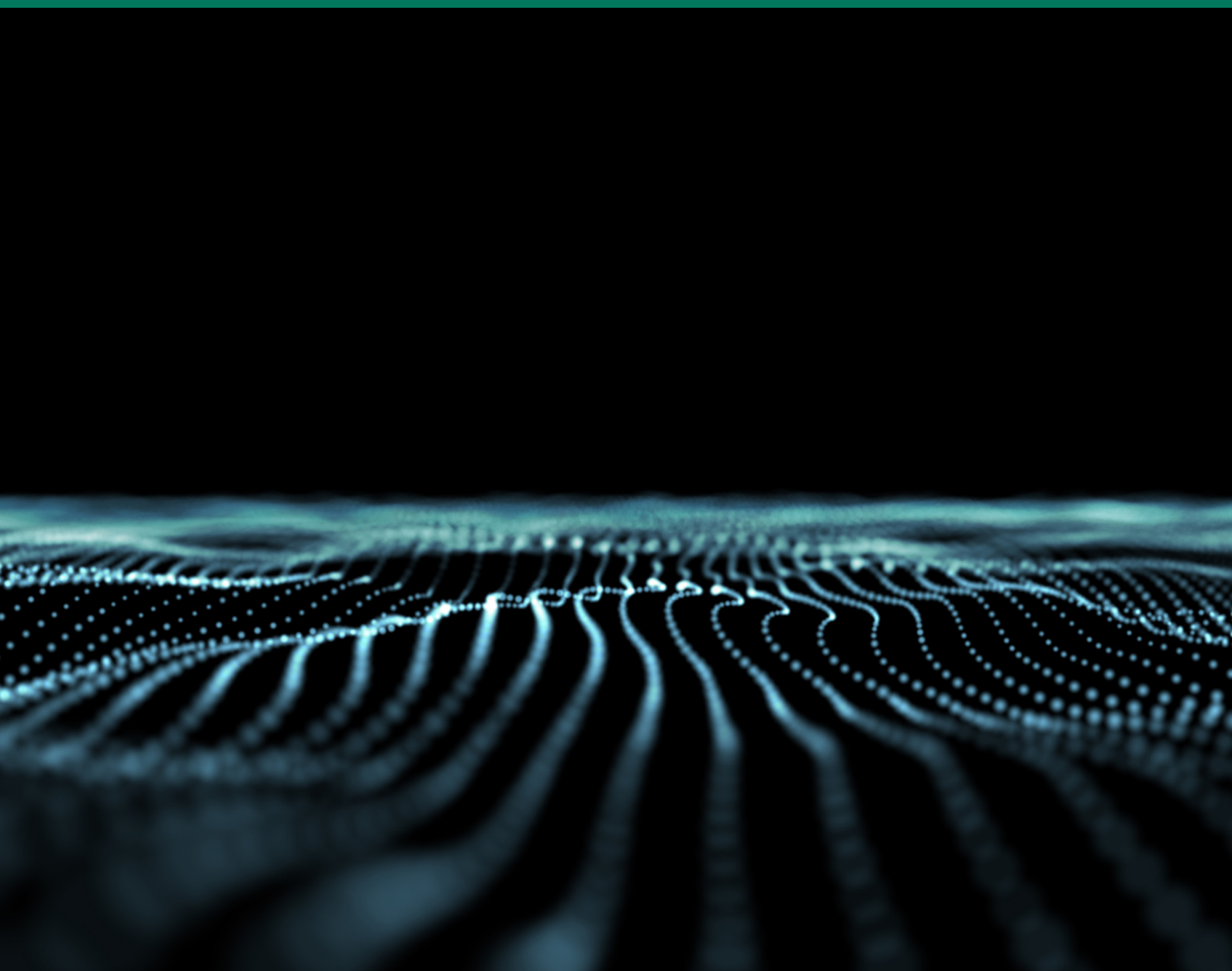


THE NEW GLOBALIZATION

# Building the New Global Enterprise



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THE NEW GLOBALIZATION

# Building the New Global Enterprise

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## AT A GLANCE

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The modern global enterprise is undergoing a fundamental transformation as companies adapt to a confluence of geopolitical, technological, and consumer megatrends. To win in this new global era, leading companies are radically redesigning their business models and organizational structures.

