

THE NEW GLOBALIZATION SERIES

# NEW BUSINESS MODELS FOR A NEW GLOBAL LANDSCAPE

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

**T**HE WORLD'S MOST RECOGNIZABLE multinational corporations—McDonald's, Procter & Gamble, and General Electric, among others—spent many decades building their vast global footprints and brands. They invested massively over the years in physical assets, local talent, on-the-ground operations, and marketing in scores of countries. Over time, many of them constructed globe-spanning supply chains designed to make, transport, and sell their offerings to customers around the world.

Now, companies can expand globally at astounding speed, and with dramatically less investment, thanks to new business models. China's Xiaomi, for example, teamed up with an e-commerce company in India to become the second-largest player in that country's crowded smartphone market in just two years—despite having no local manufacturing or physical retail presence. Uber was able to enter 77 coun-

tries in six years, also with little investment in value-adding assets, by reaching digitally connected consumers through its global platform, while Netflix penetrated more than 190 countries just seven years after launching its streaming service.

Established companies are also taking advantage of new business models to expand their offerings. Rolls-Royce and Philips, for instance, are using their products as platforms for selling services, rather than just equipment, to global customers.

Understanding which business models can succeed in these challenging times is a critical area of concern for corporate leaders. The macroeconomic statistics are sobering: global GDP growth continues to hover at 2% to 3%, and the contribution of trade to global GDP has stalled in the past decade. Moreover, rising protectionism is making it harder to compete in many of the world's most alluring emerging markets, and Brexit and threats to major trade agreements in the West have spurred declarations that globalization is in retreat.

A confluence of technological, social, and geopolitical developments has fundamentally altered the economics of doing business globally. As we have described in previous publications, globalization is being radically redefined by a combination of rising economic nationalism, the expanding reach of digital technologies, and changing customer behavior. (See “The New Globalization: Going Beyond the Rhetoric,” BCG article, April 2017.)

Yet numerous companies are finding tremendous opportunity in this transformed global economy. (See “Shaping Your Own Growth in the New Global Era,” BCG article, August 2017.) And in many cases, that opportunity arises from innovative business models made possible by the very forces that are redefining globalization. These models rely less on the physical movement of goods and fixed investments in markets, and more on leveraging digital connectivity and ecosystems to expand across borders.

We have identified seven business models that companies are using to alter the competitive landscape in the new global era: cross-border servitization, asset-light market entry, adding value through software, global digital ecosystems, global personalization, multilocal manufacturing, and developing multiple national identities.

ization, multilocal manufacturing, and developing multiple national identities. (See the exhibit.)

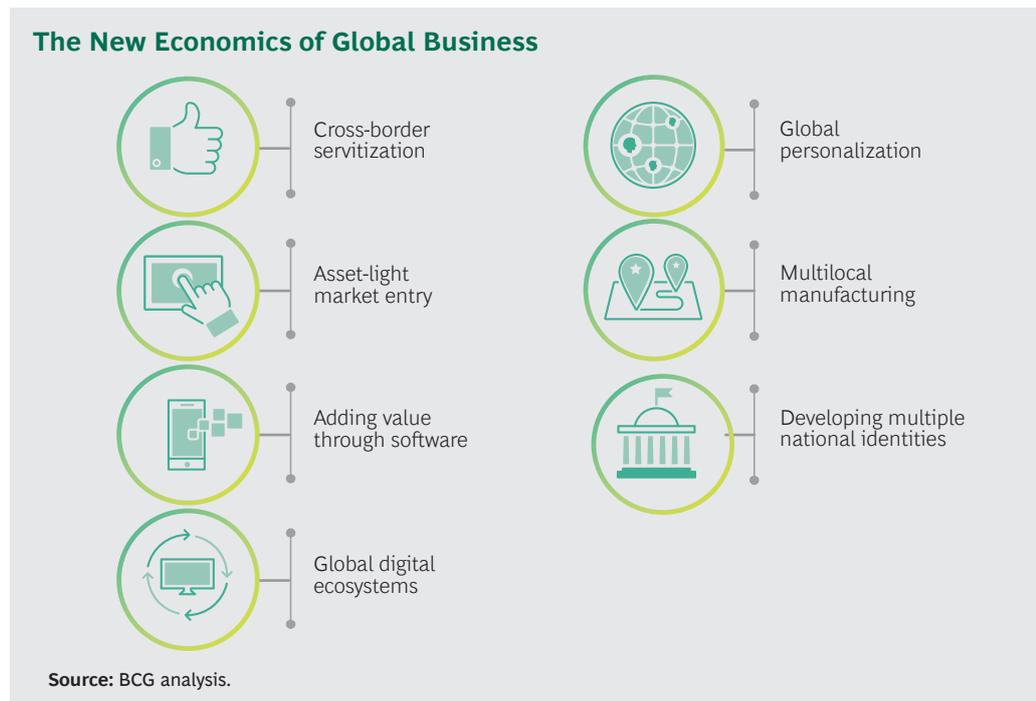
The ability to leverage business models that reflect the new global paradigm will increasingly differentiate the growth leaders from the laggards in the years ahead.

