

Supply Chain 2020

Next generation supply chain: Supply chain 2020



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Introduction

The supply chain will be a key element to shape the future of businesses. Many corporates have long demonstrated that supply chain management is a tool for competitive advantage. It will evolve as a top priority for CEOs across organisations over the next few years.

Due to the difficulty in managing short-term growth and profitability, companies will tend to focus on extreme cost controls. It is equally important to plan the future and supply chain will be a key element in shaping the future of businesses. As companies look for ways to compete in such volatile environments, they will need to master supply chain evolution and make it a distinctive competitive advantage.

McKinsey & Company's whitepaper, *Next generation supply chain: Supply chain 2020*, provides a perspective on the key trends that will drive the next generation supply chain, and describes their potential implications.

Five key trends will drive the next generation supply chain: innovations in businesses; uncertainties together with shorter and tougher business cycles; expanding and demanding consumer base; converging wages and increasing costs; and the evolution of big data. Each of these will have a significant bearing on the way today's supply chains operate, and will drive the next generation supply chain.

Four key implications of the trends are: evolution of a smart, segmented and customer-centric supply chain; transformation to an agile, robust and sustainable supply chain; emergence of Supply Chain as a Service (SCaaS); and development of relevant and capable supply chain.

Organisations must evolve continuously to stay at the top. For companies to gain a competitive edge, the supply chain leaders will have to factor in these trends and their potential implications on the business. They will have to develop their supply chain strategy by taking into account the design of future logistics networks, improving the responsiveness of the supply chain, and working towards supply chain operational excellence.

We hope this whitepaper will contribute to the on-going organisational discussions on their preparedness to face the future and build the next generation supply chain.

1. Key trends shaping supply chains

Companies evolve over time with changing business dynamics; in parallel, they lead to supply chain evolutions. Supply chain management will remain a key source of competitive advantage and it is critical to master its evolution. Companies will need to understand the underlying trends that shape supply chains and develop the next generation supply chain.

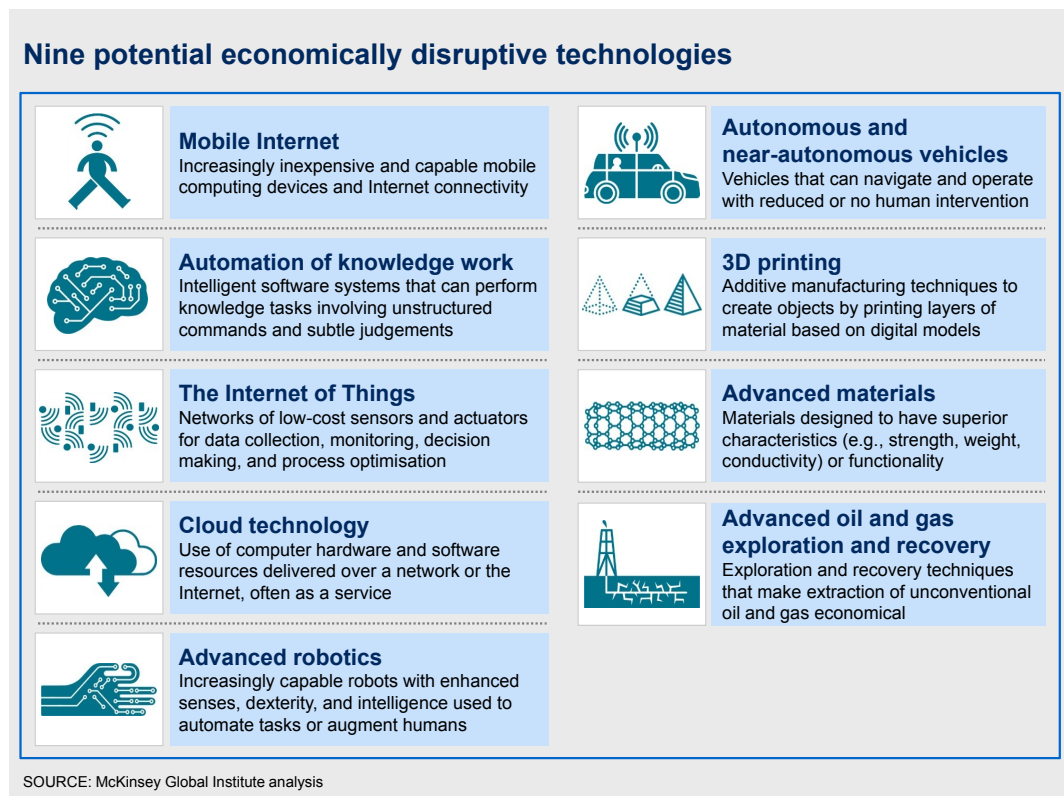
FIVE KEY TRENDS SHAPE THE SUPPLY CHAIN

Within a continuously changing environment, multiple trends influence the way businesses operate. This whitepaper aims to bring to the fore five key trends that will deeply impact the way supply chains evolve.

