



# Mapping the impact of geographic differences on global supply chain practices

By Inma Borrella, Leonard Morrison, Maria Jesus Saenz, and Eva Ponce

Global trends such as nearshoring and increasing geopolitical risks underscore the importance of companies in understanding the national and regional differences of the regions in which their supply chain partners operate.

**Inma Borrella** is a research scientist, MIT CTL ([inma@mit.edu](mailto:inma@mit.edu)).

**Leonard Morrison** is SCM professional development manager, MIT CTL ([lmorriso@mit.edu](mailto:lmorriso@mit.edu)).



**G**lobal supply chains span multiple countries and regions, and diverse cultural and competitive nuances distinguish them. To manage their international operations as efficiently as possible, companies must understand these differences and how they influence supply chain practices and priorities.

This article explores how approaches to key elements of supply chain management vary across geographies, particularly in North America versus the rest of the world. In a globalized business environment, critical capabilities such as a company's ability to handle risk, embrace innovative technology, and ensure that the workforce has the right skills can differ markedly from country to country.

An awareness of these differences can help companies compete effectively in fast-changing markets.

**Maria Jesus Saenz** is executive director of the MIT SCM Masters Program, MIT CTL., ([mjsaenz@mit.edu](mailto:mjsaenz@mit.edu)).

**Eva Ponce** is director, online education, MIT CTL ([eponce@mit.edu](mailto:eponce@mit.edu)).

## Global reach

The MIT Center for Transportation & Logistics' (MIT CTL) educational programs and research expertise provide a unique platform for studying geographic differences in practitioners' approaches to managing supply chains.

MIT CTL's flagship educational programs are the online MITx MicroMasters Program in Supply Chain Management and the on-campus MIT Supply Chain Management Master's Program. Some 6,500 students from 170 countries pay to participate in our online MicroMasters program annually. About 20% of them are based in North America (U.S. and Canada) followed by India (15%), Egypt (4%), China (4%), and Brazil (3%).

Approximately 75% of graduates from the MIT Supply Chain Management Master's Program are international students, representing approximately 60 students annually from less than 15 countries. On average, 20 U.S. students graduate from the program annually.

In 2003, MIT CTL launched the MIT Global SCALE Network, an international alliance of leading research and education centers. The SCALE network now includes seven centers in Europe, Asia, Latin America, and the United States. The latest addition is the UK Supply Chain Excellence Centre in the United Kingdom, inaugurated in July 2024.

Faculty from multiple countries collaborate across the SCALE network, providing a deep pool of international supply chain expertise. Three of this article's authors have European backgrounds but are well-established faculty members of MIT CTL in the United States.

This article also draws on our research in this area. In 2022, we surveyed graduates and alumni of our Supply Chain Management Master's program. The research garnered 405 professional responses, with 73% employed in North America. In June 2024, a survey of 120 supply chain professionals from various academic and professional backgrounds broadened this research. Respondents employed in

North America accounted for 57% of this survey.

We have identified three key areas that distinguish supply chain practices and priorities in North America and other regions.

### 1. Approaches to supply chain challenges.

How professionals across the regions perceive and tackle supply chain challenges, such as risk management and sustainability.

**2. AI adoption and perceptions.** Supply chain professionals' attitudes toward artificial intelligence (AI) and machine learning, and how they view the prospects for AI-driven supply chains.

**3. Supply chain skills development.** How SCM professionals in multiple regions pursue skill enhancement. For example, how do formal educational backgrounds and continuous professional development choices differ internationally?

## Supply chain challenges

Supply chains are undergoing a profound transformation. Historically viewed as mere cost centers focused on minimizing expenses and optimizing efficiency, supply chains are now being recognized as critical strategic assets. This shift reflects a recognition that supply chains can deliver far more than just cost savings—they can drive market differentiation, enable innovation, and create substantial value.

In response, companies across North America and globally are reevaluating their supply chain operations. Of particular concern is how supply chains can withstand increasingly volatile market pressures and actively shape competitive dynamics. This rethinking of global operations is crucial to understanding practitioners' diverse approaches to supply chain challenges.

It is not possible to explore every operational challenge companies grapple with in this article. To illustrate key differences in national practices, we focus on three: risk management, sustainability, and collaboration.

**Risk management.** Managing risk has been a critically important part of supply chain management for many years. It has gained even more prominence worldwide in this post-pandemic era. However, there are cross-regional differences in how practitioners manage supply chain risks.

Our 2024 survey showed alignment across regions in recognizing market competition and regulatory compliance as the most relevant risks for supply chains today, followed by financial and geopolitical threats (see Figure 1).

