

2018 BCG GLOBAL CHALLENGERS

DIGITAL LEAPFROGS



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2018 BCG GLOBAL CHALLENGERS

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LEAPFROGGING TO LEADERSHIP

TODAY, IT'S A DIGITAL world—the whole world. Companies from emerging markets are systematically gaining share in multiple sectors of the digital economy. Digital consumption and use among consumers in these countries are widespread and growing fast—much faster than in developed nations. Together, emerging-market companies and consumers have become a driving force behind the global digital revolution.

Nowhere is the trend toward digitization more evident than among the companies that we call global challengers, the 100 companies from emerging markets that, in the words of our first Global Challengers report, in 2006, are “changing the world.” These companies are leveraging digital technologies both to set new standards for innovation and to compete globally with multinational companies (MNCs).

Indeed, since BCG first highlighted the achievements of major companies from often overlooked developing economies, many have grown rapidly in size and sophistication

and have “graduated” into the ranks of the world’s leading MNCs. New challengers have taken their place, shaping the global economy by doing business according to their own visions, strategies, strengths, and often unique competitive advantages.

Today, a growing number of global challengers are also digital leaders. In fact, they are achieving their leadership positions by leapfrogging their counterparts in developed markets. Some are innovators in digital technologies—bringing their inventions to market, building major businesses on new tech foundations, and taking share from developed-market competitors. Others innovate in their use of technology to develop new products and services in more traditional industries or to upend traditional ways of manufacturing or delivering products and services. In the following pages, we explore how these companies are achieving their success, and how they have made emerging markets a driving force in the growth and development of the global digital economy.

EMERGING MARKETS

A DRIVING DIGITAL FORCE

DESPITE THE VOLATILITY AND turbulence of recent years, emerging markets remain exciting places to do business. In terms of growth, emerging-market companies have outpaced those in developed markets in most industries over the past decade. (See Exhibit 1.) One big driver of this growth is the digital economy, especially fast-rising consumer demand for e-commerce and digital services. On the basis of BCG analysis of forecasts from Forrester Research and from eMarketer, it is estimated that more than 2.2 billion consumers are online in countries we identify as emerging markets, and some 550 million of them made at least one online purchase in 2016.

Emerging-market companies are systematically gaining share in digital-related sectors.

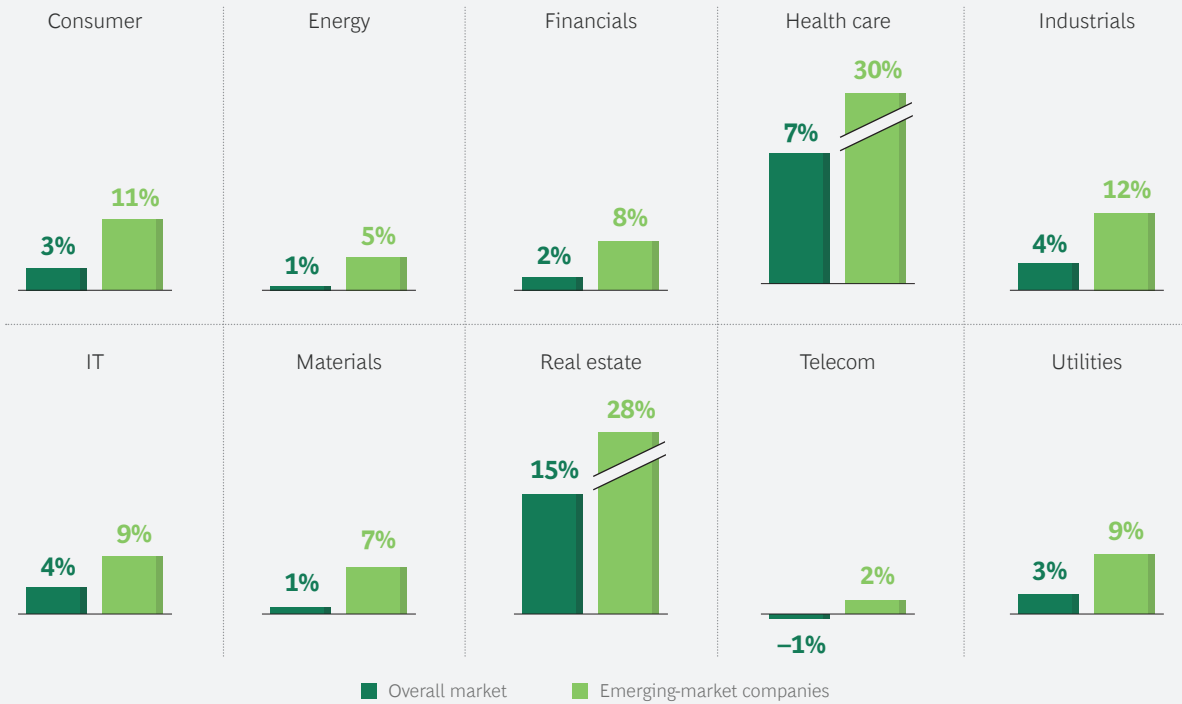
Moreover, the percentage of consumers who buy online has been rising at breakneck rates since before the start of this decade. (See Exhibit 2.) In Brazil, for example, connected consumers use the internet in at least one step of 56% of all the purchases they make. Some 70% of Indian consumers with internet access go online to make informed purchase decisions. We expect internet penetration in India to rise from almost 25% in 2016 to 55%

or more by 2025, when the number of Indian users will likely reach 850 million. (See *The New Indian: The Many Facets of a Changing Consumer*, BCG Focus, March 2017, and “Shopping in Brazil: The Influence and Potential of Digital,” BCG article, December 2015.) In China, according to iResearch, which specializes in online audience measurement and consumer insights, consumers engage in 50 times more mobile transactions than their counterparts in the US. (See “Five Trends Transforming China’s Consumer Economy,” BCG infographic, July 2016.)

It’s not just about consumers. Emerging-market companies are systematically gaining share in digital-related sectors. (See Exhibit 3.) For example, their share of global internet software and service revenue rose from 7% in 2007 to 32% in 2016. Similar trends are evident in other segments of the tech industry, such as telecommunications equipment, where these companies’ share of revenue increased from 5% to 21% over the same decade, as well as semiconductors and semiconductor equipment (where revenue increased from 23% to 34%) and electronic equipment and components (32% to 44%). The percentage of tech companies in the MSCI Emerging Markets Index jumped by a factor of three from 2008 through 2016, and eight of the top ten index constituents today are tech or digitally focused companies. The MSCI World Information Technology Index for emerging