The trends are: innovations in businesses; shorter and tougher business cycles; expanding and demanding consumer base; converging wages and increasing costs; and the evolution of big data. Each will have a major impact on the way today's supply chains operate, and will drive the next generation supply chain.

Innovations in businesses will have far-reaching implications on the supply chains of the future. A quick look at the past highlights the fact that innovations fundamentally change the way a supply chain operates—in transport such as the container, in handling such as bar codes and robots, in daily supply chain management with IT systems. The future will have to evolve with new innovations. Potential innovations that can drive changes to the supply chain are highlighted in Exhibit 1.

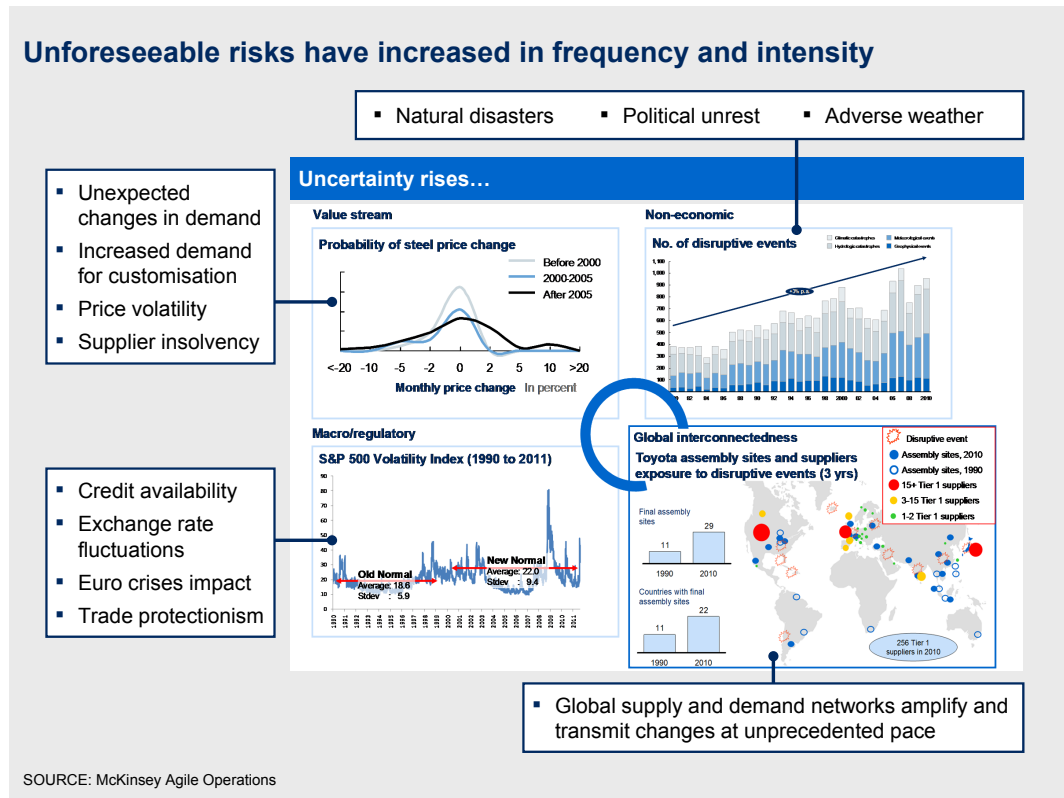
Exhibit 1



The impact of these innovations on supply chains will vary across industries, but will be significant across all of them. It is important for businesses to map the impact of these innovations on their supply chains as they plan their future.

