The Ambidextrous Organization

by Charles A. O'Reilly III and Michael L. Tushman

The Roman god Janus had two sets of eyes – one pair focusing on what lay behind, the other on what lay ahead. General managers and corporate executives should be able to relate. They, too, must constantly look backward, attending to the products and processes of the past, while also gazing forward, preparing for the innovations that will define the future.

This mental balancing act can be one of the toughest of all managerial challenges – it requires executives to explore new opportunities even as they work diligently to exploit existing capabilities – and it's no surprise that few companies do it well. Most successful enterprises are adept at refining their current offerings, but they falter when it comes to pioneering radically new products and services. Kodak and Boeing are just two of the more recent examples of once dominant companies that failed to adapt to market changes. Kodak excelled at analog photography but hasn't been able to make the leap to digital cameras. Boeing, a longtime leader in commercial aircraft, has experienced difficulties in its defense-contracting businesses and has recently stumbled in the face of competition from Airbus.

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The failure to achieve breakthrough innovations while also making steady improvements to an existing business is so commonplace – and so fascinating – that it has become a battleground of management thought. For decades, scholars have spun theories to explain the puzzle

Established companies can develop radical innovations – *and* protect their traditional businesses.

The secret? Create organizationally distinct units that are tightly integrated at the senior executive level.

and offered advice on how to solve it. Some have argued that there's no way out of the conundrum – that established companies simply lack the flexibility to explore new territory. Some have suggested that big companies adopt a venture capital model, funding exploratory expeditions but otherwise staying out of their way. Others have pointed to cross-functional teams as the key to creating breakthrough innovations. Still others have claimed that a company may be able to shift back and forth between different organizational models, focusing on exploitation for a period and then moving into exploration mode.

We recently decided to test these and other theories by taking a close look at the real world, examining how actual, contemporary businesses fare when they attempt to pursue innovations that lie beyond their current products or markets. Do they succeed in achieving breakthroughs? Do their existing businesses suffer? What organizational and managerial structures do they use? What works, and what doesn't?

We discovered that some companies have actually been quite successful at both exploiting the present and exploring the future, and as we looked more deeply at them we found that they share important characteristics. In particular, they separate their new, exploratory units from their traditional, exploitative ones, allowing for different processes, structures, and cultures; at the same time, they maintain tight links across units at the senior executive level. In other words, they manage organizational separation through a tightly integrated senior team. We call these kinds of companies "ambidextrous organizations," and we believe they provide a practical and proven model for forward-looking executives seeking to pioneer radical or disruptive innovations while pursuing incremental gains. A business does not have to escape its past, these cases show, to renew itself for the future.

Exploiting and Exploring

To flourish over the long run, most companies need to maintain a variety of innovation efforts. They must constantly pursue *incremental innovations,* small improvements in their existing products and operations that let them operate more efficiently and deliver ever greater value to customers. An automaker, for example, may frequently tweak a basic engine design to increase horsepower, enhance fuel efficiency, or improve reliability. Companies also have to make *architectural innovations,* applying technological or process advances to fundamentally change some component or element of their business. Capitalizing on the data communication capabilities of the Internet, for instance, a bank can perhaps shift its customer-service call center to a low-labor-cost country like India. Finally, businesses need to come up with *discontinuous innovations* – radical advances like digital photography that profoundly alter the basis for competition in an industry, often rendering old products or ways of working obsolete.

[In our study, more than 90% of the ambidextrous organizations achieved their goals.]

All these types of innovation can have different targets. Some may be aimed at a firm's current customers. Others may be delivered to an existing market that lies beyond a company's current customer base – a car insurer may create a new kind of policy for boat owners, for instance. Still others may be focused on serving an entirely new market that has yet to be clearly defined – people who download online music, for example. As shown in the exhibit "A Map of Innovation," the types of innovation and the targeted markets can be plotted in a matrix.

In our research with colleagues Wendy Smith, Robert Wood, and George Westerman, we studied how companies pursued innovations throughout this matrix. In particular, we looked for companies that attempted to simultaneously pursue modest, incremental innovations (toward the lower-left area of the matrix) and more dramatic, breakthrough innovations (toward the upper-right area). We ended up focusing on 35 attempts to launch breakthrough innovations undertaken by 15 business units in nine different industries. We studied the structure and results of the breakthrough projects as well as their impact on the operations and performance of the traditional businesses.

