

THE MOST INNOVATIVE COMPANIES 2014

BREAKING THROUGH IS HARD TO DO



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KIM WAGNER

ANDREW TAYLOR

HADI ZABLIT

EUGENE FOO

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CONTENTS

- 3 EXECUTIVE SUMMARY**
- 6 INNOVATION IN 2014**
 - Despite Sectoral Shifts, Innovation Remains a Priority
 - The 50 Most Innovative Companies: Automakers Downshift
 - RDEs Raise Their Game
- 10 SETTING A FOUNDATION FOR
BREAKTHROUGH INNOVATION**
 - Breakthrough Innovators Are Strong Innovators First...
 - ...But Stand Out from Strong Innovators in Three Ways
- 14 A DIGITAL DISCONNECT IN INNOVATION?**
 - Consumers Embrace Digital Innovations Before Most
Industries Do
 - Strong Innovators “Get” Digital
- 18 A BREAKTHROUGH INNOVATION
CULTURE AND ORGANIZATION**
 - Innovation as a Cultural Imperative
 - Organizational Priority
 - Centralization and Incubation
- 23 APPENDIX**
- 24 NOTE TO THE READER**

EXECUTIVE SUMMARY

INNOVATING ISN'T GETTING ANY easier. Nor any less important. Our ninth innovation report since 2005 finds that although innovation remains a top corporate priority, executives are feeling less confident in their innovation capabilities. It's no longer enough to be good at incremental innovation. Multiple factors are raising the bar and—in the eyes of business leaders—increasing the need for breakthrough innovations. But very few companies are prepared to break through. This year's report concentrates on what separates breakthrough innovators from the rest. It also spotlights a troubling digital disconnect. And, of course, it presents our 2014 list of the 50 most innovative companies.

Innovation remains a top priority, with some significant sectoral and regional developments.

- Three-quarters of the 1,500 global senior innovation executives we surveyed in 2014 reported that innovation is among their top three priorities. More than 60 percent plan to spend more on innovation this year than they did in 2013.
- In the 2014 ranking of the 50 most innovative companies, all of the top 5 spots, 7 of the top 10, and 21 of the top 50 are occupied by technology and telecommunications companies—the most since 2010. **Consumer industries, capturing 10 of the top 50 spots, represent the second-largest share.**
- Automakers reported both a 26 percent decline in innovation priority (from 84 percent to 62 percent) and the second-largest drop in the intention to spend more (from 71 percent to 62 percent). Only nine auto companies made the top-50 list in 2014, and only four ranked in the top 20.
- Companies in rapidly developing economies are particularly aggressive pursuers of innovation. A majority of strong innovators

from the BRIC nations—Brazil, Russia, India, and China—currently generate more than 20 percent of their sales from new products and services created within the past three years.

Innovation is hard. Breakthrough innovation is even harder. Too many companies want to shoot for the moon when their innovation programs are barely airborne.

- Only 13 percent of respondents have a significant ambition to deliver radical innovation. More than 40 percent of these would-be disruptors indicated that their companies' innovation capabilities are average at best. Executives from companies with strong innovation capabilities and disruptive ambitions—a group we call breakthrough innovators—represented just 7.6 percent of our sample.
- Breakthrough innovators are strong innovators first. (See *Lessons from Leaders: The Most Innovative Companies 2013*, BCG report, September 2013.) But they stand out from strong innovators in three ways: they cast a wider net for ideas, they use business model innovation more, and they have cultures geared toward breakthrough success.
- Almost half of breakthrough innovators report that they have generated more than 30 percent of sales from innovations that occurred in the prior three years—more than twice the average for all companies.

Companies specializing in digital technologies dominate the list of most innovative companies. But only about a third of all executives projected that big data and mobile would have a significant impact on innovation in their industries over the next three to five years. Even fewer are actually investing in these areas.

- Software is the only industry in which a majority of respondents see big data as having a significant impact on innovation. Telecommunications is the only sector in which a majority of respondents cited mobile as important to medium-term innovation. In both industries, however, significantly less than half of respondents said that their companies are targeting these technologies in their innovation programs.
- We had expected to see the most intensive innovation focus in the area of big data, given its demonstrated ability to generate new products, markets, and revenue streams. But three-quarters of our respondents said that their companies are not targeting big data in their innovation programs.
- Strong innovators are three times more likely to leverage technology to enhance their value proposition or improve operations, use big-data mining for new project ideas, and actively target innovation in digital design and mobile products. Two-thirds of breakthrough innovators said that they frequently generate new product ideas and ideas for growth from social media and big-data mining.

Successful innovators, both strong and breakthrough, work hard to make sure that the value of innovation is reflected in their corporate cultures and to see that they are organized to move new ideas forward.

- Strong innovators put a high value on innovation. They demonstrate a consistent commitment, even—or especially—in the face of failure. They encourage collaboration, reward ideas, and seek to capitalize on good ideas both quickly and with an appropriate level of support. Breakthrough innovators take several of these attributes even further.
- Breakthrough innovators are especially effective at bringing together the pieces required for radical innovation and organizing them for high impact. There are at least a dozen factors related to management, governance, and organization design that can have a major impact on any company’s innovation program. Breakthrough innovators corral them all.

Two-thirds of all breakthrough innovators state that all innovation and product development is controlled and driven by a centralized organization, at least in its initial stages. More than 70 percent have a different organizational entity for managing radical innovation.

INNOVATION IN 2014

THREE-QUARTERS OF THE 1,500 global senior innovation executives we surveyed in 2014 reported that innovation is among the top three priorities for their companies. And 61 percent indicated that they are spending more on innovation this year than in 2013. While these numbers are largely consistent with those for 2013, important differences emerge when we look behind the averages at individual industries and countries. Notably, we see sharp shifts in the innovation stance of specific industries, a big change in the industry mix, and a heightened

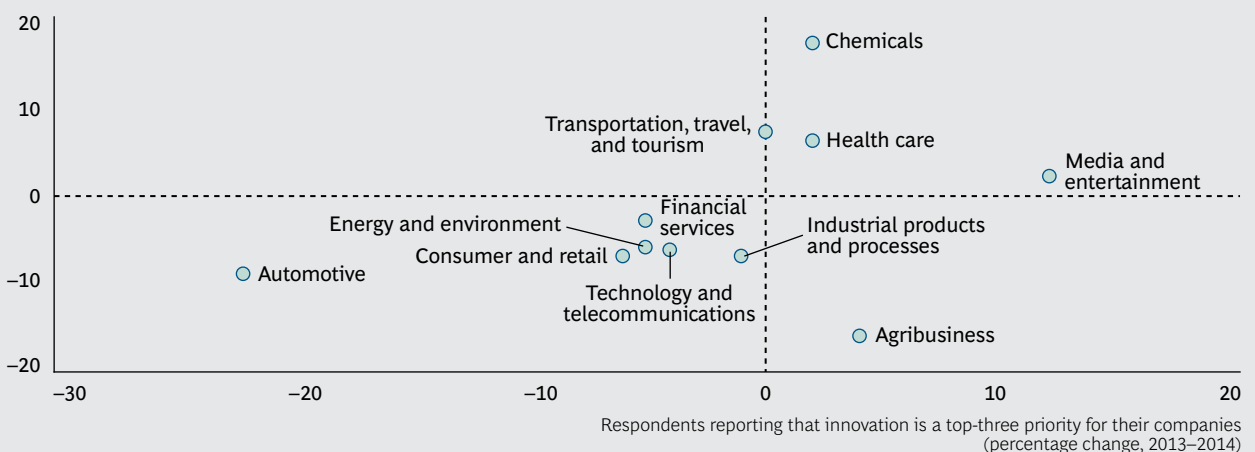
priority on innovation in rapidly developing economies (RDEs).

