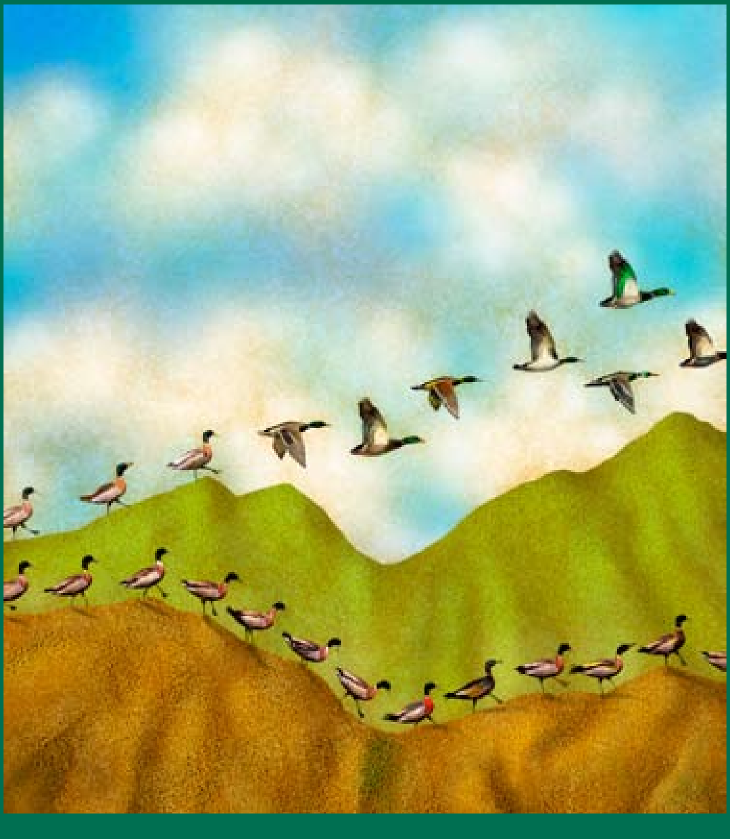
BCG

REPORT

The Most Adaptive Companies 2012

Winning in an Age of Turbulence



THE BOSTON CONSULTING GROUP

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THE MOST ADAPTIVE COMPANIES 2012

WINNING IN AN AGE OF TURBULENCE

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August 2012 | The Boston Consulting Group

CONTENTS

INTRODUCTION

While the phenomenon of turbulence is not new, its nature and degree have changed over time. In recent years, we have seen new and powerful drivers—digitization, connectivity, trade liberalization, global competition, and business model innovation—increase turbulence and make it more persistent.

Since the mid-1980s, this perfect storm of forces has been creating a "new normal" of chronic turbulence that can undermine incumbent positions and business models with unprecedented speed. Indeed volatility in revenue growth, in revenue ranking, and in operating margins have more than doubled since the 1960s. Executives must now master the art of what we call adaptive advantage.

In this report, we explore a powerful new measure of that art: the BCG Adaptive Advantage Index. We have developed the index to measure how well a company adapts to turbulence in its environment. We calculated index scores for 2,500 public companies in the U.S. over a 30-year period. We found through our analysis that adaptiveness creates value over both the short (6-year horizon) and long (30-year horizon) term. The BCG Adaptive Advantage Index not only serves as a metric of past performance but also has predictive power—the most adaptive companies, as ranked by the index, are more likely than unadaptive companies to outperform in the future.

THE LANDSCAPE OF TURBULENCE

TURBULENCE IS RISING ON all dimensions. We define and measure turbulence at the industry level through a combination of several metrics: the rate of change in demand growth and profit margins as well as the volatility of capital market expectations and revenue rankings. (For details about our approach, see the Methodology section in Appendix I to this report.) Exhibit 1 shows how unpredictability in these areas has multiplied since the mid-1950s.

Few industries and companies are immune. See the interactive graphic "The Landscape of Turbulence" to chart how turbulence levels have changed since the 1980s across major sectors. The interactive makes plain a few unsettling facts about the present business environment:

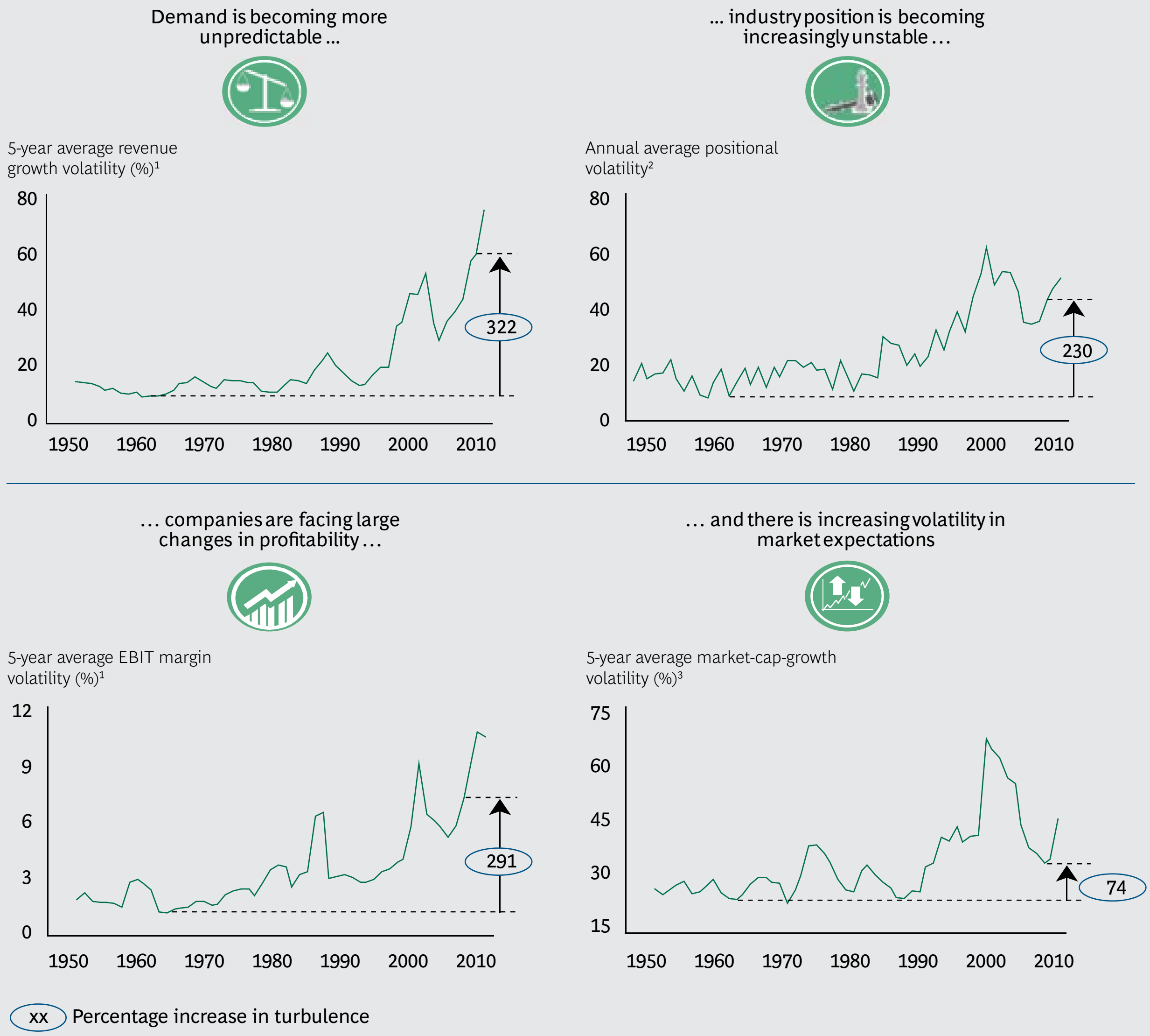
- *Turbulence strikes more frequently than in the past.* More than half of the most turbulent quarters over the past 30 years have occurred during the past decade.

