2020 BCG Tech Challengers

The Next Generation of Innovation in Emerging Markets

November 2020

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2020 BCG Tech Challengers

Much of the action is moving to emerging markets.

The technology sector has been one of the biggest drivers of growth and value for years, if not decades. Activity has centered on the two "gold coasts"—the western coast of the US and the eastern coast of China—which as of May 2020 were home to seven of the top ten companies worldwide by market cap, as well as to the leading companies in online search, social media, and e-commerce. The gold coasts have accumulated massive value, wealth, and power by taking advantage of the winner-take-all economics that govern many digital business models.

But the global tech industry is a much more diverse and dynamic sector than it might seem to be from the slice captured in those two high-powered regions.

While tech companies from Africa, Asia, Israel, Latin America, Russia, Turkey, and the UAE have not yet achieved the global scale of Apple or Alibaba, they are now bringing exciting products and services to market, often in new ways, and growing fast in both size and number. They are reinventing their industries and charting their own paths to scale and success. They are also gaining the attention of major industry incumbents—in the tech industry itself and in other industries—that must determine how best to deal with the rise of these new potential adversaries and allies.

Since 2006, BCG has periodically examined the rise of companies from emerging markets that we call "global challengers"—companies that, in the words of our first report, "are changing the world." And indeed, all but a few of the companies that have appeared in the global challengers rankings over the years have gone on to substantial, often global success, developing into leading multinational corporations. In our most recent report, in May 2018, we noted that a growing number of global challengers are also digital leaders. Many of them were achieving their leadership positions by leapfrogging their counterparts in developed markets.

This year, we are focusing on 100 emerging-market tech challengers—companies with the ambition and potential to reinvent and reshape the industries in which they operate. Their innovative advances, rapid growth, and expanding global positions merit close attention.

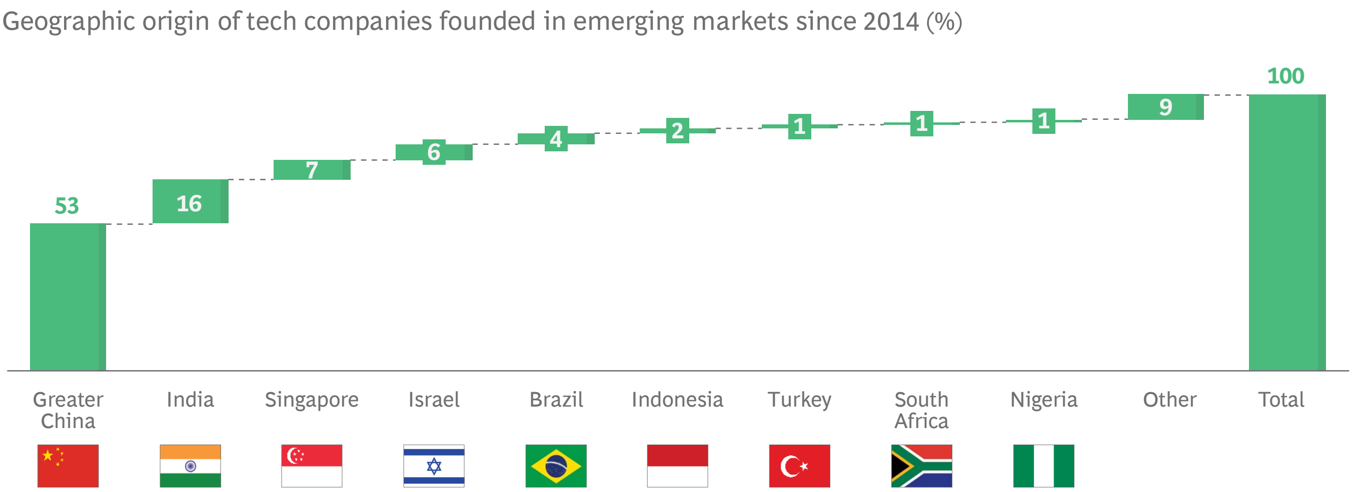
After Alibaba:

The Tech Sector Accelerates in Emerging Markets

China has dominated the emerging-market tech scene for years. A growing number of non-US tech giants—Alibaba, Tencent, and Huawei, for example—grew up there. Almost 90% of the companies in the MSCI Emerging Markets Information Technology Index are based in China.

This is now changing as other emerging markets grow in sophistication, and as entrepreneurs and others improve their access to technology, ideas, and capital. A new generation of younger, smaller, and much more diverse tech companies is making its presence felt. More than 10,000 tech companies have been founded in emerging markets since 2014, almost half of them outside China. (See Exhibit 1.) Among emerging-market tech unicorns (companies valued at $1 billion or more), one-third hail from countries other than China. (See Exhibit 2.)

Exhibit 1 - More than 10,000 Tech Companies Have Been Founded in Emerging Markets Since 2014, Almost Half of Them Outside China



Sources: BCG analysis; BCG Center for Growth and Innovation Analytics.

Note: CapIQ extracted data on more than 10,000 companies founded since 2014. Tech focus defined on the basis of CapIQ industry classification.

One reason for this change in the technology landscape is the appearance of a widening array of tech hubs in emerging markets, many of which are growing more quickly than their developed-market counterparts. For example, India is home to as many new tech players today as France or Germany—but its companies are growing faster. The tech scenes in Singapore and Indonesia are smaller but growing even faster than India's.

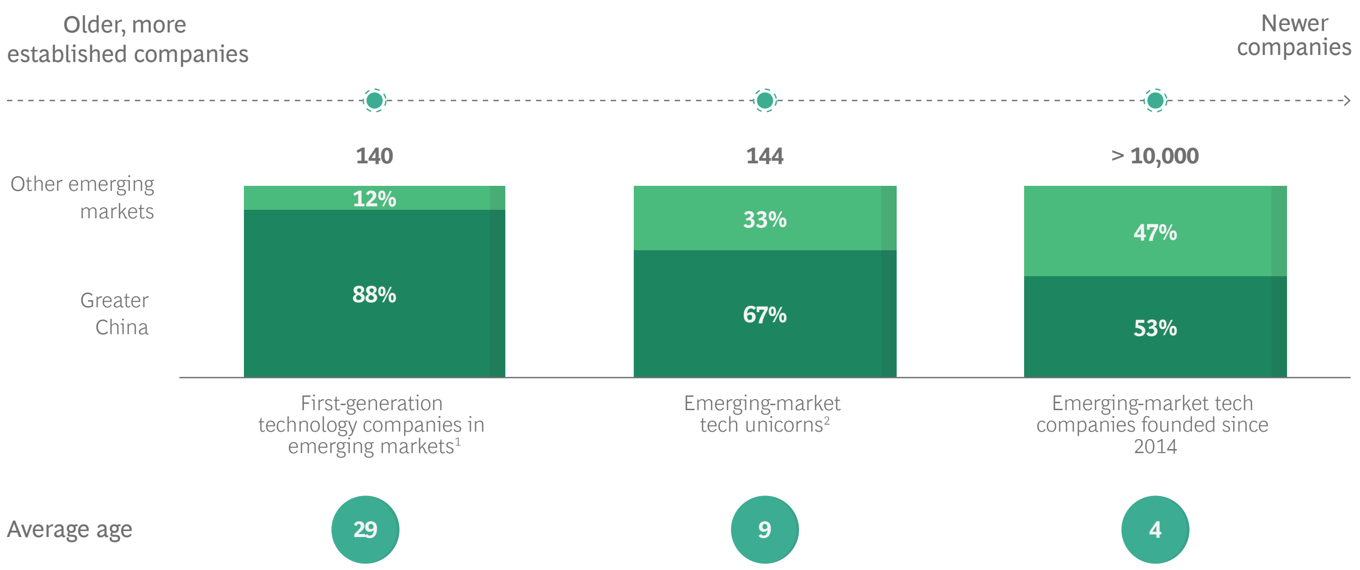
Other countries have seen the value that this approach generates. Take Singapore's Block 71. Starting in 2011, the National University of Singapore, SingTel, and Singapore's Infocomm Media Development Authority collaborated to transform an existing industrial park into a startup center by relocating technology companies that had been spread around the city into one synergistic location. Today, Block 71 is home to hundreds of tech-related startups, investors, and incubators.

