readers with a deeper understanding of what organization are doing to better mitigate the risks and disruptions brought about by the ongoing trade conflict. But even more importantly, it provides readers the ability to benchmark their own risk planning efforts with industry peers, assess current contingency plans, adapt supply chain networks where needed and, ultimately, protect the bottom line as global trade tensions continue to persist.



Over the past two years, the US and China have locked horns in an escalating trade conflict that has resulted in multiple rounds of tariffs on goods ranging from the technology, automotive & mobility, energy, consumer, chemicals, engineering & manufacturing, life sciences & healthcare, retail, and agricultural sectors. As of this writing, the US has exclusively applied tariffs on USD 362 billion (EUR 328.6 billion) worth of Chinese goods while China has issued around roughly USD 110 billion (EUR 99.8 billion) in retaliatory tariffs on US imports.

From the US side, the trade conflict with China was largely initiated following a Section 301 investigation in June 2018 that found Beijing's practices regarding intellectual property, forced technology transfers, and innovation to be unreasonable and discriminatory against US commerce. Other measures taken by both countries include nontariff barriers such as export control regulations targeting highly sensitive technologies, regulatory and market access restrictions, and licensing and customs clearance delays. The trade dispute has also fueled speculation about whether it will lead to a permanent 'de-coupling' between the world's two largest economies and accelerate the disintegration of components and the localization of assembly and production in an effort to reduce reliance on foreign suppliers.



US-CHINA TRADE WAR TIMELINE

The trade war timeline below documents how the conflict has escalated over time ranging from when the US imposed global tariffs on aluminum and steel imports to successive tariff rounds from Washington and Beijing respectively.



Source: Resilience360

Within this context, this Resilience360 report aims to establish the views of supply chain professionals who are at the forefront of navigating the operational risks posed by the trade war itself. By compiling quantitative data, the report illustrates how respondents from different sectors are viewing the trade war, appraising their supply chains networks, and rethinking operational strategies.

IMPACT ON BUSINESS OPERATIONS

IMPACT ON BUSINESS OPERATIONS

Companies with supply chain operations in the US and China are facing the unique challenge of having to adopt various measures to reduce their risk exposure and mitigate the impact on business operations. Given this backdrop, we asked respondents to assess the extent to which the trade war was impacting production and supply chain operations and what particular measures companies with operations in both countries are taking to mitigate these risks.

HOW HAS THE US-CHINA TRADE WAR AFFECTED YOUR ORGANIZATION'S PRODUCTION AND SUPPLY CHAIN OPERATIONS?

Highly affected Affected Somewhat affected		17.2% 18.4%		32.4%
Not affected			25%	
Completely unaffected	4.5%			
Other	2.5%			

More than two-thirds of respondents indicated being impacted by the trade war; nearly half of all respondents indicated that they were either highly affected (17.2 percent) or somewhat affected (32.4 percent). This was in contrast to 29.5 percent of respondents who stated that they were either not affected (25 percent) or completely unaffected (4.5 percent) by the trade war.

In terms of a sector breakdown, a majority of respondents in the technology (84 percent), energy (73 percent), engineering & manufacturing (71 percent) industries reported being impacted at least in some capacity. 32 percent from technology, 20 percent from consumer, and 17 percent from the automotive & mobility sectors indicated that they have been heavily affected by the developments.

These results are largely in line with the degree to which the trade war has targeted the technology, automotive & mobility, and engineering & manufacturing sectors. For instance,

the strategic targeting of tariffs on technology products or materials that could be used towards sensitive technologies has been reflected in the US desire to clamp down on intellectual property practices along national security grounds. In the case of the auto sector, Section 232 tariffs on Chinese auto and auto parts imports as well as China pledging to reinstate 25 and 5 percent tariffs on US automobile and auto parts imports coming into effect on December 15, 2019 has brought about considerable uncertainty for automotive firms and suppliers.

WHAT ACTIONS IS YOUR ORGANIZATION TAKING TO MITIGATE THE IMPACT OF THE TRADE WAR ON YOUR PRODUCTION AND SUPPLY CHAIN OPERATIONS IN THE US?'