Companies tended to structure their breakthrough projects in one of four basic ways. Seven were carried out within existing *functional designs,* completely integrated into the regular organizational and management structure. Nine were set up as *cross-functional teams,* groups operating within the established organization but outside the existing management hierarchy. Four took the form of *unsupported teams,* independent units set up outside the established organization and management hierarchy. And 15 were pursued within *ambidextrous organizations,* where the breakthrough efforts were organized as structurally independent units, each having its own processes, structures, and cultures but integrated into the existing senior management hierarchy. The exhibit "Organizing to Innovate" provides an overview of these four structures.

We tracked the results of the 35 initiatives along two dimensions. First, we determined their success in creating the desired innovations, as measured by either the actual commercial results of a new product or the application of practical market or technical learning. Second, we looked at the performance of the existing business. Did results hold steady, improve, or decline as the firm worked on its breakthroughs? We found that the organizational design and management practices employed had a direct and significant impact on the performance of both the breakthrough initiative and the traditional business.

When it came to launching breakthrough products or services, ambidextrous organizations were significantly more successful than the other three structures. While none of the cross-functional or unsupported teams and only a quarter of the functional designs produced real innovations, more than 90% of the ambidextrous organizations achieved their goals. (An exception was breakthrough innovations intended to directly substitute for existing products; in these instances, functional designs performed as well as ambidextrous designs.)

The superiority of ambidextrous designs became even more apparent when we examined eight cases in which a company originally organized its breakthrough initia-

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tive around functional designs, cross-functional teams, or unsupported teams and then shifted to an ambidextrous design. In seven of the eight cases, the initiative's performance increased substantially after the change. In contrast, three companies started from an ambidextrous design and then moved to one of the others; performance decreased substantially in two of these cases.

When we measured the effects of all 35 initiatives on their existing businesses, we found that ambidextrous organizations were again clearly superior. In almost every instance in which an ambidextrous structure was used, the competitive performance of the existing product either increased or held steady. By contrast, the results of the traditional operations frequently declined where functional designs, cross-functional teams, or unsupported teams were employed. At a theoretical level, it's easy to explain why ambidextrous organizations would outperform other organizational types. The structure of ambidextrous organizations allows cross-fertilization among units while preventing cross-contamination. The tight coordination at the managerial level enables the fledgling units to share important resources from the traditional units–cash, talent, expertise, customers, and so on–but the organizational separation ensures that the new units' distinctive processes, structures, and cultures are not overwhelmed by the forces of "business as usual." At the same time, the established units are shielded from the distractions of launching new businesses; they can continue to focus all their attention and energy on refining their operations, improving their products, and serving their customers.

But how *exactly* do ambidextrous organizations work? By looking more deeply into the experiences of two such organizations–*USA Today* and Ciba Vision–we can begin to identify the key managerial and organizational characteristics that underpin their ability to both exploit and explore.

A Newspaper Reinvents Itself

In the late 1990s, *USA Today* was a thriving business, but it faced an uncertain future. The national newspaper, a division of the Gannett Corporation, had come a long way since its founding in 1982, when its colorful brand of journalism was widely ridiculed by critics. After losing more than half a billion dollars during its first decade, the paper turned its first profit in 1992 and continued to expand rapidly, becoming the most widely read daily newspaper in the United States. With well-heeled business travelers making up the bulk of its subscriber base, it also became an attractive platform for national advertisers, bringing in a steady flow of revenue.

But as the 1990s progressed, storm clouds appeared on the horizon. Newspaper readership was falling steadily, particularly among young people. Competition was heating up, as customers increasingly looked to television and Internet media outlets for news. And newsprint costs were rising rapidly. Tom Curley, *USA Today*'s president and publisher, recognized that the company would have to expand beyond its traditional print business to maintain strong growth and profits; such expansion, he realized, would require dramatic innovations. The company would need to find ways to apply its existing news-gathering and editing capabilities to entirely new media.

Acting on his beliefs, Curley in 1995 chose Lorraine Cichowski, *USA Today*'s general manager of media projects and former editor of the paper's Money section, to launch an online news service called USAToday.com. He

A Map of Innovation

To compete, companies must continually pursue many types of innovation–incremental, architectural, and discontinuous–aimed at existing and new customers. Plotting your companies' innovation efforts in the matrix below will immediately reveal any areas you may have overlooked.