In India, similarly, Bengaluru (formerly Bangalore) and Hyderabad have grown into large and vibrant tech centers. Israel has a long record of success in attracting top scientists and in encouraging close collaboration between government and industry to foster technology development. The government of Russia has funded Skolkovo Innovation Center's growth into an important hub for several technologies.

More than 10,000 tech companies have been founded in emerging markets since 2014, almost half of them outside China.

All of these hubs seek to offer an ecosystem environment that attracts entrepreneurs through the availability and interplay of talent, funding, ease of doing business, and connections to larger companies and potential customers.

Exhibit 2 - The Emerging Market Tech Landscape Is Diversifying



Sources: PitchBook; BCG analysis.

[1]Of the 140 companies in the Morgan Stanley Capital International EM Information Technology Index, 82 are from mainland China, 3 are from Hong Kong, and 38 are from Taiwan.

[2]Data as of March 2020.

Meet the 100 Emerging-Market Tech Challengers

BCG's emerging-market tech challengers are active in a wide range of technologies, including hardware, software, cloud computing and services, social media, gaming, artificial intelligence (AI), advanced analytics, and cybersecurity. Many use technology in innovative ways in sectors ranging from education and health care to logistics, financial services, and energy.

Consider, for example, how Southeast Asian ride-hailing company Grab became the leader in the region, besting global leader Uber, by understanding and developing solutions to local needs such as massive traffic jams (customers can order bikes or scooters) and a widespread lack of credit cards (customers pay in cash). Or how Udaan helps small and medium-size businesses in India with a B2B e-commerce platform that addresses trade issues such as sourcing and distribution. Or how Wildberries Marketplace, founded in 2004 by a new Russian mother, enables young mothers to shop for clothes from home. Many of these companies are not yet household names, but they are worthy successors to the previous generation of emerging-market tech leaders, and some will soon be challenging the market position of their forebears.

The BCG Emerging-Market Tech Challengers

Our 2020 list of 100 emerging-market tech challengers consists of companies chosen for their adoption of technology, industry position, business models, and proven market traction. (See Exhibit 3 and the sidebar, "Selection Criteria.")

The challengers are a truly global group, representing 14 countries from all major regions. (See Exhibit 4.) They are active in multiple sectors, spanning B2C and B2B. (See Exhibit 5.) Indeed, while two-thirds of the challengers focus on consumer apps or services, fully one-third are active in B2B, transforming how other companies work. Some are pursuing highly advanced technologies such as semiconductors, AI, and robotics. China's Shenzhen Goodix Technology, for example, offers software and semiconductor solutions for smart devices, IoT applications, and automotive electronics. Israel's Monday.com provides project management solutions to more than 100,000 organizations. Nxin, also of China, operates a digital platform that delivers data, e-commerce, and financial services to the agriculture industry.

Exhibit 3 - The BCG 100 Emerging-Market Tech Challengers

Greater China (40)

- Baozun
- Beike (Real Estate)
- Bilibili
- BYD Electronic (International)
- ByteDance
- Cainiao Network Technology
- Contemporary Amperex Technology
- Didi Chuxing
- Face++
- Fuyoukache
- Genimous Technology
- Goertek
- iFlytek
- JOYY
- Meicai
- Meituan-Dianping
- Mobvista
- Nxin
- OneConnect Financial Technology
- Oppo Electronics
- Pinduoduo
- Ping An Healthcare and Technology Company
- Qutoutiao
- RootCloud
- Sangfor Technologies
- SenseTime
- Shenzhen Goodix Technology
- Shenzhen Hive Box Technology
- Siasun Robot and Automation
- Songshu AI
- Unisoc
- Vivo Global
- Weizhong Bank
- Wuhu Sanqi Interactive Entertainment Network Technology Group
- Xforceplus
- Xiaohongshu
- Xiaomi Corporation
- YITU Technology
- Zhejiang Century Huatong Group
- ZhongAn Online P&C Insurance

India and South Asia (17)

- BigBasket
- BlackBuck
- Byju's
- CureFit
- Delhivery
- Dream11
- Druva
- Lenskart
- Ola
- PhonePE
- Policybazaar
- Practo
- Sterlite Technologies
- Swiggy
- Udaan
- Unacademy
- Zomato

Israel (9)

- CyberArk Software
- ironSource
- Landa Digital Printing
- Monday.com
- OrCam
- Payoneer
- Playtika
- SolarEdge Technologies
- Wix.com

Southeast Asia (8)

- FPT Corporation
- Gojek
- Grab
- Lazada
- Razer
- Sea Group
- Tokopedia
- Visionet International (Ovo)

South Korea (8)

- Coupang
- Kakao
- KakaoBank
- Krafton Game Union
- Market Kurly
- Pearl Abyss
- Ticket Monster
- Viva Republica

Russia, Eastern Europe & Central Asia (6)

- 1C Group
- Mail.ru Group
- Playrix
- Tinkoff Bank
- Wildberries Marketplace
- Yandex

Central and South America (6)

- 99
- Creditas
- iFood
- Nubank
- PagSeguro Digital
- QuintoAndar

Africa (3)

- Jumia
- M-Pesa
- Takealot.com

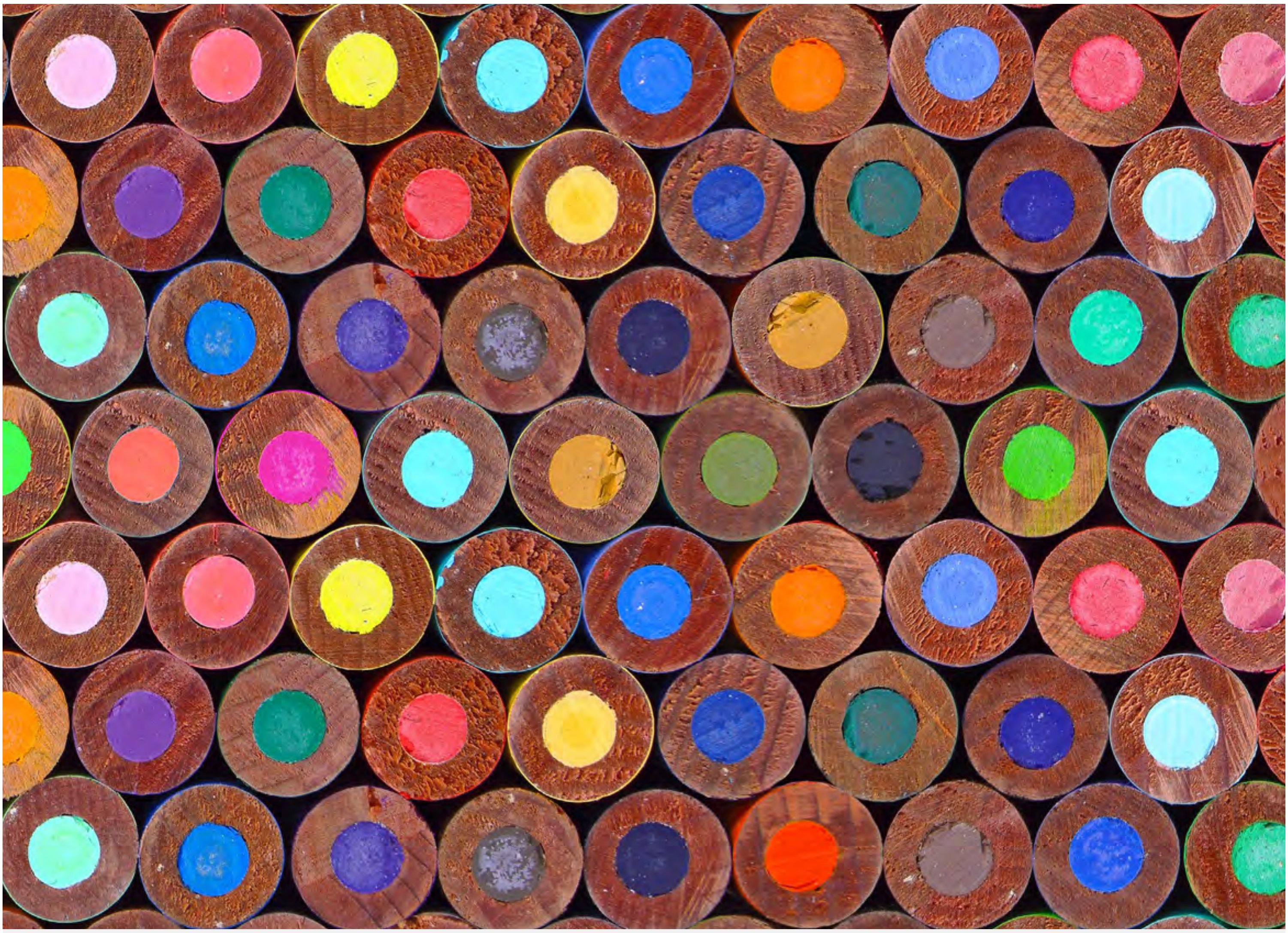
Turkey (2)