2.4%		33.5%
Other		No action
17.3%		
Not applicable		14.5%
		Applying for
6.9%		tariff exemptions
Shifting production		for US imports
out of the US		
		12.5%
		Changed or iden-
12.9%	-	tifying alternative
Seeking source compone	ants	suppliers in the US
and assembly outside of		

¹ Respondents were provided with an opportunity to select multiple responses based on how it applied to their respective situations.

On the specific measures companies are taking to mitigate the impact on supply chain operations in the US, around 46.8 percent of respondents reported that they were taking some form of concrete action with 14.5 percent of respondents indicating that they were currently applying for tariff exemptions for US imports into China.

In consideration of more strategic changes to supply chain operations, 12.5 percent of respondents indicated that they have already either changed suppliers or begun identifying alternative suppliers in the US while another 12.9 percent stated that they would be seeking source components and assembly outside of the US as a way of dealing with the tariffs. A smaller portion of respondents (8.4 percent) confirmed that they were either shifting relevant production or all manufacturing activities out of the US as result of the trade war.

IMPACT ON BUSINESS OPERATIONS

When asked the same for China, the question evoked a stronger response. 60.2 percent of respondents – 13.4 percent more than those with supply chain operations in the US - reported that they were taking some type of action due to the trade war.

WHAT ACTIONS IS YOUR ORGANIZATION TAKING TO MITIGATE THE IMPACT OF THE TRADE WAR ON YOUR PRODUCTION AND SUPPLY CHAIN OPERATIONS IN CHINA?¹



¹ Respondents were provided with an opportunity to select multiple responses based on how it applied to their respective situations.

15.7 percent of respondents stated that they were applying for tariff exemptions for Chinese imports in the U.S, while nearly 13 percent responded that they were changing or identifying alternative suppliers in China. One-fifth of respondents indicated that they were seeking source components and assembly outside of China, while 11.8 percent stated that they were shifting production or all manufacturing out of China due to the trade war. Several respondents also commented that they were either engaging in price concessions from Chinese suppliers or including the tariffs as part of tax in the price mark-up, with the costs of the tariffs ultimately being passed onto the customer. Others noted that they were looking to import products via a third-party location (either in a free trade zone or from other manufacturing factories outside of China) before re-exporting to their final destination to avoid being hit by further tariffs.

The survey also yielded interesting results when looking at the profile of the respondents. In the technology sector, over 90 percent of respondents were taking some form of action with 34 percent of respondents seeking to source components or assemble outside of China. On the other hand, half of the respondents from the life sciences & healthcare sector reported that they were not taking any measures while 40 percent cited that they were applying for tariff exemptions. Other notable industries that reported that they were responding through either tariff exemptions, changing or identifying alternative suppliers, or shifting assembly or production outside of China include the consumer (62 percent) and automotive & mobility (61 percent) industries.



In addition to tariffs, multinational companies seeking products from local suppliers in China have been confronted with a number of regulatory and non-tariff issues. 35.7 percent of the respondents cited regulatory uncertainty and restrictions as being the most prevalent non-tariff barrier; followed by customs clearance delays (24 percent); increased inspections such as environmental, product review or security audits (18.7 percent); and business licensing and administrative barriers (11.3 percent).

WHAT NON-TARIFF BARRIERS IS YOUR ORGANIZATION FACING IN CHINA?²



² Respondents were provided with an opportunity to select multiple responses based on how it applied to their respective situations.

These results align with broader concerns that foreign companies have previously raised regarding market access in China amid a greater emphasis on domestic innovation and alternatives (particularly in the hightech sector), as Beijing seeks to reduce its reliance on US technology in Chinese supply chains over the long-term.

The extent to which companies have been negatively impacted by supply chain risk and lack of visibility was another area that garnered a wide range of feedback. While some companies highlighted that they have been able to mitigate the cost of lower percentage of tariff rates for now (e.g. 10 percent tariffs on List 4 Chinese imports), the prospect of higher permanent tariff rates beyond that could lead to further pressures on margin and additional price increases for consumers. Others commented on the increase in delayed orders, less supplier reliability, and additional work needed to mitigate the shortterm impact of tariff escalations that could even result in a long-term strategy aimed at sourcing away from China.