	Incremental innovations small improvements in existing products and operations	**Architectural innovations** technological or process advances to fundamentally change a component or element of the business	**Discontinuous innovations** radical advances that may profoundly alter the basis for competition in an industry
New customers			
Existing customers			

gave her free rein to operate independently from the print business, and she set up a kind of skunk-works operation, bringing in people from outside *USA Today* and housing them on a different floor from the newspaper. She built a fundamentally different kind of organization, with roles and incentives suited to the instantaneous delivery of news and to an entrepreneurial, highly collaborative culture. With Internet use exploding, the venture seemed primed for success.

But results were disappointing. Although USAToday.com was making a small profit by the end of the decade, its growth was sluggish and had little impact on the broader business's results. The problem, Curley saw, was that the new unit was so isolated from the print operation that it was failing to capitalize on the newspaper's vast resources. Although Cichowski was a member of Curley's executive team, she had little support from other members. Viewing her unit as a competitor with the print business, they had little incentive to help her succeed and made few efforts to share their considerable resources with her. Soon, USAToday.com found itself starved of cash, as the newspaper continued to consume most of the available capital, and the online unit began losing talented staff.

Cichowski pushed to have her business spun out entirely from the newspaper, as other companies were doing with their Internet ventures, but Curley had a very different view. He had come to believe that the new unit required not greater separation but greater integration. In 1999, he decided that *USA Today* should adopt a "network strategy," in which it would share news content across three platforms: the newspaper, USAToday.com, and Gannett's 21 local television stations. Curley described his vision: "We're no longer in the newspaper business – we're in the news information space, and we'd better learn to deliver content regardless of form."

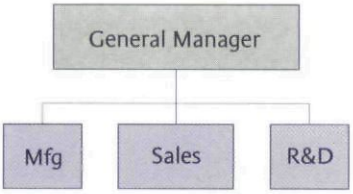
To execute that strategy, Curley knew he had to create an ambidextrous organization that could sustain the print business yet also pursue innovations in broadcasting and online news. So in 2000, he replaced the leader of USAToday.com with another internal executive who was a strong supporter of the network strategy, and he brought in an outsider to create a television operation, USAToday Direct. Both the online and television organizations remained separate from the newspaper, maintaining distinctive processes, structures, and cultures, but Curley demanded that the senior leadership of all three businesses be tightly integrated. Together with Karen Jurgenson, the editor of *USA Today,* the heads of the online and television units instituted daily editorial meetings to review stories and assignments, share ideas, and identify other potential synergies. The unit heads quickly saw, for example, that gaining the cooperation of *USA Today*'s

Organizing to Innovate

In our examination of 35 different attempts at breakthrough innovation, we discovered that businesses tend to apply one of four organizational designs to develop and deliver their innovations. More than 90% of those using the ambidextrous structure succeeded in their attempts, while none of the cross-functional or unsupported teams, and only 25% of those using functional designs, reached their goals.

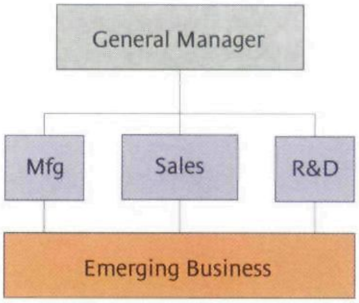
Functional designs

integrate project teams into the existing organizational and management structure.



Cross-functional teams

operate within the established organization but outside the existing management hierarchy.



reporters would be crucial to the success of the strategy (print journalists are notorious for hoarding stories), and they jointly decided to train the print reporters in television and Web broadcasting and outfit them with video cameras so they could file stories simultaneously in the different media. The moves quickly paid off, as the reporters realized that their stories would reach a much broader audience – and that they would have the opportunity to appear on TV. A new position of "network editor" was also created in the newsroom to help reporters shape their stories for broadcast media.

> [Even as sharing and synergy were being promoted, the organizational integrity of the three units was carefully maintained.]

At the same time, Curley made larger changes to the organization and its management. He let go of a number of senior executives who did not share his commitment to the network strategy, ensuring that his team would present a united front and deliver consistent messages to the staff. He also changed the incentive program for executives, replacing unit-specific goals with a common bonus program tied to growth targets across all three media. Human resource policies were changed to promote transfers between the different media units, and promotion and compensation decisions began to take into account people's willingness to share stories and other content. As part of that effort, a "Friends of the Network" recognition program was established to explicitly reward cross-unit accomplishments.