EXHIBIT 1 | Emerging-Market Companies Excel Across Industry Sectors

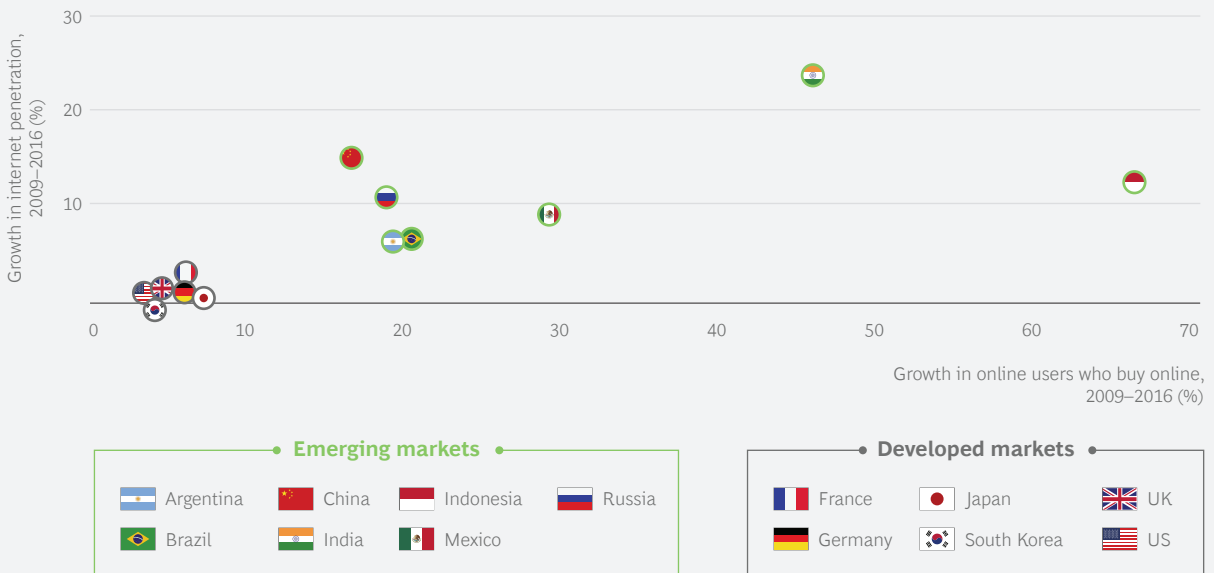
Revenue growth by industry, 2007–2016



Sources: Capital IQ; OECD; BCG analysis.

Note: Revenue growth is the compound annual growth rate for the 10,000 largest companies in each year. Industry sectors based on Capital IQ's standard sector classifications. Consumer includes both discretionary items and staples.

EXHIBIT 2 | Consumers in Emerging Markets Are Buying More Online

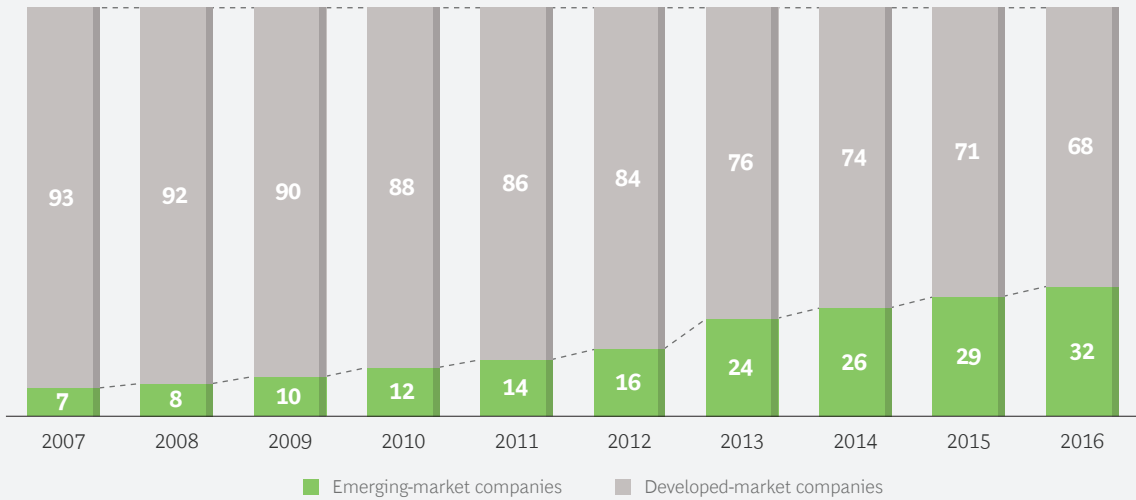


Sources: BCG analysis of Forrester Research, *World Online Population Forecast, 2017–2022* (global) and *Online Cross-Border Retail Forecast, 2017–2022* (global); eMarketer data.

Note: Growth in internet penetration and in online users who buy online are compound annual growth rates.

EXHIBIT 3 | Emerging-Market Companies Are Gaining Share in Digital-Related Sectors

Share of global internet software and service revenue (%)



Sources: Capital IQ; OECD; BCG analysis.

Note: Based on Capital IQ's standard industry classifications; reflects only the 250 largest publicly traded companies.

markets has far outperformed industrial and financial indexes since 2011.

Nontech companies, too, are using digital technologies to improve operations and overcome many of the physical, financial, and commercial hurdles to doing business in emerging markets, including those related to geography, logistics, and infrastructure. Consider just a handful of examples:

- Indian personal-care company Godrej Consumer Products uses advanced analytics for better sales decision making and is building cutting-edge sales force capabilities through technology-enabled learning.
- Sun Pharmaceuticals of India has launched a first-of-its-kind mobile application to connect doctors and patients.
- Chilean wine maker Viña Concha y Toro, the largest in Latin America, has launched a chatbot named Renato that uses artificial intelligence to enable customer interaction with a “virtual sommelier.”

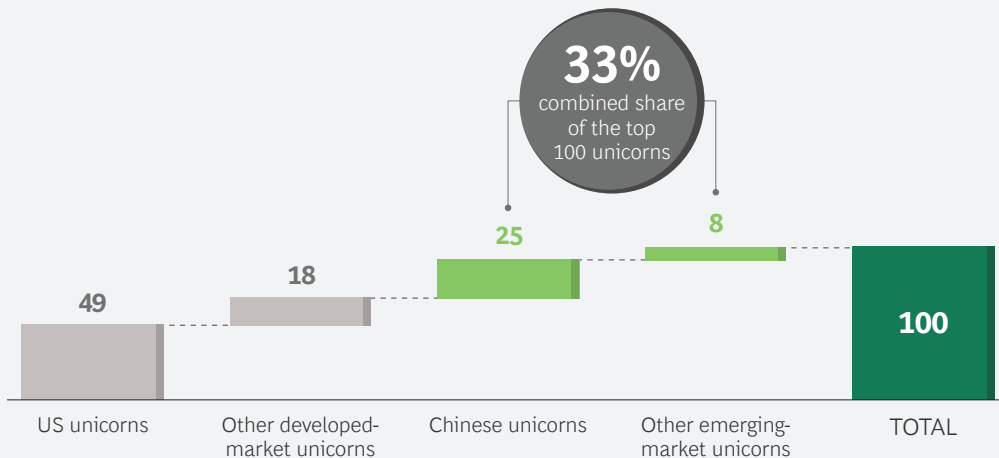
And in what can be considered a sign of things to come, more than 40% of companies reaching “unicorn” status (\$1 billion or more in market value based on private or public in-

vestment) in 2016 and 2017 are based in emerging markets. More than one-third of all unicorns (77 of 220) are from emerging markets, as are one-third of the 100 largest unicorns (25 from China and 8 from other countries), accounting for 41% of these 100 companies’ total value. (See Exhibit 4.)

