

# **Building a Dynamic Supply Chain in the APAC Region**

**Yugo Suda, Toshiro Takekoshi, and Motoki Saito**

**Nomura Research Institute**

# Building a Dynamic Supply Chain in the APAC Region

**Yugo Suda, Toshiro Takekoshi, and Motoki Saito**

- I Environmental Changes in the APAC Region
- II Issues Facing Japanese Companies in the APAC Region-The Need to Build a Dynamic Supply Chain, and the Challenges Involved
- III Measures for Building a Dynamic Supply Chain
- IV Enhancing Corporate Value of Acquired Companies and Investment Targets through Supply Chain Design

A key factor in capturing growth markets in developing APAC nations and linking them to your own company's growth is designing and building a supply chain that can respond to environmental changes unique to those growth markets. These environmental changes include (1) changes in the overall trade environment in the APAC region, (2) changes in the distribution and market environments in developing APAC nations, and (3) the increasing globalization and complexity of corporate supply chains. In addition, the pace and extent of these changes are significant.

Every enterprise is compelled to build a dynamic supply chain to be able to respond flexibly to these environmental changes. To this end, it is essential for companies to systemize their supply chain design operations (= implement supply chain design functions) and to carry out design work-which previously they would have done sporadically once every few years-more frequently and routinely.

Systemization involves the following: (1) a structure, i.e. establishing a supply chain design structure encompassing the global headquarters and all regional bases; (2) an operational process, i.e. building a formalized and specified supply chain design operational process not reliant on specialized human talent; and (3) developing IT tools.

Making each worldwide regional headquarters into a COE (Center of Excellence: a core site with international competitive capabilities) for supply chain design functions, as well as leveraging IT tools, will enable companies to successively roll out these formalized and specified operations to every country in a region, to maintain them over the medium- and long-term, and to more adeptly handle local environmental changes in any given region.

Japanese, European and U.S. companies are acquiring and investing in a great many local companies in developing APAC nations, yet there is likely significant room for them to build dynamic supply chains, by taking advantage of supply chain design, as a means of enhancing value-that is, imparting their own knowhow to those local companies which are not so endowed, thereby elevating the latter companies' corporate value.

Japanese, European and U.S. companies are working to capture growth markets in the community of developing nations in the APAC (Asia Pacific) region (hereinafter, “Developing APAC Nations”), viewing them as important markets which can be linked to their own corporate growth. Meanwhile, their very nature as growth markets means they are prone to various environmental changes, and thus determining how to go about designing and building a supply chain in such a dynamic environment is the key to tapping into these growth markets. This report focuses on Developing APAC Nations, covering the environmental changes in the supply chain as well as the challenges facing Japanese companies, and laying out measures for building a “dynamic supply chain” to illustrate the direction in which Japanese companies should proceed.

## I Environmental Changes in the APAC Region

Developing APAC Nations are undergoing changes at a faster rate than Japan is, and to a greater degree. Given that supply chain efficiency significantly affects corporate sales figures and costs, this is arguably a region where the need to respond to environmental changes is quite high.

The environmental changes of most concern for the APAC region are (1) changes in the overall trade environment of the APAC region and (2) changes in the distribution and market environments within Developing APAC Nations. In the context of these two points, (3) corporate supply chains are also becoming more globalized and complex. Companies therefore need to build optimal supply chains which take these environmental changes into account. These changes are described in greater detail below.

### 1 Changes in the Overall Trade Environment in the APAC Region

#### (1) Reductions in Tariff Rates through Free Trade Agreements

In Asia, tariff rates have been gradually reduced under the AFTA<sup>note1</sup> and ATIGA<sup>note2</sup> agreements, which took effect in 1993 and 2010 respectively in the ASEAN region (Association of Southeast Asian Nations). Although the mutual tariff rates among ASEAN member states have generally been eliminated or reduced to historic lows, in the ACFTA (an FTA linking ASEAN and China) and AIFTA (an FTA linking ASEAN and India) areas, the schedules for reducing the tariffs against the CLMV nations (Cambodia, Laos, Myanmar, and Vietnam), which were relatively late to join ASEAN, are set to come into effect later on, and there are plans to further eliminate or reduce tariff rates for many goods over the next several years.

Consequently, rather than building supply chains on the basis of current tariff rates alone, companies must also consider both current and future phased reductions and eliminations of tariff rates in designing and building their supply chains.

#### (2) Uncertainty Over the Future of TPP

The Trans-Pacific Strategic Economic Partnership Agreement (TPP) was concluded after the nations participating in the negotiations reached a broad agreement on October 5, 2015, with each nation set to conduct proposal and ratification procedures in its domestic legislature. However, U.S. President Donald Trump’s signing of an executive order on January 23, 2017 declaring America’s permanent withdrawal from the TPP is expected to have a major impact on the TPP’s progress.

Prior to this in the APAC region, shortly after the November 9, 2016 U.S. Presidential Election in which Mr. Trump emerged victorious, Vietnamese Prime Minister Nguyen Xuan Phuc stated before Vietnam’s national legislature on November 17 that “there are not sufficient conditions for Vietnam to submit its proposal for ratification,” and with the Vietnamese government having suspended its legislative approval procedures to ratify the TPP, it is now unclear what lies in store for the other member nations besides the U.S.