### **NEW VALUE PROPOSITIONS**

The “new globalization” is creating huge growth opportunities for companies with customer-centric, solutions-oriented value propositions. Digitization is enabling companies to turn physical products into platforms for delivering value-added services, personalize their product offerings for buyers around the world, and leverage global ecosystems of partners to reach borderless communities of customers.

### **TRANSFORMING GLOBAL OPERATIONS**

Generating revenue from these value propositions requires a new kind of global operation. Companies need new “product architectures” that seamlessly integrate software and hardware to create customized solutions and advanced global data-analysis capabilities. Multinationals must also realign their global asset footprints, develop horizontal partnerships and digital ecosystems, and adopt organizational structures with different decision rights.

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*This publication is the sixth in a series exploring the profound changes in globalization and how to navigate this new world.*

**F**OR DECADES, SIEMENS EXEMPLIFIED the global enterprise. The conglomerate achieved great success by designing, building, and selling physical products: power generators, medical diagnostic equipment, rolling stock, automated machine tools, and other industrial goods. Customers bought these “assets” and were responsible for their upkeep and future upgrades. Siemens’s performance depended largely on selling machines, spare parts, and equipment maintenance contracts. Accordingly, the company’s nine divisions were organized by product line. Large global manufacturing plants were set up to optimize costs, many of them in countries with low labor costs. This structure of a global manufacturing and service network supplying markets around the world, a central headquarters orchestrating the businesses, and local management teams was typical of the global operating models developed in the twentieth century.

Today, Siemens is amid a profound transformation. “More and more, we are moving away from our traditional corporate structures and organizing ourselves as a customer service company,” the chief strategy officer told us. Instead of viewing itself primarily as a hardware manufacturer, Siemens is becoming a provider of value-added services, such as those that help utilities increase the uptime of their turbines. Teams that cut across business units identify opportunities to create value for customers. MindSphere, a data and analytics platform developed by Siemens, is being rolled out across all businesses, regions, and local offices to securely collect and analyze data from digitally connected equipment deployed around the world. Large, labor-intensive global plants are giving way to smaller, highly automated factories located closer to customers in order to provide greater flexibility and faster delivery.

The changes at Siemens reflect the fundamental transformation in the operating model of multinational enterprises as they adapt to a global economy that is being radically redefined by a confluence of geopolitical, technological, and customer megatrends. (See [“The New Globalization: Going Beyond the Rhetoric,”](#) BCG article, April 2017.) While this “new globalization” presents significant challenges to traditional operating models, it is creating enormous opportunities for enterprises that develop the right value propositions and have the organizations capable of delivering them.

Companies as diverse as Netflix, Alibaba, and Uber have quickly built multibillion-dollar global businesses by using their new-age operating models to penetrate vast

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The new global era creates enormous opportunities for companies that develop the right value propositions and the organizations to deliver them.

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Some companies have penetrated vast borderless communities of digitally connected consumers, companies, and devices.

borderless communities of digitally connected consumers, companies, and devices. Traditional multinationals such as Rolls-Royce, General Electric, and Philips are realigning their global operating models to the new reality—and creating new revenue growth by delivering digitally enabled services, remotely adding value through their installed bases of equipment around the world, and offering more personalized products. (See “[New Business Models for a New Global Landscape](#),” BCG article, November 2017.) These changes are coming at a time of growing geopolitical uncertainty, requiring global business models that can adapt to the changing rules of the game, make them more resistant to shocks, and create new sources of competitive advantage. (See “[Building a Resilient Business Inspired by Biology](#),” BCG article, April 2017.)

To understand how global enterprises are adapting, we interviewed more than 50 C-suite executives at leading MNCs over the past two years. Here we describe how they are transforming their operating models—both in terms of the *value propositions* they offer for generating revenue and the *global operations* that deliver them—to align with the new global landscape.

## Transforming Value Propositions

Even though global GDP growth has cooled from the high rates at the turn of the century, companies can find abundant new opportunities for revenue growth—and even create new markets—by transforming their value propositions. Companies can capitalize on the integration of physical and digital products and shifts in consumer behavior by offering value propositions that are far more oriented toward customers and solutions. As Rishad Premji, the head of strategy at the Indian IT services company Wipro, explained, “Previously, clients redesigned their processes for efficiency. Future growth will come from redesigning processes to be human centric and have the customer at their core.” The chief strategy officer of a global medical equipment company noted that customer-centric solutions are its fastest-growing business.