Despite Sectoral Shifts, Innovation Remains a Priority

Overall, we saw only a 2 percentage point decline in the priority of innovation from 2013 to 2014—and a 3 percent decline in the proportion of respondent organizations that are spending more on innovation in 2014 than in 2013. But several sectors showed bigger shifts. (See Exhibit 1.)

EXHIBIT 1 | Shifting Priorities and Spending Plans, by Industry

Respondents reporting a year-over-year increase in innovation spending (percentage change, 2013–2014)



Source: 2013–2014 BCG Global Innovators surveys.

Note: The percentage of respondents reporting a year-over-year spending increase was, on average, 64 percent in 2013 and 61 percent in 2014. The percentage of respondents reporting innovation as a top-three priority for their companies was, on average, 77 percent in 2013 and 75 percent in 2014.

The biggest shift is in the automotive industry. Automakers reported both a 26 percent decline in innovation priority (from 84 percent to 62 percent) and the second-largest drop in the intention to spend more (from 71 percent to 62 percent). They also showed the most pronounced single-industry falloff among all the industries represented in the list of 50 most innovative companies. (See the section “The 50 Most Innovative Companies: Automakers Downshift.”) Cost cutting has re-emerged as an important priority—even at the premium end of the market—as many automakers seem to be concerned that innovation alone will not preserve their margins.

Agribusiness companies are trying to do more with less. Increases in innovation as a priority (from 72 percent to 76 percent) and plans to decrease spending (only 40 percent are planning an increase, as opposed to 56 percent in 2013) suggest that more companies in this sector are tightening their focus and putting their money where they see potential. By contrast, chemicals showed a modest uptick in priority (from 84 percent to 86 percent) backed by a big increase in spending intentions (74 percent plan to increase spending compared with 57 percent).

Competitive and long-term advantage are the main goals of innovation investment.

Other industries hewed closer to the averages. The number of respondents in the technology sector assigning innovation a top-three priority at their companies fell modestly from 84 percent to 80 percent; in consumer and retail, the same figure declined from 82 percent to 76 percent. Spending plans in both sectors showed declines as well. While health care shows a strong upward trend in priorities and investment spending, it remains below average in the priority attached to innovation and in spending plans. Across all industries, the portion of innovation spending allocated to radical or major innovations and advanced technologies is fairly constant, at about 60 percent.

Long-term advantage and current competitive advantage continue to be the primary goals for innovation investment, with three-quarters or more of respondents focused on these objectives. Approximately half of all respondents said that innovation in new products and technology platforms would have the biggest impact on their industries over the next three to five years, but the percentage targeting these two areas show declines from 2013: 41 percent, down from 47 percent for new products; and 34 percent, down from 45 percent for technology platforms.

The 50 Most Innovative Companies: Automakers Downshift

The Boston Consulting Group has explored the state of innovation through nine surveys since 2005. As in past surveys, the 2014 results reveal the 50 companies that executives ranked as the most innovative, weighted to incorporate relative three-year shareholder returns, revenue growth, and margin growth. For the second year in a row, we asked respondents to identify up-and-coming companies at which innovation is driving rapid growth. (See the Appendix.)

BCG’s 2013 list of the 50 most innovative companies contained an unprecedented 14 automakers, including 9 in the top 20. This year, only 9 auto companies are included in the top 50 list, and only 4 ranked in the top 20. (See Exhibit 2.) Among those that made the list, only 2—both of which were new to the list in 2013—increased in ranking: Tesla Motors jumped 34 places to number 7 and Fiat jumped 11 places to number 32. Perhaps Tesla’s more disruptive, breakthrough entrance has raised the innovation bar for automakers—and thus changed respondents’ perceptions of what constitutes innovation in the automotive space. And Fiat may be benefiting from its reemergence as a global brand and its bold acquisition of Chrysler.

The 2014 top-50 ranking shows a high degree of consistency with previous years. Four of the top 5 companies return, with IBM edging up one place to take Toyota Motor’s spot at number 5. Seven of the top 10 and 14 of the top 20 companies are the same. Most of

EXHIBIT 2 | The 50 Most Innovative Companies of 2014

1 to 10		11 to 20		21 to 30		31 to 40		41 to 50	
1	Apple	11	Hewlett-Packard	21	Volkswagen	31	Procter & Gamble	41	Fast Retailing
2	Google	12	General Electric	22	3M	32	Fiat	42	Wal-Mart
3	Samsung ¹	13	Intel	23	Lenovo Group	33	Airbus	43	Tata Consultancy Services
4	Microsoft ²	14	Cisco Systems	24	Nike	34	Boeing	44	Nestlé
5	IBM	15	Siemens	25	Daimler ³	35	Xiaomi Technology	45	Bayer
6	Amazon	16	Coca-Cola	26	General Motors	36	Yahoo	46	Starbucks
7	Tesla Motors	17	LG Electronics	27	Shell	37	Hitachi	47	Tencent Holdings
8	Toyota Motor	18	BMW	28	Audi	38	McDonald's	48	BASF
9	Facebook	19	Ford Motor	29	Philips	39	Oracle	49	Unilever
10	Sony	20	Dell	30	SoftBank	40	Salesforce.com	50	Huawei Technologies

Source: 2014 BCG Global Innovators survey.

¹Includes all Samsung business groups (including electronics and heavy industry).

²Includes Nokia.

³Includes Mercedes-Benz.

the churn is a result of the drop in automakers. All of the top 5 spots, 7 of the top 10, and 21 of the top 50 are occupied by technology and telecommunications companies, the most since 2010. **Consumer industries, capturing 10 of the top 50 spots, represent the second-largest share.** Apple leads the list for the tenth year in a row, and Google and Samsung once again alternated places at numbers 2 and 3. Only three new companies joined the list—Xiaomi Technology, Hitachi, and Salesforce.com. In addition to Tesla and Fiat, Cisco Systems (14) and Siemens (15) made double-digit leaps in position.

We asked respondents again in 2014 to name up-and-coming companies—companies that are still relatively young or have yet to reach the scale of the top 50 global giants but are nonetheless making themselves known for innovation. There was 50 percent turnover on this list, with only four companies returning from 2013: WhatsApp, Square, Rakuten, and Xiaomi Technology. (Xiaomi Technology is the only company to be regarded as a top innovator and an up-and-comer.) The 2013 up-and-comers all leveraged mobile platforms in one way or another; this year's list comprises

more varied innovators: consumer products, auto, media, and big-data companies. Only half are based in the U.S., down from 60 percent in 2013. Two are from China, two from Japan, and one from India. None is based in Europe or South America. (See Exhibit 3.) Two, WhatsApp and Oculus VR, are in the process of being acquired by Facebook.

RDEs Raise Their Game

The 2014 innovation survey shows that companies in RDEs are particularly aggressive pursuers of innovation, perhaps because they see a need to catch up with competitors from more developed markets. Almost three-quarters of companies in RDEs expect to increase spending on innovation next year, compared with only 57 percent of companies in developed countries. In our survey, a majority of strong innovators from the BRIC nations—Brazil, Russia, India, and China—currently generate more than 20 percent of their sales from new products and services created within the past three years. These companies generally believe themselves to be both stronger innovators and more disruptive when compared with their counterparts in the developed world.