- Getir
- Good Job Games

UAE (1)

- Media.net Advertising

Source: BCG analysis.



Selection Criteria

In this report, we identify 100 emerging-market tech challengers—companies that are well established (enterprise value of at least $500 million) but still in their early stages of development, with the ambition and potential to reinvent and reshape entire industries. To qualify for inclusion in this list, a challenger must be tech focused and based in an emerging market (although we have included a few companies from more mature markets—such as Singapore—that serve as regional hubs for technology), have a promising business model, and have demonstrated market traction. For details on the selection criteria we used, see the exhibit.

Six Selection Criteria to Identify Tech Challengers

Top tech players in EMs	1. EM-based (markets excluding the US, Canada, the EU, Japan, and Australia/New Zealand) 2. Tech-focus, including tech-driven solution providers to nontech industries 3. Top 3 in their respective industries in a particular region[1]
+ **Promising business model**	4. Recent valuation/enterprise value[2] at least $500 million 5. Business model assessment by BCG global practice industry experts
+ **Proven market traction**	6. Meet scale and growth thresholds in at least one of these metrics: • Revenue: Scale exceeded 50th percentile, and growth exceeded 75th percentile in a particular region[2] • Unique visitors: Scale exceeded 50th percentile, and growth exceeded 75th percentile in a particular region[3] • Monthly active users: Featured in global top 300 for both monthly active user scale and growth

Source: BCG analysis.

[1]Excludes tech giants—companies with an enterprise value (as of the end of 2019) or valuation (as of the latest funding round) above $20 billion and founded before 2010.

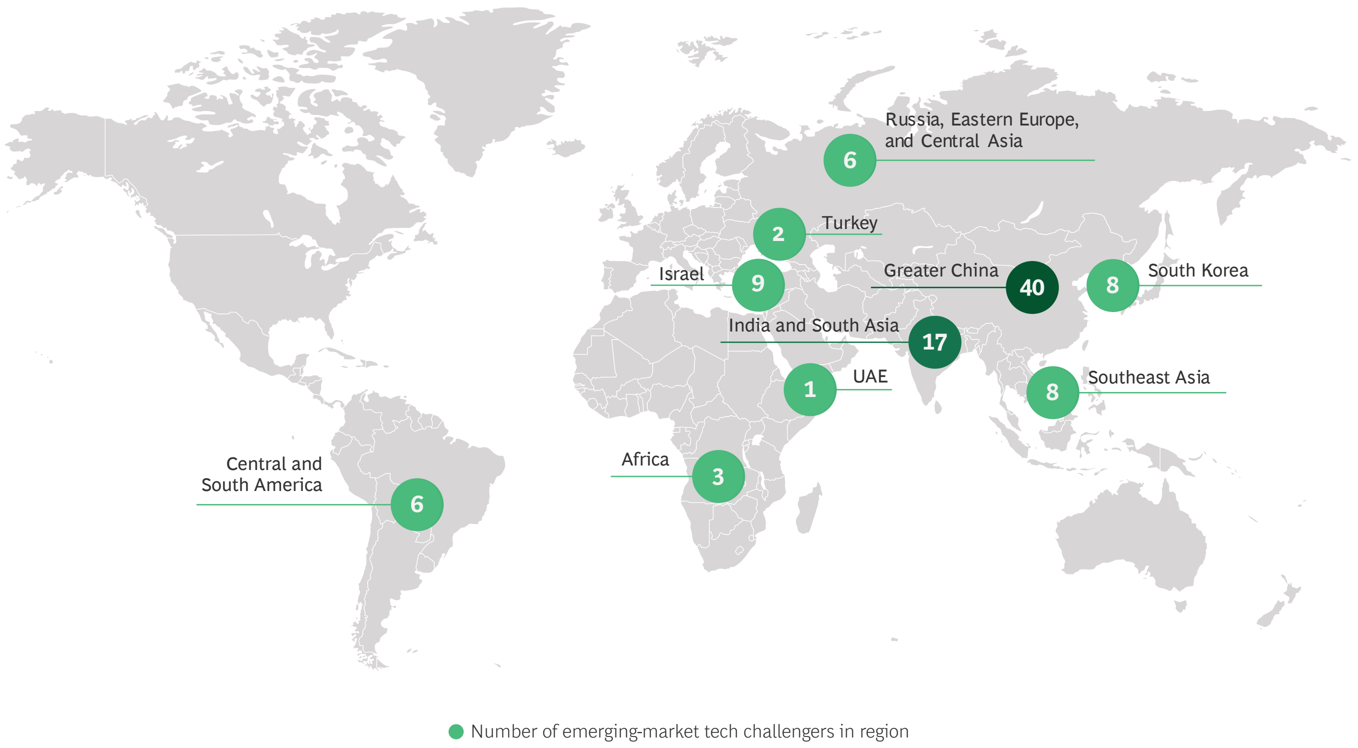
[2]Among tech-focused (but non-tech-giant) companies based in the same region and with an enterprise value or valuation exceeding $500 million. Data reflects the most recent revenues available, ranging from 2016 to 2019; where revenue growth data was not available, qualification was based on passing the revenue threshold.

[3]Among tech-focused (but non-tech-giant) companies based in the same region and with an enterprise value or valuation exceeding $500 million. Data reflects companies' December 2019 size and their two-year CAGR for December 2017 to December 2019.

Some of the companies included on the list are local or regional e-commerce leaders. According to App Annie, Pinduoduo is ahead of both Alibaba's flagship e-commerce platform Taobao and Amazon in global monthly active users. In other sectors, too, our challengers rank among the top companies in their sectors globally. Three of them—37 Interactive, Zhejiang Century Huatong Group, and Sea Group are among the top 25 highest-grossing gaming companies of 2019. More than half of the tech challengers have already expanded beyond their home market, and 40% are active in developed markets. (See Exhibit 6.) Ola, a ride-hailing company based in India, entered the UK market in July 2019 and acquired 3 million customers in more than 20 cities within eight months.

Expansion strategies vary by region and sector. How quickly tech challengers move to replicate their success in other emerging markets or to set up shop in developed markets depends in part on the size of their home country or region. (See Exhibit 7.) Southeast Asian challengers tend to focus on their region, while Chinese and Indian companies split between their large home markets and others. Faced with local markets of limited size, challengers from such countries as Israel and the UAE tend to "go global" from birth. Media.net Advertising, a UAE-based ad tech company founded in 2010, ranks among the top five ad tech companies worldwide by market cap and generates more than 90% of its revenue from developed markets, including the US, the UK, and Canada.

Exhibit 4 - The 100 Emerging-Market Tech Challengers Are Geographically Diverse



Source: BCG analysis.