- *Turbulence has increased in intensity.* Volatility in revenue growth, in revenue ranking, and in operating margins have all more than doubled since the 1960s.

- *Turbulence today persists much longer than in preceding periods.* The average duration of periods of high turbulence has quadrupled over the past three decades.

Turbulence has a profound impact. It destroys a significant proportion of the value companies create during stable periods. Over the past 30 years, the companies studied in the index saw their overall market capitalization grow eight times larger during stable quarters, but *one-third* of that value was destroyed during turbulent quarters—and that effect has been amplified in recent years.

Exhibit 1 | Turbulence Has Increased Across Multiple Dimensions



Sources: Compustat; BCG ValueScience Center; BCG analysis.
[1]Weighted average across 9,960 U.S. public companies, based on revenue.
[2]Average positional volatility among S&P 500 firms.
[3]Weighted average across Russell 3000 index constituents, based on market cap.

THE VALUE OF ADAPTIVE ADVANTAGE

In our recent *Harvard Business Review* article, we explored how the rise in turbulence demands *a new dynamic source of competitive advantage*: *adaptive advantage.* Adaptive companies adjust and learn better, faster, and more economically than their rivals.

By learning how adaptive they are compared with others and what practices make some players more adaptive, companies can learn how to enhance their own adaptive capabilities. To help companies assess their adaptiveness, we have created the BCG Adaptive Advantage Index, which takes an outside-in, cross-industry perspective, using publicly available data.

The index measures a company's outperformance relative to its industry during the quarters of highest turbulence in demand, competition, margins, and capital market expectations. By examining outperformance in the seven most turbulent quarters of the past six years, we were able to identify the set of companies that outperformed their peers under the most difficult circumstances. (For more about how the index was created, see the Methodology section in Appendix I to this report.)

In our analysis, we examined BCG Adaptive Advantage Index scores for 2,500 U.S. public companies across a wide range of industries for the period from October 2005 to September 2011. The sidebar "Highly Adaptive Large Companies, 2012" highlights companies that had a market cap greater than $20 billion and that were classified as highly adaptive because they ranked among the top 50 percent of their industry peers achieving scores at or above 100 on our adaptiveness index. We excluded companies in the financial sector from this list because government intervention in this sector had a distorting effect. Similarly, we excluded companies whose marked increase in outperformance during turbulent quarters was coincident with major M&A activity.

Adaptiveness was measured in terms of a company's performance relative to its peers during turbulent quarters.

Adaptiveness was measured in terms of a company's performance relative to its peers during turbulent quarters. A score of 105 means that, on average, the company outperformed its industry by 5 percentage points during a *single turbulent quarter*—a major achievement in tough times, and a performance effect that can compound significantly over time.

To explore the full rankings of 417 adaptive companies across 9 major sectors and 59 industries, view "The Interactive Rankings of Adaptive Companies" at bcgperspectives.com and in Appendix II to this report. Both the interactive and the Appendix II rankings highlight the *highly adaptive* companies as we defined them above, as well as the companies we categorized as *adaptive*—those that ranked among the bottom 50 percent of the scores at or above 100 on our adaptiveness index in their industry.

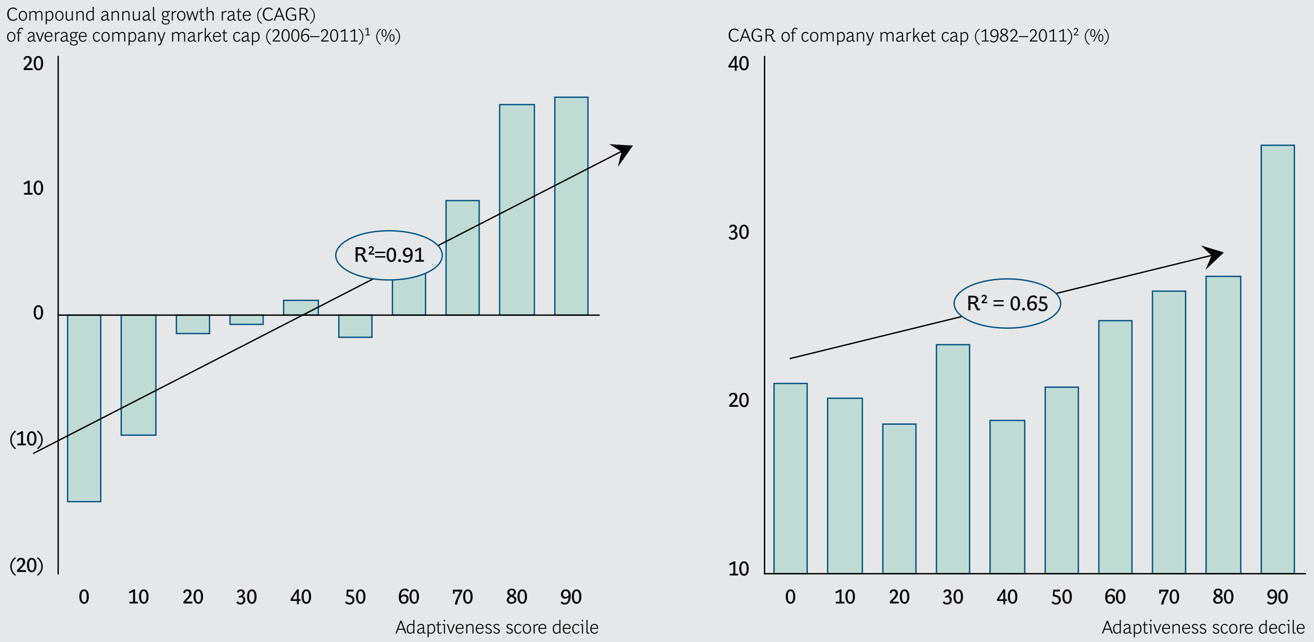
In analyzing the most adaptive companies, BCG has identified several key findings that hold across industries:

Adaptiveness creates both short-term *and* long-term value. Increases in index scores showed a strong relationship to growth in a company's market capitalization over the entire period we studied. The same pattern held for a company's total shareholder return over the entire period. From 2006 to 2011, companies ranked in the top decile in the BCG Adaptive Advantage Index grew their market capitalization by 31 percentage points more per year, on average, than the bottom-decile companies. By contrast, over the period from 1982 to 2011, the top-decile companies in the index grew their market capitalization by 18 percentage points more per year, on average, than the bottom-decile ones. (See Exhibit 2.)

Find interactive rankings of 417 adaptive companies at bcgperspectives.com.

Adaptiveness creates a performance gap between the top performers and the rest of the pack. In stable quarters, both adaptive and unadaptive companies grew; interestingly, however, unadaptive companies tended to grow slightly faster. But during turbulent quarters, the most highly adaptive companies grew while the least adaptive companies generally declined significantly. For example, from 2006 to 2011, this performance gap resulted in highly adaptive companies doubling their value, while highly unadaptive companies (those with the lowest index

EXHIBIT 2 | Adaptiveness Pays Off in Both the Short and Long Term



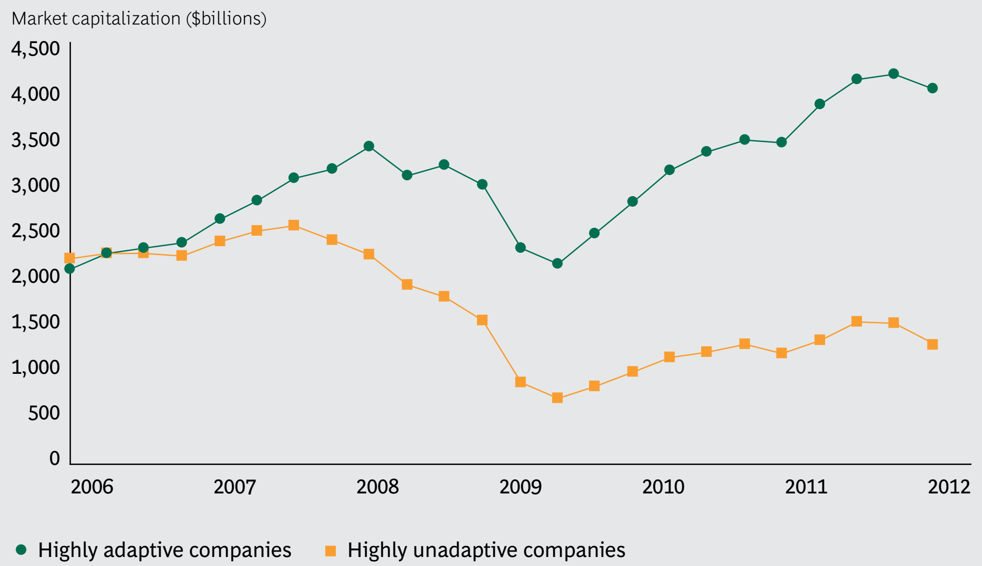
Sources: Compustat; BCG ValueScience Center; BCG analysis.
Note: The CAGRs were weighted to reflect the average adaptiveness scores of each decile of companies in the index.
[1]Adaptiveness scores were calculated from 2006 to 2011 for 2,217 U.S. public companies.
[2]Adaptiveness scores were calculated from 1982 to 2011 for 1,209 U.S. public companies.

scores in their industries) lost 40 percent of their value. (See Exhibit 3.)

Adaptiveness predicts future performance. Companies with high scores on the BCG Adaptive Advantage Index were more likely to experience higher future growth in value, on average, than companies ranked low on the index.

The value of adaptiveness is increasing. Adaptiveness is of more importance today than a decade ago. The relationship between a higher score on the BCG Adaptive Advantage Index and a company's higher overall growth has become twice as strong over the past 30 years.

Exhibit 3 | Adaptiveness Can Help a Company Scale the Heights of Performance



Sources: Compustat; BCG ValueScience Center; BCG analysis.

THE COST OF ADAPTIVENESS

Given the rising levels of turbulence across the majority of the industries we studied, most companies would be advised to enhance their adaptive capabilities. But adaptiveness is not a panacea, and it is not achieved at zero cost. Therefore, companies must learn when to apply adaptive approaches and when to apply more classical approaches to strategy.

Adaptiveness is of less value during stable periods than in unstable periods. This should not be surprising since the flexibility, experimentation, and redundancy necessary for adaptiveness come at the expense of static efficiency. Rather than aiming to maximize performance through efficiency by reducing redundancy and variation, adaptive companies welcome redundancy and variation. It is from this diversity and dynamism that they learn new and better ways of coping with change.

Therefore adaptive advantage must be deployed at the right place and time. For details about when to apply an adaptive approach, see "Why Strategy Needs a Strategy?", BCG's Perspective exploring strategy styles, and "Your Strategy Needs a Strategy," a *Harvard Business Review* article by Martin Reeves, Claire Love, and Philipp Tillmanns, scheduled for publication in August/September 2012.

Specifically, from 2006 to 2011, the average growth in market cap experienced during stable quarters by the top-decile companies on the index was 3 percentage points lower than that of bottom-decile companies. During turbulent quarters in this same timeframe, however, the top-decile companies grew their market cap by 25 percentage points more than the bottom-decile companies did. This pattern held not only in recent years but also over the 30-year period from 1982 to 2011.

Adaptiveness is not a panacea and is not achieved at zero cost.