EXHIBIT 3 | Half of the Top Up-and-Coming Companies Are Based in the U.S.

1	Xiaomi Technology		6	Oxo	
2	WhatsApp		7	Great Wall Motors	
3	Square		8	GungHo Online Entertainment	
4	Rakuten		9	Oculus VR	
5	Wipro		10	Splunk	

Source: 2014 BCG Global Innovators survey.

Chinese companies are particularly focused on innovation and are seeking to create an innovation-supportive environment. They tie compensation to innovation results, and intellectual property (IP) is an increasingly important topic. They are concerned about speed to market and want to incorporate more consumer insight into the innovation process. The heightened attention may be partly a result of a 2012 government directive that defined seven initiatives for state-owned enterprises to boost their innovation capabilities—for example, concentrating on fundamental and advanced R&D, strengthening platforms for technological innovation, and striving for key technological breakthroughs. BCG also predicted early in 2013 that a wave of Chinese innovators would soon hit the world scene and disrupt sectors as diverse as construction equipment, machine tools, auto parts, trucks, medical devices, and nuclear power. (See “The Next Wave of Chinese Cost Innovators,” BCG article, January 2013.)

Although companies from all countries said that new products and technology platforms are important to their future, companies in RDEs are targeting business model innovations more actively.

DESPITE the high priority and increased spending on innovation, one troubling fact stands out: results may be elusive. The vast majority of executives, 70 percent, said that their companies’ innovation capabilities are only average—and 13 percent see them as weak. When we talk with executives around the world, however, the aspiration to raise their innovation game is nearly universal. They ask, how does my company break through?

SETTING A FOUNDATION FOR BREAKTHROUGH INNOVATION

WITH ALL THE BUZZ about disruption these days, it's a bit surprising that only 13 percent of respondents reported that their companies have a significant ambition to deliver radical innovation. More perplexing is that 42 percent of these would-be disruptors indicated that their companies' innovation capabilities are average at best. Many companies seem more set to break down than break through.

Innovation is hard. Breakthrough innovation is even harder. In our experience, only companies with a foundation of already-strong innovation capabilities can aspire to break

through. Too many companies want to shoot for the moon while their innovation programs are barely airborne.

The idea that big companies can replicate the approach of a garage startup is a continuing corporate myth. At big companies, innovation requires commitment, discipline, strong processes, and a willingness to take risks and fail—those latter attributes, especially, are not ones that most corporate cultures embrace. Executives from companies with strong innovation capabilities—and disruptive ambitions—represent just 7.6 percent of our sample. (See Exhibit 4.) Studying how the practic-

EXHIBIT 4 | A Small Universe of Breakthrough Innovators

Most disruptive/ radical innovator (n = 196) 13%	Disruptive, but not strong, innovators		Breakthrough innovators 7.6%
	0.1%	5.3%	
Average disruptive/ radical innovator (n = 883) 58.9%	3.5%	48.3%	Strong-but-not-disruptive innovators 7.1%
	9.4%	16.1%	
Not a disruptive/ radical innovator (n = 421) 28.1%			2.6%
	Weak innovator (n = 194) 13%	Average innovator (n = 1,046) 69.7%	Strong innovator (n = 260) 17.3%

Source: 2014 BCG Global Innovators survey.

es of these breakthrough innovators differ from those of strong innovators that have no radical intent reveals five key distinctions—two that are matters of degree and three that are matters of difference.

Breakthrough Innovators Are Strong Innovators First . . .

In the 2013 report, we identified five characteristics that differentiate strong innovators and made the point that these are not individual drivers of success; these factors are interconnected and reciprocally reinforcing.

- Strong innovators' top management is committed to innovation as a source of competitive advantage.
- They leverage their IP both to exclude rivals and to build markets.
- They pursue a portfolio approach for risk taking, leverage internal and external sources of knowledge, and have strong corporate governance and a dedicated budget for venturing and testing concepts.
- They have a strong customer focus—concentrating on releasing products that customers will embrace rather than pushing new technologies simply because they are novel.
- They insist on strong processes that strive for speed and both embrace and manage failure—leading to strong performance.

These attributes are table stakes for breakthrough innovators, which perform just as well as, and often exceed, strong innovators on each one. For example, top management is committed to the efforts of both breakthrough and strong innovators, but respondents from breakthrough innovators reported a higher level of executive commitment to radical innovation (84 percent) than did those from strong innovators without the ambition to disrupt (71 percent). Their innovation programs are more customer focused, and they more often use customer ideas as sources of new ideas. Breakthrough innovators excel at portfolio management, especially at stopping projects they do not believe will pan out, and at managing

products once they are in market. They have highly disciplined processes that focus on progress reviews, clear decisions, and on-time completion.

Breakthrough innovators leverage IP more aggressively—and more subtly.

And breakthrough companies exceed strong innovators in their pursuit of IP-based advantage. They are more likely to use IP to exclude others or gain competitive advantage—and to use IP as a lens for portfolio management. But breakthrough innovators don't just leverage IP more aggressively: they do so more subtly. Tesla Motors, for example, recently announced it will not sue other electric-car makers that use its technologies "in good faith." Tesla realizes that while it has a formidable patent portfolio, it can't build the electric-car industry on its own. Moreover, it understands that its patents could discourage others from entering the market. The company is betting that by removing the threat that it will protect its patents, it will accelerate the growth of the market and the infrastructure of charging stations needed to support it. (See "Tesla's Gambit: Aligning IP Strategy with Business Strategy," BCG article, August 2014.)

. . . But Stand Out from Strong Innovators in Three Ways

At the highest level, breakthrough innovators put a higher priority on innovation—far more so than other companies do; they know innovation is essential to their future. The top corporate priority at more than half of breakthrough companies (54 percent) is innovation and product development, and it's a top-three priority at 92 percent of them. But breakthrough innovators differ from the rest in three other specific ways.

- *They cast a wider net for ideas.* They are far more likely to generate new product ideas from almost all of ten different sources than either strong or other disruptive innovators. The only two innovation sources on which

they lag behind are telling: customer complaints and acquisitions or licensing. The former would be more associated with existing products—and the latter with gaining access to innovations made by others. (See Exhibit 5.)

- *They use business model innovation more.* Breakthrough products and services increasingly need to be part of a broader business model. Many industrial companies have found that moving from selling products to selling products embedded in a service offers greater differentiation and higher returns. But successfully shifting from a product to a service mind-set requires holistic changes to the underlying business model. Breakthrough innovators understand this and are thus more likely—43 percent compared with 35 percent—to target business model innovation in their innovation efforts than are strong-but-not-disruptive innovators. And breakthrough innovators are nearly twice as likely to use business model innovation as are disruptive-but-not-strong innovators—further suggesting that this latter segment is unlikely to achieve its goals.
- *They have cultures geared toward breakthrough success.* They use a wide variety of metrics and KPIs that consider the bottom

line, but they go well beyond pure financial returns to contemplate longer-term impacts and competitive advantage. They are much more likely than even strong innovators to track the number of new products and the success ratio of those products. Breakthrough innovators worry about hiring and retaining the right talent and prioritizing ideas for development, while weaker innovators are concerned with funding ideas and moving them through the process. Breakthrough innovators bring a higher degree of focus to their efforts. (See Exhibit 6 and the chapter “A Breakthrough Innovation Culture and Organization.”)