Among industries, hardware-focused challengers tend to be the most global, reflecting the sector's high fixed costs and global supply chains. Companies that offer consumer-facing apps are more often local and rely on the founder's understanding of local needs and customs.

Beyond Unicorns

The emerging-market challengers have an average valuation of $6.3 billion, which puts most of them well beyond unicorn status. (See Exhibit 8.) Companies based in China and Southeast Asia have the highest valuations—a reflection, in part, of their large local or regional markets. Challengers from India are substantially smaller than the country's GDP or market size would suggest, which may be a sign of a more challenging business environment and the fact that scaling takes time in a large country with evolving digital maturity.

Exhibit 5 - Tech Challengers Are Reshaping Not Only the Tech Sector, but also Many Other Industries

Distribution of tech challengers by industry sector

Sector	Segment	Industry	Number
Hardware	B2B	Semiconductors	2
Hardware	B2B	Components	3
Hardware	B2C	Robotics	1
Hardware	B2C	Consumer devices	5
Software and services	B2B	Enterprise software, cloud, IT services, and others	6
Software and services	B2B	Advanced analytics and AI	3
Software and services	B2B	Cybersecurity	2
Software and services	B2C	Superapp platforms/ ride hailing/ delivery	12
Software and services	B2C	Social and lifestyle	4
Software and services	B2C	Gaming	9
Software and services	B2C	Video streaming	3
Software and services	B2C	Tools and others	3
Tech-driven industry solutions		E-commerce (including B2C and B2B)	13
Tech-driven industry solutions		Financial services (including insurance)	14
Tech-driven industry solutions		Health care	3
Tech-driven industry solutions		Public sector and education	3
Tech-driven industry solutions		Logistics	5
Tech-driven industry solutions		Industrial goods	4
Tech-driven industry solutions		Energy	1
Tech-driven industry solutions		Advertisement	4

Source: BCG analysis.

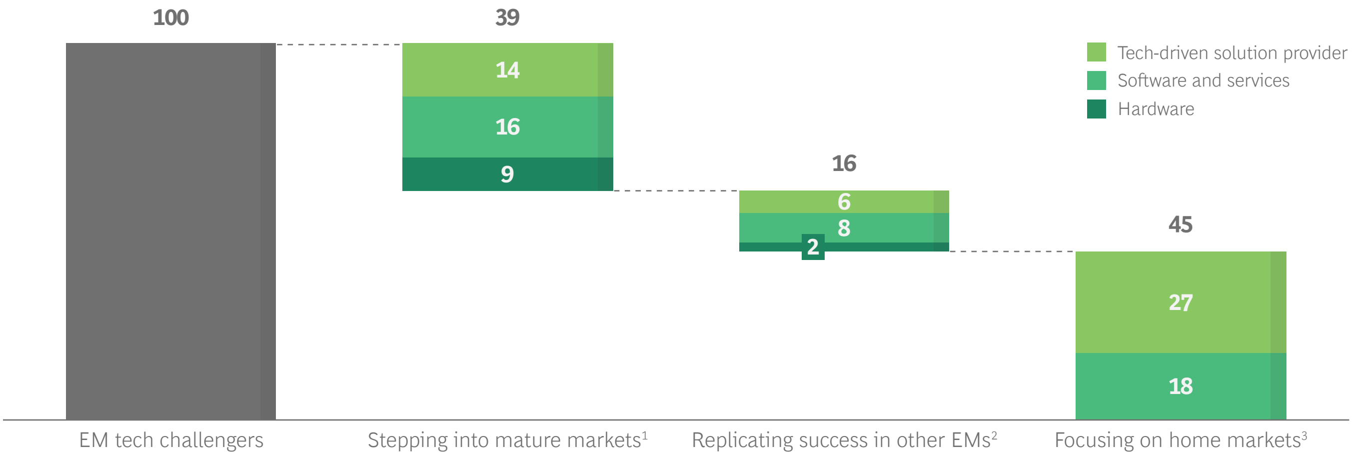
Although tech challengers average $2 billion in revenues each, they are still growing at an average annual rate of almost 70%—six times faster than the tech sector in developed markets. (See Exhibit 9.) Gaming challengers are growing at almost 130% a year, which is 30 times the growth rate of developed-market gaming companies. Industry leader Sea Group of Singapore increased its revenues by 163% between 2018 and 2019, according to NewZoo, which tracks the industry. Sea's FreeFire was the most downloaded mobile game globally in 2019, according to App Annie, and the company is the exclusive operator of multiple global hits in Southeast Asia, including League of Legends, Arena of Valor, and FIFA Online 3. Tencent took a 40% stake in Sea Group in 2017. Playrix, a Russian mobile game developer, has delivered several international hit games, including in China and Japan, which is rare for a non-Asian firm.

Overcoming COVID-19

Since the beginning of the COVID-19 crisis, tech categories have tended to do well, with increases in both users and usage. Indeed, some sectors, such as edtech, gaming, and video streaming, have seen accelerated growth, owing to changes in consumer habits. (See Exhibit 10.) Sea Group's stock price has jumped by a factor of 3.5 since April 1, 2020, and the company's market capitalization exceeded $72 billion as of mid-September.

Exhibit 6 - Most Tech Challengers Have Expanded Beyond Their Home Markets

Distribution of tech challengers by global footprint



Sources: Capital IQ; PitchBook; Press research; BCG analysis.

Note: EM = emerging market.

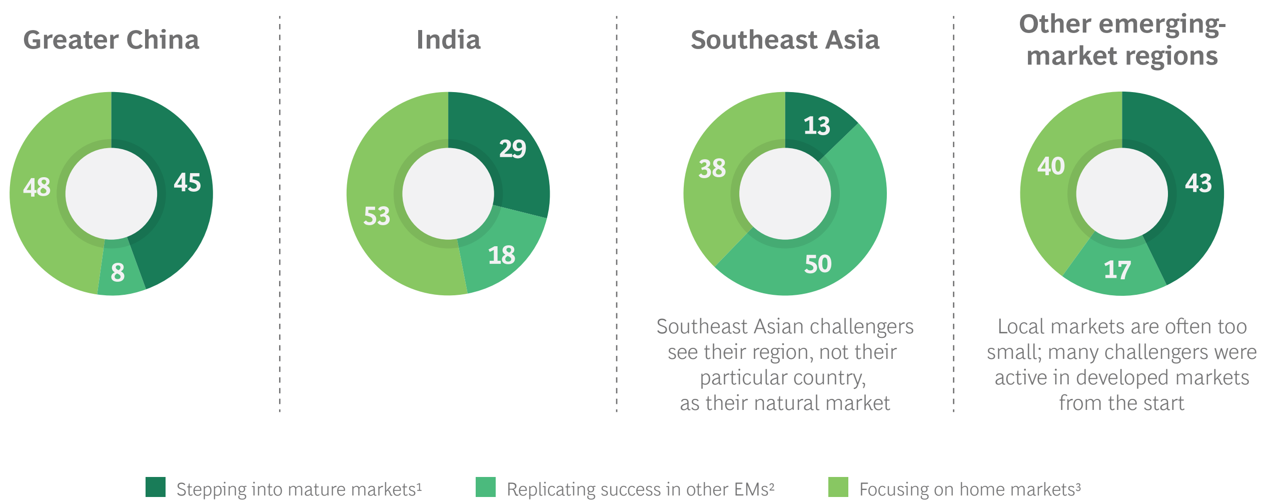
[1]A tech challenger qualifies as "stepping into mature markets" if it meets any of three definitions: (1) more than 5% of its revenue comes from mature markets; (2) if it is B2B, it has one or more major market-based clients; (3) if it is B2C, it has one or more offices in mature markets.

[2]A tech challenger qualifies as "replicating success in other EMs" if it meets any of three definitions: (1) more than 5% of its revenue comes from non-home EMs; (2) if it is B2B, has one or more non-home EM-based clients; (3) if it is B2C, it has one or more offices in non-home EMs.

[3]A tech challenger qualifies as "focusing on home markets" if more than 95% of its revenue comes from its home markets.