Yet even as sharing and synergy were being promoted, the organizational integrity of the three units was carefully maintained. The units remained physically separate, and they each pursued very different staffing models. The staff members of USAToday.com were, on average, significantly younger than the newspaper's reporters and remained far more collaborative and faster paced. Reporters continued to be fiercely independent and to focus on more in-depth coverage of stories than the television staff.

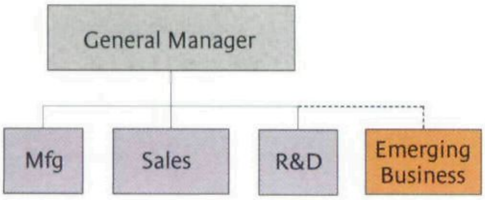
Because of its ambidextrous organization, *USA Today* has continued to compete aggressively in the mature business of daily print news while also developing a strong Internet franchise and providing Gannett television stations with coverage of breaking news. During the Internet collapse, when other papers' profits plunged, *USA Today* made $60 million, fueled in large part by the company's ability to continue to attract national advertisers and by revenues from its profitable USAToday.com operation.

A New Lens on Growth

Another company that has used an ambidextrous organization to spur growth through radical innovation is Ciba Vision. Established in the early 1980s as a unit of the Swiss pharmaceutical giant Ciba-Geigy (now Novartis), the Atlanta-based Ciba Vision sells contact lenses and related eye-care products to optometrists and consumers. Although the company produced some innovative new products in its early years, such as the first FDA-approved bifocal contacts, by the mid-1980s it remained a distant second to market leader Johnson & Johnson. Making matters worse, in 1987 J&J brought out a new, disposable contact lens that threatened Ciba Vision's sales of conventional contacts. By the early 1990s, it was clear to Glenn Bradley, Ciba Vision's president, that J&J's dominance provided

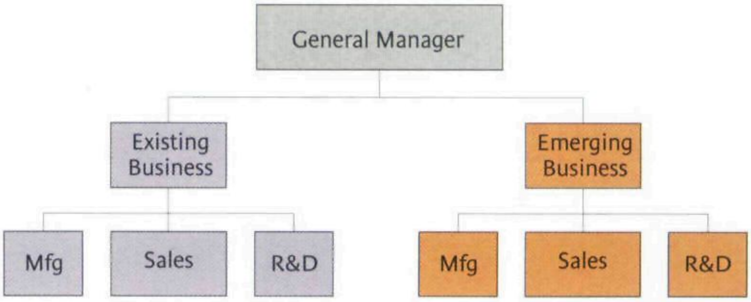
Unsupported teams

are set up outside the established organization and management hierarchy.



Ambidextrous organizations

establish project teams that are structurally independent units, each having its own processes, structures, and cultures, but are integrated into the existing management hierarchy.



economies of scale that would doom his company to ever-shrinking profits. Without radically new products, Ciba Vision would slowly decline and ultimately fail. To survive and grow, Bradley saw, his organization would have to continue making money in the mature conventional-contacts business while simultaneously producing a stream of breakthroughs.

In 1991, Bradley launched six formal development projects, each focused on a revolutionary change. Four entailed new products, including daily disposables and extended-wear lenses, and two involved new manufacturing processes. In a controversial but necessary move, he canceled dozens of small R&D initiatives for conventional lenses to free up cash for the breakthrough efforts. While the traditional units would continue to pursue incremental innovations on their own, the entire corporate R&D budget would now be dedicated to producing breakthroughs.

> A clear and compelling vision, relentlessly communicated by a company's senior team, is crucial in building ambidextrous designs.

Bradley knew that attempting to manage these projects under the constraints of the old organization would not work. Inevitably, conflicts over the allocation of human and financial resources would slow down and disrupt the focus needed for breakthrough innovations. Further, the new manufacturing process required different technical skills, which would make communication across old and new units difficult. He therefore decided to create autonomous units for the new projects, each with its own R&D, finance, and marketing functions, and he chose the project leaders for their willingness to challenge the status quo and their ability to operate independently.

Given the freedom to shape their own organizations, the new units created very different structures, processes, and cultures. The extended-wear team remained in Atlanta, though in a facility separate from the conventional-lens business, while the daily-disposables team was located in Germany. Each team hired its own staff, decided on its own reward system, and chose its own process for moving from development to manufacturing.