Almost 30% of emerging-market unicorns are active in e-commerce, 10% provide on-demand services (addressing some of those emerging-market business hurdles), and more than 20% are focused on internet software and services, fintech, health care, and cybersecurity. In fact, as some of our colleagues recently observed, two regions in one emerging market and in one developed country—the east coast of China and the west coast of the US—have established the principal centers of gravity in the digital world and are competing head-to-head for leadership in the race to disrupt and remake traditional industries internationally. (See “The New Digital World: Hegemony or Harmony?,” BCG article, November 2017.) Nowhere is this struggle more hotly contested right now than in the markets of Southeast Asia. (See the sidebar “Getting Positioned for Growth in Southeast Asia.”)

Technology’s impact is already big, and the economic future in emerging markets promises to be increasingly digital.

EXHIBIT 4 | One-Third of the 100 Largest Unicorns Are from Emerging Markets



Sources: CB Insights; BCG analysis.

GETTING POSITIONED FOR GROWTH IN SOUTHEAST ASIA

Southeast Asia has become a hot battleground for tech giants and investors from east and west looking to expand their global footprints. And with good reason: the market is booming. A report from Google and Temasek Holdings pegged the value of the Southeast Asian internet economy at \$50 billion in 2017 (with 330 million online participants)—on its way to \$200 billion in 2025. The report projects the volume of e-commerce in the region exploding from about \$10 billion in 2017 to almost \$90 billion in 2025. And the website eMarketer projects mobile ad spending in Indonesia, Malaysia, the Philippines, Singapore, and Thailand to exceed \$2 billion in 2020.

Fast growth and big expectations are leading to a host of deals in multiple segments. For example, in May 2017, a group of US and Asian investors injected \$500 million into Tencent-backed Sea Limited (Sea is an acronym for Southeast Asia; the company was formerly known as Garena) for the expansion of its online shopping arm, Shopee, in Indonesia. The investment came shortly after Alibaba bought a controlling stake in another Southeast Asian online shopping company, Lazada, which recently expanded into the grocery sector with the

acquisition of RedMart in Singapore. In March 2018, Alibaba announced its intention to invest an additional \$2 billion in Lazada and install one of its own founders as the company's CEO. Last July, Amazon launched its Prime Now service in Singapore with two-hour delivery of tens of thousands of items.

The ride-sharing segment is seeing a flurry of dealmaking. A week before the Sea investment, Tencent led a \$1.2 billion round of funding for the Indonesian ride-hailing company Go-Jek. Google is another investor. In March, Uber announced that it would sell its southeast Asian business to the region's ride-sharing leader, Singapore-based Grab, taking a 27.5% stake in the latter company. Japan's Softbank, owner of 15% of Uber, is already an investor in Grab, which is also backed by China's Didi Chuxing, among others.

In fintech, Ant Financial, an Alibaba affiliate, has made investments in Thailand, Indonesia, the Philippines, and Singapore.

How all the deals and competitive positioning play out remains to be seen, but the dealmaking certainly seems set to continue.

THE 2018 GLOBAL CHALLENGERS

AT FIRST GLANCE, THE 2018 Global Challengers 100 list bears a lot of resemblance to previous years' lists. (See Exhibit 5.) Four companies graduated to become global leaders, and 17 companies joined the list. It's a diverse group, with all major regions and many economic sectors well represented.

Digital's Increasing Impact

Look a little closer, though, and it's clear that the times are indeed changing. The global challengers are selected on the basis of consistent quantitative and qualitative criteria. (See the sidebar "Selecting the 2018 Global Challengers 100.") This year, once the list was compiled, we assessed each company on its digital capabilities and its use of digital and technology as part of its business model, both today and five years ago. We identified three categories: digital natives (that is, those that were born a digital company), digital adopters (those that have adopted digital technologies as an integral part of their business models), and traditional companies (those that may pursue some digital initiatives, but these are not critical to their business models). Almost 60% of the companies on the 2018 list are either digital natives or significant digital adopters, while only 17% made significant use of digital technologies in 2012. Digital adoption can be seen in the following sectors, among others:

- **Industrial Goods and Manufacturing.** Industry 4.0 technologies counter the rebalancing of global supply chains and rising wages in emerging-market manufacturing centers.
- **Consumer.** E-commerce and omnichannel sales and distribution compensate for the lack of modern trade channels in many cities.
- **Technology, Media, and Telecommunications.** Infrastructure, hardware, and software for a mobile-first environment leapfrog the PC as the primary way to go online.
- **Energy.** Renewable energy sources and efficient grids address pollution problems in emerging-market megacities.
- **Health Care.** Digital health care delivery helps deal with limited hospital capacity and growing epidemics such as diabetes.
- **Financial Services.** Fintech products and services are offered in markets where people have neither credit cards nor credit histories.

Moreover, two of the four global challenger graduates—Alibaba and Tencent—are digital powerhouses whose position and influence in their home market of China, as well as else-

EXHIBIT 5 | The 2018 BCG Global Challengers

Graduates		Global Challengers		
<ul style="list-style-type: none"> • Alibaba (China) • China Communications Construction Co. (China) • SABIC (Saudi Arabia) • Tencent (China) 	<ul style="list-style-type: none"> • AirAsia (Malaysia) • Alfa (Mexico) • Alicorp (Peru) • Almarai (Saudi Arabia) • Alpargatas (Brazil) • Apollo Tyres (India) • Arca Continental (Mexico) • Aspen Pharmacare (South Africa) • AVIC (China) • Axiata Group Berhad (Malaysia) • Ayala Corp. (Philippines) • Bajaj Auto (India) • Bharti Airtel (India) • BRF (Brazil) • BYD (China) • Charoen Pokphand Foods (Thailand) • ChemChina (China) • China National Offshore Oil Co. (China) • China Railway Construction Corp. (China) • Cielo (Brazil) • CITIC Group (China) • Dangote Cement (Nigeria) • Discovery (South Africa) • Dr. Reddy's Laboratories (India) • Elsewedy Electric (Egypt) 	<ul style="list-style-type: none"> • Embraer (Brazil) • Emirates Global Aluminium (United Arab Emirates) • Etihad Airways (United Arab Emirates) • Etisalat (United Arab Emirates) • EuroChem (Russia) • Falabella (Chile) • FEMSA (Mexico) • Fuyao Glass Industry Group (China) • Geely (China) • Gerdau (Brazil) • Godrej Consumer Products (India) • Golden Agri-Resources (Indonesia) • Goldwind (China) • GRUMA (Mexico) • Grupo Empresarial Antioqueña (Colombia) • Grupo Gloria (Peru) • Grupo México (Mexico) • Haier (China) • IHH Healthcare (Malaysia) • Indofood (Indonesia) • Indorama Ventures (Thailand) • Infosys (India) • Iochpe-Maxion (Brazil) • Jain Irrigation Systems (India) 	<ul style="list-style-type: none"> • JinkoSolar (China) • Jollibee Foods (Philippines) • Koç Holding (Turkey) • Larsen & Toubro (India) • LATAM (Chile) • LC Waikiki (Turkey) • Lukoil (Russia) • Lupin (India) • Mahindra & Mahindra (India) • MercadoLibre (Argentina) • Mexichem (Mexico) • Midea Group (China) • Mindray (China) • Motherson Sumi Systems (India) • MTN (South Africa) • Natura (Brazil) • OCP Group (Morocco) • OPPO Electronics (China) • Pegasus Airlines (Turkey) • PetroChina (China) • Petronas (Malaysia) • PTT (Thailand) • Qatar Airways (Qatar) • Reliance Industries (India) • Sabancı Holding (Turkey) • Safaricom (Kenya) 	<ul style="list-style-type: none"> • Sasol (South Africa) • Sinochem (China) • Sinohydro (China) • Sun Pharmaceuticals (India) • Tech Mahindra (India) • Tenaris (Argentina) • ThaiBev (Thailand) • Thai Union Group (Thailand) • Tianqi Lithium Corporation (China) • Trina Solar (China) • Turkish Airlines (Turkey) • Unionpay (China) • Universal Robina (Philippines) • UPL (India) • Vedanta Resources (India) • Viña Concha y Toro (Chile) • Votorantim (Brazil) • Wanxiang (China) • WEG (Brazil) • Weichai Power (China) • Wipro (India) • Xiaomi (China) • Yıldız Holding (Turkey) • Zhengzhou Yutong Bus (China) • Zoomlion (China)

Source: BCG analysis.