The Trump Administration is reportedly seeking to conclude a new bilateral free trade agreement between the U.S. and Japan in place of the TPP, but companies must nevertheless seek ways to build optimal supply chains, even as tariffs—which seriously affect corporate supply chain costs—are in a fluid state of affairs.

## 2 Changes in the Distribution and Market Environments in Developing APAC Nations

### (1) Distribution Infrastructure Development Proceeding at a Rapid Pace in Developing APAC Nations

The development of airports, harbors, bridges, highways, and other transportation infrastructure in Developing APAC Nations is moving rapidly, and circumstances are changing on a daily basis. What might be the most suitable placement of distribution bases and the optimal networks among those bases at one moment will not necessarily be ideal in several months’ time. For a company to enhance and maintain its supply chain’s competitiveness, it must reassess its supply chain very frequently in step with changes in transportation infrastructure.

### (2) Changes in Demand in Developing APAC Nations

As a result of factors such as population growth, rising living standards, and the development of local urban

areas, developing nations are seeing major changes in consumer demand, which constitutes the endpoint in the supply chain.

First, the levels of consumer demand have risen significantly. This change in demand has led to differences in how distribution bases must be placed (including the scale of these bases) and how the networks linking these bases must be set up in order to satisfy such demand. In addition to frequently reassessing their supply chains, companies must also anticipate future demand in designing the scale of their bases.

### **(3) Rising Level of Services Demanded by Consumers in Developing APAC Nations**

Consumers are notably also demanding higher levels of services.

The APAC region is comprised of a great many countries. For this reason, with these countries' respective market scales remaining rather small, Japanese, European, and U.S. companies have often refrained from establishing their own bases there, preferring instead to use intermediaries to supply their products to these countries' markets. In recent years, the intermediaries in these countries have become increasingly aware of the need to meet their clients' short-term demands with the appropriate inventory levels, and have become familiar with higher levels of services through their dealings with leading European and U.S. companies (e.g. accommodating lead times from order placement to delivery, as well as desired delivery dates when orders are placed), and the level of services demanded by the intermediaries has also been on the rise.

Consequently, for companies on the supply side, having a supply chain capable of delivering a high level of services has become a key factor in distinguishing themselves from competitors.

## **3 Increasingly Globalized and Complex Corporate Supply Chains**

Given the changes in the overall trade environment in the APAC region, and those in the distribution and market environments inside Developing APAC Nations, the supply chains of each and every enterprise pursuing business in the APAC region have also been going through changes.

### **(1) Globalization of Shippers in Supply Chains**

Traditionally, when Japanese companies supply their products to the APAC region, they have tended to transport the goods from production bases in Japan or China, for example. However, along with growing domestic demand in places such as Thailand and Indonesia and local government policies in those countries, companies are now establishing local production centers more often.

For instance, in Indonesia, the national government set the goals of meeting 50% of annual cell phone demand using domestically produced devices by 2017, as well as ensuring that smartphones equipped with 4G (LTE) technology use at least 30% local components by the same year, and policies aimed at fostering such domestic production are having an impact on the site locations of production bases. In fact, Samsung Electronics began operations at a smartphone factory in West Java, Indonesia in 2015.

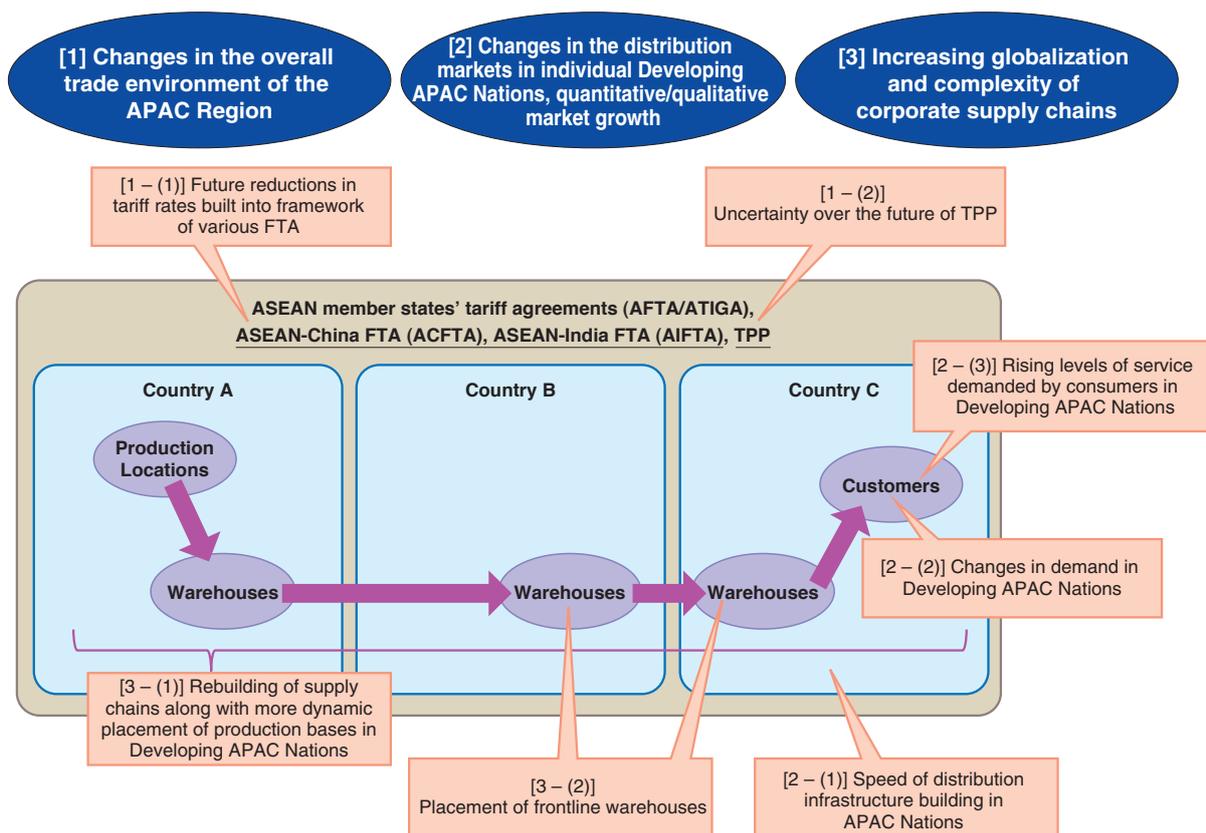
In addition, manufacturing corporations that have sought to meet domestic demand in Developing APAC Nations are reconstituting their supply chains both inside the APAC region and worldwide by also taking on production functions capable of meeting foreign demand. With their significant domestic demand for automobile production, Thailand, Indonesia, and India are leveraging the aforementioned FTA to become shipping bases for satisfying foreign demand, supplying modular components for knockdown (KD) production to various countries worldwide.