Through our interviews and research, we have identified three dominant value propositions that are emerging. We call them *cross-border servitization*, *personalization*, and *communitization*. To varying degrees, many companies that we studied are already bringing these value propositions to market.

**Cross-Border Servitization.** In this value proposition, companies use digitally enabled physical products as platforms for selling value-added services. As a result, they generate revenue growth throughout the product ownership cycle rather than just from the sale of the asset. For example, the Aircraft Health Management System of Bombardier’s C Series aircraft, now part of Airbus, collects real-time and postflight data from the company’s aircraft around the world to enable proactive maintenance and reduce failures that could ground planes. Likewise, Thyssenkrupp offers its digitally enabled MAX predictive servicing to its elevator customers in several regions to anticipate and minimize downtime.

Another component of servitization is the remote upgrading of equipment to continually improve its performance and its value to customers. While software compa-

nies have been doing this for years, until recently, upgrading a piece of hardware required either sending it to a shop or dispatching a service representative to a site—an expensive and time-consuming proposition. Today, appliance makers are moving toward a model in which they deliver upgrades remotely to their products anywhere in the world. Tesla pioneered the same capability for its cars and has set the benchmark for future vehicles. These developments ensure that products are up to date and enable companies to optimize a product’s performance.

The most sophisticated servitization model is outcome-based pricing, or pay-for-performance. Rather than making their money selling physical equipment, vendors charge customers for the tasks their products perform. Pratt & Whitney, for example, charges customers per hour of flying time of the aircraft engines it manufactures. The company keeps servicing costs down through proactive, predictive maintenance, resulting in longer periods between engine overhauls. John Deere, through its acquisition of Blue River Technology, has developed a solution that helps farmers increase their crop yields by applying the optimal amount of herbicides only where weeds are present through the use of computer vision and machine learning. John Deere offers the technology to farmers in the US, Europe, and Brazil who purchase maintenance contracts and services for its agricultural equipment.

**Cross-Border Personalization.** Marketers have long identified and targeted customer segments on the basis of such factors as age, location, and income. In the new global era, the explosion of data generated by digitally connected consumers and advances in analytics allow companies to go far beyond that, mining data on individuals’ purchasing behavior, their environmental and social context, and their psychological profiles to identify more precise segments. This is creating big opportunities to tailor goods and services to the tastes of individuals around the world.

Executives we interviewed described several forms of personalization that their companies are offering. Digital product companies are creating new combinations of borderless market segments—even “segments of one.” Netflix, for example, uses a global database of all its content as well as more than 250 million user profiles to tailor its programming suggestions. It has identified over 1,300 “taste communities” and personalizes recommendations on the basis of subscribers’ viewing history. In several countries, Starbucks leverages its data on customer purchases and context-specific information, such as drink preferences, weather information, and purchase history, to send customers personalized promotions. This initiative has increased spending per customer by 8%.

Tesla illustrates another form of personalization—using digital technologies to remotely customize product features. By transmitting software instructions to its electric cars, Tesla can adjust features such as battery range and chassis height, based on driving conditions and customer preferences. Such software functions allow users to customize their car’s features.

**Cross-Border Communitization.** Companies can do more than reach consumers through their smartphones. Through their digital platforms, which are accessible anywhere in the world, they can also create borderless “communities” of digitally connected customers who can gain access to a wide range of services offered by an

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Appliance makers are moving toward a model in which they deliver upgrades remotely to their products anywhere in the world.



ecosystem of partners. Examples include the platforms of Apple, Google, Tencent, and Baidu, which deliver scale advantages for customers on the demand side and providers on supply side. As a result, such platforms can fulfill a wide range of customer needs from a diverse set of providers. With their growing understanding of customers and their needs, such networks over time can attain competitive advantages that are difficult for newcomers to challenge.

Even hardware manufacturers that have traditionally focused on individual customers are now offering value-added services to customer communities as part of their growth strategies. Whirlpool is increasingly embedding connectivity and analytical intelligence into its home appliances, allowing it to offer new forms of value to “kitchen communities.” For example, as a result of Whirlpool’s recent purchase of Yummly, the company is developing ways to deliver personalized recipes and “smart cooking” capabilities, enabled through machine-learning algorithms, to customers of its cooking ranges. Similarly, Traton, the commercial vehicle subsidiary of Volkswagen, provides a range of services to trucking communities through its RIO digital platform, which is available in ten languages across Europe. RIO provides the platform for an ecosystem of developers to build solutions for a wide range of transportation needs, such as managing cargo volumes and truck routes, scheduling loading-dock assignments, and finding the nearest “pit stops” for trucks sold both by Traton and by competitors.