Note: Companies in green are new additions on this year's list.

where, rival those of Western digital leaders such as Amazon and Facebook. (See “Digital Leadership in Emerging Markets,” below.)

Three Avenues to Advanced Digital Development

Global challengers develop their digital capabilities in three main ways: They are active investors in internal innovation programs and research and development. They pursue partnerships and join digital ecosystems or establish their own. And they acquire digital capabilities through M&A and private investments in startup companies and technologies. All are proving to be highly productive avenues to digital development.

Internal Innovation and R&D. Strong investment in in-house digital innovation and R&D

has led global challengers, and emerging-market companies generally, to catch up with, if not leapfrog, developed nations on technology leadership. Huawei, a global challenger graduate, filed for 4,000 to 6,000 unique patents every year from 2012 through 2016—at least twofold more than many leading Western tech players. Focusing on R&D, Huawei moved from follower to leader in five years in communication equipment, doubling both revenue and market share. Tata Consultancy Services (TCS), using its in-house incubation center, has developed Ignio, a cloud-based cognitive automation model that is built on an artificial intelligence (AI) platform and tackles multiple IT challenges for both TCS and its clients.

Koç Holding, Turkey's largest conglomerate, is applying digital capabilities across its sub-

SELECTING THE 2018 GLOBAL CHALLENGERS 100

The BCG global challengers are chosen using a combination of quantitative and qualitative criteria. Companies must have annual revenue of at least \$1 billion, 1,000 or more employees, and growth rates that outpace their home-market GDP or industry average. EBIT margins must equal or surpass the industry average. Companies must also have a strong international presence—10% or more in international sales or \$500 million or more in international M&A—and credible aspirations to build a truly global footprint. We do make some exceptions for fast-growing, high-impact companies that are accelerating rapidly toward these thresholds. About two-thirds of the 100 global challengers meet all the criteria; almost all meet three or more.

Joining the list of 100 global challengers for 2018 are these 17 companies from ten countries whose 2015–2016 growth rates averaged 20%:

- Almarai (Saudi Arabia), the world's largest vertically integrated dairy company. It has a strong international presence, with 37% of its revenue currently coming from abroad.
- Alpargatas (Brazil), a global footwear and apparel company, with 41% of sales outside of its home market.
- Arca Continental (Mexico), the second-largest bottling company in Latin America, with 44% of revenue outside its home country.
- BYD (China), a battery and car manufacturer and the largest electric-car producer by volume in the world. Warren Buffett's Berkshire Hathaway owns a 25% stake in BYD, which stands for "build your dream."
- Cielo (Brazil), a leader in payment processing with a greater than 50% share of transaction volume in its home market. In 2016, Cielo launched Cielo LIO, a new generation of point-of-sale open platforms that integrates sales information with merchants' management systems.
- Dangote Cement (Nigeria), Africa's leading cement producer, with operations in ten countries. In 2017, Dangote introduced online ordering through the e-commerce platform Jumia.
- IHH Healthcare (Malaysia), the leading private health care provider in South-east Asia. The company also owns Acibadem Healthcare, the largest private health care provider in Turkey, and Continental Hospitals in India. IHH operates in ten countries and generates more than 80% its revenue outside of Malaysia.
- Jain Irrigation Systems (India), the second-largest microirrigation company in the world, with operations in 126 countries. A pioneer in Internet of Things applications in agriculture, almost half of Jain's revenue comes from high-tech products.

sidiaries, several of which are quickly becoming leaders in Industry 4.0 technologies. One subsidiary, appliance manufacturer Arçelik, has established a shared creative platform to encourage design-focused thinking and is accelerating its activities in the development of communication protocols, cloud security, data analytics, robotics, and AI capabilities related to digitization and the Internet of Things. Arçelik's Atölye 4.0 digital factory utilizes

advanced automation tools, AI, digital twins, image processing, mobile technologies, and collaborative robots.

Partnerships and Ecosystems. Many emerging-market players are leading joint efforts with other companies and building digital ecosystems. Tencent, a global challenger graduate and the world's fifth-largest company by market capitalization, has achieved its

- JinkoSolar (China), a member of the Silicon Module Super League, a group of the six largest suppliers of crystalline-silicon photovoltaic modules in the world. Jinko has a strong international position and derives 61% of its revenue from outside China.
 - LC Waikiki (Turkey), a leader in the value-apparel retail market in Turkey, with operations in 38 countries.
 - MercadoLibre (Argentina), the most popular e-commerce platform in Latin America, with 175 million users in 19 countries. It derives 68% of its revenue from outside of its original home market of Argentina.
 - Midea Group (China), with a strong competitive position in electrical-appliance manufacturing, earning 40% of its revenue internationally. It has been an active cross-border buyer. In addition to its acquisition of Germany's KUKA in December 2016 for \$5 billion, it has purchased other international players such as Servotronic, Eureka, and Toshiba's home appliance business.
 - OPPO Electronics (China), a market leader at home and in India, and also present in 21 countries, mainly in Asia. In the past two years, OPPO has experienced explosive growth in China (more than 120% a year) and is now one of the leading smartphone producers in China and India.
 - Safaricom (Kenya), the leading mobile network operator in Kenya and the leading mobile platform for transactions in Africa. Safaricom is the first Kenyan company to record a profit of more than \$1 billion a year.
 - Tianqi Lithium Corporation (China), is a leading global supplier of lithium products with major businesses in lithium resource development, exploration, and downstream lithium refining. Tianqi Lithium produces a diverse range of high-quality lithium products for customers in Europe, Asia, the Americas, and Oceania.
 - Weichai Power (China), a manufacturer of diesel engines, heavy machinery, and construction equipment with a strong international foothold. The company derives almost half its revenue from international sources.
 - Zhengzhou Yutong Bus (China), the domestic leader in production of both combustion-engine and electric buses, with a greater than 30% and 17% share, respectively. Yutong recently began selling electric buses to Cuba.
- In addition, four companies became global challenger graduates: SABIC of Saudi Arabia, and Alibaba, China Communications Construction Company, and Tencent of China. (See "Digital Innovation on the World Stage," below, for profiles of Alibaba and Tencent.)

outstanding scale and engagement in social media by leveraging a broad-based digital ecosystem that delivers a comprehensive range of value-added services to its users. (See "Digital Leadership in Emerging Markets," below.) Ant Financial, an Alibaba affiliate, created a global smart-payment ecosystem by partnering with merchants, banks, and other fintechs. Xiaomi has built a large smart-home ecosystem focused on appliances, health care,

and entertainment. MercadoLibre, the leading online marketplace in Latin America, with 175 million users, set up an ecosystem that includes payment solutions, credit scoring, and advertising.