### **(2) Placement of Frontline Warehouses in Developing APAC Nations**

In light of the rising levels of services demanded by consumers in developing nations, as noted earlier, Japanese, European, and U.S. companies now possess warehousing locations in Singapore—which is home to their APAC regional headquarters—and other countries at the forefront of their customer markets, and are supplying their customers from these locations, which has allowed them to shorten the lead time from order placement to delivery and has better equipped them to accommodate their customers' requested delivery dates as stated when orders are placed. These are some of the ways in which companies are working to augment their levels of services, and competition among players has only intensified.

However, even in this case, it is not simply a matter of a company deciding to have warehouses and inventories at its regional headquarters and global bases. It must consider whether it would suffice to have warehouses only at its regional headquarters, to have warehouses only at its individual global bases, or to have both, as well as how much inventory is necessary, and what the scale at each such base should be (Figure 1).

Figure 1. Environmental Changes in the APAC Region



## II Issues Facing Japanese Companies in the APAC Region-The Need to Build a Dynamic Supply Chain, and the Challenges Involved

In the preceding section, we discussed how the APAC region—particularly the developing nations within it—is undergoing environmental changes at a faster rate and to a greater degree than Japan is, and cited as examples the changes in the APAC region’s overall trade environment, changes in the distribution and market environments inside Developing APAC Nations, and the increasing globalization and complexity of corporate supply chains. For Japanese companies to flexibly handle these kinds of environmental changes which are unique to developing countries, they need to build “dynamic supply chains” for flexibly altering their production sites, inventory and distribution bases, delivery routes, and other aspects of their supply chain network, and must find ways to improve their levels of services, optimize their inventories, and cut their distribution costs.

In reality, inquiring with the responsible officers at Japanese companies doing business in Developing APAC Nations revealed that in many cases, their

companies are not fully equipped to deal with these environmental changes, nor do they grasp how much room they have for improvement. At many Japanese companies, supply chain designs are made on a non-regular basis, only once every several years, and one factor behind this is the fact that they have no supply chain design mechanism (supply chain design functions) in place that would allow them to flexibly cope with environmental changes. More specifically, (1) they lack a structure for handling supply chain design functions, (2) their supply chain design work does not involve a formalized and specified operational process, and (3) they have not developed IT tools enabling them to design their supply chain in a standardized and simple manner. In this section, we will discuss the mechanisms required to build a dynamic supply chain, from the perspectives of (1) structure, (2) operational processes, and (3) IT tools, touching first on the challenges that Japanese companies face in various regions including developing nations.

### 1 Structure : Lack of Supply Chain Design Functions at Regional Bases

Many of the Japanese companies that have built supply chains spanning various Asian countries have established regional headquarters in places such as Singapore and Thailand, and conduct management with a focus on personnel and financial affairs. Meanwhile, not many

companies have set up dedicated SCM structures at their regional headquarters, and there are very few that have sought to optimize their overall regional SCM structures encompassing their suppliers, production bases, marketers, and intermediaries in Asia, or that continually review these structures. In many cases, their sales, production, and distribution divisions merely design their supply chains within the scope of their own individual responsibilities, and continual reviews are not made. Although some leading companies have set up SCM structures at their regional headquarters, compared to European and U.S. global companies, there are few whose relevant bases take the initiative to spearhead SCM-related efforts.

For some commodities, production and sales functions are fully handled in the APAC region, and with these kinds of products, it is possible to look into optimizing the supply chain locally. In such cases, having a regional SCM structure handle supply chain design functions enables a company to build a supply chain more adept at handling local environmental changes. On the other hand, some commodities require a global supply chain design that is not fulfilled in a single region but rather spans multiple regions. For such commodities, an SCM structure at a regional headquarters needs to be run in close cooperation with the SCM structure at the main company headquarters.

## 2 Operational Processes : Lack of Formalized and Specified Supply Chain Design Operational Processes

Supply chain design in itself is still not treated by many Japanese companies as a standardized operation, and is only performed irregularly once every few years. Building a dynamic supply chain requires that a company construct a standardized operational process, so that it may routinely conduct company-wide, cross-regional reviews of its collection and updating of tariff-related and other regulatory information, its placement of bases according to level of demand, and its delivery routes. The leading European and U.S. companies have already made supply chain design work part of their standard operations.