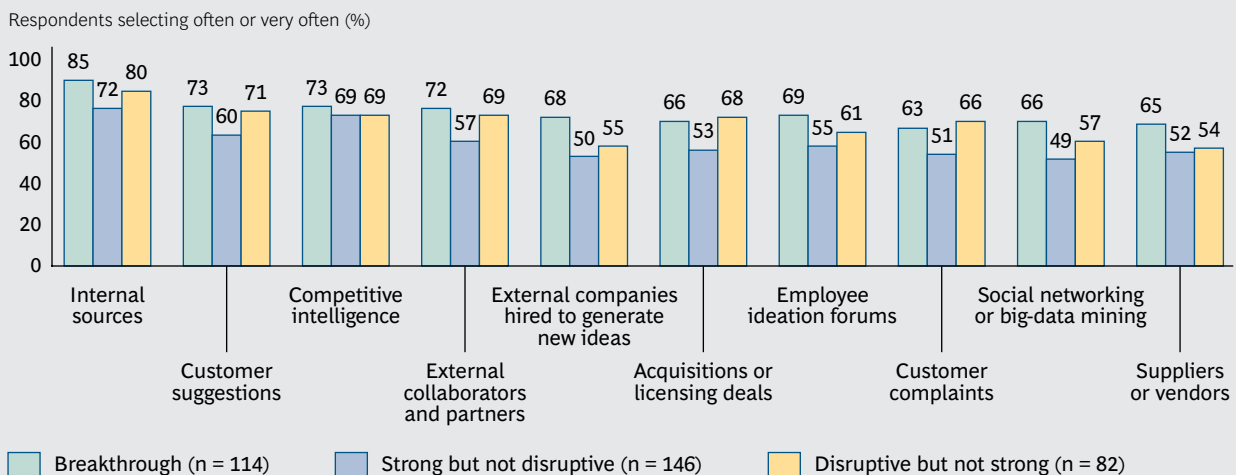
The proof of these differences can be seen in the results: almost half of breakthrough innovators report generating more than 30 percent of sales from innovations from the prior three years—more than twice the average for all companies.

Perhaps no company exemplifies the ethos of breakthrough innovation better than Amazon. And no company has been more effective at building on what it has learned at each stage of its disruptive development.

Amazon got its start upending the book-publishing business with an online sales model.

EXHIBIT 5 | Breakthrough Innovators Cast a Wide Net for Ideas

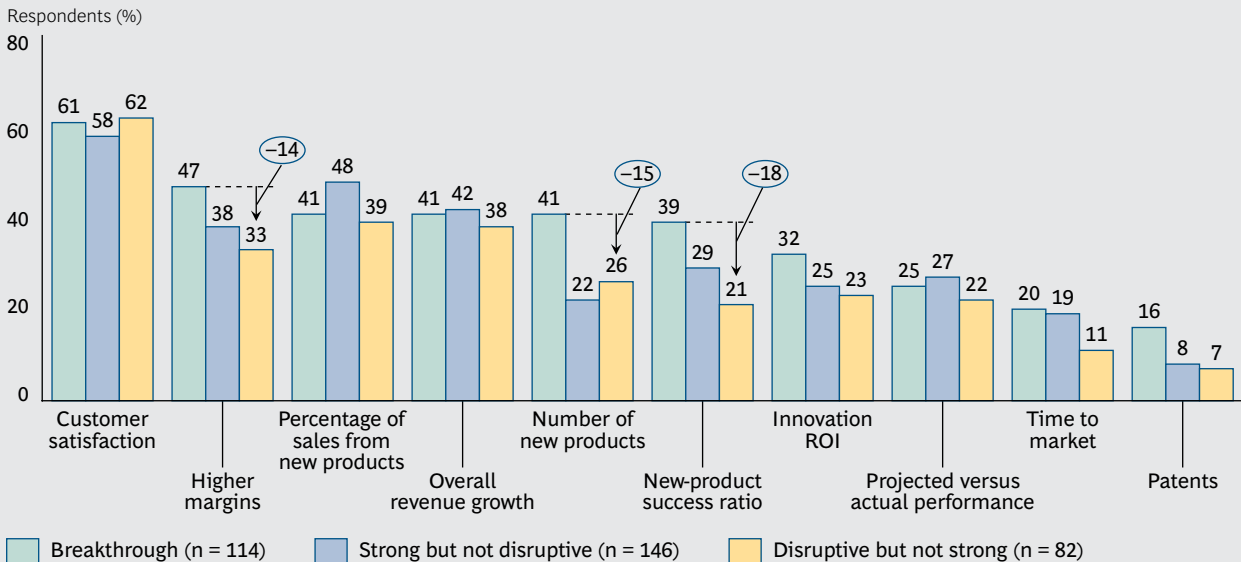
How often do new products or ideas for growth generally come from each of the following sources?



Source: 2014 BCG Global Innovators survey.

EXHIBIT 6 | Breakthrough Innovators Use a Wide Variety of Metrics

How does your company measure its success with innovation and product development?



Source: 2014 BCG Global Innovators survey.

Then it upended that business again with the e-book. The company has used the lessons learned to expand into myriad other areas of retailing, significantly transforming the consumer purchase pathway and rearranging consumer expectations of what the shopping experience should be. It had embraced thousands of customers as product reviewers and engaged thousands of traditional retailers with the development of Amazon Marketplace. Although it is far from the biggest retailer (Wal-Mart's annual sales of \$475 billion dwarf Amazon's \$75 billion), it is the one retailer that all others in the retail and consumer-packaged-goods sectors must take into account when planning their future strategy. (See "Secrets of Online Marketplaces," BCG article, December 2012.)

Amazon rolls out new products and services with almost frightening speed: the Kindle e-reader, Kindle Fire tablet, the Amazon Fire Phone, Amazon Prime, AmazonFresh, and Subscribe & Save have all been introduced in the past ten years. Amazon Web Services has led the paradigm shift to cloud computing and is a major force in enabling big-data analytics. The company has built one of the biggest and most valuable databases of consumer information based on its 150 million customer accounts. Nobody laughed when

Amazon debuted the idea of delivery by drone on CBS's *60 Minutes*.

Several characteristics define Amazon's disruptive approach throughout its relatively short 30-year history: a long-term horizon, a searing focus on the customer, and a relentless ability to learn from one disruptive move the lessons that could be the basis for the next.

TO be sure, not every company wants or needs to break through to the same degree. Perhaps it is not surprising that companies with long innovation cycles, such as industrial-goods and pharmaceutical companies, have less aspiration to be disruptive. And although one could argue that these executives may be underestimating the risks they face, there is a more important issue to address: many more companies out there aspire to break through than have the capabilities to do so. Most will not succeed. But they can improve, and there's nothing stopping those that truly want to apply themselves—aside from their own institutional constraints—from joining the breakthrough elite. They need to prepare themselves for an arduous process, however. Putting the building blocks in place is an essential first step.

A DIGITAL DISCONNECT IN INNOVATION?

OUR 2014 INNOVATION SURVEY reveals something of a digital disconnect. On the one hand, companies specializing in digital technologies—Apple, Google, Samsung, Microsoft, IBM, Amazon, and Facebook—hold the five top places, and seven of the top ten, on the 2014 list of most innovative companies. Their innovations and those of other digital innovators are, in many sectors, raising the bar for all companies in areas such as big data and mobile. But on the other hand, it appears that even within the technology sector, many companies are not getting the message; on average, only about a third of executives project big data and mobile will have a significant impact on innovation in their industries over the next three to five years. Even fewer are actually investing in them.