Interestingly, a very small minority of companies were able to break this tradeoff and outperform during both stable and unstable periods. Future research will explore the distinctive practices that these "ambidextrous" companies deploy.

WHAT SETS ADAPTIVE COMPANIES APART?

The BCG Adaptive Advantage Index can be used to identify the most adaptive companies and learn from the distinctive practices that facilitated their success. See the sidebar "Highly Adaptive Large Companies, 2012" for a list of the most adaptive large companies as identified by our index.

Adaptive advantage is rooted in five adaptive capabilities:

- *Signal Advantage*—the ability to read and act on change signals
- *Experimentation Advantage*—the ability to experiment rapidly and economically to learn new and better ways of coping with change
- *Organizational Advantage*—the ability to organize in ways that promote adaptation, including enhancing knowledge flow, diversity, risk taking, collaboration, and flexibility
- *Systems Advantage*—the ability to harness the diversity and adaptive potential of multicompany ecosystems
- *Ecosocial Advantage*—the ability to continuously adapt the business model to changes in the ecological, social, and economic spheres over both the short and long term

In this section, we explore how five highly adaptive (or adaptive) companies with high scores on the BCG Adaptive Advantage Index deploy these dynamic capabilities.

Signal Advantage

Beset by competition in the fast-changing retail landscape, Target realized that it faced a marketplace that has "changed more in the last five years than the previous 50," according to Andrew Pole, group manager of guest analytics at Target. To combat periods of high turbulence during the downturn, Gregg Steinhafel, CEO of Target, outlined a set of growth drivers in 2008: strengthen guest loyalty, boost shopping frequency, and increase transaction size.

Signal-reading tactics have helped Target boost its revenues by 17 percent from 2006 through 2011.

Target used signal advantage as one of the weapons to achieve these goals. Signal advantage helped the company produce an impressive score of 105 on the BCG Adaptive Advantage Index, which classifies it as a highly adaptive company.

HIGHLY ADAPTIVE LARGE COMPANIES, 2012

The following 27 companies had a market cap greater than $20 billion and ranked among the top 50 percent of their industry peers achieving scores at or above 100 on the BCG Adaptive Advantage Index.

3M	Google
Allergan	MasterCard
Amazon	McDonald's
Apple	Nike
Baxter	Occidental Petroleum
The Coca-Cola Company	Precision Castparts
Cognizant	Priceline.com
Covidien	Southern Company
Danaher Corporation	Target
Deere & Company	Time Warner Cable
DirecTV	TJX Companies
Disney	VMware
Express Scripts	Yum! Brands
Ford Motor Company	

Target follows three steps to separate valuable signals from background noise and then to turn them into actionable information. First, it acquires relevant internal and external data about its customers and uses those to construct a "guest portrait." Second, it recognizes hidden patterns in the data, such as major inflection points in customers' purchasing habits, including marriage, pregnancy, moving to a new home, and graduation. While most shoppers don't purchase all household and grocery products from one store, the likelihood that they will do so increases at such inflection points. Identifying these customers helps Target drive up the value of its average transaction per customer.

Third, Target leverages these insights by determining the right message to send its guests—such as baby-product promotions to new moms, grocery offers to lure new shoppers into the store, or back-to-school sales for students—via the online and offline channels each customer is most likely to use.

Following these steps, Target has been successful at predicting when a woman is likely to be farther along in her pregnancy. It has used that insight, for example, to identify 30 percent more guests to be contacted with a mailer featuring baby diapers—a market-baby category overall. Signal-reading tactics like these have helped Target boost its revenues by 17 percent and its EBIT by 6 percent from 2006 through 2011. Over the same period, in the multiline retail industry overall, revenues grew by just 4 percent, and EBIT *declined* by 7 percent.

Experimentation Advantage

Thanks to its knack for creating hundreds of new products each year—Post-it Notes the most famous among them—3M has achieved a score of 108 on the BCG Adaptive Advantage Index, classifying it as a highly adaptive company.

Over the past six years, in particular, 3M has outperformed other industrial conglomerates during periods of turbulence—boosting its market capitalization by 5 percent even as its industry market cap declined 45 percent. One of the secrets behind 3M's outperformance is its superior economics of experimentation relative to other players in the industry.

To manage the economics of experimentation, 3M does several things well. It promotes *idea generation* by allowing employees to devote 15 percent of their schedules to "slack time" and by hosting technology forums to brainstorm and share ideas. It increases the *volume of ideas converted to experiments* by providing multiple channels of seed capital, such as the "Genesis" grant to fund experiments. And it *accelerates the scale-up of successful experiments* through its Pacing Plus program (which focuses on leapfrog technologies) and its Acceleration Initiative (which addresses large opportunities and markets). The programs help allocate more corporate resources to experiments and speed up their commercialization.

Supporting all these efforts is a culture that rewards experimentation with equivalent technical and managerial career paths, provides prizes for top innovators, and tolerates failure. As George Buckley, the company's former CEO, explained, "At 3M, because of our wide diversity of technologies and end markets, the term 'failure' is rarely applied to R&D, and invention here is almost always repurposed and reused."

Google organizes itself into flexible, diverse, and modular units of employees that can be reconfigured quickly.

Experimentation has become the company's standard operating procedure. One measure of the success of its efforts is the company's New Product Vitality Index (NPVI), which calculates the percentage of sales generated by products introduced within the past five years. Even during the turbulent periods of 2009, 3M maintained its NPVI at 29 percent, which added 1 to 2 percent to its overall growth rate and helped the company outperform its industry.

Organizational Advantage

Often when a company gets big fast, its ability to innovate grinds to a halt. Bureaucracy can stifle the ability of even the most energetic employees to adapt to changing business conditions. By contrast, Google has consistently remained a nimble innovator, even as the number of employees reached 32,000 in 2011. The company's BCG Adaptive Advantage Index score was 107, classifying it as a highly adaptive company. Over just the past six years, it has increased its market cap by 62 percent, whereas the average company in the Internet software and services industry saw its market cap decline by 27 percent during the same period.

Google's organizational structure and culture perfectly encapsulate its adaptive traits. Google is famous for fostering creativity and breakthrough products by allowing engineers to spend 20 percent of their working time on any project that they believe can benefit Google. Less well-known is how Google organizes itself into flexible, diverse, and modular units of employees that can be reconfigured quickly. To enable cross-functional collaboration, Google fosters a "marketplace of ideas" in which briefs about new ideas and projects are published internally. Employees can vote for the most promising projects and choose which ones to support with their time.