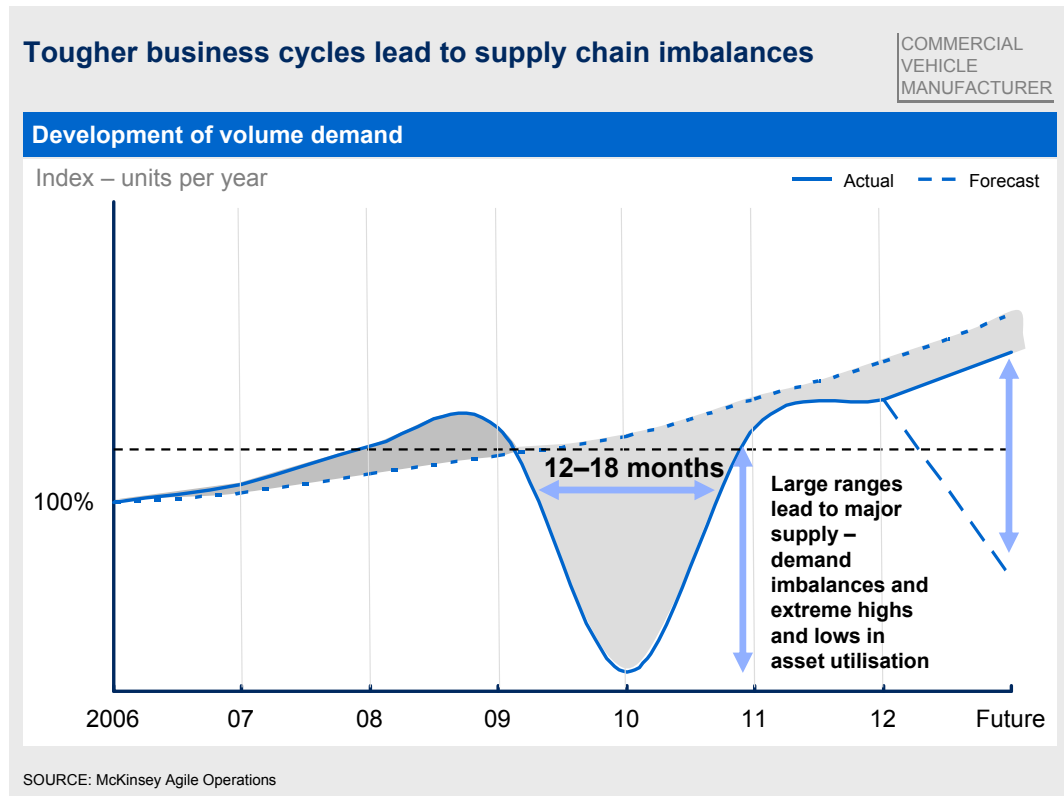
Uncertainties, shorter and tougher business cycles are here to stay. Volatility in business/with partners has always remained a challenge. Business risks driven by uncertainties in the value chain, non-economic factors, macro-regulatory environment and global interconnections have increased in frequency and intensity (Exhibit 2). This has expanded the boundaries of global supply chains' search for the right partners and customers.

Exhibit 2



Experts suggest that, in the future, economic cycles that were witnessed once in 10 to 15 years could be witnessed once in 5 years. Recent history brings such a reality closer home; the world experienced one major crisis approximately every 5 years—the Asian banking crisis in the late 1990s, the dotcom bust in the early 2000s, the sub-prime crisis in the late 2000s. It takes time to recover from a crisis—the automotive industry example suggests that markets take 12 to 18 months to recover to the pre-crisis levels, leading to supply–demand imbalances and extreme highs and lows in asset utilisation (Exhibit 3).