A look at the industry level reveals interesting differences. Software is the only industry in which a majority of respondents (53 percent) see big data as having a significant impact on innovation in the next three to five years—yet only 41 percent of their companies are actively targeting big data in their innovation programs. Mobile offers a similar story. Telecommunications is the only sector in which a majority of respondents (53 percent) cited mobile as important to medium-term innovation, but only 36 percent are actually targeting it. Exhibit 7 provides the details for other industries. The red line is the

point at which industry respondents' belief in the impact of a technology is matched by its reported investment behavior. Points to the right of the "behavior = belief" line indicate that, on average, companies are not putting their money where their mouths are.

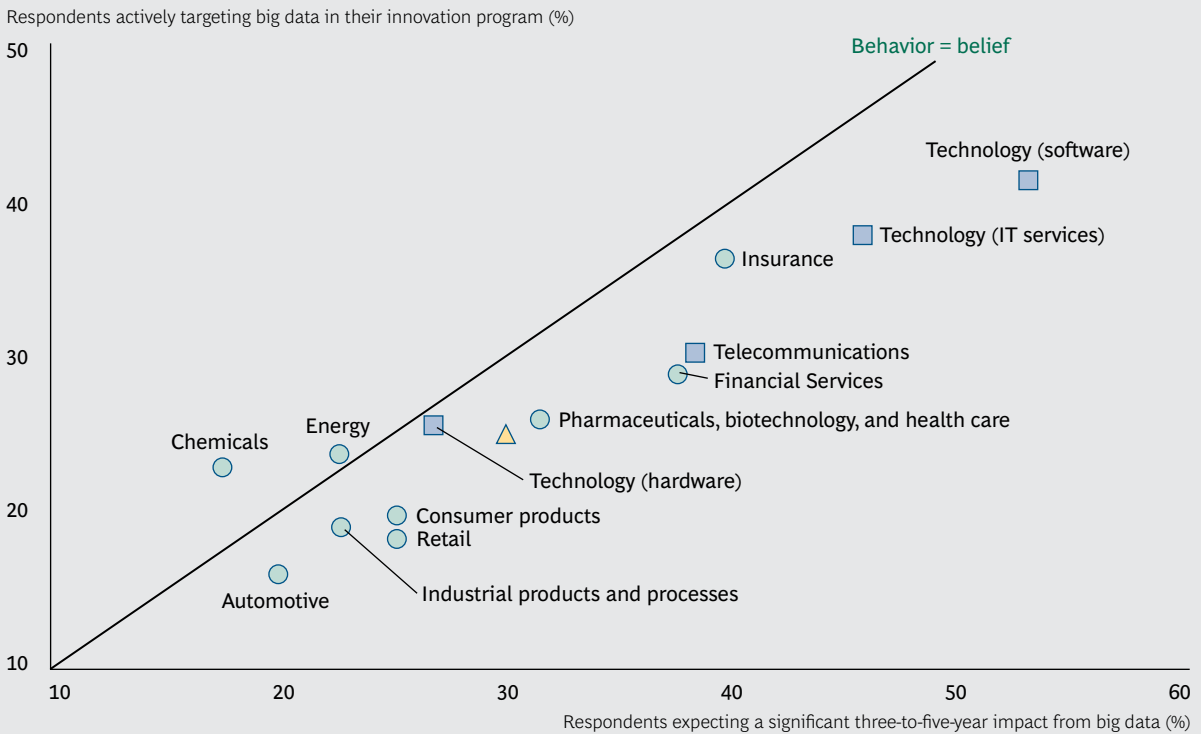
In some cases, this lack of belief and changed behavior makes sense: it is hard to imagine mobile as a primary component of innovation in the chemical industry. But for many, if not most, of the other industries, it is a source of concern. And the embrace of the broader range of digital-innovation capabilities is also lower than one might expect.

Consumers Embrace Digital Innovations Before Most Industries Do

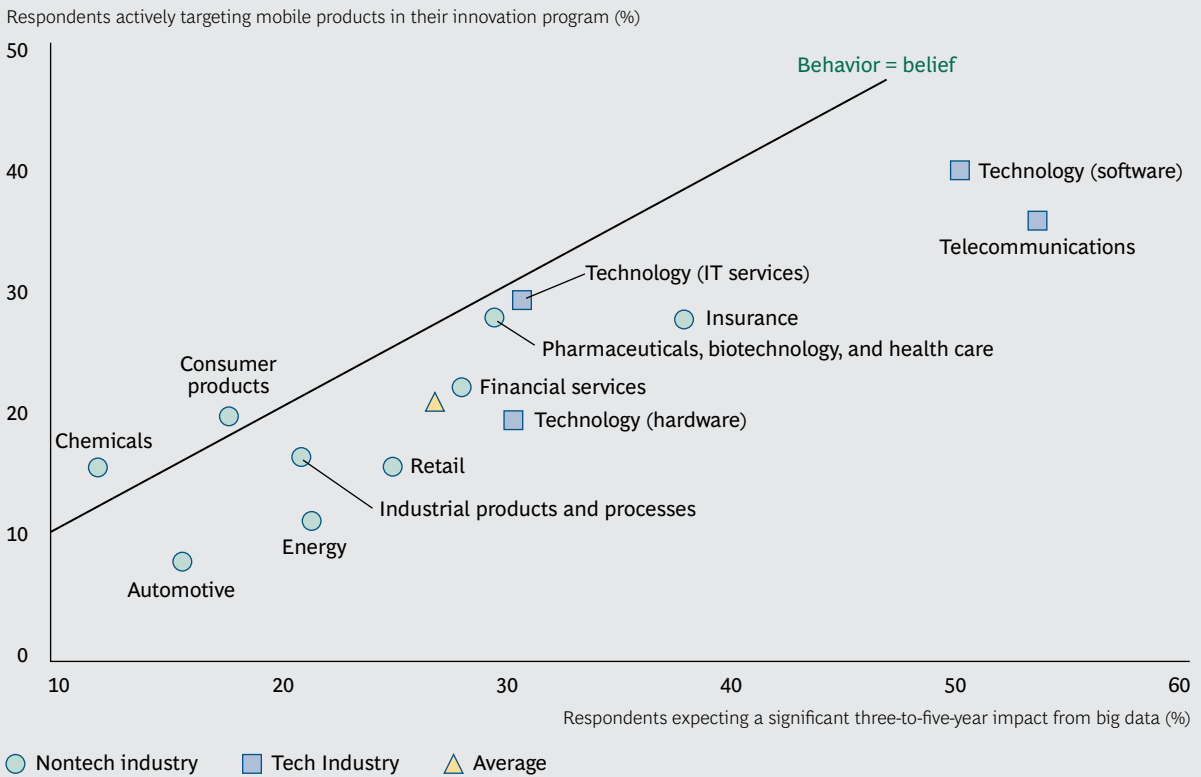
Consumers, who have been educated by the likes of Apple, Amazon, and Google in the possibilities of digital technologies, have moved quickly up the adoption curve. Digital technologies make their lives easier and better, and they want more digital—and mobile—interaction from the companies and other organizations that they do business with. For the Millennial generation (18- to 34-year-olds) and billions of consumers in developing markets, the Internet experience is principally through the screens of their mobile devices. By 2017, according to Gartner, mobile-app downloads will have totaled

EXHIBIT 7 | Underestimating the Importance of—and Underinvesting in—Big Data and Mobile

Big data



Mobile



Source: 2014 BCG Global Innovators survey.

268 billion, and the pace will accelerate as more wearable devices come to market.