A central theme in the US-China trade war has been the extent to which tariffs and other nontariff barriers may be driving companies to consider shifting production or uprooting their wellestablished manufacturing networks out of China to either third countries or back to the country of their corporate headquarters. This study focused on not only asking whether companies were seriously contemplating shifting production or restructuring their supply chain networks but also on the practical operational challenges this can bring, should they decide to relocate elsewhere.

IF YOUR ORGANIZATION IS LOOKING TO SHIFT PRODUCTION OR RELOCATE ITS MANUFACTURING OPERATIONS OUT OF CHINA, WHICH ALTERNATE MARKET(S) ARE YOU CONSIDERING?'

	Country	Percentage
	Not looking to move production	27%
	India	11%
	Vietnam	11%
	European Union	8%
	Mexico	7%
	United States	7%
	Malaysia	6%
	Thailand	6%
	Indonesia	6%
	Cambodia	3%
	Japan	3%
and the second	Philippines	2%
	South Korea	2%
	Singapore	0.7%
in the second	Canada	0.3%
	Brazil	0.3%
	Myanmar	0.3%
	United Arab Emirates	0.3%
	Other ¹	3%

Respondents had the opportunity to select multiple options, depending on how the question applied in their context. 73 percent of respondents indicated that they were considering shifting production or relocating manufacturing activities to an alternative market. Among the options, India and Vietnam emerged as the preferred destinations, both at 11 percent each, with one additional respondent citing that they had already set up operations in India.

Other major countries that were identified include Mexico (6.7 percent), Malaysia (6.1 percent), Thailand (5.8 percent), Indonesia (5.5 percent), Cambodia (3.2 percent), and Japan (2.5 percent). Respondents also identified the European Union (7.7 percent) and the US (6.5 percent) as possible options for production to be shifted or relocated back to company headquarters. However, it should be noted that around 27 percent of respondents reported that they were not looking to relocate or shift production.

The sectoral breakdown of responses on where companies are shifting their production or relocating manufacturing activities to also paints an interesting picture.

Around 87.5 percent of technology firms surveyed for this question cited that they were considering moving production or manufacturing activities out of China, with India, Vietnam, and Mexico being the most popular locations identified. This was followed by the E.U., Thailand, United States, and Malaysia. Another 76 percent of respondents from the consumer sector and 70 percent from the engineering & manufacturing sector indicated that they were considering shifting supply chains out of China in some capacity with Vietnam, E.U., and Indonesia (consumer) and the E.U., Mexico, and the United States (engineering & manufacturing) being preferred locations.

On the flipside, over half of the respondents from the life sciences & healthcare sector that responded stated that they were not looking to move production out of China. This is reflective of the fact that multinational life sciences & healthcare firms are highly dependent on the Chinese market for specific Active Pharmaceutical Ingredients (APIs) and raw materials that cannot be easily sourced from elsewhere. This is compounded by the extensive regulatory hurdles that need to be overcome to source from alternative suppliers.

WHAT WERE THE MAIN FACTORS BEHIND YOUR ORGANIZATION'S DECISION TO SHIFT PRODUCTION OR RELOCATE MANUFACT-URING OPERATIONS OUT OF CHINA?²



² Respondents were provided with an opportunity to select multiple responses based on how it applied to their respective situations.

Respondents highlighted the need to avoid tariff costs as the leading factor for wanting to relocate operations (36.1 percent), followed by market access and regulatory restrictions (21.1 percent), rising labor costs (19.7 percent), and increasing domestic competition from Chinese firms (8.2 percent). Out of the respondents seeking to avoid tariff costs, more than 30 percent were from the technology sector along with 15 percent from engineering & manufacturing and 13 percent from the consumer industry.

These results also align with an ongoing trend, preceding the current trade war, of companies seriously contemplating relocating supply chain networks outside of China. This consideration is being further accelerated by the recent developments; multiple factors though, as indicated by the responses, are contributing to such deliberations.

SHIFTING SUPPLY CHAINS

WHY HAS YOUR ORGANIZATION CHOSEN NOT TO CONSIDER SHIFTING PRODUCTION OR RELOCATING MANUFACTURING OPERATIONS OUT OF CHINA?'

