McKinsey&Company

McKinsey Global Survey results:

R&D after the crisis

A McKinsey survey finds widespread resilience in corporate R&D programs. Executives say their companies made the right moves in 2009 and are poised to reap benefits from R&D today.

Research and development has risen sharply on the corporate agenda in the wake of the global economic crisis, a McKinsey survey finds.[1] Four in ten respondents report that both R&D budgets and activity levels are up this year relative to 2009. What's more, executives are remarkably optimistic that the R&D moves their companies made during the downturn will serve them well in the coming three to five years.

These are among the findings of a survey that examined how senior executives view the current state of R&D, as well as how their companies' R&D groups responded to, learned from, and were affected by the recent economic turmoil.

The survey suggests that some optimism is warranted: a sizable number of respondents say their companies will retain the usually beneficial changes made during 2009 to R&D organizations, infrastructure, or processes and will abandon fixes that likely helped in the crisis but aren't needed in the longer term. Nonetheless, some executives worry that the cost-cutting moves their companies made in R&D during 2009 will have painful consequences, including a weaker talent pool and a loss of market share resulting from shriveled new-product pipelines.

By contrast, the most optimistic picture emerges among companies that get the greatest benefit from innovation. These high performers were much less likely to scale back activity during the height of the downturn; indeed, they appear to have used it as an opportunity to maintain—or even increase—their long-term superiority just as global economic prospects are brightening.

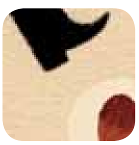
Jean-François Martin

[1] *McKinsey Quarterly* surveyed 532 senior executives around the world in March 2010. Our respondents all specialize in the management of R&D. All data are weighted by the GDPs of the constituent countries to adjust for differences in response rates.

R&D bounces back

The strategic importance of R&D appears to be growing as economic conditions improve. Nearly 60 percent of executives say R&D will be either the top priority or among the top three priorities this year—significantly higher than the 47 percent of executives who said the same one year ago.

Forty percent of executives say their companies' R&D budgets will be higher or much higher in 2010 than they were in 2009. A comparable question in 2009 found that only 20 percent of executives expected R&D budgets to increase that year. What's more, respondents to this year's survey are twice as likely to say that their companies are expanding R&D activities (44 percent versus 22 percent).

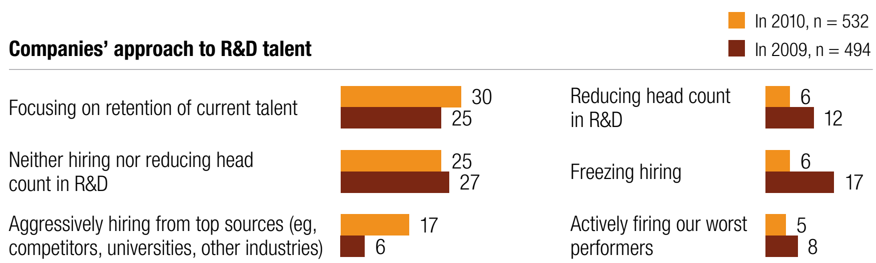


Despite the increased levels of spending and activity, companies are taking a wait-and-see approach to R&D hiring. Relatively few respondents say their companies are hiring or firing; the most common approach is a focus on retention (Exhibit 1).

Exhibit 1

Attention to retention

% of respondents[1]



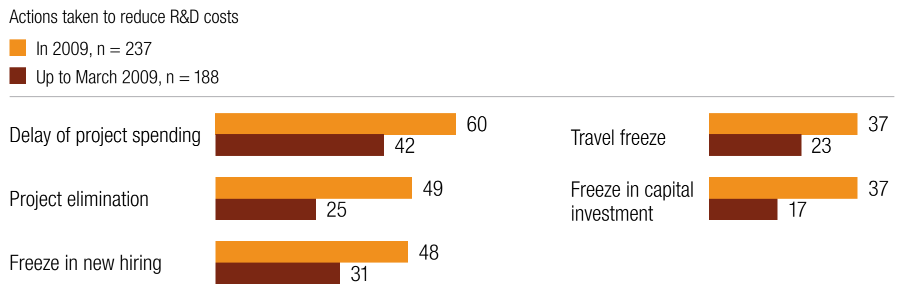
[1] Respondents who answered "other" or "don't know" are not shown.

Two-thirds of executives in Europe say R&D will be the top priority or among the top three priorities in 2010.

Exhibit 2

Deep cost cutting

% of respondents whose companies reduced R&D costs in 2009[1]



[1]Only top 5 actions taken to reduce R&D costs in 2009 are shown.