A number of tech challengers have been particularly innovative in responding to the pandemic. QuintoAndar, a platform for house renting, buying, and selling in Brazil, has used its strength in social media to launch a "Neighborhood Classifieds" program that helps small and medium-size enterprises owned by clients whose businesses have been affected by the pandemic showcase their products and services. More than 1,400 entrepreneurs registered in three days alone, and the company is considering continuing the site in the post-COVID-19 period, given the program's highly positive reception. In Russia, Yandex, a search engine giant that offers an ecosystem of more than 80 services, launched a free online education platform, Yandex.School, providing live lessons and learning tools. Students viewed its lessons more than 3 million times in the first month, and more than 40,000 students simultaneously attended a single lesson.

Exhibit 7 - Expansion Strategies Differ Sharply by Country of Origin—and Finding a Market Large Enough to Grow In Is Critical



Sources: Capital IQ; PitchBook; press research; BCG analysis.

Note: Because of rounding, not all percentages given add up to 100%. EM = emerging market.

[1]A tech challenger qualifies as "stepping into mature markets" if it meets any of three definitions: (1) more than 5% of its revenue comes from mature markets; (2) if it is B2B, it has one or more major market-based clients; (3) if it is B2C, it has one or more offices in mature markets.

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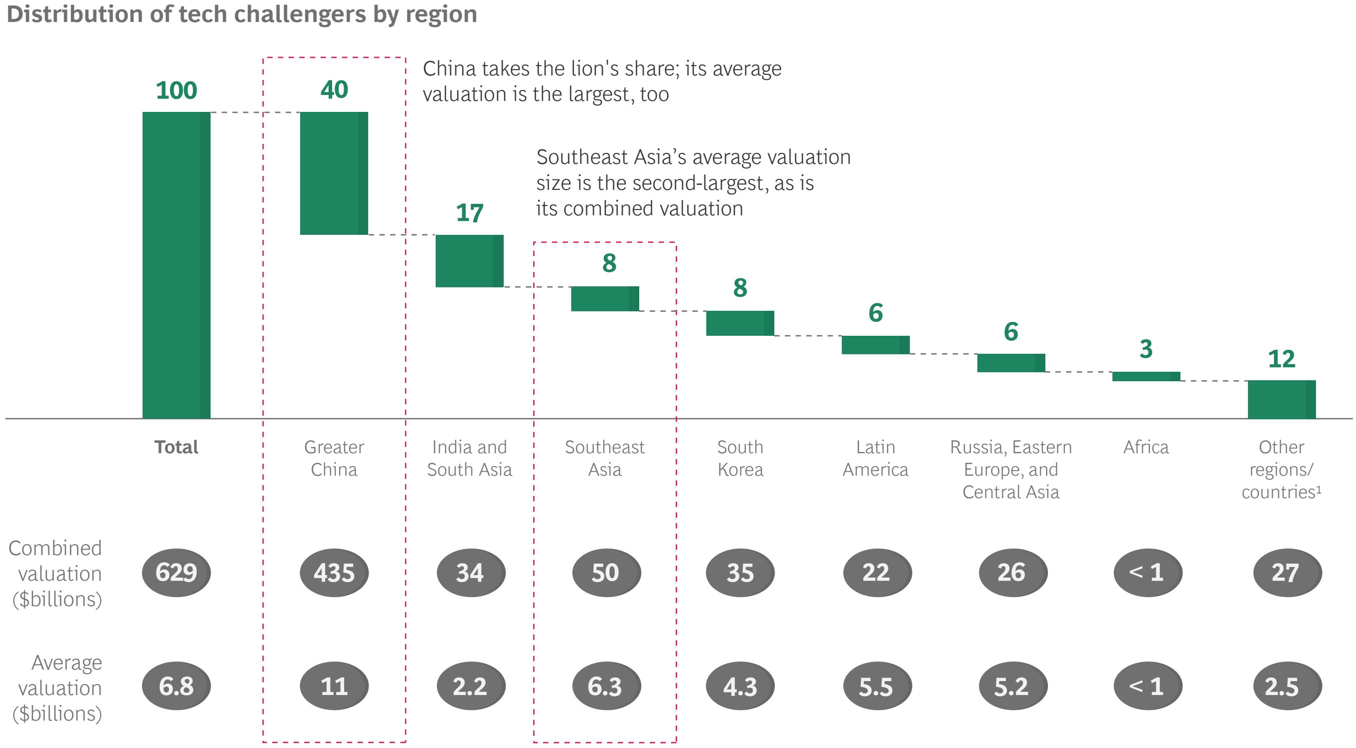
[3]A tech challenger qualifies as "focusing on home markets" if more than 95% of its revenue comes from its home markets.

Exhibit 8 - Emerging-Market Tech Challengers Have an Average Valuation of Almost $6.3 Billion

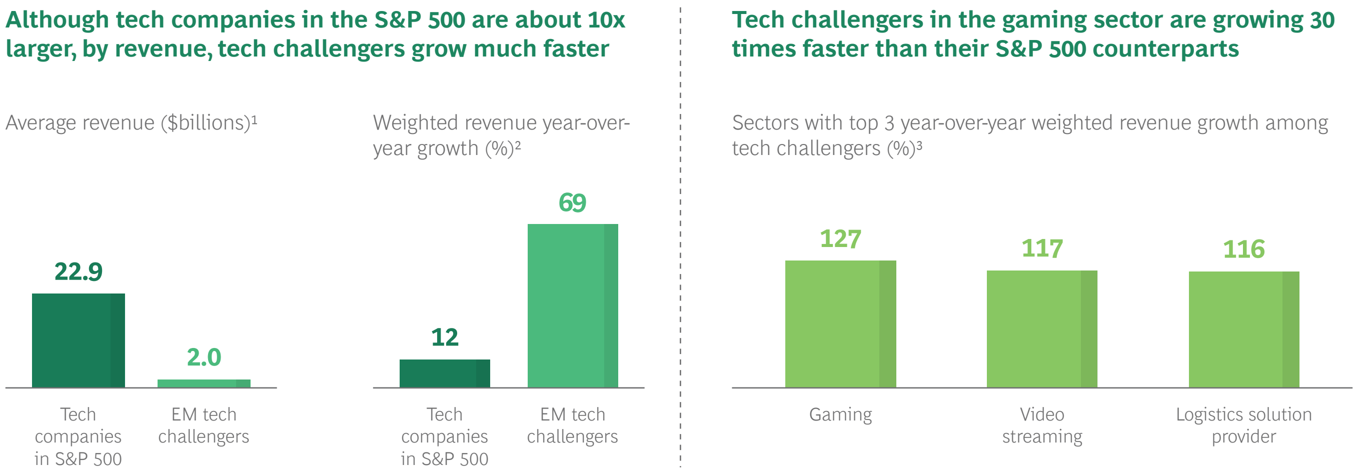


Sources: Capital IQ; PitchBook; press research; BCG analysis.

Note: Enterprise value used for public companies; valuation/EV data available for 92 companies among 100 emerging-market tech challengers.

[1]Includes Israel, Turkey, and UAE.

Exhibit 9 - The Tech Challengers Are Growing Six Times Faster than S&P 500 Tech Companies



Sources: Capital IQ; PitchBook; press research; BCG analysis.

Note: EM = emerging market.

[1]Based on the most recent revenue data available (ranging from 2016 to 2019); data available for all S&P 500 tech companies and for approximately 90% of tech challenger companies.

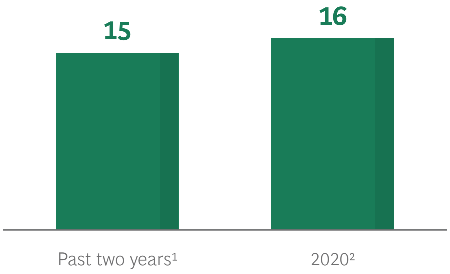
[2]Based on the most recent revenue growth data available, weighted by recent revenue; data available for all S&P 500 tech companies and for approximately 70% of tech challenger companies.