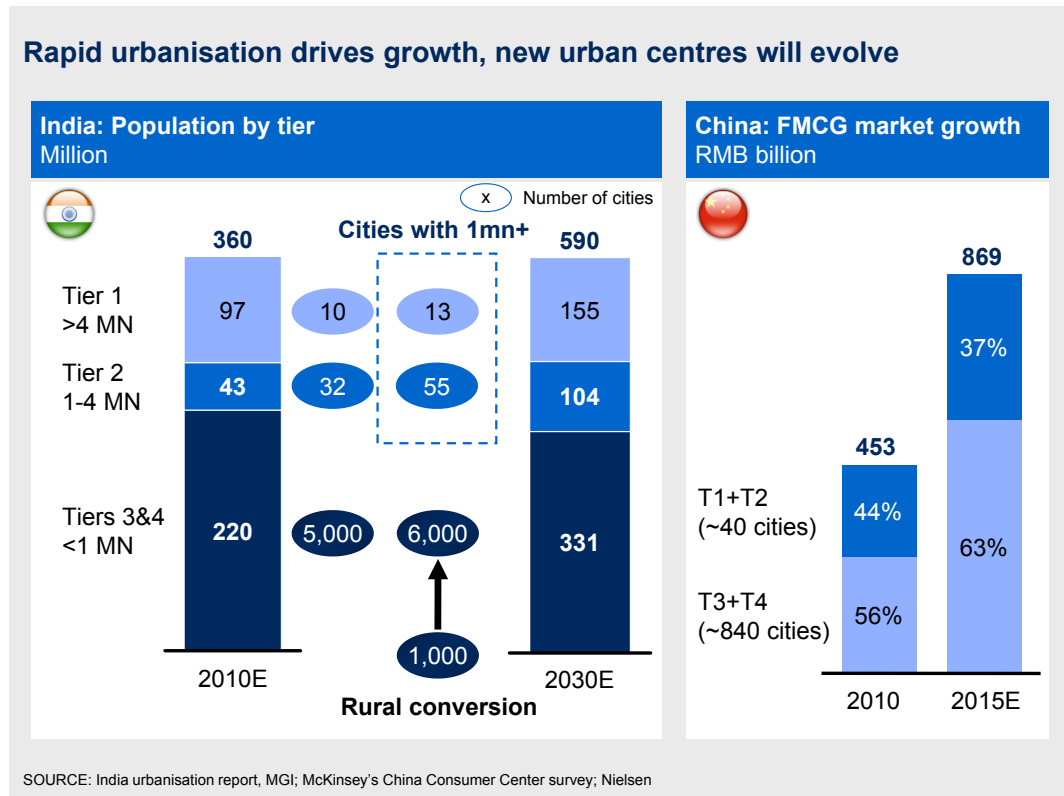
Exhibit 3



As the next generation supply chains evolve, it is important for professionals to manage global volatility and build a resilient and flexible supply chain—one that is able to react to risks and return to the original state from any shock within a short span of time.

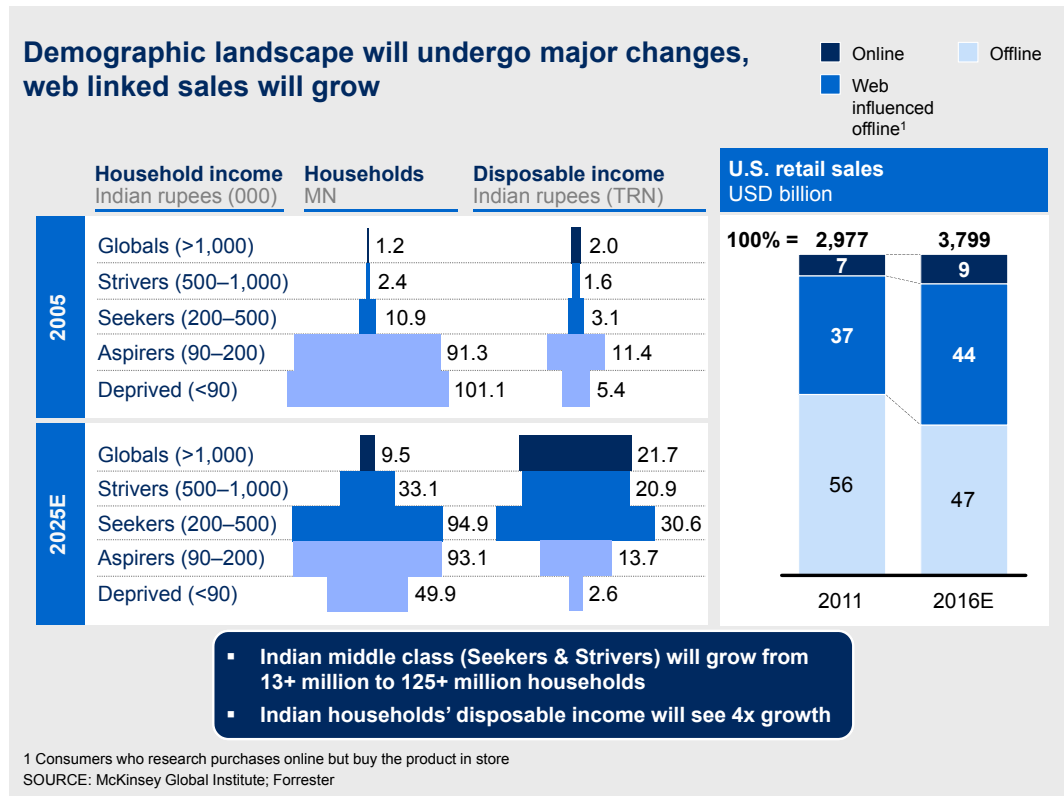
Expanding and demanding consumers will add to the complexity the supply chain handles. New cities will emerge and these and existing cities will cater to a large population. India will see more than 1,000 new urban centres over the next 20 years and China will see more than 60 per cent of retail demand coming from tier 3/4 cities (Exhibit 4). Increasing demand from across the country will drive supply chain network complexity and challenges in efficient last mile distribution.

Exhibit 4



Around 100 million Indian households will move up to the middle class; there will be a four-fold increase in per capita disposable income in India. Consumers will become more demanding—as seen in the US, there will be a strong shift towards web-based/web-influenced sale highlighting the growing need for convenience (Exhibit 5). Consumers' demand for customisation is moving beyond luxury purchases—customisation is a feature of shoes and apparel too. A common plan for all customers or products will cease to yield the desired results. As preferences change, it is critical to plan effectively to meet what key segments desire.