Weathering the storm

Executives recognize that delaying, reducing, and eliminating R&D projects can limit long-term competitiveness. Still, 42 percent of respondents say their organizations cut R&D costs in 2009, perhaps reflecting the lengths to which some companies needed to go in order to survive the recent economic turmoil. Further, when we compare the moves companies had made in spring 2009 (when our first R&D survey was conducted) with the moves they made by year's end, it becomes clear that for many R&D organizations, conditions worsened steadily. Far more companies eliminated projects, delayed spending, and instituted hiring freezes as the year progressed (Exhibit 2).

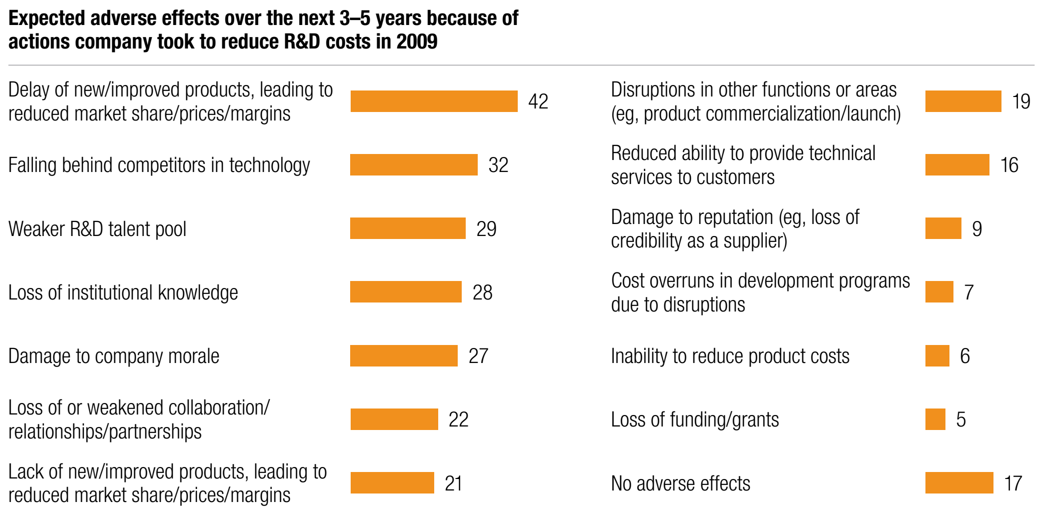
These actions may well haunt some companies for years to come. A significant share of executives whose companies cut costs expect that these moves will have adverse effects in the coming three to five years. The problems respondents are most likely to expect include reduced market share, a loss of technological ground to competitors, a weaker R&D talent pool, a loss of institutional knowledge, and damage to morale (Exhibit 3).

Meanwhile, a significant number of companies appear to have used the downturn as an opportunity to add a measure of discipline to their R&D organizations, infrastructure, or processes. Among the most frequent changes in 2009 were increased accountability for performance and spending, increased collaboration with outside R&D groups, increased use of global R&D resources, and

Exhibit 3

Repercussions of 2009 actions

% of respondents whose companies eliminated, delayed, or cut R&D activities in 2009,[1] n = 237

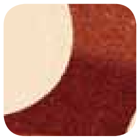


[1] Respondents who answered "other" or "don't know" are not shown.

the streamlining of core R&D processes. All these moves should help companies innovate more effectively over the long term (Exhibit 4).

What's next for R&D?

Encouragingly, most respondents whose companies made these forward-looking changes in 2009 expect to maintain them in the coming five years. By contrast, changes that appear to be purely about cost cutting—most notably, shifts toward extensions of existing product lines and short-term projects—appear less likely to stick. This finding likely reflects the high degree of pressure to prioritize short-term performance that many companies experienced during the height of the downturn.



Regardless of the actions the respondents' companies took in 2009, they are quite optimistic today—perhaps excessively so. Fully two-thirds of executives believe their companies will be better off than the competition over the next three to five years because of the R&D actions they took in 2009. Most bullish are executives who say their companies didn't cut R&D spending last year. Eighty-one percent of these respondents say that their companies will be better off than the competition because of the R&D actions they took in 2009, versus 52 percent of respondents at companies that cut R&D costs.

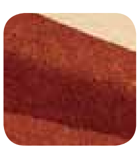
Exhibit 4

How R&D changes will fare in the near future

% of respondents whose companies changed at least 1 aspect of their R&D activities in 2009[1]

Top 10 changes in 2009	Total, n = 532	*Will you maintain given change over time?* Maintain up to 5 years	Maintain up to 2 years
Increased accountability for performance and spending	35	68	27
Increased collaboration with outside R&D groups (eg, suppliers, universities, government, open forums, consumers)	34	61	32
Increased use of global resources	26	76	20
Streamlined core R&D and engineering processes	26	60	28
Changed portfolio decision processes	22	48	36
New/more rigorous performance management processes	22	64	27
Different reporting/organizational structure (eg, reporting to a business unit instead of a function)	18	48	35
Increased investment in automation, including software (eg, product-life-cycle-management software) and equipment (eg, lab/testing equipment)	14	46	46
Consolidated/reduced infrastructure (eg, R&D sites, facilities, locations)	13	34	41
Shift toward engineering over science	12	28	44

[1] Respondents who answered "other" or "don't know" are not shown.