[3]The advanced analytics and AI sector is excluded due to a growth anomaly involving one company.

Exhibit 10 - Tech Challengers Are Weathering the COVID-19 Crisis Well—and Some Are Benefiting from Changing Consumer Habits

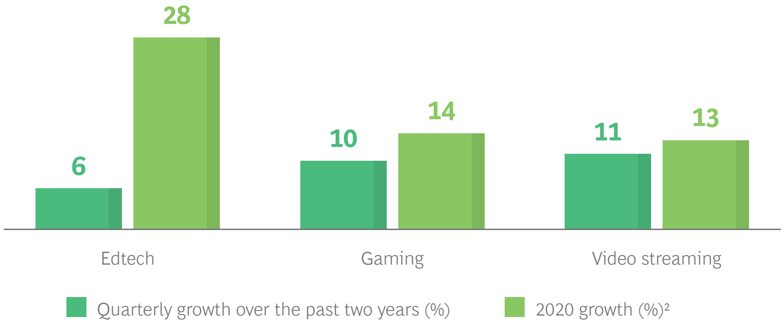
COVID-19 hasn't stopped tech challengers as a group from growing

Quarterly growth rate in total user time spent on app (%)



Edtech, gaming, and video streaming challengers are primary beneficiaries

Top 3 sectors among challengers with largest MAU growth acceleration



Sources: App Annie; BCG analysis.

Note: This exhibit focuses on B2C players out of 100 tech challengers. MAU data is available for 42 players out of 69 B2C challengers. Data on "total time spent" and "average time spent per user" is available only for Android apps; we considered only apps with complete data points for three different periods: December 2017, December 2019, and August 2020. MAU = monthly active users.

[1]Quarterly growth rate based on December 2017 and December 2019 monthly data.

[2]Data covers the first nine months of the year.

A Hotbed of Innovation

Conventional wisdom often ascribes the success of the tech sector in emerging markets to a couple of factors. One is the ability of such companies to quickly copy and reproduce innovative technology invented elsewhere. Another is the labor cost advantage that many people think emerging markets have over their developed counterparts.

Our tech challengers put the lie to both assumptions. These companies are innovative in their own right and in several different ways. Some develop products and services designed to solve problems that are prevalent in emerging markets. Others go beyond new products and services to innovate transformative business models in their industries. Still others take their innovations beyond their home markets and bring them to a global level.

Products and Services to Address Emerging-Market Issues

Many tech challengers are using their capabilities to solve problems specific to emerging markets, such as limited financial inclusion and restricted access to education. In doing so, they often leapfrog more mature markets—for example, by taking unbanked populations straight to digital banking. According to the *South China Morning Post*, Ping An Good Doctor, already China's largest mobile medical platform, saw a tenfold increase in its daily number of new registered users during the early days of the COVID-19 outbreak, as it offered free online and telephone consultations on the virus.

Creditas

In Brazil, the fintech Creditas, founded in 2012, fills a longstanding gap in a market where borrowers are used to paying more than 200% interest on consumer loans. Creditas pioneered collateralized loans, which Brazilian banks have not traditionally offered. The company's CEO, Sergio Furio, has described Creditas as a technology company that is active in finance rather than a finance company that uses technology. Creditas operates according to a novel model, the Opportunity Solution Tree, designed by Teresa Torres. Product managers begin by establishing a business objective or outcome and listing opportunities that give rise to the desired impact. Then they design solutions for each opportunity, and finally they define how they will test each case. Creditas plans to increase its use of advanced technologies such as AI and data analytics to improve its predictive efficiency and decision-making capabilities.

$700 million
Enterprise value (December 2019)

2.6 million
Monthly unique visitors (December 2019)

181%
Growth in monthly unique visitors (2017–2019)

Byju's

India's Byju's is circumventing the lack of education infrastructure in rural India by offering digital educational content through a mobile app and a personalization engine that reflects students' individual learning profiles. It is democratizing access to high-quality education in 1,700 towns outside India's large metropolitan cities with a "freemium" model and programs for grades 1 through 12. By 2019, Byju's had acquired more than $750 million in funding from venture investors in Asia, Europe, and the US. It was the world's most highly valued edtech company in 2019.

40 million
Registered users

3 million
Paid subscribers

$5 billion
2019 valuation

M-Pesa

One of the earliest tech challengers, M-PESA, provides mobile money and fintech services in Kenya and elsewhere in Africa to overcome the lack of traditional banking services. M-PESA uses the broad customer base and retail footprint of a telecom operator to distribute financial services. Founded as a joint venture of Vodafone and Safaricom in 2007, M-PESA is now Africa's most popular payments platform, with 42 million active customers across seven countries conducting 12.2 billion transactions a year. In recent years, M-PESA has expanded beyond payments to provide services such as savings and loan accounts, overdraft facilities, health insurance support, and commercial financial services for groups such as farmers.

> 40 million
Users

> 1 billion
Transactions processed each month

Tech challengers reimagine the value chains of their industries, rethinking how players collaborate, to address inefficiencies and deliver better outcomes to customers.

Policybazaar

In 2008 Policybazaar set out to reinvent India's insurance industry. Consumers seeking security and savings had to battle a pervasive lack of information on products, low levels of transparency, and mis-selling. Policybazaar started as a policy comparison website but soon evolved into an insurance marketplace, using customer data to refine its offers and features and giving consumers transparency and ease of comparison among insurance products. It now handles all types of policies—including life, health, auto, and travel—with 250 plans from 50 insurance brands. It claims to process as much as 25% of India's life insurance and more than 10% of the nation's health insurance coverage. In addition to simplifying the tasks of downloading a policy, calculating its cost, and upgrading it, the company's mobile app offers innovative non-insurance features such as the ability to find a hospital or a garage. Policybazaar had more than 100 million website visitors and 10 million unique customers in 2019, when it sold an average of 400,000 insurance policies each month.

6.9 million
Unique monthly visitors (December 2019)

75%
Visitor CAGR, December 2017–December 2019

$2 billion+
Enterprise value

Cainiao Network Technology

China is the world's most vibrant e-commerce market, which has increased the country's need for robust logistics support. But historically, competition among a multitude of uncoordinated logistics providers using archaic systems and varied manual processes led to inefficiencies and slow delivery. As a result, merchandise could be stuck in a warehouse for ten days or more before being delivered.

Enter Cainiao Network Technology, the "network of networks," which has built an innovative business model as the technology-driven orchestrator of a major logistics network. It has connected more than 200 logistics partners globally by integrating industry resources into the same platform. Its all-in-one service platform manages order placement, payment, and tracking as well as real-time status information—regardless of delivery partner. In 2019, during the 11.11 Global Shopping Festival (which sees e-commerce volume four times the size of Black Friday or Cyber Monday in the US), Cainiao coordinated delivery partners to process 1.3 billion delivery orders within 24 hours; and 100 million orders placed on 11.11 were delivered within 2.4 days, down from nine days in 2013 (when Cainiao was founded). In the 2020 fiscal year, the company reached $3.14 billion in revenue. Its network now serves 224 countries and regions.

$2 billion
2019 revenue within six years

2.4
Days to deliver 100 million parcels down from 9 in 2013

200
Markets reached by its network

Innovation on a Global Stage

Although the ability of tech challengers to innovate is broadly recognized within their home markets, in some cases their reputation and capabilities as innovators travel much farther.

KakaoBank

Innovative offerings have made South Korea's KakaoBank, started by the popular Kakao instant messaging service, the most successful digital bank globally. In an industry where few digital banks achieve both mass-market penetration and profitability, KakaoBank has done so, reaching breakeven in just three years. The company enjoys access to a large user base through its parent, but its success also stems from innovative, customer-centric products that resolve basic issues such as seamless money transfer (customers can select their KakaoTalk contacts as recipients, regardless of where they bank) and transparent bill sharing and budgeting (members of a KakaoTalk social group can automatically split a dinner bill at a restaurant, for example). Opening a KakaoBank account typically takes a KakaoTalk user about five minutes.