## Transforming Global Operations

To generate revenue growth from these value propositions, companies must significantly change their global operations. On the basis of our research, we have identified five elements of this transformation: new *product architecture and connectivity*; new capabilities of *global digital platforms, data analytics, and artificial intelligence*; *realigned asset footprints*; *horizontal partnerships and new digital ecosystems*; and new *organizational structures and decision rights* (discussed in the next section). The specific requirements will depend on a company’s starting point and the value propositions it seeks to offer.

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The seamless integration of software and hardware in product design is fundamentally transforming global product platforms and architectures.

**Product Architecture and Connectivity.** As value creation shifts from selling physical products to selling customized solutions to global customers, companies are changing the way they develop products. As in the case of Tesla, companies are increasingly migrating from introducing features designed for specific markets and local needs through hardware design toward using software to deliver product features and performance tailored to the needs of consumers anywhere in the world.

The seamless integration of software and hardware in product design is fundamentally transforming global product platforms and architectures. The chief strategy officer of a global appliance manufacturer explained that his company is moving from a product architecture that had a large number of country-specific, hardware-based product platforms and variants to a far more flexible and cost-effective architecture that features fewer global platforms and offers products customized through software for different markets. This new architecture requires that people with software and technology skills be embedded in product design teams, which traditionally have been dominated by hardware engineers.



Global connectivity and “intelligent” products, which employ sensors to measure their performance, are central to delivering the new value propositions. Until recently, only local teams repaired products, equipment, and facilities—and collected data on how the products were used. Companies had to dispatch representatives to customer sites or work through local service suppliers, which was time consuming and costly. To deliver on new value propositions such as remote maintenance and product upgrades, companies must embed their products with sensors that collect massive amounts of real-time data and build global digital connectivity. The data is used to analyze performance and usage, remotely fine-tune settings and features, and develop solutions that meet customers’ needs and for which they are willing to pay. Rolls-Royce’s power-by-the-hour offering is enabled by data transmitted from sensors embedded in engines flying around the world to a team of data analysts based in the UK who make decisions on preventive maintenance and the proactive servicing of each engine.

Siemens has installed sensors on locomotives, high-speed trains, and regional trains that generate more than 100 billion data points each year, allowing for real-time train monitoring, forecasting of component wear and failure, and analysis of complex vehicle problems. The freight transport division of Germany’s DB Cargo recently announced that it would use the solution from Siemens to further digitize its vehicle fleet. It aims to equip all of its 2,000 vehicles with diagnostic technology by 2020. “The trick is to put yourself in the shoes of the customer and understand how he uses the product through its life cycle,” the chief engineer of a global construction equipment company told us. “Then, you design the services and solutions to address the customer’s pain points. Connectivity is the means to gathering data to deliver these services and solutions—not the end in itself.”

Even IT services companies are deploying this new product architecture philosophy. They used to send in teams of software engineers and process experts, who would redesign a client’s processes from scratch and charge on a man-hour basis. Today, many use standardized “bots”—or automated software—for specific subprocesses and bundle them with services to create customized solutions. They are also changing their fee structure by charging for outcomes achieved. Different organizations are at different states of maturity with this new “man + bot” model, of course, but it is a matter of time before this becomes standard operating practice.

**Global Digital Platforms, Data Analytics, and AI Capabilities.** To identify new global customer segments, improve the outcomes of products, and deliver the best software solutions, companies must build their own global digital platforms, or partner with platforms like Microsoft’s Azure. MNCs used to keep customer and product data in local offices. Today, they need a global data architecture that allows for the real-time, seamless flow of data with customers, across businesses, and across countries and partners. This architecture must also enable advanced data analytics to deliver value-added services.