FIGURE 1

### Distribution of perceived risks across all regions



However, significant differences emerge in risk management strategies. Only 3% of North American respondents acknowledge not having a formal risk strategy at their companies, a stark contrast to the 38% of professionals in other regions who report the absence of such strategies.

This result suggests a well-developed risk management landscape in North America, potentially influenced by local regulatory demands and historical market factors.

The survey data also reveals that North American companies are more likely to use nearshoring as a risk mitigation strategy, perhaps reflecting a correction of the extensive offshoring trends seen in previous decades. The U.S.

government is reinforcing this trend with its FLOW (Freight Logistics Optimization Works) project and initiatives to strengthen supply chains for strategically important products. In June 2024, the Biden administration moved further in this direction with the announcement that it is creating a Supply Chain Resilience Council.

Our 2024 survey indicates that the shift toward nearshoring is less pronounced in regions outside of the U.S., where different strategies, such as multi-sourcing of critical components, cybersecurity measures, increased inventory buffers or alternate transportation and logistics providers, appear to play a more significant role.

A paper co-authored by Elena Revilla and Maria Jesus Saenz highlights further differences between risk management strategies internationally

(Revilla E. and Saenz M.J., Revilla E. and Sáenz, M.J., Supply Chain Disruption Management: Global Convergence vs. National Specificity. Journal of Business Research, 2014, 67(6), 1123-1135). The

Source: MIT CTL surveys

paper's authors surveyed 1,403 firms operating in 69 different countries in 2010: 535 in North America and 868 in the rest of the world. It included manufacturers, retailers, wholesalers, and 3PLs.

They examined the heterogeneity and perceptions of supply chain risks in various countries. In particular, the importance perceived across countries of supply chain risks arising from different market sources, natural hazards, and socioeconomic dimensions.

These are the most relevant differences found. The perception of vulnerabilities coming from risk sources derived from the market (price or sales collapse) was the highest in Confucian Asian companies and the lowest in North American

companies. North American and Sub-Saharan African companies perceived vulnerabilities from operational risk sources (such as supplier, manufacturing, transportation, or product quality failures) as the highest, while European enterprises perceived them as the lowest.

The level of internal operational risk management practices deployed, such as the role of the risk manager, implementing a business continuity plan, following a formal security strategy, or managing emergency operations, was the highest in Europe, being 16% higher than in the North American companies. The lowest was in Confucian Asian countries. This result contrasts with the 2024 survey results that show North America leading Europe in risk management practices, indicating that North American companies have evolved rapidly in this area.

**Sustainability.** Globally, supply chain sustainability has attracted much attention over recent years, but nations prioritize relevant goals in varying ways. The 2022 State of Supply Chain Sustainability report, conducted jointly by MIT CTL and the Council for Supply Chain Management Professionals, highlights some of these differences. The report's findings are based on executive interviews and an online survey released in October 2021 globally in three languages: English, Spanish, and Mandarin Chinese. Over 3,300 responses were received from respondents primarily in Asia (10%), Europe (15%), Latin America and the Caribbean (44%), and North America (21%). Respondents from firms headquartered in the Global North gave a higher prioritization to climate change and energy conservation compared to those in the Global South. Investment priorities in supply chain sustainability varied geographically, too. Firms headquartered in the Global South assigned a higher weight to water conservation, supply chain circularity, and natural resource conservation.

Our 2024 survey provides a more granular analysis of sustainability-related national differences. For example, the research shows that North American and other regions' professionals believe that sustainability regulations will tighten further

in the coming years, suggesting a universal shift toward more eco-conscious supply chain practices. Moreover, the active participation of supply chain functions in corporate sustainability programs is significant both in North America and other regions, reflecting a global consensus on the importance of integrating sustainable practices.

As the 2022 State of Supply Chain Sustainability report concludes, national and regional differences between approaches to improving the sustainability of supply chains show that this mission means many things to different people. Consequently, "we would advise supply chain managers, who frequently work across international borders with both vendors and customers, to be aware of where local prioritizations and investments differ from their own," says the report.

**Collaboration.** Collaborating internally through supply chain management teams that span multiple countries has become an integral part of managing global operations for many companies. External collaborative efforts with customers and suppliers across countries and regions have also gained in importance.

Research by Revilla and Saenz indicates that firms pursuing collaborative management practices in their supply chains face the lowest operational disruptions. However, strategies that solely focus on enhancing control over internal operations lack the robustness needed to halt the domino effect caused by supply chain disruptions.