Google also maintains a flat organization in which people have the "capacity to self-govern with the help of their peers." The leadership team at AdSense describes itself as a "mesh," as opposed to a hierarchical structure. In a recent survey, 95 percent of AdSense employees said they believed that their managers worked *for them*.

The company also strives to limit rules and bureaucracy. Google employees use an online tool to share bureaucratic "incidents," which are rated on a scale from "Dilberty" to "Googley." Google then organizes "bureaucracy buster" meetings in which employees share the so-called Dilberty processes that they perceive as impeding innovation. In addition, the company encourages constructive friction during discussions in which employees debate the pros and cons of options. And it also gives employees the freedom to fail: Larry Page, Google's CEO, has said he would "rather make the mistake in moving too fast than make no mistakes and move too slow."

All these practices add up to create an enormous capability for rapid-fire innovation and learning, helping Google launch and improve products and achieve steady growth in revenues in its core advertising business, which operates within a very turbulent Internet software and services industry.

Systems Advantage

Amazon ranks among the highly adaptive companies in the rise-and-fall industry of Internet and catalog retail, with a score of 102 on the BCG Adaptive Advantage Index. Amazon has seen its market cap rise 400 percent over the same six-year period covered by the index. Its outperformance in a very turbulent industry stems in part from its advantaged management of business ecosystems.

Amazon's approach enabled it to extend its adaptive capacity beyond its own organizational boundaries to include the network of partners in its broader ecosystem. Amazon built its selling ecosystem as a diverse, flexible network of partners who interface seamlessly with customers. The preferences and trust of those customers, combined with Amazon's rigorous process of experimentation, drive a continual evolution of the system. Amazon's minimal barriers to entry and attractive value proposition enabled more than 2 million third-party sellers of all sizes and of all types of goods—individuals and professionals—to market their products to millions of customers on its platform.

Unlike some other online marketplaces, Amazon created a seamless customer experience by using common standards for products sold on its platform—including the ability to view all prices for a given product across different sellers or to view all products by a specific seller. The ecosystem continuously evolves through customer ratings, which serve as tight feedback loops between customers and sellers. Amazon also enhances the platform through real-time testing of its homepage design, ranking algorithms, and search results. As a result of such efforts, the number of sellers and customers on Amazon.com is increasing, and sales from third-party sellers have grown faster than Amazon's direct sales—and accounted for 36 percent of total units sold in 2011.

Another example of Amazon's ecosystem-based approach is its Kindle business, in which content owners can distribute information with minimal barriers to entry. Growth in e-book readership has attracted many publishers, and, as a result, more than 1 million e-books are available on the Kindle ecosystem. Amazon opened its platform beyond Kindle devices, allowing books to be read on such competing devices as those running Apple's iOS and Android. It also has expanded the estimated $5 billion Kindle ecosystem beyond books to include other forms of media such as movies, music, and apps. Tight feedback loops through customer ratings of books, apps, and other content enable Amazon to improve recommendations and allow customers to make better selections. Through such tactics, Amazon now derives an estimated 10 percent of its total $48 billion in revenues from the Kindle ecosystem.

Ecosocial Advantage

A normally staid business once known exclusively for carting garbage to landfills might not immediately come to mind as an example of ecosocial advantage. What then explains Waste Management's score of 101 on the BCG Adaptive Advantage Index and classification as an adaptive company?

> Amazon's outperformance in a turbulent industry stems in part from its advantaged management of business ecosystems.

In response to increasing concerns about ecological sustainability, Waste Management adapted its business model for long-term sustainability. The landfill specialist now earns substantial profits not just from garbage handling but also from such sustainable activities as recycling, renewable energy, and waste-reduction consulting to other businesses. The company pioneered the operation of a recycling program in a major city by launching Seattle's program in 1988. It is now North America's largest recycler, with 131 facilities serving municipalities, businesses, and households. Revenues from its recycling business grew by 74 percent from 2006 to 2011, totaling $1.6 billion in 2011.

Furthermore, Waste Management has accelerated expansion of businesses that turn garbage into electricity. Wheelabrator, its waste-to-energy incineration subsidiary, has generated up to 12 percent of the company's net income since 2009, despite accounting for only about 7 percent of its revenues. The company also manages 110 landfill-gas-to-energy projects. Together, these businesses generate enough electricity to power 1.1 million homes—more than the entire solar energy industry generates in the U.S.

Finally, as companies deal with increasing amounts of waste as well as rising energy and commodity prices, Waste Management now offers "sustainability services," advising companies how to use—and throw away—less.

The company has identified the shifting ecological values of its customers, treating these values as unmet needs and building profitable new businesses and business models in response. In the process, it has attained the holy grail of sustainability: getting rewarded for doing the right things. Increased growth and profitability from recycling and renewable energy businesses have helped the company deliver measurable outperformance during times of turbulence.

THE ROAD TO ADAPTIVE ADVANTAGE

The BCG Adaptive Advantage Index can help companies enhance their adaptive capabilities and thereby increase their performance in turbulent times. Companies can take three concrete steps to progress down the road to adaptive advantage.

Step 1: Identify the most adaptive players in your industry. The interactive rankings associated with this report can help you determine the most adaptive players in your industry. Consider the following questions when assessing your company's relative adaptiveness:

- How turbulent is your industry?
- Who are the most adaptive companies in your industry?
- Are you more or less adaptive than your key competitors?
- Are your competitors gaining advantage by becoming more adaptive over time?
- What can you learn from more adaptive competitors?

Step 2: Assess your adaptive capabilities, pinpointing strengths and identifying the gaps. Evaluate your strengths and weakness in relation to the five capabilities that drive adaptive advantage: signal, experimentation, organizational, systems, and ecosocial advantage. This can be done by comparing your practices on each of these dimensions with those in the case studies in this and other reports in BCG's Adaptive Advantage series. BCG's Adaptive Advantage Diagnostic can also help assess a company's level of competence in the five adaptive capabilities of adaptive advantage.

Evaluate capabilities that drive signal, experimentation, organizational, systems, and ecosocial advantage.

Step 3: Design and take measures to address any capability gaps. For example, companies can engage on some of the following simple starting points:

- *Signal Advantage*—Sense and respond to trends and uncertainties.
- *Experimentation Advantage*—Measure and manage your economics of experimentation.
- *Organizational Advantage*—Foster diversity and adaptation by embracing the idea of

"compulsory dissenting opinions" for key decisions.