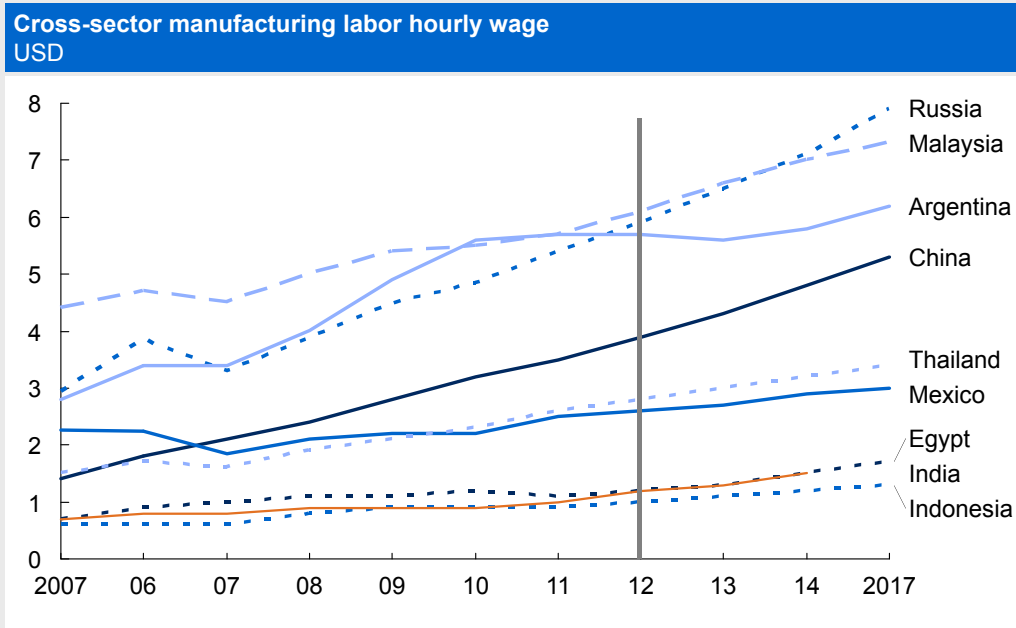
Exhibit 5



Converging wages and increasing costs will drive changes to the manufacturing and distribution set-up. The wage advantage of India and China is reducing as countries like Thailand, Indonesia, Mexico and Egypt bridge the gap (Exhibit 6). With rising fuel prices, increasing logistics costs and volatile business environments, businesses will look to nearshore production to meet the demand.

Exhibit 6

Labor cost of 'classical' manufacturing outsourcing countries rising



SOURCE: The Economist Intelligence Unit 2013

Big data is already here. The world is creating and storing data at a rapid pace, much faster than in the past. The data is getting captured and distributed across multiple nodes in real time. With significant improvements in analytics capabilities, analysing big data will provide key insights and has the potential to develop innovations that lead to competitive advantages. Supply chain managers will be well positioned to benefit from big data—they can make business decisions based on real time data across the entire supply chain.

2. Implications for the next generation supply chain

The five key trends will have important implications for the next generation supply chain. In this section, we present four potential implications. Organisations should proactively consider and evaluate the relevance of these implications to their businesses as they plan to develop the future supply chain.

FOUR POTENTIAL IMPLICATIONS ORGANISATIONS SHOULD CONSIDER

A smart, segmented and customer-centric supply chain will evolve. Innovations in technology, businesses and society will drive supply chain evolution. Advancements in robotics and product identification technology have led to robots replacing humans in material handling operations. Currently, robots are used in the warehousing operations of multiple US e-commerce ventures and are expected to drive the next generation supply chain with faster and better pick-up and packing. A retail chain in South Korea created virtual stores in subways to convert 'dead time' into productive shopping time for metro travellers. Customers can scan and order from a virtual planogram in the metro.