3.3% Other		25.89 Unaffected by the situation
19.2%		8.39
Not applicable	_ /	Expecting tariffs
		to be removed
11.7% Relocating		eventually
production would		20.89
take years		Long-established
		connections with supp
12.9%	`	liers and cusomers etc

The cost of moving production is greater than the cost of the tariffs

¹ Respondents were provided with an opportunity to select multiple responses based on how it applied to their respective situations.

For organizations which indicated that they were not considering shifting production or relocating, over onefourth of respondents at 25.8 percent reported that they were not impacted while 19.2 percent pointed out that the trade war impact was not applicable to their operations.

In the case of companies that have been impacted but electing to remain in China despite the ongoing trade war, the reluctance to abandon long-established connections with factories, suppliers, and customers (20.8 percent) was selected as a major factor. Around 11.7 percent of respondents indicated that the amount of time it would take to relocate manufacturing operations out of China as a reason, while another 10.8 percent cited that the cost of relocating or shifting production out of China was greater than assuming the cost of the tariffs themselves. A smaller percentage (8.3 percent) of respondents believed that the tariffs would eventually be removed and that moving supply chain operations out of China is therefore unnecessary.

The large variance in the responses tells us a few things. While the impact of the trade war has created considerable disruption, many companies have not been directly impacted thus far. It also points to the fact that more qualitative factors that are not necessarily captured through economic data – such as the ability to maintain long-term connections throughout the supply chain – play an important role in a company's decision-making process when determining whether to uproot and relocate manufacturing operations. And finally, the actual duration and cost of moving production and manufacturing operations abroad in some cases outweigh the benefits of exploring alternative markets for a sizeable portion of companies with operations in China.



IF YOU HAVE ALREADY SHIFTED PRODUCTION, RELOCATED MANUFACTURING OPERATIONS OR ARE EVEN CONSIDERING SUCH OPTIONS, WHAT ARE THE MAIN CHALLENGES FACING YOUR ORGANIZATION?²



² Respondents were provided with an opportunity to select multiple responses based on how it applied to their respective situations.

This report also sought the perspectives of companies that have already made the decision to shift production, relocate manufacturing, or are considering such options. Given that many companies have had operations or trusted suppliers based in China for several years or even decades, it comes as little surprise that 20.2 percent of respondents identified maintaining supplier quality and production capacity as a top concern. Factors such as establishing new relationships with local suppliers, factories and customers (17.9 percent) have been identified as significant, particularly if they are entering a market with less mature manufacturing infrastructure (such as Vietnam, India, Thailand or Cambodia) compared to China. Other major risks that were identified include heavy port congestion and higher shipping costs (11.9 percent), lack of skilled labor in the workforce (11.3 percent), poor public infrastructure (9.5 percent), and the lack of environmental, social and governance oversights (8.9 percent).

The results speak to the difficulties companies expect to face if they are seriously contemplating or have already committed to shifting supply chains. Companies considering moving outside of China to avoid tariffs will need to be mindful that the logistics infrastructure in Southeast Asia, India, or other emerging markets may not necessarily be more developed than China when it comes to roads, rail lines, and port conditions. To vet suitable suppliers or to build relationships with new manufacturing locations is also be a timeconsuming process that may not bring immediate benefits, should the trade war be resolved in the coming months.



The up-and-down nature of the US-China trade negotiations suggests that the prospect of reaching a comprehensive trade deal is becoming increasingly more difficult to predict heading into the 2020 US Presidential Election.

HOW MANY MONTHS OF CONTINGENCY HAS YOUR ORGANIZA-TION PLANNED TO HELP COPE WITH THE TRADE WAR UNCER-TAINTY?

Number of months	Percentage
0	25.3%
1-3	9.3%
3-6	11.1%
6-12	19.8%
12-18	14.2%
18-24	4.3%
24 or more	9.9%
Other	6.2%

While the latest reports have centered on a possible Phase One initial trade agreement, it remains largely unclear the extent to which this will lead to all tariffs and other restrictive measures from being completely removed anytime soon. Looking into the future, another focus of this study was to assess how companies are planning to mitigate the potential long-term uncertainties should the trade war continue to be drawn out. When asked about how many months' worth of contingency plans their organization has in place to cope with the effects of the trade war, the answers showed that companies were still falling short in terms of risk mitigation planning. Over one-fourth of respondents (25.3 percent) cited that they had not initiated any contingency plans at all which suggests a trend of companies struggling to adapt and preferring to take a wait-and-see approach.