Companies are proving slower to adopt digital. In retail, big data and mobile are already disrupting the status quo, yet only 25 percent of respondents said that digital is having a notable impact—even as digital behemoths Amazon, Alibaba, and Tencent Holdings are reshaping the retail landscape. (See *The Digital Future: A Game Plan for Consumer Packaged Goods*, BCG report, August 2014.) A similar perspective exists in the automotive industry, in which only a small proportion of respondents said that big data (20 percent) and mobile (16 percent) are important. This is despite the fast-rising importance of software and connectivity for automakers. (See *Accelerating Innovation: New Challenges for Automakers*, BCG Focus, January 2014.)

Three-quarters of respondents said their companies are not targeting big data.

Among nontechnology sectors, banks have used digital technology to reinvent the way they interact with customers—much to customers' delight. Insurance has high expectations for digital technology as well. Insurance executives ranked the importance of big data and mobile higher than any other nontechnology industry executives do. Some insurance companies are using digital technologies to streamline customer interactions, such as policy management and claims processing, and a few are experimenting with the data generated by onboard chips and sensors to factor drivers' practices into the rate-setting process. AIG's new CEO recently told the *Wall Street Journal* of his ambitious plans and expectations for big data "to manage down the cost of risk." But in general, consumers still give insurers—along with numerous other industries such as real estate, utilities, supermarkets, and telcos and cable—poor ratings for the speed with which they have embraced digital adoption and innovation. (See *Delivering Digital Satisfaction: U.S. Consumers Raise the Ante*, BCG Focus, May 2013.)

As of the first quarter of 2014, 30 percent of *Fortune* 500 companies did not have a mobile app, and less than half had a mobile website. Most companies are not targeting mobile products and capabilities in their innovation efforts. The B2B marketplace has also been slow to catch on. Digital and mobile are only gradually making their presence felt there. (See "Out in Front: Exploiting Digital Disruption in the B2B Value Chain," BCG article, January 2014.)

We would expect to see the most intensive innovation focus in big data, given all the attention that has been devoted to the ability of digital data and advanced analytics to generate new products, markets, and revenue streams. Indeed, BCG research shows that big-data leaders generate 12 percent higher revenues than those who do not experiment with big data. They are also twice as likely as their peers (81 percent compared with 41 percent) to credit big data with making them more innovative. Pratt & Whitney announced plans in July 2014 to work with IBM to improve the performance of the company's aircraft engines by monitoring the information its current fleet of engines generates. The company says a single engine can produce half a terabyte of data in one flight. Nordstrom has established Nordstrom Innovation Lab, which uses big data to drive product development. Its mission is "delighting customers through data-driven products." It analyzes customer data along with input from personal stylists to design algorithms that better predict what people want to buy. Still, three-quarters of our respondents said that their companies are not targeting big data in their innovation programs.

Strong Innovators "Get" Digital

Strong innovators such as Nordstrom are under no illusions about the impact of digital technologies. When compared with their weaker counterparts, strong innovators (a group comprising our breakthrough-innovator and strong-but-not-disruptive segments) leverage technology to enhance their value proposition or improve operations by a margin of 79 percent to 26 percent. The CIO and CTO at these companies are twice as likely to be the biggest force driving innovation. They

are three times more likely than weak innovators (57 percent versus 19 percent) to leverage big-data mining for new-project ideas and three times more likely to be actively targeting innovation toward digital design, mobile products and capabilities, speed of adopting new technologies, and big-data analytics. Breakthrough innovators, in particular, said that their big-data efforts pay off. Two-thirds say they frequently generate new-product ideas and ideas for growth from social media and big-data mining.

Given the speed with which technology advances today and given digital technology's demonstrated ability to disrupt, one wonders whether the companies that are targeting digital platforms and big data in their innovation programs are opening a lead that those moving more slowly may have a hard time closing.

A BREAKTHROUGH INNOVATION CULTURE AND ORGANIZATION

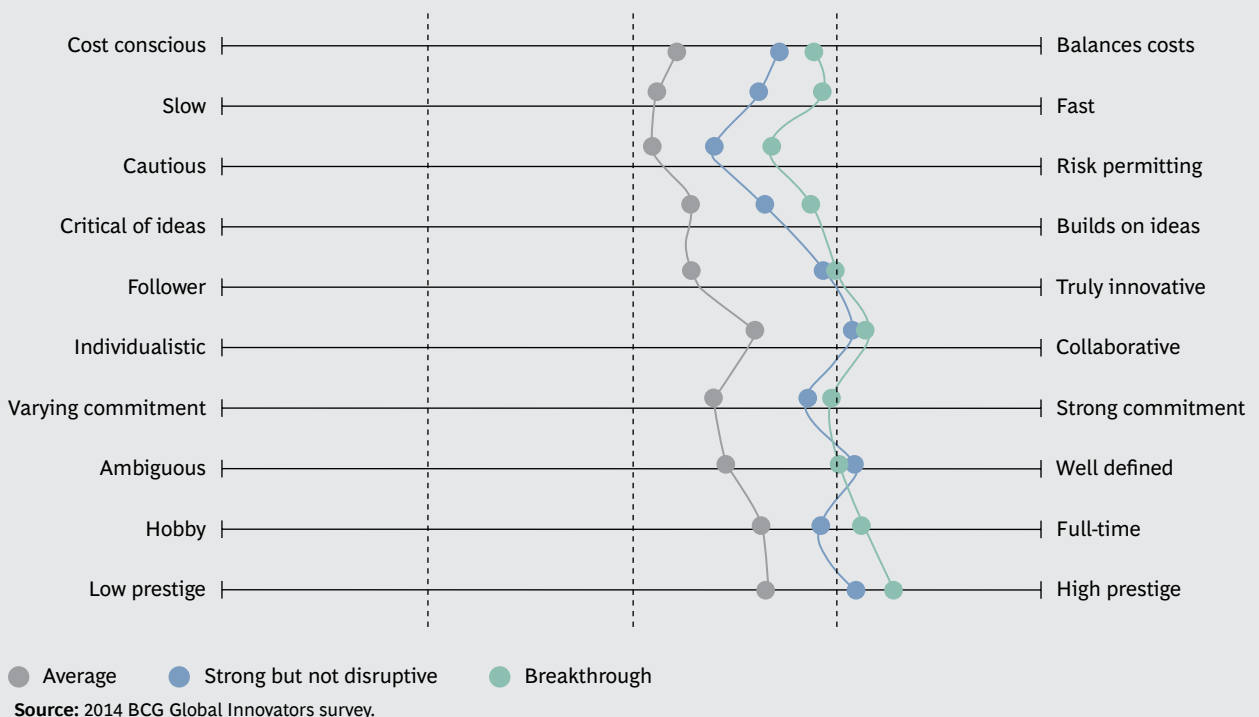
SUCCESSFUL INNOVATORS, BOTH STRONG and breakthrough, work hard to make sure that the value of innovation is reflected in their corporate cultures and that they are organized to move new ideas forward. Innovation is recognized and rewarded at these companies. Structures and processes are often designed to sidestep the big-organization pressures that can bury a new product

or idea before it has the chance to demonstrate its value.

Innovation as a Cultural Imperative

Anyone who doubts the importance of culture to successful innovation should spend some time examining Exhibit 8. The gap be-

EXHIBIT 8 | Strong Innovators and Breakthrough Innovators Possess Similar Innovation Cultures



tween average and strong innovators on every single cultural attribute—from speed to risk taking, from collaboration to prestige—is expansive. Strong innovators put a high value on innovation—being involved carries prestige within their organizations. They demonstrate a consistent commitment, even—or especially—in the face of failure. They encourage collaboration, they reward ideas, and they seek to capitalize on good ideas both quickly and with an appropriate level of support.