3 years
To reach break-even among the fastest in the world

> 20%
Share of adult South Koreans with a KakaoBank account 5x higher than leading players in mature markets

#1
Banking app in South Korea by number of visitors with $19 billion in deposits and $15 billion in lending

ByteDance

It is fair to say that ByteDance and its global TikTok app (which does not even operate in China) have upended the worldwide social media industry, long dominated by US players such as Facebook, Instagram, and Twitter. TikTok has an estimated 800 million monthly active users worldwide, more than 100 million of them in the US.

TikTok has become a favorite of advertisers as well. Precision marketing driven by advanced customer insights leads to high conversion rates, high prices, and a high ad load. TikTok commands three- to ten-times-higher unit prices and a 5% higher ad load than its peers. TikTok's parent company has ridden its AI-driven personalized content to the position of being the world's highest-valued unicorn, with a recent valuation of $90 billion to $100 billion, according to the *Economist*. Facebook has been replicating some features initially introduced by TikTok.

2 billion
TikTok app downloads

52 minutes per day
Average time users spend on TikTok app

83%
Percentage of TikTok users who have posted a video

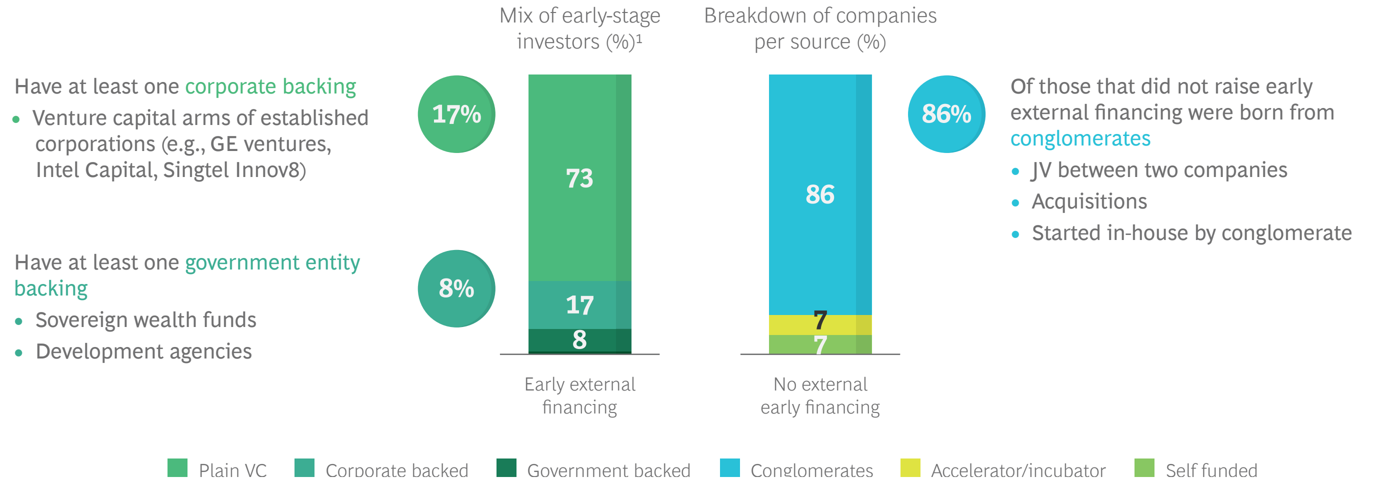
Not Born in a Garage

In Silicon Valley, almost every successful company is supposed to have its roots in "two guys in a garage" (or a Harvard dorm room)—and many do. The story is different in emerging markets. Tech challengers also take more varied routes to growth and expansion as they mature.

Getting Started

Emerging-market startups have drawn on multiple sources of early funding and assistance—including government backing, corporate venture capital funds or incubators, and conglomerates—depending in part on where they are located. (See Exhibit 11.) In China, for example, the government funds basic research and facilitates innovation, consistent with its long-term technology goals. Chinese tech giants also invest heavily in R&D, and their digital platforms are important tools for accelerating the development of other technologies. China has developed a three-legged funding system, similar to the one in the US, where tech-centric universities spin off entrepreneurs and startups, venture capital investors provide capital, and public markets enable both payoffs and broader investment opportunities through IPOs.

Exhibit 11 - Many Tech Challengers Are Backed by Conglomerates, Foreign Tech Companies, and Sovereign Wealth Funds



Sources: Expert interviews; PitchBook; literature research; BCG analysis.

Note: We used publicly available data for 83 of our 100 tech challengers: 69 of them raised early external financing (seed, Series A, Series B, Series C) while 14 did not.

[1]Many of the companies that raised external financing had several types of highlighted investors in their early funding rounds. We have counted them as separate companies to indicate the representative mix of investor activity in these stages of fund raising, in the absence of disclosed information about the dollar amount invested per investor. Analysis excludes corporate incubator programs (such as Microsoft Scale Up).

It is not unusual for the backing to extend beyond funds to include access to the backers' resources, know-how, and customers, all of which can provide early advantage. To become Indonesia's leading digital payment, rewards, and financial services platform, Visionet International (Ovo) at an early stage tapped into the customer and merchant base of its parent company Lippo Group, a mall operator. Ovo built its strategy on an open ecosystem approach and an integrated model that create an inclusive financial ecosystem of merchants and partners.

With more than 700,000 merchants participating, Ovo has been downloaded to 115 million devices—and customers can use it anywhere to access payments, make transfers, top up accounts, and withdraw money, as well as to perform asset and investment management. Ovo is accepted in more than 373 cities and administrative regencies across Indonesia.

Corporate backing of early tech startups primarily takes two forms. One is corporate venture capital support. Established tech giants from the US, China, and elsewhere are now investing in emerging-market tech companies, and our challengers are leveraging this influx of funds and know-how to fuel their growth.