Another 20.4 percent stated that they had contingency plans for up to six months: 9.3 percent having up to 1-3 months of contingency plans and 11.1 percent for 3-6 months. Out of the industries surveyed, 47.6 percent of respondents from engineering & manufacturing and 40 percent of automotive & mobility sectors reported that they had no contingency plans at all – despite the fact that both fields have been heavily targeted from both countries in the trade war.

In comparison, a sizeable portion of the respondents (34 percent) indicated that they had prepared contingency plans 6-18 months out, with 19.8 percent stating that they had planned up to 6-12 months ahead and 14.2 percent planning for up to 12-18 months ahead. However, only 4.3 percent reported that their organization had planned 18-24 months ahead and 9.9 percent for 24 months or more. In terms of sectors that reported that they were preparing over the longer term, respondents from the life sciences & healthcare (46.4 percent) and technology (38.5 percent) sector cited that they had contingency plans from 12 to 24 months.



As for more immediate measures that organizations were taking over the next six months in response to the trade war, more than one-third (34.8 percent) stated that they were not taking any actions at the moment but that they were monitoring the situation closely.

The hesitation to act immediately yet close interest in tracking trade war developments might be reflective of companies recognizing the need to develop contingency plans and respond accordingly to potential escalations. This can range from needing to assess stress across the supply chain such as insolvency risks for suppliers (which may result in weaker product quality, slower response times and less deliverability reliability) to the need to stock up on inventory if a price increase for products and materials is anticipated.

These results come in contrast to a little under half of the respondents (47.6 percent) indicating that their companies were considering concrete plans to mitigate the effects of the trade war. These include planning to change or identify alternative suppliers (22.6 percent), shift or move production to avoid the tariffs (20.1 percent), or delay market expansion or investment decisions (4.9 percent). Other respondents commented that they were raising product prices in order to cover the additional administrative costs brought on by the tariffs.

IF YOU HAVE ALREADY SHIFTED PRODUCTION, RELOCATED MANUFACTURING OPERATIONS OR ARE EVEN CONSIDERING SUCH OPTIONS, WHAT ARE THE MAIN CHALLENGES FACING YOUR ORGANIZATION?



CONCLUSION

The responses highlighted above provide a closer look into the extent to which companies are adapting their operational strategies to cope with the effects of the trade dispute as the conflict looks set to carry on for the foreseeable future. Despite clear acknowledgements by the vast majority of respondents of the challenges from the trade war, organizations still appear to be behind the pace of regulatory change and, in particular, unable to anticipate the uncertainties presented by abrupt changes of tariffs and other non-tariff measures.

The uncertainty surrounding the US-China trade war serves as an ominous reminder of the various challenges that companies are likely to face heading into next year and beyond. As organizations continue to contemplate whether fundamental, long-term structural changes to manufacturing operations are needed, the survey results provide unique insights into the challenges directly facing supply chain professionals.

APPENDIX

PROFILE OF RESPONDENTS

INDUSTRY

Sector	Percentage
Life Sciences and Healthcare	19.5%
Technology	15.4%
Engineering and Manufacturing	14.6%
Automotive and Mobility	14.2%
Consumer	10.9%
Retail	8.2%
Energy	4.5%
Chemicals	3.0%
Aerospace	2.2%
Logistics and Transportation	4.1%
Other ¹	3.4%

ANNUAL REVENUE OF ORGANIZATIONS

Revenue	Percentage
Up to USD 50 million	20.1%
USD 50 million – USD 1 billion	19.5%
USD 1 billion – USD 10 billion	22%
USD 10 billion – USD 50 billion	15.1%
Above USD 50 billion	23.3%

OVERALL SIZE OF ORGANISATIONS

Percentage
28.3%
18.2%
20.8%
11.3%
18.2%
3.1%

¹ Other sectors included government and non-governmental organizations, insurance, agriculture, digital services, and e-commerce firms.

FUNCTION

Function	Percentage
Logistics and Transportation	61.6%
Procurement and Sourcing	15.1%
Trade Compliance	4.4%
Risk Management	3.1%
Supply Chain	3.1%
Finance	3.1%
Other	9.4%

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