When we asked the executives about their companies' goals for R&D in 2010, they cited longer-term objectives, such as creating or modifying products or services to meet changes in customer needs or in the competitive landscape (Exhibit 5).

The strong get stronger

Just as we did for last year's survey, we closely observed the responses of executives at the high-performing innovators that get the greatest benefit from R&D. We define this group as companies that, according to the executives, have had higher rates of organic growth than competitors and realized more than 30 percent of that growth through new products developed in house.

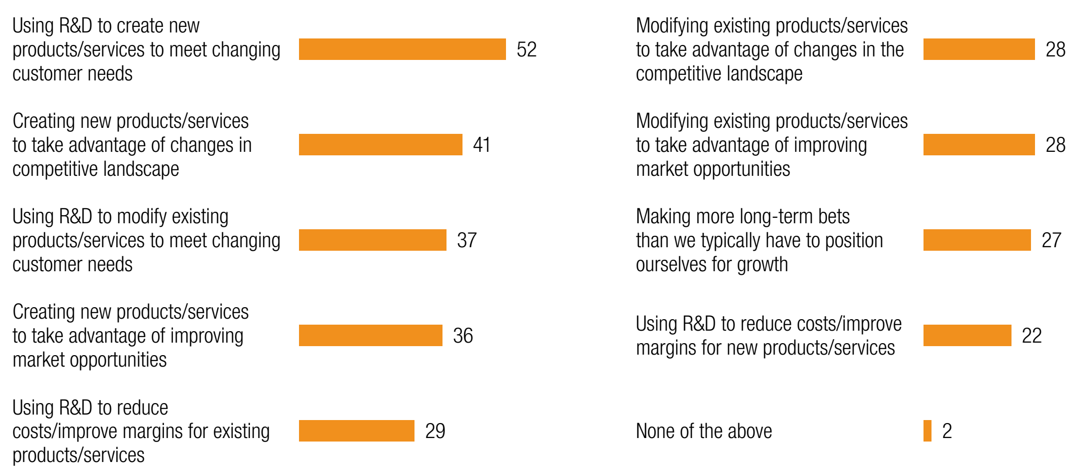
High-tech and telecom executives are the most optimistic: 82 percent say their companies will be better off than competitors as a result of R&D moves in 2009, compared with 67 percent of other executives.

Exhibit 5

R&D in 2010

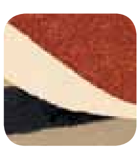
% of respondents,[1] n = 526

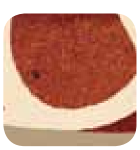
Company goals for R&D projects in 2010



[1] Respondents who answered "other" or "don't know" are not shown.

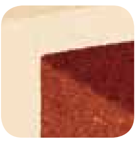
Forty percent of executives at high-performing innovators say they are making more long-term bets than usual to position themselves for growth, versus 27 percent of respondents at other companies.





The different pattern reflected in the actions of these companies is striking. For example, while high-performing innovators are no more likely than other companies to be expanding R&D activities this year, they are one and a half times more likely than the others to be making long-term bets to capitalize on growth opportunities. We find a similar gap between the high performers and the others in the likelihood that companies are shifting product portfolios toward completely new products (26 percent of high performers versus 15 percent of other companies). This finding suggests that the high performers have a greater tolerance for risk than do average companies.

Meanwhile, the high performers in our survey appear more attuned to the "softer" aspects of R&D than other companies are. Executives at high-performing companies, for instance, are significantly more likely to say their organizations are focusing on retention of key employees (40 percent versus 29 percent). And while the majority of high-performing companies didn't cut R&D costs in 2009—63 percent of high performers didn't, versus 56 percent of the others—those that did are far more likely than other companies to fear weaker R&D talent pools, a loss of institutional knowledge, and damage to company morale.