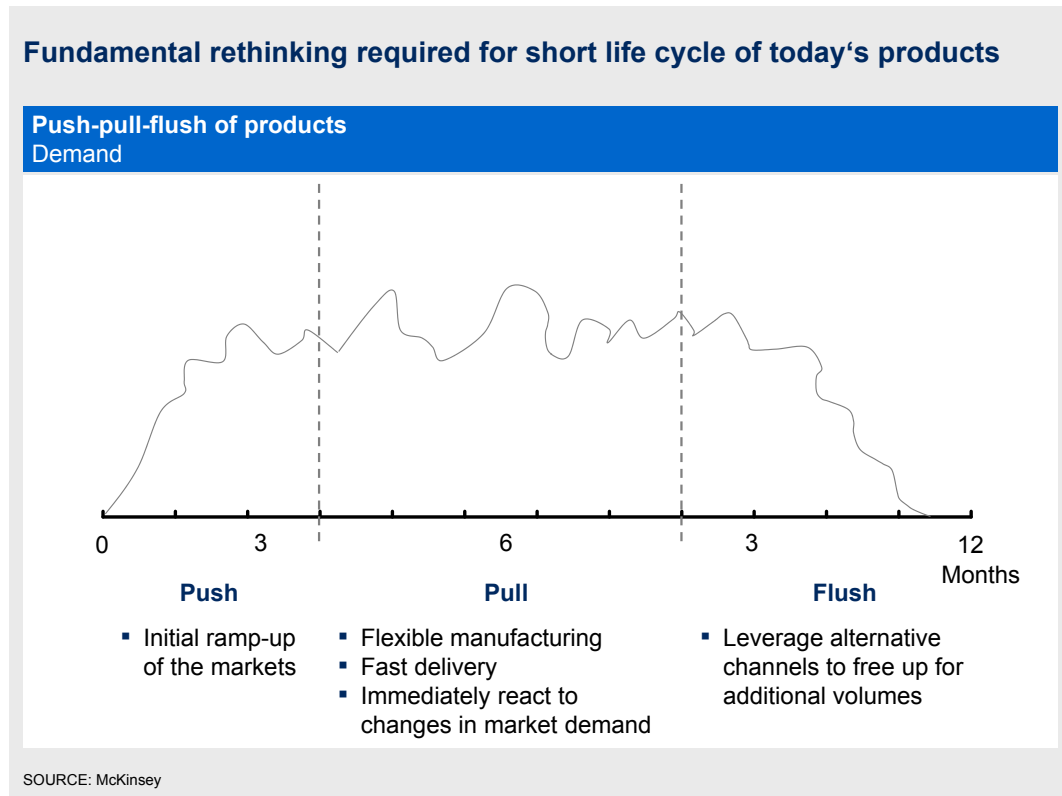
It is interesting to conceptualise an 'autonomous' container—a smart container that knows what goods it carries, the location to which it carries them, and the time the goods are expected at the destination. The smart container could automatically navigate through liners, get loaded in the optimal liner and continue to communicate to aid the monitoring of transit.

As consumers become demanding, supply chains will become more complex and responsive. Supply chains will devise micro segments and provide tailored offerings to satisfy the growing and demanding consumers. The advent of social networking has provided the potential to understand customer mindsets, and organisations will increasingly tap leads through social media for targeted promotions. The supply chain has to be geared to capture interested consumers and provide products/services on time every time. Execution will require innovative multi-tier controlling across the supply chain.

Community-based crowd forecasting could be an option to improve forecasting accuracy. In such an instance, people with different knowledge backgrounds can be formed as a community and leveraged to work on given datasets to drive forecasts independently.

Supply chains will become agile, robust and sustainable. Product life cycles will get shorter. Retail supply chains might have to manage with new products once every 12 months. Supply chains could move into a push–pull–flush model; the new product follows the 'push model' for approximately 3 months, for the next 6 months it evolves into a 'pull-based' supply chain, and in the last 3 months the supply chain is flushed out and gets ready for the new variant (Exhibit 7).

Exhibit 7



To master the shorter product life cycles and volatile business environments, supply chains will build agility across the chain. Supply chains can become agile by focusing attention across five functions—production, capital asset, purchasing, product development and planning (Exhibit 8). Production agility will have a manufacturing/supply set-up that can ramp up/down quickly, has flexible processes and flexibility in labour. Capital asset agility will build a flexible footprint, platforms and machines. Purchasing agility will be driven by supplier development, collaboration in planning, co-location, outsourcing, and appropriate risk management including regular portfolio risk analysis and mitigation plans. Modularisation and concurrent cross-functional product development will drive agility in product development. An agile planning organisation will strive to shape consumer demand, focus on segmentation, drive end-to-end planning, improve accuracy in forecasting supported by scientific inventory strategy, and drive excellence in execution through “war rooms”— a central room where empowered decision makers using facts collaborate, plan, execute, review and improve the performance of the supply chain.

As wages and transportation costs increase and the benefits of offshoring start to decline, more supply chains will work to find alternatives to existing supply chain locations, partners and structures. With a stable geo-political environment one can expect the manufacturing bases to reorganise for future growth, adopt nearshoring and evolve new distribution models (Exhibit 9). New hubs will evolve and new partnerships will be formed.