## Economics in the New Globalization

To understand these new business models and why they are succeeding, it is important to explore the technological, geopolitical, and societal forces that have been fundamentally altering the economics of many global industries over the past decade. The costs of factors such as labor, compliance with government regulations and trade rules, reaching and engaging with consumers, and collaborating with global partners are all changing. (See the sidebar.)

Six developments in particular have contributed to the rise of new kinds of business models:

- **Connectivity.** The integration of the world’s people and businesses through digital technology is reducing the costs of acquiring data and enabling software



features that make it easier to deliver services to customers. This trend will continue to accelerate: the number of people connected to the internet is approaching 4 billion, and the number of connected digital devices is expected to more than triple, to 21 billion, by 2020.

- **Data Analytics and Artificial Intelligence.** Rapid advances in data analytics and AI are enabling companies to gain valuable insight into global markets and customers through cross-border flows of data, which are projected to triple by 2020, while the cost of storing data has fallen. The number of jobs related to data analytics has risen around 20-fold over the past decade.
- **Digital Platforms.** Increasingly powerful global platforms are disrupting virtually every industry and fueling more than 30% compound annual growth in cross-border e-commerce, which is projected to reach \$1 trillion by 2020. Through these platforms, companies can reach vast, borderless markets of digitally connected consumers. The consolidation of buyers, sellers, and products on these platforms reduces the costs of acquiring customers and fulfilling orders.
- **Industry 4.0.** Advanced manufacturing capabilities—such as 3D printing, advanced robotics, real-time collaboration, and digital prototyping—and factory management systems are projected to boost productivity by up to 30% and reduce labor costs in the medium term. Highly flexible manufacturing systems are also making it more practical and cost-effective to make smaller batches of customized products in multiple locations.
- **Protectionism and State Capitalism.** Tariffs, new local procurement rules, and other protectionist barriers are increasing the costs of cross-border trade. Companies must navigate a growing number of bilateral trade agreements. China protects domestic automotive manufacturers with 25%

import duties and requires foreign companies to transfer technology to domestic manufacturers, for example. Projects funded by the American Recovery and Reinvestment Act of 2009 were required to use only US-made steel, iron, and other materials. Nigeria requires that at least half the value of all information and communication technology hardware purchased in the country be generated domestically.

In many countries, state capitalism is also making it more challenging for companies to succeed with traditional business models. State-owned enterprises now account for 23% of the world's 500 biggest companies, compared with 9% in 2005. State capitalism is also evident in direct subsidies of domestic industries, the growing power of sovereign wealth funds in mergers and acquisitions, and procurement policies that favor local companies in awarding government contracts. This rising economic nationalism is forcing global businesses to reconsider their physical presence and the way they operate in various countries.

- **Connected and Mobile Consumers.** The world's consumers are not only increasingly connected digitally—they are also traveling more. There were 1.2 billion international trips in 2016, roughly a 30% increase since 2010, according to the World Tourism Organization. At the same time, the rising popularity of the sharing economy and pay-as-you-go business models for goods such as cars, agricultural equipment, and aircraft engines shows that customers' behaviors have changed. BCG's Center for Sensing and Mining the Future estimates that the global sharing economy will be worth \$480 billion annually by 2025. In addition, socially aware, digitally connected individuals are interacting in a world in which trends and local zeitgeists disperse rapidly, altering demand patterns globally and setting expectations for the products and services that companies bring to market.