- *Systems Advantage*—Try changing the unit of analysis from "the firm" to "the ecosystem" when you next assess your strategy.
- *Ecosocial Advantage*—Turn negative externalities into business opportunities.

BUILDING your capabilities in each of the five areas above improves your company's adaptiveness to turbulence. And that can translate into significant financial rewards. We estimate that the average large, unadaptive company lost 13 percent of its initial value from 2006 to 2011. But by building up its capabilities to match those of even the lowest decile of adaptive companies, such a player could unlock significant additional value.

The current business environment requires a deft ability to uncover strategies and capabilities that will allow organizations to maneuver through uncertainty. By first gaining an understanding of its adaptive advantage and then building and expanding that advantage, a company can proactively position itself to benefit during times of turbulence. It can then translate this powerful source of advantage into long-term, sustainable strategies and financial benefits.

APPENDIX I
METHODOLOGY

We created the BCG Adaptive Advantage Index using publicly available data for 2,500 U.S. public companies across a wide range of industries.

We calculated each company's BCG Adaptive Advantage Index score by measuring the weighted-average outperformance of a company's market-cap growth rates versus the weighted-average market-cap growth rates in its industry during that industry's seven most turbulent business quarters from October 2005 through September 2011. Throughout the report, we refer to this six-year period as 2006 to 2011.

The BCG index categorized companies using the Global Industry Classification Standard (GICS), which was developed by MSCI and Standard & Poor's. To find definitions of the industries and sectors, see http://www.standardandpoors.com/indices/articles/en/us/?articleType=PDF&assetID=1245186418839.

Outperformance was measured in terms of market-cap growth rates because market cap correlates strongly with total shareholder return (TSR) and, ultimately, with value generation. It also conveys information about past and potential future performance; also, market cap data are available in greater detail than are other measures of performance. The fluctuations of stock market prices, typically over shorter intervals, are mitigated since market-cap growth rates were measured over each quarter and averaged over the six-year period.

Periods of turbulence were identified for each industry by assessing turbulence in demand, competition, margins, and capital market expectations. Turbulence in demand and margins was measured by the absolute rate of change in industry revenues and EBIT margins, respectively, per quarter. Turbulence in competition was measured by taking the weighted average of the absolute change in companies' rankings by revenues within an industry each quarter. To account for company size, we weighted the average using company revenues.

Turbulence in the capital market expectations of an industry was measured by taking the weighted average of the standard deviations of daily market-cap growth rates of the industry's companies over a quarter. To account for company size, we weighted the average using company market cap.

These four measures were combined and adjusted for any cross-correlations among them to create a net turbulence metric. We used this net turbulence metric to identify the seven most turbulent periods in each industry; then, we calculated the companies' average relative outperformance in market-cap growth during those seven turbulent periods, as outlined above, to determine its index score.

An index score of 105 means that, on average, the company outperformed its industry by 5 percentage points during a *single turbulent quarter*—a major achievement in tough times, and a performance effect that can compound significantly over time. If, for example, the turbulent quarters were sequential, such a score would, by compounding over seven quarters, translate into a 41 percent outperformance in market-cap growth over the industry.

We determined the level of adaptiveness of each company relative to other companies in its industry: in each industry, we classified the top 50 percent of companies achieving scores at or above 100 on our adaptiveness index as *highly adaptive* and the bottom 50 percent as *adaptive*. We then selected the ten largest companies (as measured by revenues) in each industry to compile these tables.

Companies belonging to the financial sector (as designated by GICS codes) were excluded from the index because government intervention in the sector had a distorting effect on the outperformance exhibited by certain companies. Similarly, we excluded companies whose marked increase in outperformance during turbulent periods was coincident with major M&A activity.

APPENDIX II

SECTOR AND INDUSTRY RANKINGS

The sector and industry rankings in Appendix II highlight the largest highly adaptive and adaptive companies for 59 industries in 9 sectors. The listed scores have been rounded to the nearest whole numbers; the rankings were based on raw index scores. At bcgperspectives.com, the interactive graphic "The Interactive Rankings of Adaptive Companies" charts detailed data, by industry, for all 417 of these companies. The interactive graphic indexes each company's—and each industry's aggregate—market cap to 1 in Q4 2005 and charts indexed growth over the subsequent six years.

Consumer Discretionary

Auto Components

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Dana Holding Corporation	110
	TRW Automotive	107
	Tenneco	106
	Shiloh Industries	105
	Dorman Products	104
	Modine Manufacturing Company	104
Adaptive	Drew Industries	102
	Gentex Corporation	101
	Cooper Tire & Rubber Company	100
	Autoliv	100

Automobiles

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Ford Motor Company	105

Source: BCG analysis.

Distributors

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Pool Corporation	101
Adaptive	Genuine Parts Company	100

Diversified Consumer Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	DeVry	114
	Weight Watchers International	108
	H&R Block	104
	Strayer Education	103
	Capella Education Company	103
Adaptive	Coinstar	101
	Apollo Group	101
	Mac-Gray Corporation	100

Hotels, Restaurants, and Leisure

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Chipotle Mexican Grill	111
	McDonald's	108
	Buffalo Wild Wings	106
	Yum! Brands	104
Adaptive	Panera Bread	103
	Churchill Downs	102
	Darden Restaurants	102
	Wynn Resorts	101
	Texas Roadhouse	100
	Life Time Fitness	100

Household Durables

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Tupperware Brands	113
	Garmin	109
	Tempur-Pedic	107
	NVR	102
Adaptive	M.D.C. Holdings	102
	Helen of Troy	101
	Newell Rubbermaid	101
	Jarden Corporation	101
	Toll Brothers	101
	Leggett & Platt	100

Source: BCG analysis.

Internet and Catalog Retail

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Priceline.com	109
	Amazon	102
Adaptive	Netflix	100

Leisure Equipment and Products

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Polaris Industries	106
	Mattel	103
Adaptive	Hasbro	102
	Jakks Pacific	101

Media

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	DirecTV	109
	Time Warner Cable	103
	Disney	103
Adaptive	Thomson-Reuters	102
	Cablevision Systems	102
	Time Warner	102
	Omnicom Group	101
	Viacom	101
	The Washington Post Company	101
	Interpublic Group of Companies	100

Multiline Retail

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Dollar Tree	110
	Target	105
	Family Dollar Stores	104
Adaptive	Saks	101
	99 Cents Only Stores	101

Source: BCG analysis.