Exhibit 8

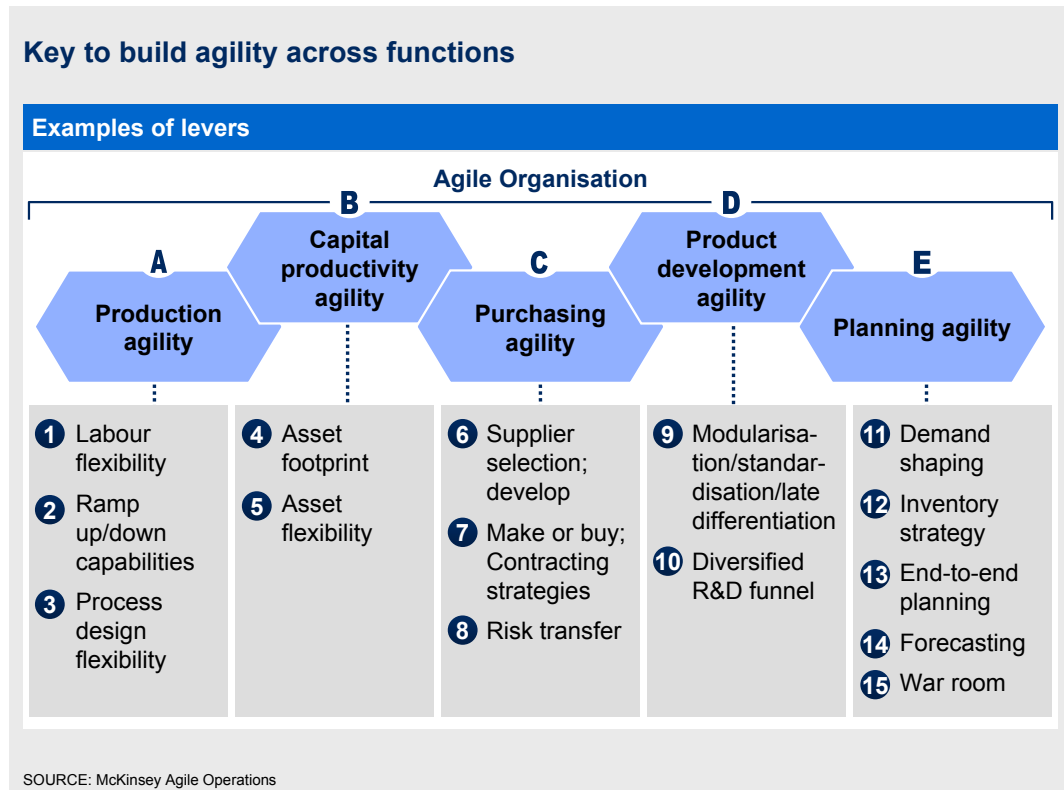
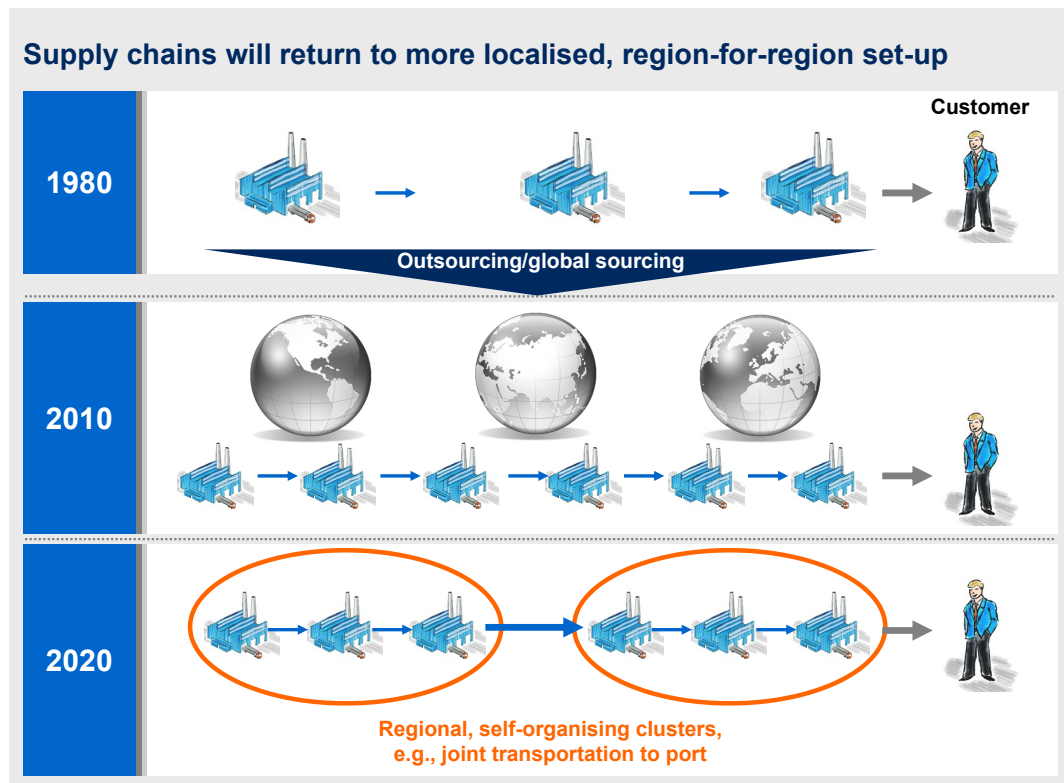
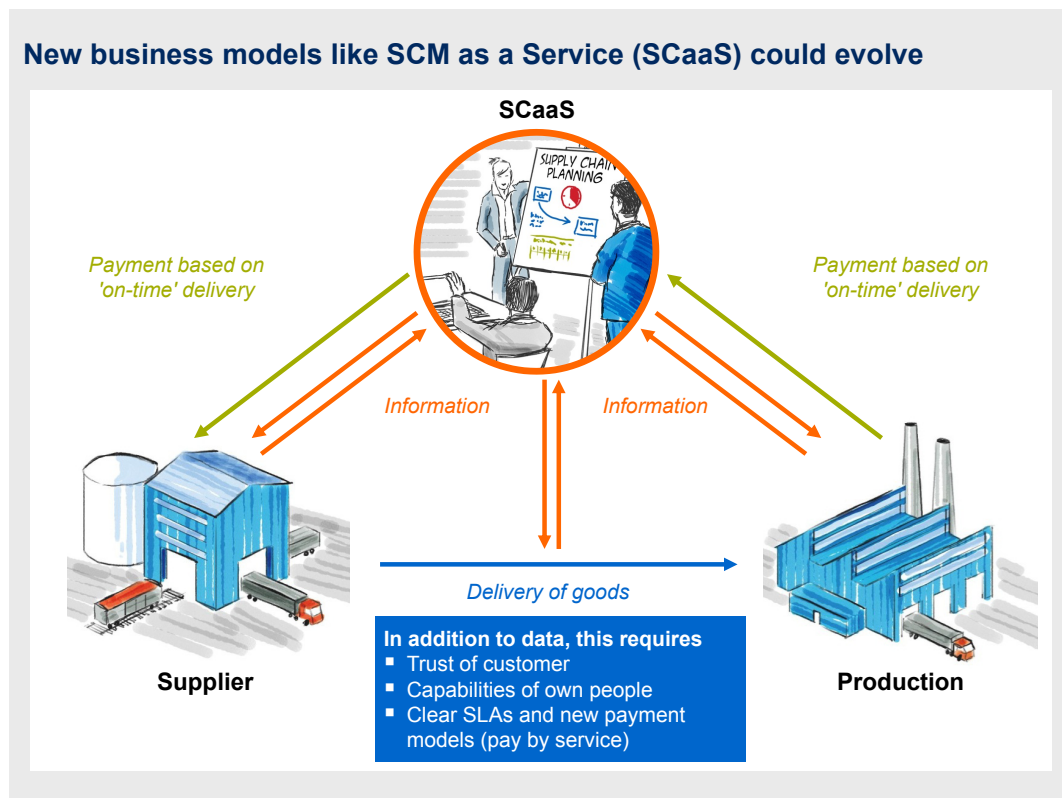