Breakthrough innovators seek to move faster and are more willing to take risks.

Breakthrough innovators take several of these attributes even further. They seek to move faster, they are more willing to take risks, they embrace ideas more enthusiastically, and they elevate the prestige of innovation in their companies. None of these attributes should be that surprising. But the cultures of most large organizations tend to thwart innovation rather than promote it. Bureaucracy, cost consciousness, and caution come to define the way many companies operate. Strong and breakthrough innovators combat the creep of such characteristics every day.

One large global company that maintains a culture committed to innovation is the global consumer-products marketer Reckitt Benckiser, whose brands include Dr. Scholl's, Calgon, Woolite, and Lysol. The company actively seeks to create new categories with its product-development efforts, and it has consistently generated a higher proportion of its annual sales from products launched over the previous three years than have its rivals. Sales grew by an average 9.3 percent with the underlying earnings-before-interest-and-taxes margin increasing from 14 percent to 26 percent from 2000 through 2013. Its culture is built on four pillars:

- Ideas can come from anywhere. The company believes innovation starts and ends with the consumer. Every employee is

encouraged to be on the lookout for new ideas related not only to new products but also to ingredients and combinations, marketing concepts, and packaging. The company is happy to take ideas from, for example, employees at any level, customers, suppliers, and academic experts. It maintains “idealink,” an open, Web-based platform in seven languages where anyone can submit innovation ideas.

- Speed is paramount. Fast decision-making processes are based on an organization structure that gives substantial independence to regional and national teams. Moreover, the regional structure enables speed by grouping together markets with similar characteristics, such as the developed markets of North America and Europe. This structure, for example, enabled the company to acquire U.S.-based supplements company Schiff in December 2013, integrate it by May 2013, and by November announce that the company's successful heart-health supplement, MegaRed, would be introduced in more than 20 markets across Europe by early 2014.
- The company competes both defensively and offensively in each of its markets and categories, using innovation to spearhead its offense. It seeks to intimately understand competitors and their strategies; it backs its products, including new products, with aggressive marketing trade budgets; and it rewards aggressive execution through a variable-compensation scheme that includes incentives up to three times higher than what its major competitors offer.
- It puts a high value on lean operations, maintaining an entrepreneurial spirit that emphasizes cost control.

Reckitt Benckiser's CEO, Rakesh Kapoor, puts it this way: “Talented people don't want to work in bureaucracies. They want to work in companies where they can get things done. This is why we focus so much on our culture. You have to act like a small company. Size can give you scale, but for innovation, speed is more critical.”

In a very different industry, Shell has established an “idea portal” called GameChanger through which employees can submit ideas through a website to a group of 25 full-time professionals in each of Shell’s primary business sectors. The program is backed by an annual budget of \$40 million. Employees are permitted to take time away from their day jobs to explore ideas. As proposals turn into business plans, employees may receive \$300,000 to \$500,000 in initial funding from GameChanger. Some 10 percent of ventures leave GameChanger and are moved into one of the company’s divisions or to Shell Technology Ventures. GameChanger has generated 1,600 proposals since 1996, and fully 40 percent of all the development projects in Shell’s exploration and production business started out as GameChanger ventures.

Organizational Priority

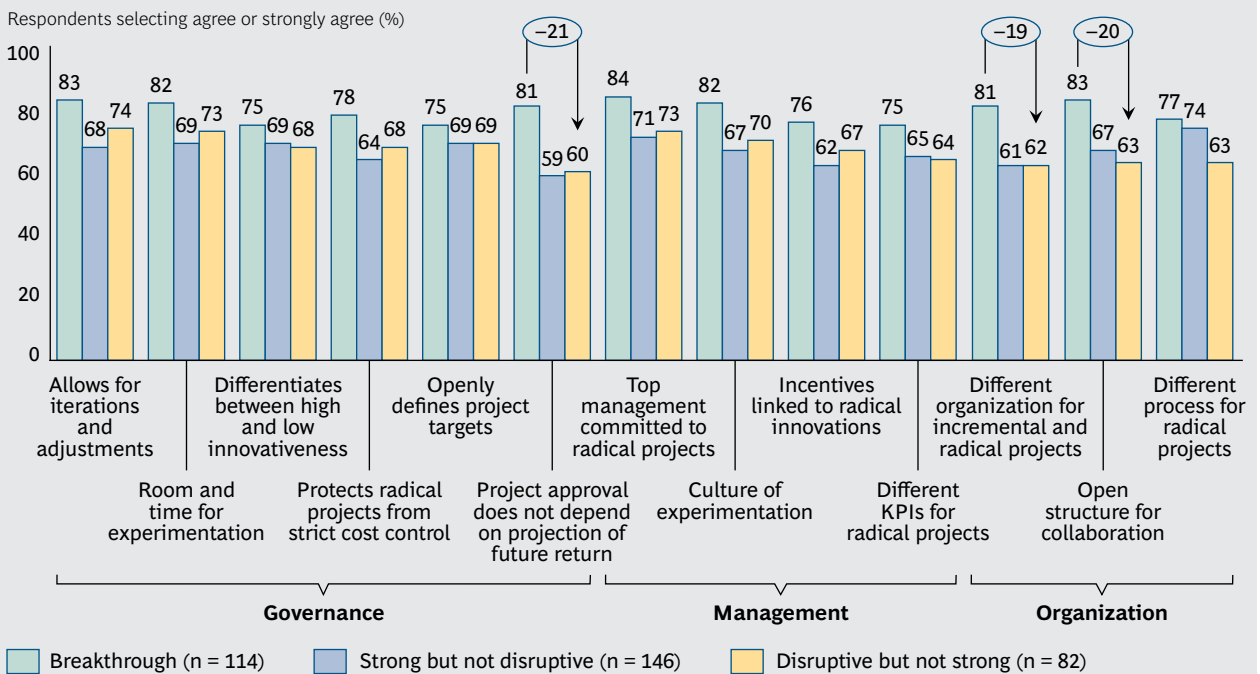
Breakthrough innovators are especially effective at bringing together the pieces required for radical innovation and organizing them for high impact. This is no small achieve-

ment. There are at least a dozen factors related to management, governance, and organization design that can have a major impact on any company’s innovation program. Most companies struggle to master a few of these. Breakthrough innovators corral them all. (See Exhibit 9.)

- **Management.** Top management is committed to radical-innovation efforts. It backs its commitment with the willingness to green-light radical-innovation projects based on nonspecific or nonfinancial expectations of success rather than projected future returns. Management uses KPIs for radical and incremental projects. It links incentives, recognition, and appraisals to an individual’s contribution to radical innovations. Three-quarters of breakthrough innovators link incentives to radical innovations.
- **Governance.** Breakthrough innovators differentiate clearly among projects with low and high degrees of innovativeness and use different processes for radical and

EXHIBIT 9 | Breakthrough Innovators Bring Together All the Pieces Required for Radical Innovation

How would you describe the processes and cultures governing disruptive, or radical, innovation projects?



Source: 2014 BCG Global Innovators survey.

incremental R&D projects. Radical projects initially are permitted to have more openly defined project targets. Radical innovation processes allow for iterations and adjustments of initial plans to give individuals and teams ample room and time for experimentation. Breakthrough innovators protect radical innovation projects from strict cost-control regimes. More than 80 percent of breakthrough innovators allow projects to start with no projection of future returns.