## CHANGING COST STRUCTURES IN THE NEW GLOBAL ERA

Technological, geopolitical, and societal shifts are redefining the economics of global business by fundamentally altering cost structures. (See the exhibit.) International business—and, by extension, cross-border trade—is influenced by the following cost drivers:

- Factor cost differentials** are the differences in the production costs of goods and services between locations. Factor costs include labor, capital, and productivity. In previous eras marked by freer cross-border trade in goods, factor cost differentials were critical in determining where to locate production. Typically, companies would concentrate production in a handful of countries where labor and other costs were low or where productivity was high. But now, such cost differentials are less relevant. The adoption of flexible Industry 4.0 technologies makes it more economical and practical to have smaller factories in more locations, even in nations with relatively high direct costs, in order to meet local demand.
- Government-imposed costs** include a wide range of tariff and nontariff costs, arising from government and jurisdictional authorities, that can alter the economics of gaining access to markets and to customers within their borders. Such costs are typically related to regulatory compliance, local procurement requirements, and other frictional costs such as tariffs, fees, and border taxes. A decline in these costs facilitates cross-border trade. Multilateral trade agreements and market liberalization after World War II were intended to lower costs related to trade and foreign investment. Now, rising protectionism and policies and regulations that favor domestic producers are increasing the costs of trade and encouraging companies to produce more goods within target markets.
- Global customer access costs** include the costs of delivering goods and services to buyers and engaging customers on an ongoing basis. Because gathering on-the-ground customer data and market intelligence used to be quite expensive, the use of such data typically was limited to improving demand forecasts and making supply chains more efficient. The spread of digital technologies

### New Global Business Models Leverage Digital Connectivity and Ecosystems

ECONOMIC DRIVER		OLD GLOBALIZATION		NEW GLOBALIZATION
Factor cost differentials	Concentrated production	Production was concentrated in big factories located in areas where the costs of labor and other direct costs were low	→	Distributed production Industry 4.0 technologies flatten cost curves, enabling smaller, local factories to meet local demand; greater emphasis on speed to market
Government-imposed costs	Cross-border trade	Multilateral agreements and market liberalization were aimed at lowering the costs of cross-border trade	→	Local supply Higher trade costs and regulation create incentives for local production and the development of national identities, which can increase access to state capital
Global customer access costs	Country-wide investment	Gathering on-the-ground customer data was costly; companies used data mainly to improve demand forecasting and supply chain efficiency	→	Asset-light access Low costs of current digital customer data enable real-time demand planning, interactive product development, and ongoing customer engagement
Cross-border collaboration costs	Limited	Internet connectivity enabled the integration of global value chains and supplier networks	→	Extensive Growing digital connectivity lowers the costs of delivering services across borders, enabling the growth of cross-border ecosystems

Source: BCG analysis.

## CHANGING COST STRUCTURES IN THE NEW GLOBAL ERA (continued)

and connectivity is dramatically lowering the cost of securing and storing data. As a result, companies can more readily get real-time views of demand, cocreate products with customers, and engage consumers.

- **Cross-border collaboration costs** are incurred in the interfaces between the entities involved in building a product or a service. In the previous era of globalization, many

companies focused on achieving international collaboration by building vast global supplier networks and value chains. Dramatically greater internet connectivity is now lowering the costs of delivering services, as opposed to physical goods, to customers globally. Technology is also lowering the cost of collaborating with partners around the world through global digital ecosystems.

### The New Business Models

The innovative business models made possible by the technological, geopolitical, and societal forces that are reshaping global commerce allow companies to seize large growth opportunities in the form of access to new markets and new ways to add value for customers. In particular, these models take advantage of technology developments that make it much less expensive to reach customers and provide services, which, in turn, increases demand for those services.

The following seven business models are particularly prominent among companies that are succeeding in the new global era. It is important to note that these are neither exhaustive nor mutually exclusive; rather, they provide a view of the expanding set of possibilities for accessing new markets and finding new avenues for growth.

**Cross-Border Servitization.** Manufacturers have traditionally relied on selling physical products and replacement parts to customers around the world. But rising trade barriers and customers' limited financial resources—especially in emerging markets—are making it harder to grow with this approach. By focusing more on delivering digital services and end-to-end solutions, manufacturers are creating new growth opportunities in new and existing global markets.

In this so-called servitization model, providers are compensated for a product's per-

formance rather than for its physical value. By aligning the incentives of the provider with those of customers, such arrangements make costs more predictable for both parties and can increase an asset's output. The rise of the Internet of Things and advanced data analytics, as well as customers' growing preference for not owning assets, are propelling this trend.

Rolls-Royce's TotalCare program is a good example of servitization. TotalCare's global value stream, which includes a data analytics center, real-time communications, and a regional/local service network, is very different from the model that aircraft engine manufacturers have traditionally used to provide service for their products. The program is part of Rolls-Royce's pay-per-use global business model. Instead of simply selling jet engines and kits of parts to customers, the company charges its customers per hour of engine uptime delivered, a model often dubbed "power by the hour." Through its global analytics center in Derby, UK, the company monitors data transmitted from sensors in the engines to plan maintenance and repair proactively, and minimize service disruptions. In many cases, on-the-ground technicians can leverage Rolls-Royce's global expertise through real-time communications while servicing and repairing engines. Rolls-Royce estimates that TotalCare extends the flying time between engine overhauls by around 25%.