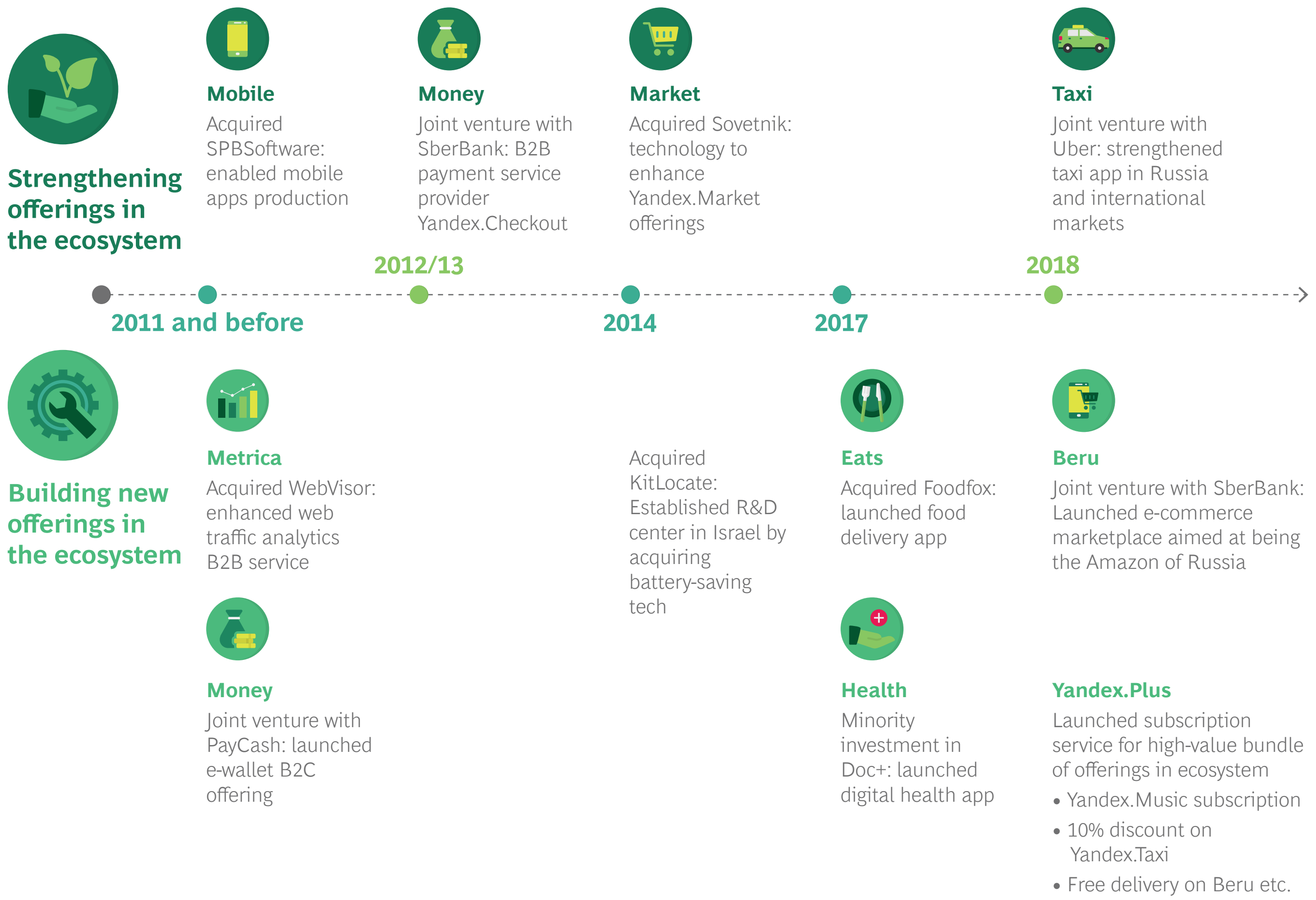
For example, QuintoAndar, founded in 2013, grew quickly to become Brazil's leading real-estate tech firm and, in 2019, its latest unicorn—in part because of corporate-backed venture funding from Qualcomm Ventures, the venture capital arm of the US semiconductor giant. QuintoAndar uses a credit analysis algorithm to reduce rental agreement processing time from more than 40 days to just 3. It has also helped shorten the home-buying process from more than 450 days to 30. Its end-to-end real estate platform handles monthly rental payments to landlords, ensuring that they receive the rent on time, even when tenants default, and covering the cost of any outstanding property damage at the end of the lease.

The other form of backing consists of large companies or conglomerates setting up their own ventures, as we have seen with Kakao, Lippo, Ping An, and Safaricom/Vodafone. Several factors distinguish successful corporate ventures, including identification of unmet needs in emerging markets that new technology can effectively address, a clear vision and bold ambition to reshape industries, and a willingness to make commensurate investments. Corporate parents often separate startup entities so they have room to experiment at scale.

Growing Up

Young tech challengers pursue multiple paths to growth and expansion. They are willing to embrace ecosystems early in their development. Many of them transcend industry boundaries and the online-offline divide through partnerships and M&A. The history of Russia's Yandex, which started as a search engine but now has more than 80 million active monthly users, illustrates how these companies can grow and add capabilities and services. (See Exhibit 12.)

Exhibit 12 - Yandex Has Been Shaping a Rich Ecosystem Through M&A and Joint Ventures



Sources: Media coverage; Yandex website; BCG analysis.

$6.3 billion

Average valuation of emerging-market challengers

Most tech challengers have already grown well beyond unicorn status.

In Southeast Asia, Gojek has fueled its growth by expanding into new markets and adding new products and services through in-house development as well as M&A and partnerships. To augment its initial ride-hailing business, the company linked its rider platform with other transportation systems in Jakarta and expanded into related businesses such as food delivery, payments, and logistics.

China's Xiaomi Corporation is best known as a fast-growing maker of smartphones and smart hardware. Founded in April 2010, it is currently the world's fourth-largest smartphone manufacturer. Since its inception, the company has used venture investments, startup incubation, and partnerships to build a vast ecosystem of related businesses. These measures have taken Xiaomi into multiple sectors and resulted in more than 2,000 SKUs of smart home appliances, smart lighting, audio and video equipment, consumer electronics, mobility, and wearables. Its ecosystem is notable for the diversity of its partners and types of partnerships.

Emerging-market players tend to embrace ecosystems—both within the tech sector and across the online-offline divide—more often and much earlier than developed-market companies do. For example, Grab and Gojek were quicker than industry leaders Uber and Lyft to enter related businesses (such as food and parcel delivery) with ecosystem partners.

Recent BCG research suggests that the more partners an ecosystem has and the more industries they represent, the better the ecosystem will fare. Whereas the average ecosystem has 27 partners, the most successful digital ecosystems have about 40. The same is true of geography: the wider an ecosystem's geographic reach, the better. On average, successful digital ecosystems have partners in 10 or more countries, while typical ecosystems have just 5. For example, Ant Financial, an emerging-market tech giant, has core partners in 13 countries in the Americas, Europe, Asia, and Australia.

Adversaries or Allies?

Incumbents, take note. Emerging-market tech challengers are reshaping the tech sector, as well as many other industries where they see opportunities for innovation, and many are keen to expand beyond their initial market or sector. These companies are the competitors and collaborators of the future.

Adversaries

Tech challengers are already generating intense competition across industry sectors. They face incumbents on three main types of battlegrounds.

The first is existing revenues and profit pools in local markets, which challengers attack through technological and business innovation. KakaoBank has made major inroads in South Korea's banking industry, competing for consumers' deposits and loans. Gaming companies such as Sea Group are competing with established media companies for consumers' eyeballs and time. Getir in Turkey is vying for share in the groceries market through its ultrafast delivery system.

The contours of the second battleground are less sharply defined but involve a focus on future value pools of emerging markets. The ongoing competition for the Indian e-commerce market is a prime example, pitting complex alliances of local tech companies and industry giants against one another (Flipkart-Walmart versus Jio-Facebook, for example). In Southeast Asia, Grab and Gojek are strengthening their superapp status and claiming an ever-growing share of consumers' digital spending.

The third battleground is global, as some tech challengers reach far beyond their local markets to establish an international presence. This is the path taken by ByteDance as it vies for social media dominance and by the Israeli company OrCam as it provides life-changing technology for people who suffer from visual impairment.

Intensifying the competition on all of these battlegrounds are the challengers' appetite for growth, their ability to innovate, and their willingness to attack new sectors beyond their core businesses.

Allies

Challengers also provide opportunities for partnership and collaboration. Their tendency to work through ecosystems encourages them to be more open to collaborative models than many of their predecessors were.

Some have staked out useful places in their industries' value chain, offering established incumbents new products and services as well as better models for serving customers. Cainiao harnesses technology to provide logistics support to the Chinese e-commerce sector. Chinese handset manufacturer Xiaomi has established strong ties with chipset manufacturers and chipset suppliers.

Challengers can also increase incumbents' market access. Practo, for example, has built a valuable distribution channel in India, improving the health care system for both patients and doctors.

Partnerships between challengers and incumbents sometimes take much stronger forms as they join forces to innovate in their markets and attack new sectors. Consider the joint application of Southeast Asian ride-hailing company Grab and regional telecommunications group Singtel for a digital banking license in Singapore. For its part, Yandex has both partnered with and acquired existing players to strengthen its offerings and develop new ones.

Recognizing the value and the collaboration potential of challengers, many incumbents see them as attractive opportunities for investment or even acquisition. Walmart acquired a majority stake in India's Flipkart. In Southeast Asia, e-commerce company Lazada attracted investments from multiple international companies, including the UK's Tesco and Germany's Rocket Internet, before selling a controlling stake to China's Alibaba in 2016. Earlier this year, US gaming company Zynga announced that it would acquire Istanbul-based Peak Games.

Whether as adversaries or as allies, emerging-market tech challengers are a force to reckon with. They are growing fast and reshaping industries, markets, and value chains. Incumbents need a clear strategy and a pragmatic approach to prepare themselves for potentially disruptive sources of competition and to capture opportunities to collaborate with these up-and-coming companies.

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