- *Organization.* Three-quarters of breakthrough companies use different processes and KPIs for radical innovation projects. They maintain open organization structures for radical-innovation entities that easily allow for collaboration with internal and external partners. They promote a culture of experimentation and testing that characterizes the radical innovation team.

Centralization and Incubation

By definition, breakthrough innovation is the introduction of new ideas that drive a different way of doing things. This requires risk taking, of course, since no one can foresee the outcome or results of such initiatives. Breakthrough innovators are willing to make decisions and choices as much on the basis of intuition and insight as on data and forecasts—they bet on people rather than manage a process.

In our experience, a dedicated environment is required to promote this kind of approach. And indeed, across all companies and industries, there is a growing trend toward a centralized approach to innovation and product development—meaning that these functions and processes are either controlled and driven by a centralized organization, or a centralized organization conducts R&D and passes the framework for new products and services to business units or regional units for development and launch. This trend is even more pronounced among strong innovators, with those pursuing a centralized approach rising from 68 percent in 2013 to 71 percent in 2014. Similarly, about 70 percent of disruptive innovators also lean toward a more cen-

tralized approach. Two-thirds of all breakthrough innovators stated that all innovation and product development is controlled and driven by a centralized organization, at least in its initial stages. More than 70 percent have a different organizational entity for managing radical innovation.

A centralized approach to innovation and product development is a growing trend.

Some breakthrough innovators manage to use the entire company as a new-idea laboratory. Apple under the late Steve Jobs is perhaps the best-known example. Google's policy of encouraging employees to spend 20 percent of their time working on their own ideas is another. The 3M Company sets the goal of earning 30 percent of its revenues from products introduced in the past five years, and the company aligns its culture and incentives accordingly. It has long allowed its employees to spend up to 15 percent of their time on projects of their choosing. But such companies are for more the exception than the rule.

A more likely approach for most is establishing a dedicated innovation entity. One major energy company has a division with 10,000 employees who are focused on technology and R&D and report directly to the CEO. Like others, this company understands that it is critical for such entities to have the full support of top management and sufficient backing in terms of both financial resources and the time required to get major innovations off the ground. Decentralized organizations tend to dilute the risk-taking authority, allocating smaller budgets and not providing the risk takers with top management backing or the time they need to succeed. As Barry Calpino, vice president of breakthrough innovation at Kraft Foods, recently told Knowledge@Wharton, "...the number one consistent cause of failure is not investing in a good idea beyond just the launch period. You have to stay with it. The ones I've been part of that have been big wins have been [instances]

where we've stuck with it, we've invested behind it, and we've realized that to get something new to stick, it doesn't just happen quickly—you have to have staying power.”¹

Another approach enjoying increasingly wide trial is the corporate incubator. Incubators more or less evaporated when the dot-com bubble burst, but BCG research indicates that they are making a comeback—with a twist. The new generation of incubators is focused on incubating ideas that can have a direct impact on the sponsoring company's business, not just creating stand-alone companies. The start-ups selected for incubation have interactions with their corporate sponsor that go beyond simple cash support, including access to R&D, supply chains, and important customers at both the corporate and the business unit levels.

Our analysis of the top 30 companies (as measured by market value) in each of the six innovation-intensive industries (telecommunications, technology, media and publishing, consumer goods, automotive, and chemicals) found that 19 of the 180 companies had established incubators—or their close relatives,

accelerators—in 2013 alone. In all six industries, 43 percent of the top ten companies (as measured by market value) have established incubators or accelerators, compared with 23 percent of the top 30. (See *Incubators, Accelerators, Venturing, and More*, BCG Focus, June 2014.)

BREAKTHROUGH innovation programs are the result of organizational prioritization and planning. They are rooted in corporate cultures that value innovation and the individual attributes that help further new-product and service development. The best innovators understand that both these factors are prerequisites for breaking through.

NOTE

1. *The Lovers, the Haters and How They Helped Drive Innovation at Kraft*, Knowledge@Wharton interview with Barry Calpino: <http://knowledge.wharton.upenn.edu/article/what-drives-innovation-at-kraft/>.

APPENDIX

The 2014 survey respondents were senior executives representing a wide variety of industries in every region. (See the exhibit below.) The mix of respondents is very close to that of last year's survey in terms of level, function, and location.

Before 2008, our rankings of the most innovative companies were based on a single criterion—respondents' picks. In 2008, in an effort to make the results more robust and truly re-

flective of the actual top innovators, we supplemented those choices with three financial measures: three-year total shareholder return (TSR), three-year revenue growth, and three-year margin growth. We have used that methodology ever since. Respondents' votes count for 80 percent of the ranking, three-year TSR for 10 percent, and revenue and margin growth for 5 percent each. (Note that BCG did not publish a survey in 2011.)

2014 Survey Respondent Demographics

Industry		Position		Country or region	
Industrial products and processes	189	Chief information officer	152	United States	369
Technology (IT services)	175	Chief financial officer	137	China	146
Financial services (excluding insurance)	149	Chief technology officer	110	Japan	137
Retail	115	Chief operating officer	91	Other (Asia)	124
Consumer products	111	Chief executive officer	79	Germany	92
Energy	97	President	52	Other (Europe)	73
Technology (hardware)	82	Chairman	43	United Kingdom	68
Telecommunications	73	Chief innovation officer	34	France	63
Technology (software, excluding IT)	68	Chief strategy officer	18	Italy	55
Professional services	59	Vice president	138	Brazil	54
Insurance	58	Director	197	New Zealand, Southeast	47
Chemicals	57	Manager	258	Pacific, and Southwest Pacific	
Pharmaceuticals, biotechnology, and health care (excluding medtech)	54	Other	191	Canada	46
Automotive	50	Total	1,500	Russia	43
Transportation, travel, and tourism	47			Australia	43
Public sector	35			India	40
Media and entertainment	26			Spain	35
Agribusiness	25			Africa	28
Medtech	16			Mexico	26
Other	14			Other	11
Total	1,500			Total	1,500

Source: 2014 BCG Global Innovators survey.

NOTE TO THE READER

About the Authors

Kim Wagner is a senior partner and managing director in the New York office of The Boston Consulting Group. **Andrew Taylor** is a partner and managing director in the firm's Chicago office. **Hadi Zabliti** is a partner and managing director in BCG's Paris office. **Eugene Foo** is a project leader in the firm's New York office.

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About BCG's Winning with Growth Initiative

Growth is not optional. It disproportionately drives shareholder returns, and it attracts and motivates talent. But achieving value-creating growth, while possible in any industry, is rarely easy. BCG's Winning with Growth initiative brings together leading experts on corporate strategy, innovation, globalization, M&A, business model innovation, marketing and sales, and organization to help clients chart their unique paths to value-creating growth. This publication is a product of that collaboration.

For Further Contact

If you would like to discuss this report, please contact one of the authors.

Kim Wagner

Senior Partner and Managing Director
BCG New York
+1 212 446 2800
wagner.kim@bcg.com

Andrew Taylor

Partner and Managing Director
BCG Chicago
+1 312 993 3300
taylor.andrew@bcg.com

Hadi Zabliti

Partner and Managing Director
BCG Paris
+33 1 40 17 10 10
zabliti.hadi@bcg.com

Eugene Foo

Project Leader
BCG New York
+1 212 446 2800
foo.eugene@bcg.com

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The Boston Consulting Group, Inc.

One Beacon Street

Boston, MA 02108

USA

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