Digital businesses have operated such global data architectures and analytics centers for years to customize, personalize, and cross-sell products to global customers on the basis of factors such as purchasing history, interests, and personal context. Scale advantage is attained through the declining costs of data storage and the bet-

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IT services companies used to send in teams of experts and charge by the man-hour. Today, many of them use automated software and charge for outcomes achieved.

ter results gained from machine-learning algorithms that use large, global data sets rather than smaller sets of local data. Industrial companies are fast catching up. Siemens's rail vehicles traditionally have been physically checked on a regular basis at local operating centers. Today, performance data on its digitally connected vehicles operating in 15 countries are analyzed at the company's MindSphere Application Centers for rail near Munich, Atlanta, Moscow, London, Perth, and Hong Kong. Similarly, AkzoNobel, the global paints and coatings giant, innovates by analyzing global data on the performance of its industrial coatings. By combining such product data from all over the world with data on local conditions, and applying big data analytics, AkzoNobel's R&D division tailors its paint formulations to deliver similar performance no matter where they are used.

**Realigned Asset and Capability Footprints.** Industry 4.0 technologies are transforming the economics of manufacturing. Factories that are smaller, highly automated, flexible, and located closer to customers are now economical—even in developed countries. The rise of tariffs and nontariff barriers as a result of growing economic nationalism will accelerate this shift to distributed manufacturing footprints.

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If a company can achieve a competitive position in a market, it should be present there. If it can't, then it should get out.

This is transforming the traditional approach of building large plants in countries with low labor costs and then exporting to markets around the world. Adidas, for example, describes its new Speedfactory as employing “radical accelerated footwear production” and “hyper flexible and localized manufacturing” in order to deliver its new value proposition of small-volume manufacturing of athletic footwear designs. This automated plant is “local” in the sense that it is located close to customers. It has also been designed for speed and flexibility, not the lowest cost. The plant complements Adidas's conventional supply chain, which produced more than 400 million pairs of shoes in 2017. Tata Steel CEO T.V. Narendran told us that the old model of a globally optimized supply chain linking the most cost-effective locations has decisively shifted to building strong supply chains in each major market. If the company can achieve a competitive position, it should be present in that market. If it cannot, then it should get out.

The capabilities that MNCs need in order to deliver services and add value for customers are also being realigned globally. The same economics that allow for “decentralized” or localized physical assets are enabling the centralization of capabilities, processes, and functions. Just as MNCs are building global data and analytics capabilities, digital services companies such as Facebook, which used to have local marketing teams, now have small, centralized marketing teams based in their headquarters. These teams support markets around the world 24/7 by leveraging connectivity, global data, AI, and machine learning-based algorithms. A similar trend is underway among industrial companies. Tata Chemicals, for example, used to have finance and procurement teams on four continents to support its global businesses. Now global centers of excellence for both functions serve worldwide operations.

**Horizontal Partnerships and Digital Ecosystems.** The value chains of traditional global enterprises consisted primarily of partnerships among companies in similar or adjacent industries. In such a unidirectional value-chain construct, suppliers provide components and parts to the primary manufacturer or assembler, which then delivers the finished product to the customer. In the automotive sector, for

example, OEMs developed close, symbiotic relationships with tier-one suppliers of key components and subassemblies, while makers of computers collaborated with semiconductor and LCD manufacturers.

In the new global environment, value chains are more multidimensional. Through digital platforms, companies are constructing far-flung ecosystems of global suppliers and partners that deliver products and services through those platforms directly to the customer. Unlike the traditional vertically integrated supply chain, the digital ecosystem is not controlled by one company. In fact, these ecosystems enable a high degree of horizontal collaboration among partners, often allowing each of them to utilize data supplied by others to develop their own software and service solutions. Digital ecosystems can also enable collaboration among all players in an industry. Maersk and IBM, for example, recently created a global digital shipping platform called TradeLens. By replacing paper-based processes with blockchain technology, TradeLens aims to prevent delays caused by documentation errors and late information. The platform will bring transparency to the flow of goods around the world, reduce paperwork, authenticate the chain of custody across all partners, and improve transportation costs and efficiency. The platform is being piloted by more than 20 ports and terminal operators across the globe, including in Singapore, Hong Kong, and Rotterdam.

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In the new global environment, value chains are multidimensional.

Hardware manufacturers are developing partnerships with digital enablers—such as telecom companies, cloud-based platforms, analytical solution providers, and software developers—that can create solutions tailored for customers. The global partner ecosystem of Volkswagen’s RIO platform, for example, includes map data providers, cloud computing services, Internet of Things integrators, and telemetric providers. Woven together, this ecosystem mobilizes a large network of internal and external developers that delivers a range of services for optimizing fleet management and operations in the trucking industry.