Even in Developing APAC Nations, as well as in Japan, it is not easy to secure dedicated human talent for SCM design. However, unlike in Japan, where it is possible to ensure a uniform work force at a certain level and to cultivate human talent over time given that employees tend to work for many years, in Developing APAC Nations, it is not only Japanese companies but also European and U.S. companies, South Korean companies, and local enterprises that are all accelerating the pace of their business development in the APAC region, and the competition for top talent within the region has been heating up. Further, in a sellers' market, top personnel actively switch workplaces in the pursuit of higher wages, greater flexibility, and experience, and

as a result, there are innumerable cases where talented workers in whom companies have invested significant time and costs end up being plucked by competitors. In the developing nations of regions like APAC, where employees' average length of service is extremely short, an operational design is needed that does not depend upon specialized personnel.

## 3 IT Tools : Underutilization of IT Tools

In designing their supply chains, companies must take a combination of various factors into account, including tariffs and other regulations, transportation infrastructure and transportation/storage costs, their demand situation, and their production and inventory bases. In the APAC region in particular, these factors need to be reviewed very frequently. Traditionally, experienced supply chain designers in Japan had been in the practice of consulting maps while considering the ideal placement of bases and networks, but with this method, it was difficult to establish scenarios accounting for the future schedule of tariff reductions and other uncertainties, and to precisely compare multiple potential bases and networks. In addition, simulations using spread sheet software etc. require more extensive varieties of parameters (conditions, factors) and patterns to be set the more precise the attempted calculations are, and they often require vast amounts of time and exceed the spread sheet software's capacity (i.e. the volume of data that it can handle).

To solve these problems and achieve a high-frequency and highly accurate SCM structure in a short period of time, it will be necessary to adopt IT tools, but currently there are few if any known Japanese companies that have adopted IT tools for such purposes at their APAC regional bases. Meanwhile, leading European and U.S. companies have been standardizing their techniques and tools. Some of these companies have even already made their regional headquarters located in Singapore as the center of their SCM structures, and deployed IT tools not only for their supply chain implementation systems and planning systems but also for their supply chain design system operations, and they are using these tools regularly.

Significant differences can thus be seen in how companies have adopted IT tools, and one factor behind this is that many of the supply chains at Japanese companies are predicated on the role of individual human operators. Since the conventional model of having human beings design supply chains is arguably unsuited to the APAC region, given the intensity of environmental changes there, companies need to reassess their dependency on human beings in terms of their structures, operational processes, and IT tools, and must also systemize the use of IT tools in their supply chain design functions.

### III Measures for Building a Dynamic Supply Chain

An essential part of dealing with changes to tariffs and other regulations, physical transportation infrastructure, and demand in various regions is building a dynamic supply chain appropriate to the circumstances. Nevertheless, the fact is that there are very few Japanese companies operating in the APAC region that have actually managed to build dynamic supply chains.

Doing so requires companies to design structures, construct operational processes, and develop IT infrastructures which encompass their global headquarters and regional bases alike. In this section, we introduce paradigms for local structures, operational processes, and usage of IT tools with reference to examples from regional headquarters in the APAC region.

#### 1 Establishing Supply Chain Design Structures Encompassing Global Headquarters and Regional Bases – Functions Worth Retaining at Regional Bases

With regard to building a dynamic supply chain, in addition to having a supply chain design unit at the global headquarters, designing a similar structure at regional headquarters or elsewhere at the local level will make it possible to rapidly collect, examine, and share information on local changes, as well as to design supply chains in light of such local data and support their implementation.

Below, we discuss functions that should be retained at regional bases, and give relevant examples.

##### (1) Rapidly Collecting, Examining, and Sharing Local Information

Developing APAC Nations are experiencing intense changes, including with tariffs and other regulations, transportation infrastructure, delivery and inventory costs, and levels of demand, and publicly available information is not always enough to judge the situation. As such, global headquarters will find it difficult to comprehensively gather and manage information.

For instance, with regard to local legal regulations, there are sometimes significant discrepancies between the established (i.e. stipulated) regulations and how they are actually enforced, and thus information must be successively verified at the local level. Local sales information, as well as information related to levels of services, inventory levels, and other aspects of SCM operations, can be shared in real-time provided that IT tools are available, yet background qualitative information etc. can also be rapidly handled by equipping each base to collect data.

##### (2) Supply Chain Design Functions at the Local Level

Although supply chains for any products sold on a global scale need to be designed in partnership with the supply chain design department at the relevant company's global headquarters, for products that are entirely produced and marketed in various countries within the region, designing and implementing a supply chain at the local level will make it possible to respond to regional changes more swiftly. In any case, companies must also equip their local bases with design functionality.

It is crucial to establish multiple scenarios which anticipate changes to the tariff reduction schedule, transportation infrastructure, demand, and other factors, and to derive the optimal network on the basis of those factors, and by deepening these sorts of considerations at the local level, companies will be able to design supply chains attuned to these fluctuating factors, as well as make effective decisions locally.