M&A and Private Investments. Leading emerging-market players are pursuing strategic investments to either expand their business or build new capabilities faster.

Many of these deals have a technology component—that is, they involve two tech companies or a nontech company acquiring technology or a tech capability. Globally, the share of nontech-sector acquirers of tech companies has grown by 9 percentage points since 2012 to encompass about 70% of all tech transactions. (See “The Resurgent High-Tech M&A Marketplace,” BCG article, September 2017.)

Global challengers have made some 2,400 acquisitions or investments since 2013. In about 16% of these transactions, the target was a digital native. But many of the rest of the deals involved the acquisition of digital or advanced capabilities. For example:

Global challengers produce outstanding value from traditional and digital assets.

- Jain Irrigation of India acquired Observant of Australia, which develops farm information management platforms and applications.
- Midea Group of China acquired German robot manufacturer KUKA.
- Zoomlion of China acquired m-tec, a Germany-based company focused on accelerated and economical building processes.
- AirAsia of Malaysia acquired Tune Money, a company that serves value-seeking customers with a wide range of digital banking solutions.
- Tianqi Lithium Corporation acquired a 51% equity interest in Windfield, the parent company of Talison Lithium, the world’s largest lithium mineral producer.

BCG research has shown that the number of digital joint ventures has increased by almost 60% in the past four years, and many of these involve companies in emerging markets.

World Class Performance...

Global challengers continue to produce outstanding value from traditional and digital assets. They have multinational physical footprints from which to serve global and local client needs. They have built influential brands that attract and retain a growing customer base. Talented workforces deliver high-quality products and services, and proven operating models have built track records of consistent success. Innovation, based on extensive know-how, stays high on global challengers’ agendas.

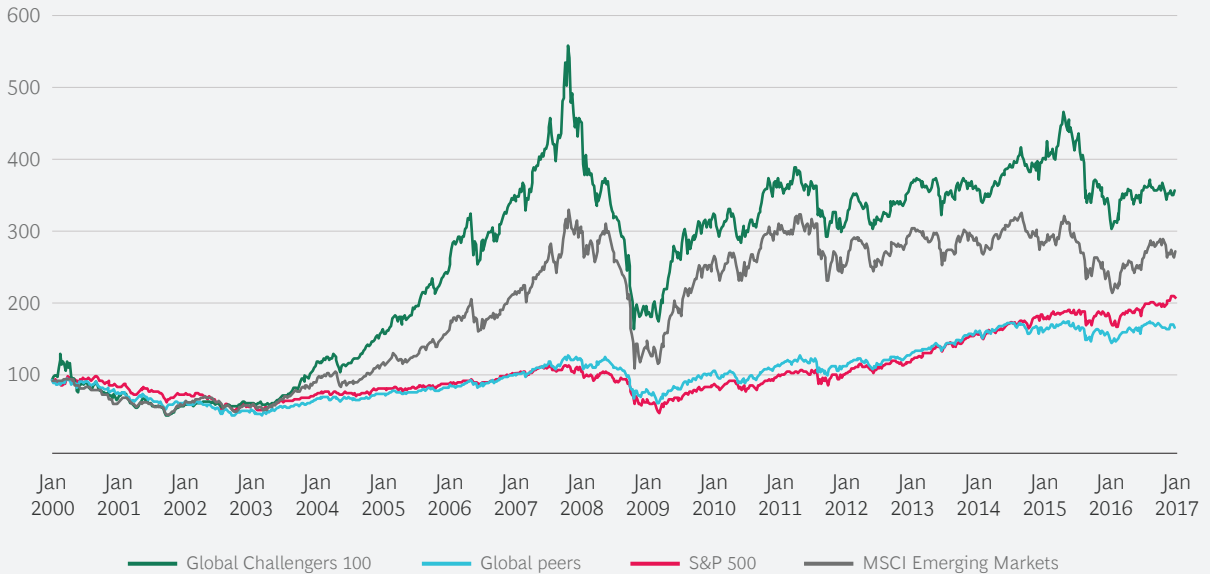
In terms of long-term (2000–2016) total shareholder return, the BCG Global Challengers 100 have substantially outperformed their global peers, the S&P 500, and the MSCI Emerging Markets Index. (See Exhibit 6.) More recently (2011–2016), the challengers’ TSR performance (as well as that of the MSCI Emerging Markets Index) has been affected by broader economic conditions in emerging markets, but even during this period, their revenue growth has outpaced that of peers in other indexes across multiple sectors, and operating margins have remained strong, at an average of 10%. (See Exhibit 7.) A big drag on the global challengers (as well as on other indexes) has been the performance of large energy companies, which has suffered in the face of falling oil prices.

...with a Digital Kicker

Going forward, we believe the global challengers are well positioned to use their digital assets and advantages to capitalize on a number of the defining characteristics of emerging markets. For example, these markets contain the world’s last remaining pools of high demographic and economic growth, which the global challengers can access with efficiency and value-based productivity. Consumer-focused companies can connect more easily with a fast-growing base of digitally savvy consumers open to using new technologies. Policymakers and regulators in many developing nations are seeking to foster digital innovation with favorable regulatory environments, which facilitate the development of digitally enabled workforces, collaboration in digital ecosystems, and growth. For example, the Central Bank of Brazil (Bacen) has creat-

EXHIBIT 6 | The BCG Global Challengers Have Strongly Outperformed Other Indexes

Total shareholder return, 2000–2017 (indexed to 100)

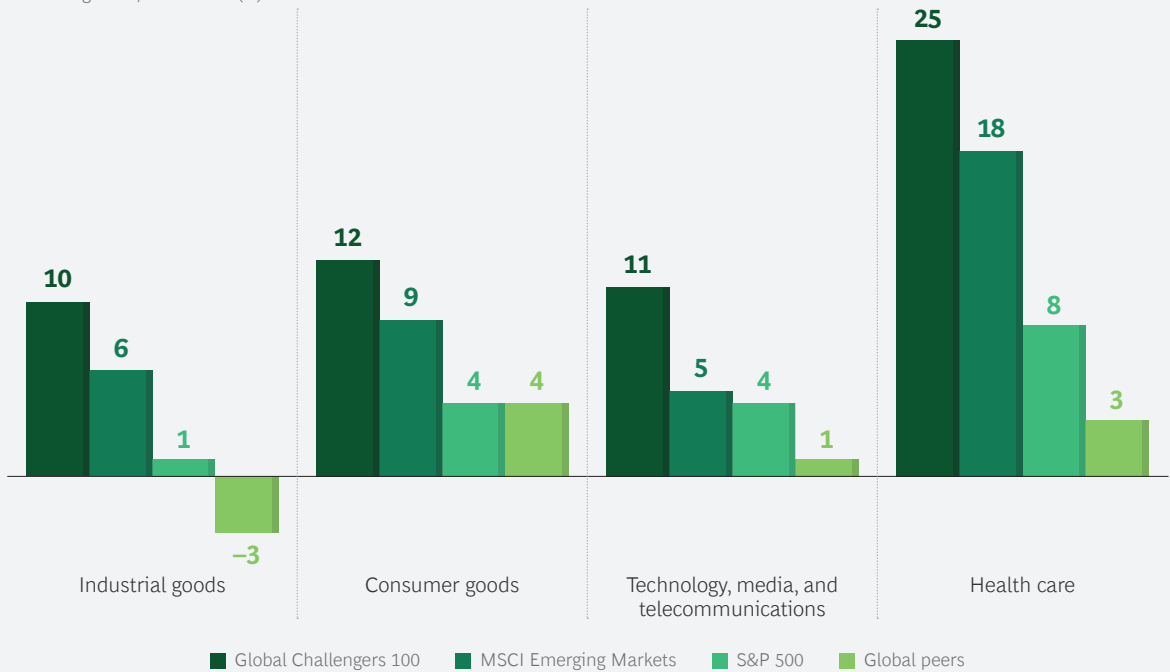


Sources: Datastream; BCG analysis.