Still, there appear to be regional differences in these collaborative efforts. For example, the research shows that the level of inter-organizational risk management practices carried out jointly in collaboration with suppliers and customers is the highest in Southern Asia, being 25% higher than in North American companies, which are the lowest. With the new opportunities from digitalization, companies can easily and effectively deploy collaboration in global supply chains, resulting in significant benefits for the global supply chains. Enhanced collaboration fosters real-time visibility

and data sharing among partners, leading to end-to-end decision-making and efficiency. Ultimately, integrating digital tools and collaborative strategies strengthens resilience and agility, allowing supply chains to adapt swiftly to market changes and disruptions.

## AI adoption and perceptions

AI and machine learning have made significant advances in the supply chain field. However, the nature of their progress can vary by country and region.

According to the 2024 survey results, North American supply chain professionals have a more optimistic outlook and higher AI adoption rates compared to their counterparts in other regions. Seventy-three percent of North American practitioners view AI predominantly as an opportunity, reflecting a robust enthusiasm for its potential to enhance operations.

This finding contrasts with other regions, where a smaller majority (62%) see AI as beneficial, and a greater proportion (35%) perceive it as both an opportunity and a threat (see Figure 2). Moreover, the survey highlights a greater engagement with AI technologies in North America, where only 9% of respondents report not applying AI, compared to 29% in other regions.

These differences may arise from varying levels of exposure to AI technologies and different cultural/regulatory landscapes that influence the adoption and value of new technology. The findings might also reflect North America's more entrepreneurial culture. There is more investment and support for new business models and experimenting with technology in the region in comparison with other areas. Also, universities in North America are more flexible in updating curricula and offering new executive education programs in this area. As a result, the latest AI and supply chain management developments

and applications tend to be introduced and shared relatively quickly in North America.

Despite these differences, there is common ground in the applications of AI within supply chains. For example, respondents across the regions point to the applications of AI in demand forecasting and planning as the most prevalent use cases. These applications leverage AI's ability to analyze large datasets to predict future demand patterns more accurately, enabling more efficient inventory management without compromising the service level.

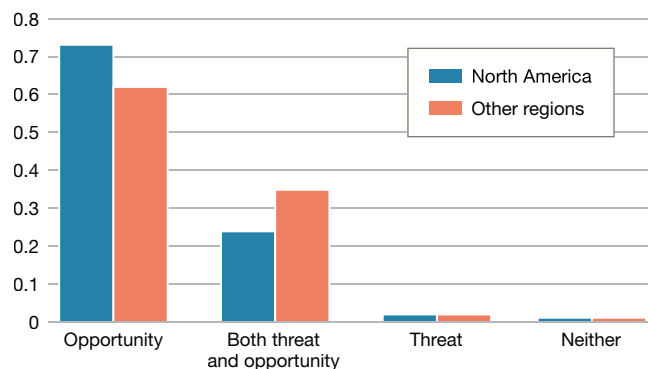
Respondents across the regions agree on the areas where they expect AI to have the most significant impact in the next five years. These areas include logistics and transportation route optimization, further demand forecasting and planning enhancements, and inventory optimization and replenishment.

## Supply chain skills

When exploring skill development in supply chain management, we find international differences in education requirements, career mobility, critical skills demands, and upskilling preferences. These variations influence how SCM professionals adapt and thrive in their roles across different markets.

In North America, a substantial majority (77%) of respondents in the 2024 survey have an academic

FIGURE 2  
**AI adoption: Perception across regions**  
(Percentage)



Source: MIT CTL surveys

background specifically in supply chain or logistics. This contrasts sharply with other regions, where educational backgrounds are more diverse—35% in supply chain management, 27% in engineering, and 25% in business or management. Notably, a majority of non-U.S. alumni of the MIT Master's

in Supply Chain Management program received undergraduate degrees in engineering disciplines (industrial engineering/mechanical engineering). However, their U.S. counterparts were more likely to have business degrees with a

concentration in supply chain management.

Career mobility also varies regionally, with North American supply chain management professionals tending to change employers more frequently; 72% change every two years to six years. Other regions show a more even distribution across different tenure lengths, with a higher proportion maintaining longer tenures or staying with one employer throughout their careers. This suggests that the job market in North America is more dynamic, allowing individuals to pursue career progression by changing roles across companies. In other regions, it may be more common to have long-term development within the same company (see Figure 3).