##### (3) Monitoring and Correction Functions Following Supply Chain Design

Considerations of where to situate local bases and other matters involving investments often require collaborating with the global headquarters, but production allocation and inventory deployment rules at production centers for local products—which are made and marketed regionally—could be reviewed at the local level, as the occasion requires and depending on environmental changes. To build a supply chain capable of promptly dealing with environmental changes, a company must equip its regional bases with the ability to conduct monitoring and make corrections subsequent to supply chain designing.

#### 2 Constructing an Operational Process Conducive to a Formalized and Specified Supply Chain Design That is Not Dependent on Specialized Personnel

Supply chain design involves planning the placement of various bases (production centers, warehouses, etc.) that make up the supply chain, designing routes linking these bases, and outlining the capacities of these various bases and routes (e.g. production and storage capacities, transportation capacities), and while the frequency may vary from one fiscal year to another or during a set period depending on the circumstances, for instance, companies must reassess their situation in light of environmental changes. On such occasions, involving regional sites in the process of supply chain reviews conducted by the global headquarters will enable a company to design networks that account for regional conditions.

Many Japanese companies achieve collaboration among their global bases by means of personnel

interactions, but in order to firmly establish supply chain design as an official process, it would be desirable for them to formalize, stipulate, and share their operational processes in the manner of the leading European and U.S. companies.

**Example of Company A, a European General Electronics Manufacturer :  
Establishing a Global SCM Division Encompassing All Business Areas and Regions**

Company A, a European general electronics manufacturer, has set up a global SCM division to serve as an organization covering all of its business areas and geographical regions, and is endeavoring to optimize its global SCM operations. Its business division oversees all research and development and marketing activities, while the global SCM division has reached an agreement with the business division on service levels, costs, and inventory levels etc. as KPI (key performance indicators), and supervises all production, procurement, and distribution operations. With this arrangement, the company is aiming to standardize its operational processes across all business areas and regions, to optimize the placement of its bases, and to share examples of its best practices.

**Building a Dynamic Supply Chain by Establishing an SCM Network Design Division and Adopting Standardized Operations**

Based on an awareness that supply chain network design is a key part of overall supply chain optimization, Company A established a division specializing in network design, its role being to oversee all network design activities in every business area and region from within the SCM division at its global headquarters. While the global headquarters supervises the relevant operations, it jointly examines and reviews the company's regional networks in partnership with teams placed at the regional headquarters.

In addition, the regional headquarters collect information on tariffs and other regulations from their respective locales and share it with the main headquarters, as well as review the inventory deployment rules etc., which makes it possible to promptly address changes at the local level. These operations are defined as standardized operations at the company's global headquarters and at its regional headquarters.

This company's IT equipment division traditionally manufactured high-grade UPS at its production center in the Philippines for its ASEAN and global customers, but when augmenting its low-grade UPS manufacturing line for customers in developing countries, it set up a new line in China, rather than expand its existing site facilities. More specifically, it took advantage of available space on the electronic equipment manufacturing line of its energy division in China, converted it into a production line for low-grade UPS,

and began producing the same for its customers in China and the ASEAN region. The background to this was conceivably an interest in minimizing trade costs through FTA, and in making the best use of its resources in the region. This is how the company has sought to optimize its supply chain for all of its business areas (IT equipment and electronic equipment) and geographical regions (the Philippines and China).

By setting up network design teams for all business areas and regions on a global level, and formalizing/specifying its operations, a company can swiftly gather local information and make optimal use of company-wide resources (Figure 2).