In industries such as mining, medical care, and farm equipment, the servitization model is proving to be effective at meeting evolving local customer needs with global capabilities and enabling companies to compete more effectively with low-cost providers of commoditized products. As companies add services and solutions to their portfolios, their cost of entering new markets will fall, and new cross-border networks for delivering goods and services will emerge.

**Asset-Light Market Entry.** Partnerships, digital connectivity, data analytics, and the growing reach of global IT platforms all make it easier for companies to enter new markets quickly, with less upfront investment. Partnerships can provide distribution, logistics, and marketing support that otherwise could be very costly to build on the ground. Partnerships with local players can also reduce the risks of entering specific markets.

The experience of Xiaomi illustrates how platform-based partnerships can enable a new entrant to capture a sizable opportunity. To enter India, Xiaomi teamed with local e-commerce company Flipkart. By offering its low-cost smartphones through online flash sales on Flipkart, Xiaomi captured 11% of India's smartphone market and registered \$1 billion in sales within two years. Xiaomi is now investing to expand its "offline" brick-and-mortar retail channel and its manufacturing footprint in India.

Because global platforms aggregate buyers and sellers, they enable companies to access global markets at a fraction of the cost of traditional distribution and logistics networks. The online platform eBay reports that nearly 60% of its US-based sellers reach more than ten foreign markets, compared with only 8% of companies that rely on traditional, distribution networks.

**Adding Value Through Software.** Digital technology and the growing interconnectivity of devices are enabling companies to add value to their products globally through software features, as opposed to delivering features only through a prod-

uct's hardware, sold locally. This approach is making it easier and more economical for manufacturers of physical products to reach and serve customers around the world, an advantage that software companies have been exploiting for years.

Consider Tesla's use of software upgrades to alter features and the user experience of its electric cars in the countries where the company operates. Tesla upgrades autopilot features on its cars remotely, for example, and temporarily extended the range of cars in Florida during Hurricane Irma in 2017 through a software upgrade. Tesla also uses software to diagnose problems and make adjustments to improve safety in cars globally. After its lithium-ion batteries caught fire on highways in three separate incidents, Tesla found in its data a potential cause: a feature that automatically lowered the car's ground clearance at high speeds in order to improve aerodynamics. This was allowing highway debris to hit the batteries and cause the fires. Tesla addressed the issue globally by remotely upgrading software in its vehicles to avoid lowering ground clearance at highway speeds until the cars could be brought in for a more permanent solution. The remote fix avoided what could have been a global recall that would have been expensive for the company and inconvenient for customers, not to mention damaging to the brand.

**Global Digital Ecosystems.** A growing number of companies are building global businesses by using digital technologies to leverage networks of partners spanning many countries and industries. These digital ecosystems are used to deliver best-in-class technology, add features to products, ensure the interoperability of IT systems, and accelerate commercialization.

Alipay, the Chinese online payment provider, has successfully targeted international travelers by forming an ecosystem of banks, payment gateways, and such service providers as Uber and Marriott. Alipay enables travelers to pay for purchases, book hotel rooms, and arrange transportation without leaving the Alipay ecosystem. This helps Alipay retain and engage customers

across numerous contexts and meet customers' needs, even for products that are not core to Alipay's original offering.

By collaborating with developers and technology partners through such global digital ecosystems, companies can introduce innovative products and services more frequently and add features to existing products. In the process, these ecosystems are transforming "value chains" into "value networks," in which value addition is no longer sequential and one-dimensional, and doesn't occur only before the customer receives the offering. Instead, it is a continuous and multidimensional activity.

A global ecosystem can touch many industries and coordinate services and solutions from a wide range of organizations. Google's Android, for example, provides a platform that integrates functions for consumers and business users from developers around the world. Functions include entertainment and tools for managing workflows, coordinating manufacturing operations, and facilitating remote, real-time collaboration. The top 140 apps in the Android ecosystem are estimated to originate from 28 countries. Baidu, one of the leading internet companies in China, has built a platform for autonomous driving and has assembled an ecosystem of more than 50 partners, including automakers, tier one suppliers, component producers, academic institutions, government departments, and artificial intelligence developers. Its goal is to offer fully autonomous driving capabilities within the next three years. Similar efforts to foster ecosystems are underway at such leading technology companies as Apple and Amazon, as well as older industrial companies such as GE, ABB, and Volkswagen.