Specialty Retail

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	TJX Companies	105
	Staples	104
	Ross Stores	104
	AutoZone	103
Adaptive	Home Depot	102
	Lowe's	102
	PetSmart	101
	Best Buy	101
	CarMax	100
	Gap	100

Textiles, Apparel, and Luxury Goods

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Crocs	118
	Fossil	107
	Nike	104
Adaptive	Deckers Outdoor	104
	Under Armour	103
	Iconix Brand Group	102

Source: BCG analysis.

Consumer Staples

Beverages

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Craft Brew Alliance	108
	National Beverage	106
	The Coca-Cola Company	103
	Hansen Beverage Company	103
Adaptive	Molson Coors Brewing	103
	Dr Pepper Snapple Group	102
	MGP Ingredients	100

Source: BCG analysis.

Food and Staples Retailing

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	PriceSmart	124
	Spartan Stores	105
	Harris Teeter Supermarkets	104
Adaptive	Kroger Company	103
	Costco Wholesale Corporation	103
	United Natural Foods	102
	Whole Foods Market	102
	Wal-Mart Stores	102
	Weis Markets	101
	Winn-Dixie Stores	101

Food Products

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Green Mountain Coffee Roasters	143
	The J.M. Smucker Company	107
	Flowers Foods	105
	Fresh Del Monte Produce	104
	Cal-Maine Foods	104
Adaptive	Archer Daniels Midland	102
	Hormel Foods	102
	General Mills	102
	Lancaster Colony Corporation	101
	Sanderson Farms	100

Household Products

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Church & Dwight	102

Personal Products

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Medifast	108
	Usana Health Sciences	104
Adaptive	Elizabeth Arden	103
	Estée Lauder Companies	103

Tobacco

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Vector Group	100
Adaptive	Star Scientific	100

Source: BCG analysis.

Energy

Energy Equipment and Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Oceaneering International	107
	McDermott International	107
	FMC Technologies	106
	Diamond Offshore Drilling	105
Adaptive	Cameron International	104
	RPC	103
	Schlumberger	103
	Tidewater	101
	Dresser-Rand	100
	Lufkin Industries	100

Oil, Gas, and Consumable Fuels

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	World Fuel Services	111
	Delek U.S. Holdings	105
	Occidental Petroleum	105
Adaptive	Anadarko Petroleum	103
	Chevron	103
	Apache	102
	Marathon Oil Company	102
	Alon USA	101
	EOG Resources	101
	Exxon Mobil	101

Source: BCG analysis.

Health Care

Biotechnology

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Alexion Pharmaceuticals	112
	Regeneron Pharmaceuticals	110
Adaptive	Celgene Corporation	104
	Cubist Pharmaceuticals	103
	Acorda Therapeutics	102
	Amgen	102
	BioMarin Pharmaceutical	102
	Cepheid	102
	Gilead Sciences	101
	United Therapeutics	100

Source: BCG analysis.

Health Care Equipment and Supplies

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Baxter	106
	C. R. Bard	105
	Becton, Dickinson and Company	105
	Covidien	104
Adaptive	Cooper Companies	104
	Edwards Lifesciences	104
	Intuitive Surgical	102
	Zimmer	101
	Dentsply International	101
	KCI	100

Health Care Providers and Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Express Scripts	107
	Owens & Minor	105
	AmerisourceBergen	103
Adaptive	Cardinal Health	103
	Medco Health Solutions	103
	Henry Schein	102
	McKesson Corporation	100
	Community Health Systems	100
	Quest Diagnostics	100
	UnitedHealth Group	100

Health Care Technology

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	athenahealth	110
	Quality Systems	105
	Transcend Services	102
Adaptive	SXC Health Solutions	101
	Cerner Corporation	101

Life Sciences Tools and Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Bruker	115
	Illumina	107
Adaptive	Caliper Life Sciences	103
	Bio-Rad Laboratories	100

Source: BCG analysis.

Pharmaceuticals

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Perrigo	109
	Akorn	108
	Obagi Medical Products	107
	Jazz Pharmaceuticals	106
	Mylan	106
	Allergan	105
Adaptive	Forest Laboratories	103
	Impax Laboratories	102
	Abbott Laboratories	102
	ViroPharma	101

Source: BCG analysis.

Industrials

Aerospace and Defense

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	AAR Corporation	109
	Precision Castparts	109
	Goodrich	109
	B/E Aerospace	106
Adaptive	Esterline Technologies	104
	United Technologies	102
	Rockwell Collins	101
	Alliant Techsystems	101
	Boeing	100
	Teledyne Technologies	100

Air Freight and Logistics

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	C.H. Robinson Worldwide	105
	Forward Air Corporation	103
	Pacer International	102
Adaptive	FedEx	101
	UTI Worldwide	100
	Expeditors International of Washington	100

Source: BCG analysis.

Airlines

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Allegiant Travel Company	105
Adaptive	JetBlue Airways	104
	Alaska Air Group	102
	Copa Holdings	100

Building Products

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Griffon	109
	AAON	106
	Lennox International	105
	American Woodmark Corporation	101
Adaptive	Owens Corning	101
	Trex Company	101
	Armstrong World Industries	100

Commercial Services and Supplies

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Rollins	107
	Clean Harbors	105
	Stericycle	105
	Tetra Tech	104
	Waste Connections	104
Adaptive	Sykes Enterprises	103
	United Stationers	102
	Iron Mountain	102
	Corrections Corporation of America	101
	Waste Management	101

Construction and Engineering

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Furmanite	112
	Sterling Construction Company	110
	AECOM	108
	MasTec	106
	Layne Christensen	104
Adaptive	URS Corporation	104
	Fluor Corporation	103
	Comfort Systems USA	103
	KBR	102
	Jacobs Engineering Group	102

Source: BCG analysis.

Electrical Equipment

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	AZZ	111
	Polypore International	108
	Powell Industries	106
	Ametek	104
	Encore Wire Corporation	103
Adaptive	Roper Industries	103
	Preformed Line Products	102
	Regal-Beloit Corporation	102
	Emerson Electric	101
	Hubbell	100

Industrial Conglomerates

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Raven Industries	109
	3M	108
	Carlisle Companies	107
Adaptive	Seaboard Corporation	103
	General Electric	101
	Standex International	100

Machinery

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Cummins	106
	Deere & Company	103
	Danaher Corporation	103
	Paccar	102
Adaptive	Dover Corporation	102
	Pentair	102
	Eaton Corporation	101
	The Timken Company	101
	Caterpillar	101
	Parker Hannifin	100

Marine

Adaptive Category	Company Name	Adaptive Advantage Index Score
Adaptive	Genco Shipping & Trading	103

Source: BCG analysis.