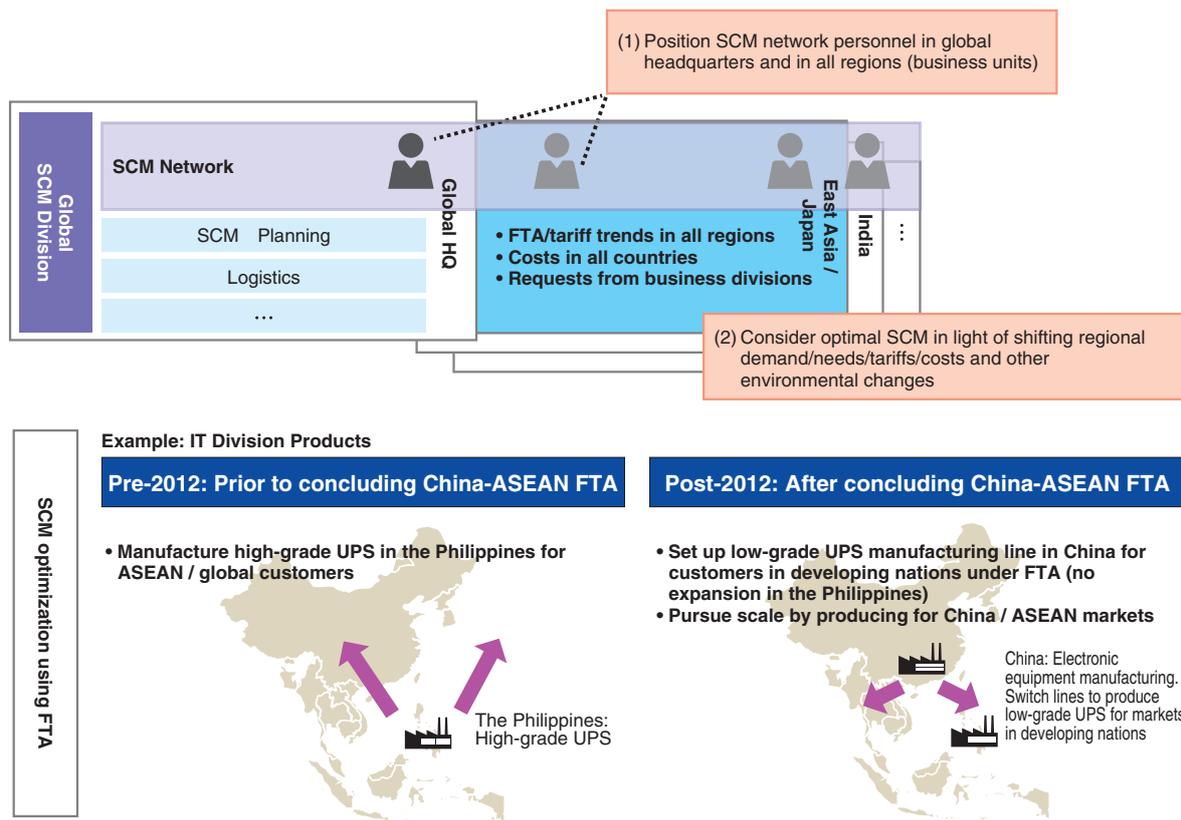
### 3 Utilization of IT Tools

Recently, the acceleration in processing speed achieved using IT and the advancement of visual depiction functions has made it possible—even with regard to supply chain design operations—to use IT tools equipped with functions such as high-speed optimization calculations and simulated illustrations of actual logistic routes on maps. These tools allow users to link the latest cartographic information and base location information, and to compute the optimal network in updated cartographic information. Together with the aforementioned development of roads and other infrastructure in Developing APAC Nations, this is useful for reassessing supply chains. The use of IT tools for supply chain design operations in developing nations, which face rapid and volatile environmental changes, will lead to faster tracking of environmental changes and earlier results gathering, and thus these tools are being increasingly adopted by global enterprises, especially by leading European and U.S. companies.

#### (1) Utilization of Big Data

In Developing APAC Nations with their highly mobile pool of talent, there are limits to what supply chain design operations that rely on the experience, intuition, and knowledge of individual head operators can do, as stated previously. On the other hand, with the latest IT tools, the use of modeling technology makes it possible to rapidly derive the ideal supply chain solutions from big data. By collecting the big data dispersed throughout a company, and reflecting the complexity of real operations in models while conducting analyses, one can perform highly accurate simulations that are not reliant on the work of any individual.

Figure 2. Overview of SCM Network Division at Company A, a European General Electronics Manufacturer



**(2) Gradual Adoption According to a Company’s SCM Systemization Stage**

The status of SCM system adoption by Japanese companies with bases in the APAC region can be categorized into the following three stages (Figure 3).

- (1) ERP system and other supply chain execution systems already in place
- (2) In addition to (1), supply chain planning system is also in place (data already linked)
- (3) In addition to (2), supply chain design system is also in place (data already linked)

The majority of Japanese companies located in the APAC region are at stage (1). They have disseminated their ERP systems etc., and their deployment of supply chain execution systems for supporting inventory allocation and ordering operations is coming full circle in Asia. In recent times, some leading companies have become more active in planning for and adopting the supply chain planning systems associated with stage (2). We are beginning to see examples in which companies—in the interest of handling fluctuations in demand in a timely fashion—are adopting supply chain planning systems that allow them to do production planning, marketing planning, inventory volume planning, and more on a daily or monthly cycle.

Meanwhile, there are currently few if any examples of companies that have reached stage (3) at their regional bases in Asia. However, the adoption of IT tools is indispensable for supply chain design in the APAC region, and ultimately companies will have to aim to

arrive at stage (3). We recommend the following steps toward systemization, depending on the particular stage a company has reached. Those companies that have already attained stage (2) or have considered doing so would benefit from proceeding at the same time to adopt a supply chain design system as per stage (3).

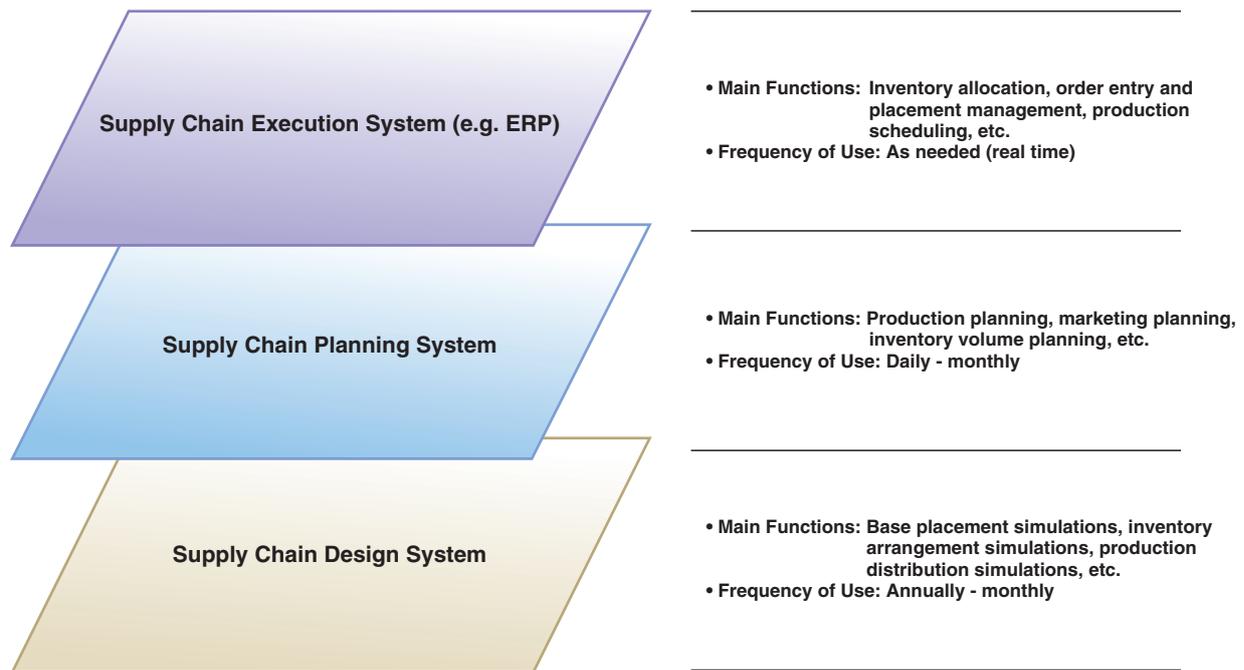
By linking their supply chain planning systems and supply chain design systems together, companies will be able to comprehensively map out a supply chain, production plan, marketing plan, and inventory volume plan suited to environmental conditions at any given moment in the highly volatile APAC region. This is the so-called “Planning by Design” method.