**Global Personalization.** Technology and big data are making it feasible for companies to deliver personalized experiences through their digital platforms directly to customers' connected devices—wherever they are.

Part of Netflix's global success can be attributed to its approach to personalizing content for users around the world. Instead

of segmenting subscribers by country, Netflix has used its data analytics capabilities to develop a powerful content recommendation engine that segments subscribers into 1,300 global "taste communities" based on individuals' viewing habits and preferences.

Advances in artificial intelligence are making it easier for companies to deliver personalized offerings at scale to borderless, digitally connected customers. Starbucks, for example, has fine-tuned its AI algorithms to personalize offers, rewards, and recommendations to individual customers on the basis of their purchase history and interactions through email and mobile apps. Global data is used to deliver offers based on a customer's location, online persona, and local weather conditions, enabling Starbucks to treat a customer anywhere in the world as a "segment of one." Such personalized offers have led to a threefold increase in spending by existing Starbucks customers since 2016 in the centers where this program has been rolled out.

**Multilocal Manufacturing.** Industry 4.0 manufacturing and collaboration technologies are prompting companies to reassess traditional global manufacturing strategies, which concentrate production in large factories located in a few low-cost countries. These advances in manufacturing systems are making it more cost-effective to operate a larger number of smaller, flexible production facilities located closer to end markets. Such multilocal manufacturing makes it more economical to make small batches of customized products and get them to market faster.

Adidas is beginning to introduce multilocal manufacturing for its sports shoes. The company has traditionally concentrated its production in a few low-cost countries. Now, it is building small, highly automated factories in developed countries like the US and Germany that deploy 3D printing, computerized knitting, robotic cutting, and other advanced processes. Adidas expects that the proximity of these facilities to its markets will enable it to get finished shoes to retail outlets much faster and respond

more quickly to trends and customers' changing preferences. Similarly, by being an early adopter of advanced manufacturing technologies, New Balance is able to generate 70% of the value of its premium shoes in the US as opposed to shipping them from a few large, low-cost plants. Under Armour opened a highly automated plant in Baltimore, Maryland, that serves as the foundation for the company's "local-for-local" vision to design products for and make products in markets around the world. The facility, called UA Lighthouse, features additive manufacturing, robotics, and full-body scanners. Under Armour also plans to build factories in Europe and Brazil in order to serve consumers in those regions.

**Developing Multiple National Identities.** A less recognized but equally profound shift in business models is happening in response to rising economic nationalism. Many companies are deepening their identity and footprint in specific countries to comply with norms for higher local content requirements and address heavier government influence. As a recent BCG analysis showed, companies are increasingly discussing and accounting for political risk as an important element of profitability. As political and sociocultural considerations increasingly affect companies' presence and value proposition in key markets, the need for robust strategies that account for these nonmarket forces becomes ever more important. Such strategies may involve making job-creating investments, working visibly to address local and national priorities, and adapting operations and internal processes to local workforce needs. A strong local identity can also help companies meet the procurement policies of state-owned enterprises and gain access to state capital. This approach is in sharp contrast to the centralization of many processes and functions, such as data analytics and digital marketing, which is driven by digital technologies.

GE has started to establish manufacturing facilities in various countries to meet local production requirements and navigate

growing economic nationalism around the world. GE has flexible production lines in Brazil and India, for example, that can adjust quickly to changes in demand and market access. GE also has more than 30 plants in China that help it fulfill local content rules associated with the country's massive One Belt, One Road infrastructure initiative. In industrial goods, consumer durables, telecom, and technology, there are similar examples of companies adapting to local markets in the Americas, Europe, Africa, and Asia.

## Winning in the New Global Environment

The scope and pace of the technological, political, and societal forces that are reshaping the global economy are unprecedented and are opening new competitive fronts in the global marketplace. The new business models that companies deploy to capitalize on the opportunities and build long-term advantage must be supported with new capabilities, approaches, and organizational structures.

Data analytics and AI capabilities will increasingly provide key insights to inform marketing, pricing, and service networks strategies. At the same time, companies will need to shorten product development cycles and adopt iterative product releases while working with an ecosystem of partners to create specialized, best-in-class offerings. As customer centricity becomes global table stakes, organizations will have more local, customer-centric capabilities that feature global expertise and real-time access to the information needed to make decisions. Over time, the need for large headquarters operations will likely decline as data transparency and global knowledge drive the decentralization of innovation and decision making.

Engaging this ambitious transformation agenda is a prerequisite to winning in the new global era. It should be an urgent priority for all executives.

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