Note: All indexes were weighted by the market capitalization of their constituent stocks. Global challengers' performance is based on data from 92 publicly listed global-challenger companies. Global peers are 230 multinational companies that operate in the same industries as the global challengers. TSR is based on US dollars.

EXHIBIT 7 | In Multiple Industries, Global Challengers Have Outperformed on Revenue Growth

Revenue growth, 2011–2016 (%)



Sources: Capital IQ; BCG analysis.

Note: Consumer Goods includes Capital IQ sectors "Consumer Staples" and "Consumer Discretionary." Based on the financial results (compound annual growth rates) of the 100 BCG Global Challengers, global peers, 500 S&P 500 constituents, and MSCI Emerging Market constituents with available data. Fixed exchange rate used to remove currency fluctuation effects. Global peers are multinational companies that operate in the same industries as the global challengers.

ed an innovation pool with banks such as Banco do Brasil and Caixa and technology leaders such as Microsoft to support the development of fintechs in Brazil's financial system. And India is touting its leadership in fintech development.

All of this has put the global challengers in a strong position to continue to outperform in their home markets and to challenge developed-market companies for leadership internationally.

DIGITAL LEADERSHIP IN EMERGING MARKETS

MANY GLOBAL CHALLENGERS HAVE proven to be formidable global competitors. A principal reason is that they honed their business models and capabilities in the challenging circumstances that define most emerging markets, where advantages that other companies take for granted, such as good logistics and infrastructure, often represent substantial hurdles. More and more emerging-market companies are turning to digital technologies to help them overcome or get around such barriers. When these companies start to expand from their home bases, they use digital tools and know-how to establish themselves quickly in international markets, often shouldering aside more traditional competitors with their digital muscle.

Four Digital Traits

Our analysis of digital adoption by global challengers surfaced four common traits:

- They use new technologies, such as Industry 4.0 and Service 4.0, to improve productivity and optimize their core businesses.
- They focus on digital customer journeys and on opportunities to intensify and personalize customer engagement and build long-term customer relationships.
- They pursue business model innovation and enter completely new digital busi-

nesses, developing new models that disrupt existing value pools.

- They embed digital enabling functions, such as analytics and centers of excellence, into their organizations.

Many also pursue accelerated digital transformations as a company-wide strategy.

Improving Productivity and the Core Business. The shift toward Industry 4.0 is a global phenomenon, and emerging-market companies often view this trend as an opportunity to seize a larger value-added share of global value chains. Companies in emerging markets face particular challenges, for which they develop their own solutions. To sidestep the large capex requirements that new technologies often require, for example, they seek greater speed and efficiency using data-related technologies, such as big data and AI. They also invest in innovation ecosystems in their home countries (including suppliers, public entities, and talent sources) to mitigate their dependence on developed nations' technologies and capabilities.

In China, a major transition is underway from reliance on low-cost, labor-intensive manufacturing toward such Industry 4.0 capabilities as the Internet of Things and the control of cyberphysical systems and automation. The government's Made in China 2025 initiative

provides incentives for companies to enhance their international competitiveness by achieving breakthroughs in the various industrial sectors. Many Chinese companies are pursuing new technologies through global M&A. Approximately 20% of the almost \$200 billion in outbound acquisitions by Chinese companies in 2016 involved tech companies. (See *The 2017 M&A Report: The Technology Takeover*, BCG report, June 2017.)

China's Midea Group, a manufacturer of electrical appliances, is one example of a global challenger that is also an Industry 4.0 pioneer. Since 2015, Midea has completed at least five acquisitions in five countries that complement its tech foundation and improve competitiveness. The acquisition of KUKA moved the company into high-growth robotics. Its purchase of Servotronics, in February 2017, allowed it to further automate its manufacturing plants thanks to the acquired company's technological leadership in motion control. "We want artificial intelligence technology applied to robotics and applications," Midea's vice president, Hu Ziqiang, told Bloomberg. "There's huge potential for us to expand."

Global challengers focus on digitally engaging customers to fuel growth and innovation.

OCP Group of Morocco is investing in an ecosystem of partnerships to expand its research and Industry 4.0 capabilities. In 2014, the company launched Mohammed VI Polytechnic University, which focuses on research and learning in mining and chemistry, to help further Morocco's development and provide a source of technically trained talent for the company. The university also provides a platform for broader collaboration with other institutions. OCP has long collaborated with universities worldwide, including the Massachusetts Institute of Technology, Columbia University, HEC Paris, and Mines ParisTech.

OCP has also established joint ventures with leading international companies, including

IBM (digital transition), DuPont (environmental footprint), and Jacobs (technical engineering). It is building its own Industry 4.0 capabilities, using robots to automate manual production processes, the Internet of Things to make plants more efficient, and advanced analytics to improve production and drive process innovation.

Engaging in Customer Journeys. Global challengers keep a strong focus on digitally engaging customers and consumers, which both fuels their growth and facilitates innovation. Xiaomi, a digital native, has used a combination of simple and lean operations and online distribution to propel it to a leading position in the smartphone market. The company uses inexpensive online media as its principal marketing tool. High digital customer engagement and fast market penetration have enabled Xiaomi to expand rapidly outside of China into other emerging markets. The company was able to enter India and catch up with the market leader in only one year.

In India, Mahindra Group, the parent company of Mahindra & Mahindra and Tech Mahindra, is pursuing new forms of digital engagement with customers in multiple subsidiaries. A new hotel app accounts for 35% of bookings at the company's hotels and resorts. An AI-backed advisory portal for farmers was downloaded 200,000 times in its first three months. Capitalizing on the rise of the sharing economy, the company has launched two startups: Tringo, which is known as "Uber for tractors," and SmartShift, a platform that pools small commercial trucks for sharing. In Brazil, BRF is piloting blockchain technology to track products moving through its supply chain and allow customers to check the source of products, along with other information, online.

Disrupting with New Business Models.

Disruption is not a developed-markets-only phenomenon. Even in relatively nascent markets, new entrants wielding new technologies and capabilities can leapfrog the status quo. Take the example of Reliance Jio, a mobile network operator (and subsidiary of Reliance Industries) that launched beta services in December 2015 and has since then

totally upended the mobile telecom market in India. Unencumbered by legacy 2G and 3G network technology, Jio invested in building an advanced LTE mobile network that takes advantage of superior sub-GHz LTE spectrum, a tower network that is substantially fiberized, data analytics, and advanced automation, to cover more than 85% of the population (100% in urban areas). Jio also built an extremely low-cost network (based in part on owned rather than rented towers); its costs are less than half its competitors'. The result is a high-quality mobile network that has gained about a 15% market share and carries some 1.7 billion gigabytes of data traffic every month (the highest rate in the world) at the lowest prices in the world—0.05 rupees/MB.