That said, companies that have yet to reach stage (2) will find it difficult to arrive at stage (3) in a single leap, but for the time being, it would be desirable to conduct supply chain design operations using an external expert organization (e.g. a consulting firm) one to two times annually at a minimum, carry out regular supply chain reviews, and then ultimately implement these functions in-house and store data internally with the aim of reaching stage (3).

**(3) Horizontal Deployment of COE Functions by Utilizing Cloud Computing Services**

It would be unrealistic to expect companies dealing with labor fluidity and budgetary and other restrictions to shoulder these supply chain design functions on their own at their local bases in the APAC region. That is why companies should seek to set up regional SCM structures

Figure 3. Supply Chain System Categories



within their APAC regional headquarters in places like Singapore or Thailand, deploying their supply chain designs to various countries while managing operations either in close cooperation with the SCM structures at their global headquarters or under a unified management approach. In such cases, companies will often proceed first by establishing COE functions for handling supply chain design at the global level under leadership from their global headquarters, and then putting operational processes, rules, and IT tools in place, and finally decentralizing these COE functions among their regional bases.

On such occasions, the best thing is to provide a data utilization and analysis foundation that is shared globally and that is centrally accessible to those in charge of operations around the world. Recently, we have seen the emergence of supply chain design systems (IT tools) provided through cloud computing services, and these systems can now be considered one option for a shared data utilization and analysis foundation to be used in deploying COE functions globally. Given that cloud computing services can be deployed in a short span of time and with a low initial investment, they could conceivably be useful for deployment in the APAC region, where budgetary and other restrictions are especially a concern (Figure 4).

Let us look at Company B, a European manufacturer and retailer, which is using cloud computing services for its supply chain design system and expanding its business globally.

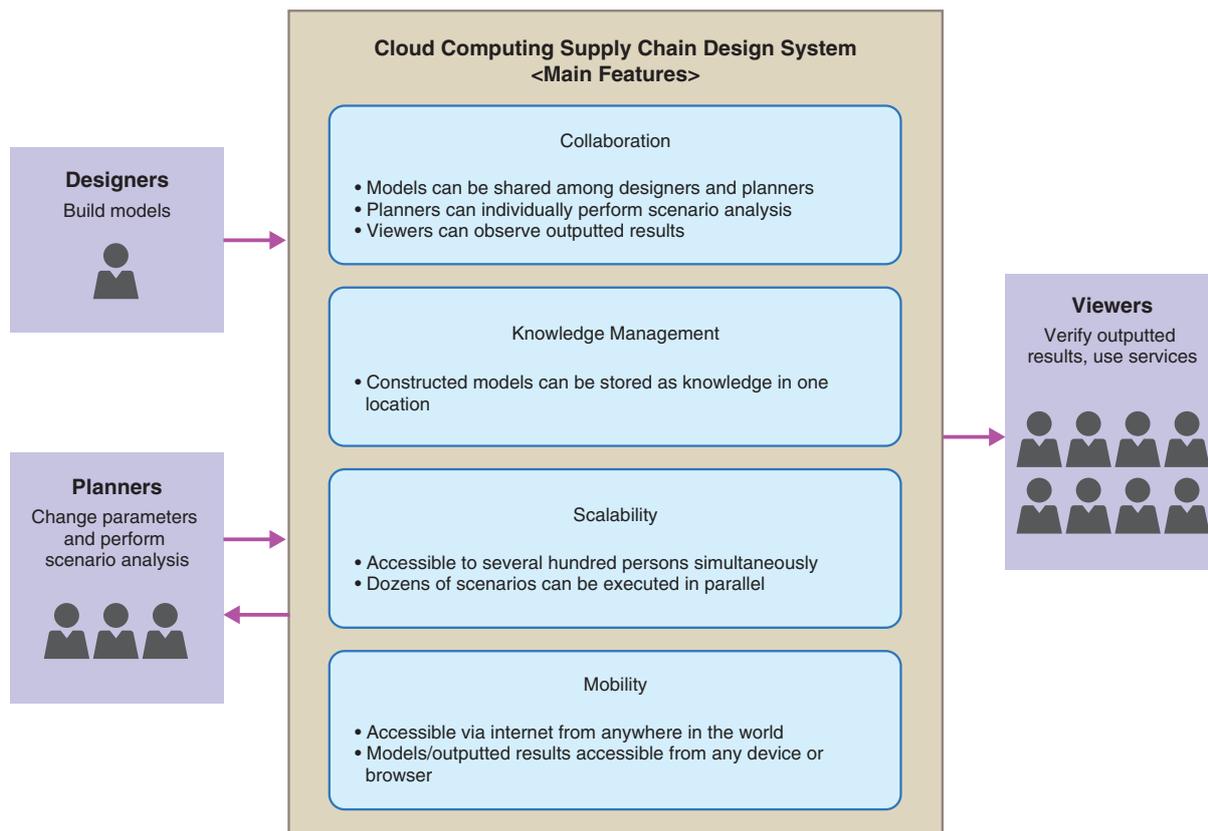
### Example of Company B, a European Manufacturer and Retailer :