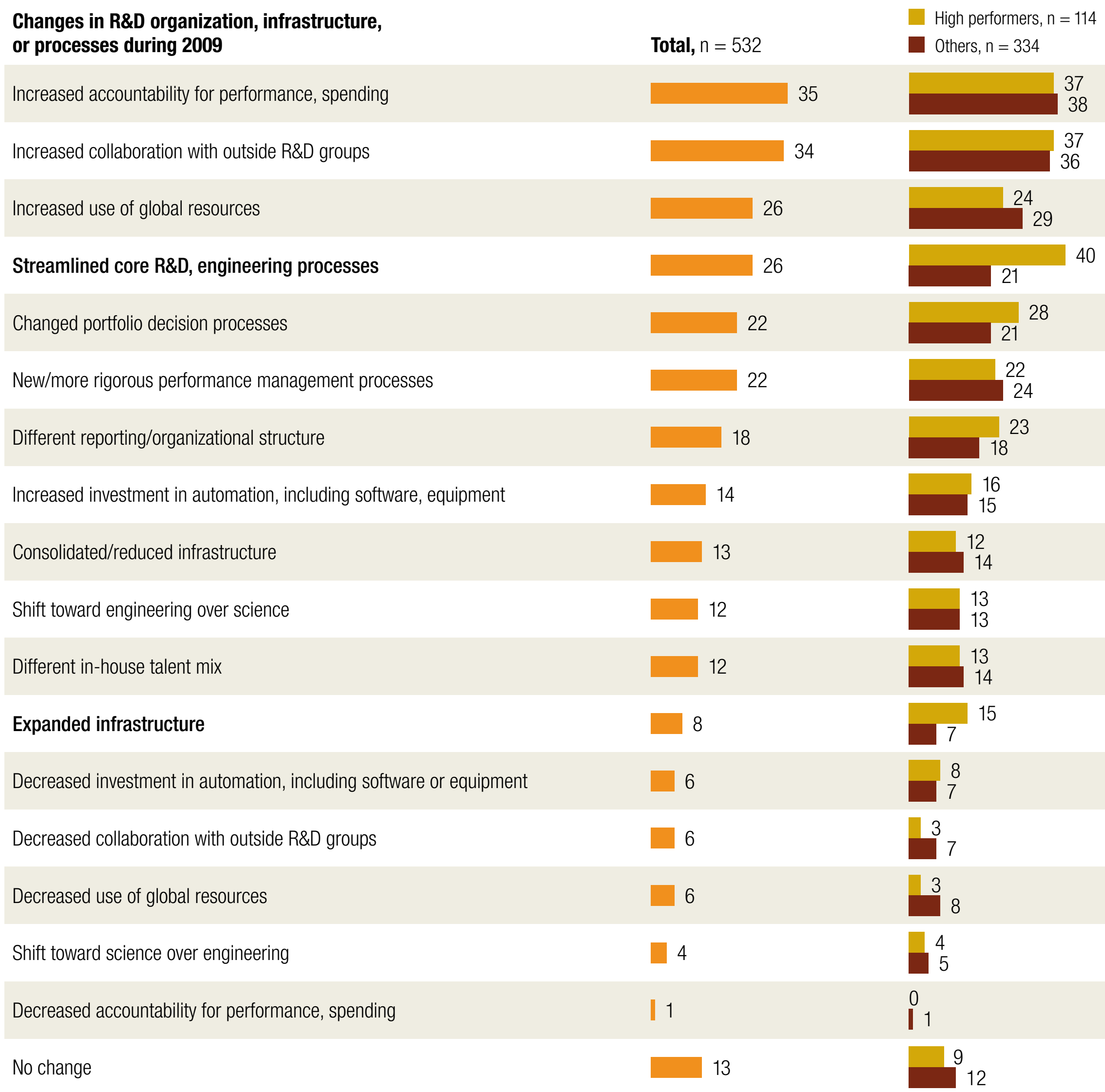


Finally, high-performing companies appear to be markedly more proactive than the others in two operational areas that represent significant long-term investments: the streamlining of core R&D processes and the expansion of R&D infrastructure (Exhibit 6).

Exhibit 6

Top performers are streamlining processes

% of respondents[1]



[1] Respondents who answered "other" or "don't know" are not shown.

Looking ahead

- The 30 percent of companies paying more attention to existing employees are making a smart move, according to our experience. Too often, companies lose focus and struggle to retain key people just as economic conditions improve. Indeed, forward-looking companies should consider near-term opportunities to poach talent from competitors that have become distracted.

- The findings that companies plan to retain increased accountability for R&D spending and greater collaboration with outside R&D groups are positive. The former invariably leads to the termination of unfavorable projects, thus liberating resources to generate new ideas. Furthermore, ideas developed in collaboration with customers and other outside parties are, in our experience, *better* ideas.

- Average companies should take note of the emphasis that high performers place on streamlining processes and expanding R&D infrastructure. While lean processes and good infrastructure generally help *any* company innovate more successfully, these approaches will be particularly important for companies in Europe, the United States, and other high-cost areas as they face new low-cost competition from Asia and elsewhere. ◻

Contributors to the development and analysis of this survey include **Christie Barrett,** a consultant in McKinsey's Detroit office; **Chris Musso,** an associate principal in the Cleveland office; and **Asutosh Padhi,** a director in the Chicago office.