Digital global challengers embed new capabilities in their organizations.

Embedding Digital Enablers. Digital global challengers don't just apply technology—they embed new technology-enabled capabilities throughout their organizations. Malaysia's AirAsia, for example, uses technology in multiple ways to improve efficiency and bring down costs. Advanced analytics inform yield management and pricing decisions. Cloud-based efficiency solutions help ensure high aircraft utilization and streamlined operations. An online platform provides a lean distribution system with no need for expensive travel agents or physical stores. The company was the first airline in the region to go ticketless, in 2002; 85% of bookings are made directly through its website. One result of these digital enablers is that AirAsia is among the lowest-cost airlines in the world, with a cost per available seat kilometer of only \$.034, less than both regional competitors and global low-cost carriers.

In India, Godrej Consumer Products has used embedded technology to transform the sales operation in its fast-moving consumer goods business. The company uses best-in-class technology and advanced analytics for better

sales decision making and has built cutting-edge sales force capabilities through technology-enabled learning. Its entire sales force is equipped with devices rich in performance-boosting applications. These digital enablers are having multiple impacts. The company has identified significant improvement in sales growth from more effective customer service. It can plan better for future production, thanks to digitally enabled tracking of stock at distributor outlets. Sales managers and senior executives have access to real-time online sales and purchase reports. Sales team productivity is on the rise because of better information, and the company has a one-stop billing system that streamlines interactions with distributors, hence creating one version of truth.

Accelerating Digital Transformations

Global challengers often see digital as an all-in proposition. They try to accelerate digital transformations through company-wide efforts and shared mandates, assigning their best people to digital leadership positions in order to drive their efforts forward. For example, Mahindra Group has undertaken a group-wide digital transformation journey with three key pillars: improving the customer experience, accelerating the digital transformation of business models, and aggressively evaluating the latest emerging technologies.

For global challengers, emerging markets are dynamic proving grounds. The best companies use them as springboards for their global ambitions. As we have highlighted in past publications, the competitive advantages honed at home and wielded abroad—such as talent and organization and go-to-market models—have proved to be powerful weapons. (See “How Challengers Have Achieved Global Leadership,” BCG article, June 2016.) But as the globalization paradigm shifts and the digital economy expands, even the most powerful traditional competitors need to develop digital strategies and capabilities. (See “New Business Models for a New Global Landscape,” BCG article, November 2017.) Where they start depends on their current circumstances, but the need to move is becoming more and more urgent.

DIGITAL INNOVATION ON THE WORLD STAGE

DIGITAL TECHNOLOGIES LEVEL THE playing field between smaller competitors, wherever they are located, and large international corporations. But a growing number of emerging-market companies are no longer content simply to compete head-on with global MNCs. They are using their digital capabilities to establish alternative business models and ecosystems built on the belief that their way is better—for themselves, their customers, their partners, and their investors. In the process, they are providing new and exciting models for others to follow. Plenty of companies in emerging markets are taking notice and laying the foundations for their own journey to global prominence.

Emerging-market companies provide exciting models for others to follow.

Here are five examples of leaders in digital innovation that have blazed eye-opening trails by building ecosystems, directing technology at customer solutions, using digital technology to fill market voids, and continuously innovating with a customer-centric focus. Two companies are global challengers (China's BYD and South Africa's Discovery), Tata Consulting Services (TCS) became a

graduate in 2016, and Tencent and Alibaba are new global challenger graduates.

Tencent: Establishing WeChat as the Gateway to Everyday Digital Life

Founded in 1998, Tencent has grown rapidly into the world's fifth-largest company by market capitalization. It started as an online paging system but has expanded through multiple partnerships into a complete digital ecosystem. At the center lies WeChat, launched in 2011, a revolutionary social media product that provides a gateway to the everyday digital life of hundreds of millions of users.

Tencent is often compared with another social media behemoth, Facebook, but in fact the two companies have followed very different strategies and business models. Facebook has put social media at its core. More than 90% of its revenue comes from advertising. WeChat is built on a foundation of games and an expanding array of value-added services, many offered by third parties. Together, these services generate more than four-fifths of its revenue, with the rest coming from advertising.

From the outset, WeChat focused intently on customer needs, including entertainment, information, financial services, social interac-

tion, e-commerce, and social and government services. Many of these services are provided in partnership with other leading companies. In e-commerce, WeChat works with JD.com, the second-largest e-commerce platform in China, and Meilishuo, an e-commerce platform focused on women. It has partnerships with Foodpanda for food delivery and with Didi Chuxing and Easy Taxi for ride-hailing in China and Southeast Asia, respectively. The company works with local governments to provide information and services related to traffic, education, and other matters.

As of mid-2017, WeChat had more than 950 million active users, according to the market data website Statista. Internet analyst Mary Meeker estimates that WeChat accounts for one-third of the total time spent on the mobile internet in China. For hundreds of millions of users, WeChat has literally become their gateway to daily digital life.

Alibaba: Shaping Shopping with Data and Analytics

Like Tencent and WeChat, e-commerce giant Alibaba presents an intriguing alternative to the developed world's biggest e-commerce company, Amazon. Consumers love Amazon because of its easy-to-use interface, nearly unlimited inventory, user reviews and recommendations, rapid delivery, and of course low prices. Amazon has used these strengths to build the quintessential e-commerce company.

The Alibaba experience is different and caters to different consumer desires. Alibaba has built the world's largest interactive mall. Consumers go there to be entertained and explore new things. The company integrates shopping with games, celebrity events, social media, entertainment, and news to create a full online experience. At the same time, it connects millions of buyers and sellers (mostly small businesses) and helps brands deliver individualized online experiences for customers. Throughout it all, Alibaba collects data from every transaction and interaction, which it uses to provide an increasingly personalized experience. This model has propelled Alibaba to its position as the world's seventh-largest company by market capitalization.

Alibaba's ecosystem provides users with a range of services: travel, entertainment, gaming, finance, transportation, and of course e-commerce. It's an eclectic mix, and for Alibaba it is the source of a wide-ranging array of data that the company collects and analyzes centrally. By capturing data from multiple sources, Alibaba can both tailor individualized offers for users, timing them to be most effective, and provide tools that help its online sellers enhance their own businesses. The results, of course, provide more data for the ecosystem.

Alibaba captures data from multiple sources to tailor offers to users and help online sellers.

In the past few years, Alibaba has built Ant Financial Services (originally Alipay) into a major force in fintech; it is the world's most valuable fintech company, with more than 520 million users. Using machine learning technology and data from the Alibaba ecosystem, Ant provides a range of financial services to an underbanked market. Alibaba's data and analytics capabilities enable Ant to assign credit scores for individuals and small businesses, and the company has expanded from payments into online wealth management and consumer and small business lending. In 2017, Ant launched payments using facial recognition technology and Ant Forest, which uses digital gaming technology to let users track their carbon footprints. The service has already attracted some 200 million users.