#### Adopting Cloud Services Tools Equipped with Data Collection/Processing and Supply Chain Design Functions

Traditionally at Company B, a European manufacturer and retailer, several hundred supply chain managers in various countries around the world had independently performed data processing using Excel and Access and had run periodic cost simulations, but they had encountered problems related to accuracy, speed, and efficiency. Then Company B decided to divide the world into six areas, and construct a supply chain model for each area, encompassing every aspect from the suppliers and production bases to the customers, while at the same time adopting cloud computing service tools equipped with data collection/processing functions and supply chain design functions, which it then provided to its supply chain managers in every country as part of a shared global system. These managers were then able to analyze and process data and to run cost simulations using models suited to their particular areas in this shared system, successfully enhancing the accuracy of their simulations and significantly reducing their workloads.

In this case, the company possessed COE functions for each of six areas, and these COE led the way in implementing supply chain design functions. This case illustrates how having a COE in the lead can enable companies to roll out their operations more quickly than they could by first deploying their systems in a single country in a region, and then doing a horizontal expansion to other countries in that region.

Figure 4. Cloud Computing Supply Chain Design System Overview



## IV Enhancing Corporate Value of Acquired Companies and Investment Targets through Supply Chain Design

Japanese companies and other companies in advanced nations have been acquiring and investing in many local enterprises (M&A) in order to tap into growth markets in the APAC region and tie them in with their own corporate growth. The targets of these acquisitions and investments, particularly in the APAC region with its growth markets, (1) possess installed customer bases, which (2) hold the promise of further growth, and these are key factors behind their selection.

In addition, this involves more than simply acquiring and investing in a company; companies that impart their own unique knowhow to these local enterprises which have previously lacked it can enhance the corporate value of these enterprises. The specific means of doing so entails equipping the acquired companies and investment targets—who possess customer bases that are expected to grow—with supply chain design functions, which enables these enterprises to respond dynamically to environmental changes and supply their customers with products both efficiently and at a higher level of service. This arrangement leads to business expansion, and in turn, contributes to higher corporate value.

For enterprises in Developing APAC Nations, given the speed of environmental changes, as well as the fact that their supply chains are only optimized on the level of individual regions or other subunits within a country, and that optimization often relies on the abilities of individual operation managers, there is conceivably a great deal of room for raising value, particularly using supply chain design.

Notes:

- 1 The Common Effective Preferential Tariff Agreement for the ASEAN Free Trade Area
- 2 ASEAN Trade in Goods Agreement

**Yugo Suda** is Head of Business Performance Improvement Group at NRI Singapore’s Consulting Department. He specializes in infrastructure-related fields; formulating business strategies for companies expanding their manufacturing businesses overseas, revamping sales, procurement, SCM and other operations, and reducing purchasing costs

**Toshiro Takekoshi** is Head of NRI Singapore's Consulting Department. He specializes mainly in management strategies for infrastructure-related fields; formulating business strategies for companies expanding their businesses overseas, supporting M&A, and revamping sales, SCM and other operations

**Motoki Saito** is Head of Systems Consulting Division at NRI Singapore and NRI Thailand. He specializes in global IT strategies, concept creation and planning of operational/system reform and execution support

As a leading think tank and system integrator in Japan, Nomura Research Institute is opening new perspectives for the social paradigm by creating intellectual property for the benefit of all industries. NRI's services cover both public and private sectors around the world through knowledge creation and integration in the three creative spheres: "Research and Consulting," "Knowledge Solutions" and "Systems Solutions."

The world economy is facing thorough structural changes led by the dramatic growth of IT industries and the rapid expansion of worldwide Internet usage—the challenges of which require new concepts and improvement of current systems. NRI devotes all its efforts to equipping its clients with business strategies for success by providing the best in knowledge resources and solutions.

*NRI Papers* present selected works of NRI Group's 11,000 professionals through its worldwide research network. The mission of *NRI Papers* is to contribute new ideas and insights into business management and future policy planning, which are indispensable for overcoming obstacles to the structural changes in our society.

All copyrights to *NRI Papers* are reserved by NRI. No part of this publication may be reproduced in any form without the prior written consent of NRI.

Inquiries to: Corporate Communications Department  
Nomura Research Institute, Ltd.  
E-mail: [nri-papers@nri.co.jp](mailto:nri-papers@nri.co.jp)