Professional Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	ICF International	120
	IHS	111
	Huron Consulting Group	107
	VSE Corporation	106
	Towers Watson	106
Adaptive	CBIZ	105
	Insperity	104
	FTI Consulting	104
	Dun & Bradstreet	100
	Kforce	100

Road and Rail

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Marten Transport	106
	J.B. Hunt Transport	103
	Knight Transportation	102
	Arkansas Best Corporation	102
Adaptive	Union Pacific	102
	Werner Enterprises	101
	Heartland Express	101

Trading Companies and Distributors

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	DXP Enterprises	106
	W.W. Grainger	105
	Kaman Corporation	103
	Rush Enterprises	103
Adaptive	Fastenal Company	102
	Titan Machinery	101
	Watsco	100
	MSC Industrial Direct	100

Source: BCG analysis.

Information Technology

Communications Equipment

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	F5 Networks	110
	Finisar Corporation	107
	Brocade	107
	Riverbed Technology	107
	Plantronics	106
	Netgear	105
Adaptive	Qualcomm	103
	Polycom	103
	Arris Group	102
	Emulex Corporation	102

Computers and Peripherals

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Stratasys	111
	Quantum Corporation	108
	Super Micro Computer	107
	Apple	106
Adaptive	EMC Corporation	101
	NetApp	101
	Dot Hill Systems	100

Electronic Equipment, Instruments, and Components

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Viasystems Group	120
	TTM Technologies	112
	Amphenol Corporation	105
	Flir Systems	104
Adaptive	AVX Corporation	102
	ScanSource	101
	Trimble Navigation	101
	Tech Data Corporation	101
	Synnex Corporation	100
	PC Connection	100

Source: BCG analysis.

Internet Software and Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Akamai Technologies	109
	Google	107
	ValueClick	107
	Equinix	107
Adaptive	Monster Worldwide	106
	j2 Global	106
	RealNetworks	104
	DealerTrack	104
	Digital River	103
	Vistaprint	102

IT Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	MasterCard	108
	Teradata Corporation	107
	Cognizant	106
Adaptive	Global Payments	103
	Fidelity National Information Services	103
	Visa	103
	Accenture	102
	IBM	101
	Lender Processing Services	101
	SAIC	101

Office Electronics

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Xerox	101

Semiconductors and Semiconductor Equipment

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Micron Technology	113
	Advanced Micro Devices	112
	Marvell	107
Adaptive	Broadcom Corporation	104
	Lam Research Corporation	103
	Altera Corporation	102
	Nvidia	102
	Intel	100
	Analog Devices	100
	Xilinx	100

Source: BCG analysis.

Software

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Citrix Systems	107
	Salesforce.com	107
	VMware	107
	Intuit	106
	Nuance Communications	106
Adaptive	BMC Software	103
	Oracle	103
	Synopsys	103
	Parametric Technology Corporation	101
	Microsoft	101

Source: BCG analysis.

Materials

Chemicals

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	FMC Corporation	106
	Valspar Corporation	106
	Airgas	105
	Westlake Chemical	104
Adaptive	Sherwin-Williams	104
	Praxair	103
	RPM International	102
	Ashland	101
	Monsanto	101
	DuPont (E. I.) De Nemours	100

Construction Materials

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Eagle Materials	105
	Texas Industries	102
Adaptive	Martin Marietta Materials	101

Source: BCG analysis.

Containers and Packaging

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Temple-Inland	115
	Crown Holdings	102
Adaptive	Boise	102
	Packaging Corporation of America	101
	Ball Corporation	101
	Greif	101

Metals and Mining

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Cliffs Natural Resources	111
	Horsehead Corporation	106
Adaptive	Amcol International	105
	Stillwater Mining Company	104
	Compass Minerals	104
	Newmont Mining Corporation	103
	Freeport-McMoRan Copper & Gold	103
	Titanium Metals Corporation	102
	Reliance Steel & Aluminum Co.	102
	Southern Copper Corporation	101

Paper and Forest Products

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Buckeye Technologies	114
Adaptive	International Paper Company	101
	MeadWestvaco	101

Source: BCG analysis.

Telecommunication Services

Diversified Telecommunication Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Adaptive	AboveNet	103

Wireless Telecommunication Services

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	nTelos Holdings Corporation	108
Adaptive	MetroPCS Communications	102

Source: BCG analysis.

Utilities

Electric Utilities

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Southern Company	104
	PPL Corporation	103
	Cleco Corporation	103
	Idacorp	103
	Progress Energy	102
	Westar Energy	102
Adaptive	Hawaiian Electric Industries	102
	Portland General Electric	101
	Northeast Utilities	100
	Pinnacle West Capital Corporation	100

Gas Utilities

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	South Jersey Industries	107
	New Jersey Resources	107
	WGL Holdings	106
	NW Natural	103
Adaptive	Atmos Energy Corporation	103
	UGI Corporation	103
	Southwest Gas Corporation	102
	Nicor Gas	101
	National Fuel	101

Independent Power Producers and Energy Traders

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Ormat Technologies	113

Source: BCG analysis.

Multi-Utilities

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Xcel Energy	103
	PG&E Corporation	102
	Wisconsin Energy Corporation	102
	Consolidated Edison	102
Adaptive	OGE Energy Corporation	102
	NStar	101
	Scana Corporation	101
	Vectren Corporation	101
	Dominion	100
	Sempra Energy	100

Water Utilities

Adaptive Category	Company Name	Adaptive Advantage Index Score
Highly Adaptive	Pennichuck Corporation	102
	Aqua America	102
Adaptive	Middlesex Water Company	101

Source: BCG analysis.

NOTE TO THE READER

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For Further Reading

Adaptive Advantage: Winning Strategies for Uncertain Times
BCG e-book, January 2012

Adaptability: The New Competitive Advantage
A *Harvard Business Review* article by Martin Reeves and Mike Deimler, July–August 2011.

Your Strategy Needs a Strategy
A *Harvard Business Review* article by Martin Reeves, Claire Love, and Philipp Tillmanns, scheduled for publication in August/September 2012

Sustainability as Adaptability
A *Journal of Applied Corporate Finance* article by Martin Reeves, Knut Haanaes, Claire Love, and Simon Levin, Spring 2012

Adaptive Strategy in Government
BCG Perspectives, May 2012

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