BYD: The World's Leading Electric-Vehicle Production Ecosystem

High mileage, low electricity costs, and high gas prices combine to make China the world's leading market for electric vehicles (EVs). BCG projects that EV penetration will approach 20% in 2025, and by 2030 China will be the largest single market for battery-powered electric vehicles, which will have a 17% share of auto sales, while hybrid electric vehicles will take another 28%. (See *The Elec-*

tric Car Tipping Point: The Future of Powertrains for Owned and Shared Mobility, BCG Focus, January 2018.)

A rich ecosystem of advanced transportation solutions is taking hold in China, and one of the major players is BYD, a leader in lithium batteries—the power source for most EVs—and one of the two largest battery producers in the world. Lithium batteries are also critical components in smartphones and other high-tech hardware. In addition to being a global leader in battery manufacturing, BYD is the world’s largest producer of electric cars by volume. Its revenue in 2016 was \$15.6 billion, having grown at 25% a year from 2013 through 2016, compared with annual industry growth of about 7%. BYD wields a significant cost advantage over key developed-market competitors thanks to its process innovations, such as replacing expensive nickel plate with cheaper alternatives and using “dry boxes” instead of more expensive “dry rooms” in the formation of certain components.

Discovery’s Vitality program is the world’s largest incentive-based wellness solution.

BYD is clearly betting that its future, and that of the auto industry, lies in providing consumers and businesses with efficient mobility solutions that meet a wide and evolving range of needs. It has positioned itself to serve this market with its own innovations in battery and EV manufacturing and with an ecosystem of advanced-technology partners. In the past few years, BYD has established the following ventures and investments, among others:

- A research partnership with Baidu focusing on the map service and sensors that self-driving vehicles require
- A \$450 million investment by Samsung for cooperation in automotive chips
- A strategic partnership with internet company LeEco focused on the further development of car connectivity

- An initiative with a ride-sharing company and an automaker to introduce an EV program in London
- An Electric Future ecosystem, which integrates EV-charging services, mobility services, and aftersales services with 13 partners, including real estate developers, ride-hailing company Didi Chuxing, and insurance companies

BYD has also partnered with numerous other players in the automotive, industrial goods, and tech sectors, including ABB, Daimler-Benz, and Microsoft. In 2017, it started production at its first electric-bus plant in Europe.

Discovery: Pioneering Shared-Value Health Insurance

South Africa’s Discovery is a pioneer in the business model of shared-value health insurance, which encourages healthy living through health-promoting behavior. With 2016 revenue of more than \$3 billion, Discovery is South Africa’s largest health care funder, managing 14 schemes. From 2013 through 2016, it grew at a rate of more than 20% a year, compared with an industry rate of 6%.

With more than 8 million members, Discovery’s Vitality is the world’s largest incentive-based wellness solution. It is active in South Africa, North America, Europe, and Asia-Pacific. Discovery’s Vitality program encourages healthy behavior through such benefits as discounts on gym memberships and healthy food, reward points for preventive care and checkups, and incentives to use its online platform to maintain personal health records and track diet and exercise.

Big data and advanced analytics are critical to Discovery’s business model, allowing it to build a picture of clients’ lifestyle choices and behaviors as they relate to health and disease. The company uses multiple types of information, including unstructured data from such sources as websites and smart devices, to gain an understanding of its clients. Discovery recently partnered with PHEMI Systems, an analytics company specializing in large, unstructured data sets, to further analyze how behavior affects an individual’s risk

profile. It is using the resulting insights to fine-tune the incentives system. Discovery is working with Fitbit, Nike, and Garmin on novel tracking possibilities and is expanding its incentive and tracking system to other insurance products, such as car insurance, where it uses telematics to track vehicle usage and driving behavior.

In 2017, Discovery launched an app that uses digital technology and AI to allow members to engage with doctors in South Africa and internationally. Patients identify their condition or ailment and then get information about treatment options and urgency. “Answers are tailor-made to suit client and patient needs,” Discovery Health CEO Jonathan Broomberg told the South African website Moneyweb. The company is now introducing a service that uses AI to predict medical risks before they arise, providing new decision-making capabilities for physicians and allowing for treatment of diseases and other medical conditions.

Discovery also has automated processing for 30 medical conditions covering about 40% of its paper applications. The company now processes up to 100,000 transactions a day.

Tata Consultancy Services

India’s TCS has grown into one of the largest companies in its home market and a global powerhouse in IT consulting, operating in more than 45 countries. The company is also a digital leader, increasingly adopting emerging technologies such as AI, advanced analytics, mobility, the Internet of Things, and cloud computing in its operations and offerings. TCS targets its R&D investments to develop

intellectual property into a distinctive competitive edge—it has been granted more than 600 patents—and to advance the digital capabilities of its staff through in-house digital competency development programs. More than half its workforce has been “reskilled” in recent years.

TCS’s impressive growth—13% a year for the past four years, to \$19 billion in 2017—is based in part on its development of new platforms using emerging digital technologies. For example:

- MasterCraft is a cloud-based software delivery platform that enables TCS’s clients, wherever they are based, to automate and manage IT processes.
- Optumera is a digital merchandizing software suite that uses big data and analytics to help retailers manage omnichannel customer journeys.
- Ignio, the world’s first neural automation system for IT operations, helps companies automate and optimize their IT, including the ability to predict and address problems before they arise. Ignio can be delivered on premises or as a cloud-based software-as-a-service platform. The system handles more than 80% of IT tasks autonomously, reduces the time necessary to resolve a problem or incident by 90% or more, and achieves better than 90% accuracy in predicting future impacts.

CONCLUSION

GLOBAL DIGITIZATION WILL CONTINUE at an accelerating pace, and emerging markets will remain a driving force behind the digital revolution, contributing to both important technology advancements and the disruption caused by new approaches and business models. Whether the changes come from east or west, north or south, is less and less important. More significant is how technologies are changing the way companies operate globally—in terms of their market reach, their speed of entry and market development, and the ecosystems they construct to augment their own capabilities and better meet customer needs.

Traditional companies, even the most successful, need to embrace digital change, starting immediately. Those already pursuing digital strategies won't slow down. As the success of our 2018 global challengers illustrates so strikingly, the future belongs to those with a clear vision of how digital technologies can help them achieve their goals, the flexibility to test and adopt new models enabled by those technologies, and the determination to keep one foot firmly pressed on the accelerator of change.

FOR FURTHER READING

Why Multilatinas Hold the Key to Latin America's Economic Future

A Focus by The Boston Consulting Group, March 2018

The Reimagined Car: Shared, Autonomous, and Electric

A Focus by The Boston Consulting Group, December 2017

New Business Models for a New Global Landscape

An article by The Boston Consulting Group, November 2017

The New Digital World: Hegemony or Harmony?

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Five Profiles That Explain China's Booming Consumer Economy

A Focus by The Boston Consulting Group, June 2017

Global Leaders, Challengers, and Champions: The Engines of Emerging Markets

A report by The Boston Consulting Group, June 2016

NOTE TO THE READER

This is BCG's ninth report in the Global Challengers series. While the centerpiece of these publications is the list of 100 global challengers, their broader purpose is to understand the evolution of emerging markets and how companies can compete within them. We hope this report has brought these markets and the companies that arise from them to life.

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