Exhibit 9



Supply chain as a service (SCaaS) could become a business option. The ability to capture and analyse data is better than ever before. So, supply chain management will become real time. New methods to capture data will evolve, analytics will be automated and decisions can be made in real time. With the increasing number of specialists in data management and analytics, supply chain could evolve as a service. SCaaS providers can add value by capturing and analysing information for supply chain management and business decisions. This requires, in addition to data and analytics, trusted relationships, people capabilities and clear service level agreements (Exhibit 10). As an example, with the usage of robotics and identification technologies, the need to solve challenges in inventory management across the supply chain and increase customer convenience, solution providers have created online product availability maps and real time planograms—a store manager can find out what the shelves stock, FMCG companies can know about the shelf space allocations, and a customer can virtually see the entire shop and order online.

Exhibit 10



Supply chains will communicate their relevance and impact to the board. Supply chain managers will have to drive supply chain impact, communicate what the board says and enable change management. Supply chain impact will move from just focusing on the traditional cost of logistics, warehousing and administration to include impact of lost sales, inventory holding and obsolescence costs. For example, availability will be a key metric, as research suggests 50 per cent of stock outs lead to lost sales for the retailer and manufacturer as customers move to another brand or delay/cancel the purchase. The increasing significance of supply chain impact will lead to changes in the way supply chains managers communicate. In addition to the data

points such as number of shipments, vehicle turnaround time and inventory, supply chains will have to communicate with the board on issues like revenue impact, return on capital impact, and bottom line impact of the supply chain performance. These changes will have to be driven by appropriate development of supply chain talent. Today, only one-fourth of companies have an end-to-end supply chain representative in the board room. Supply chains of the future will have dedicated functional leaders, and companies will start to focus on the transformation of the supply chain through dedicated supply chain academies, and develop change agents to achieve supply chain excellence.



Organisations must act on the trends that impact businesses of the future and the implications on the supply chain. Today's supply chain will evolve to keep pace with the changes and organisations will build the next generation supply chain.