Such ecosystems are transforming global companies’ innovation processes and business models. Pharmaceutical companies use digital platforms to test new drug molecules on groups of volunteer patients around the world. Similarly, some software companies have built digital ecosystems of independent programmers located across the globe. And international consumer-product companies have implemented open innovation systems that leverage digital platforms to partner either long term or for particular projects with other firms that have specialized skills or knowledge. The CEO of a consumer company told us that such an open innovation approach has helped reduce development time for a new product from over two years to less than nine months.

## New Organizational Structures and Decision Rights

The combination of economic nationalism, which increases pressure on companies to be seen as “local,” and the rise of digital technologies that enable the global integration of processes and functions is transforming the organizational models that had been developed over half a century. We see three major organizational shifts: the rise of platform-based teaming, simultaneous centralization and decentralization, and the changing role of headquarters.

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Multinational companies need to move from “vertical” teams in a business unit or region to “horizontal” teams that cross businesses, functions, and locations.

**Platform-Based Teaming.** Multinational companies have traditionally formed hierarchical, “vertical” teams within business units or geographic boundaries. Some teams would include members from different functions, but they tended to be relegated to strategic initiatives or long-term programs; horizontal internal teaming across businesses, functions, or geographic boundaries was typically complicated and time-consuming. As companies migrate toward revenue-generation models that stress customer-centric solutions and outcomes, and as digital platforms dramatically reduce cost and time for all types of internal collaboration, they will need more agile and customer- or outcome-based teams. These teams will also need to collaborate across functions, business units, and locations. These “horizontal” teams will be enabled by global collaboration platforms that allow members to communicate effectively in real time and use advanced digital tools for their work. Cross-functional expert teams at Rolls-Royce, for example, use real-time communication and remote robotics to work with engineers and mechanics to service aircraft at any location in the world.

One unintended result of this trend is what the chief human resources officer of a global automation company described as the “hollowing out” of the traditional organization. Middle management is coming under increasing pressure as decision rights are delegated to front-end teams, collaboration increases across horizontal platforms, and global centers of excellence grow. This cultural shift has to be actively managed.

**Centralization and Decentralization.** The second major shift is the simultaneous decentralization and centralization of processes, functions, and decision rights. Companies are dispersing more decision rights to customer-facing teams without losing the control enabled by digital connectivity. Hindustan Unilever, for example, has given more decision rights to teams in micromarkets within India. As a result, local managers with knowledge and deep insight into their markets have a growing voice in strategic decisions about launching and positioning products, engaging with customers, and implementing new revenue models.

At the same time, digitization is enabling companies to centralize some functions and processes. For example, Schneider manages its more than 200 plants around the world through a global supply chain organization, as opposed to the traditional MNC model of having individual business units or country organizations manage them.

**The Shifting Role of Headquarters.** In conventional MNC organizational structures, headquarters leads the decision-making process. As MNCs evolve into networks of increasingly autonomous national and regional customer-facing operations that are more resilient to geopolitical shocks, headquarters are becoming smaller—but also more strategic in terms of decision rights. Pawan Goenka, the managing director of Mahindra Group, one of India’s largest conglomerates, told us that each of its country organizations operates as a fully empowered “local” entity, with the group headquarters playing a limited role in decision making.

Although companies are centralizing functions such as analytics and digital marketing, they are being developed more by centers of excellence—rather than head-

quarters—to achieve control and scale or to leverage concentrations of talent. The ability to adjust to sudden policy shifts is another consideration. The CEO of a large Nordic company said that, because the company is based in a small country, the best organizational model to neutralize the shocks of the current volatile geopolitical environment and build resilience is to strengthen regional organizations and make them as self-sufficient as possible. He added that digital technologies and connectivity should serve as a “spinal cord” connecting regional operations to one another and to headquarters to enable internal collaboration and oversight. Other global companies are opting for a new model of MNC headquarters that allows them to balance decentralization and control. We call this model, in which a network of regional hubs performs the role of headquarters, “organizational multicentricity.”

**A**S THE COSTS of accessing and engaging customers worldwide continue to fall—and as the tastes and expectations of those customers continue to converge—growth opportunities will continue to multiply. The race to gain competitive advantage in this new era of globalization has begun, thanks in large part to the confluence of technological, geopolitical, and consumer changes that are underway. Companies must approach this new world with renewed strategies that deliver customer-centric value propositions using delivery models and organizations that are nimble, multidimensional, and local. In many cases, companies will find that success in the new global era requires nothing less than a fundamentally new global enterprise.

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