When analyzing differences between attitudes toward job mobility, one must also consider socioeconomic changes. For example, technological advances in combination with strong economic growth and a shrinking labor

pool in the U.S. place a premium on knowledge workers, affording them more negotiating power. Another factor is how the post-COVID hybrid work model has exacerbated the continued fraying of the psychological contract between employers

and employees.

The reasons are many and include a perceived lack of growth, flexibility, recognition, trust, and purpose. It is important for organizations to learn what employees want and to create policies and cultures that align with, and shape, employee expectations while

serving global supply chains with flexibility.

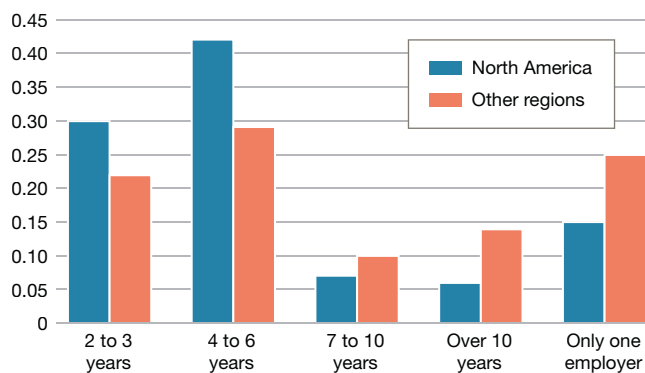
The picture is not entirely fragmented. According to the 2024 research, practitioners find alignment in the critical skills they deem essential for managing supply chains. The skills considered key are strategic thinking, analytical skills, problem-solving, critical thinking, leadership, cross-functional coordination, and communication.

The biggest difference is how each group ranked communication as a required skill. Respondents in North America ranked it as the second most important skill. However, respondents outside the region gave communications a sixth-place ranking. This difference suggests that North American professionals engage in roles with more cross-functional responsibilities that require excellent communication skills. Another explanation is that they operate in a more global context that requires interaction with people from different

FIGURE 3

### Career mobility across regions

(Percentage)



Source: MIT CTL surveys

cultures and high English proficiency levels.

Our 2022 survey findings support these results. SCM alumni consider communication a critical skill. More specifically, they valued the ability to make a presentation, deal with conflict, lead a change management initiative within the organization, and give difficult feedback. The responses confirm the high importance professionals place on the ability to persuade and influence others. These skills become especially valuable in highly collaborative roles or in organizations with remote or distributed teams.

Upskilling preferences diverge notably between the regions. Our 2024 survey revealed that North American professionals prefer conferences and on-the-job training, favoring interactive learning environments that also offer networking opportunities. In contrast, other regions show a stronger inclination toward online courses and professional certifications, indicating a preference for structured and formal educational experiences. It is also likely that the accessibility, cost-effectiveness, and flexibility of online learning explain why global professionals prefer this medium when upskilling.

The insights gained in the above research are not only relevant for companies looking to enhance their supply chain management capabilities and workforce skills but also those working in the industry. Professionals aiming to align their capabilities with international standards and expectations can also gain valuable guidance from the research.

## **Future imperatives**

Today's global supply chains must compete in an increasingly volatile business environment. Of the myriad variables practitioners juggle when managing these supply chains, national attitudinal differences may not be top of the list, but they can be of vital importance.

Consider, for example, managing risk in a

changing market. Understanding how practitioners in different countries approach risk management helps companies develop the most effective strategies. Research shows that organizations must contextualize essential risk management capabilities where the threats and their sources appear. However, in today's global economy, multinational corporations seem to design universal risk management practices for global supply chains. As supply chains evolve from cost centers to strategic assets, there is a need to adopt formal risk strategies, like those prevalent in North America, and integrate sustainable practices in anticipation of tighter regulations. Differences in collaboration styles across regions highlight the importance of cultural adaptability.

Supply chain's increasingly strategic role also means that the function is becoming more closely integrated into core business functions. As a result, there is an increasing demand for versatile skill sets that encompass technical proficiency, effective communication, and strategic insight.

The digitalization of supply chains and the adoption of AI-driven innovations are also changing the demand for skills. Differences in how technological innovation is perceived and implemented across regions require global companies to adopt flexible and region-specific strategies for talent management. Understanding these variations can help multinational companies tailor their training programs, recruitment strategies, and career development plans to better align with the local professional landscapes and cultural expectations.

Looking ahead, trends such as the rise of nearshoring and increasing geopolitical risks across the world underline how globalization is changing, requiring companies to become more agile and responsive to these shifting market dynamics. Companies will need to be cognizant of the national and regional differences that shape responses to these challenges. •