But even as Bradley understood the importance of protecting the new units from the processes and cultural norms of the old business, he realized they also had to share expertise and resources, both with the traditional business and with one another. He therefore took a number of steps to integrate management across the company.

First and perhaps most important, he had the leaders of all the breakthrough projects report to a single executive, Adrian Hunter, the vice president of R&D, who had a deep knowledge of the existing business and tight relationships with executives throughout the firm. Working closely with Bradley, Hunter carefully managed the trade-offs and conflicts between the old business and the new units. All the leaders of the innovation projects, moreover, were asked to sit in on Bradley's executive team meetings.

Bradley and his team also enunciated a new vision statement for Ciba Vision – "Healthy Eyes for Life" – that

The Scope of the Ambidextrous Organization

Ambidextrous organizations encompass two profoundly different types of businesses – those focused on exploiting existing capabilities for profit and those focused on exploring new opportunities for growth. As this table indicates, the two require very different strategies, structures, processes, and cultures.

Alignment of:	Exploitative Business	Exploratory Business
Strategic intent	cost, profit	innovation, growth
Critical tasks	operations, efficiency, incremental innovation	adaptability, new products, breakthrough innovation
Competencies	operational	entrepreneurial
Structure	formal, mechanistic	adaptive, loose
Controls, rewards	margins, productivity	milestones, growth
Culture	efficiency, low risk, quality, customers	risk taking, speed, flexibility, experimentation
Leadership role	authoritative, top down	visionary, involved

Ambidextrous Leadership

Different alignments held together through senior-team integration, common vision and values, and common senior-team rewards.

was meaningful to all parts of the business. While this move was largely rhetorical, it had an important effect. It underscored the connections between the breakthrough initiatives and the conventional operation, bringing together all employees in a common cause and preventing organizational separation from turning into organizational fragmentation. As Bradley noted, the slogan gave people a social value as well as an economic reason for working together. Like *USA Today,* Ciba Vision also revamped its incentive system, rewarding managers primarily for overall company performance rather than for the results of their particular units.

The ambidexterity paid off. Over the next five years, Ciba Vision successfully launched a series of contact-lens products, introduced a drug for treating age-related macular degeneration, pioneered a new lens-manufacturing process that dramatically reduced production costs, and overtook J&J in some market segments. The conventional-lens business, moreover, remained profitable enough to generate the cash needed to fund the daily disposables and extended-wear lenses.

At the time the new strategy was adopted, Ciba Vision's annual revenues were stuck at about $300 million. Ten years later, its sales had more than tripled, to over $1 billion, and the new drug, transferred to Novartis's pharmaceutical unit, was on its way to becoming a billion-dollar business. More recently, Ciba Vision has continued to reap the benefits of ambidexterity by pioneering so-called fashion lenses that allow people to change the color of their eyes.

Becoming Ambidextrous

The stories of *USA Today* and Ciba Vision reveal what it takes to become ambidextrous. (Also see the table "The Scope of the Ambidextrous Organization" for more on what's required.) One of the most important lessons is that ambidextrous organizations need ambidextrous senior teams and managers – executives who have the ability to understand and be sensitive to the needs of very different kinds of businesses. Combining the attributes of rigorous cost cutters and free-thinking entrepreneurs while maintaining the objectivity required to make difficult trade-offs, such managers are a rare but essential breed. Without people like Tom Curley, Karen Jurgenson, Glenn Bradley, and Adrian Hunter – managers who can be, as one of them put it, "consistently inconsistent" – *USA Today* and Ciba Vision would have had little chance of success.

Another important lesson from the *USA Today* and Ciba Vision stories is that a company's senior team must be committed to operating ambidextrously even if its members aren't ambidextrous themselves. Resistance at the top levels of an organization can't be tolerated, which means that a shift to an ambidextrous organization can be a wrenching experience. *USA Today*'s Curley dismissed 40% of his executive team. Ciba Vision's Bradley asked some of the executives overseeing the traditional business to leave when they fought the decision to reallocate R&D investments to the new units. And both leaders backed up their actions with new incentive programs that institutionalized the new management approach.

We have also found that a clear and compelling vision, relentlessly communicated by a company's senior team, is crucial in building ambidextrous designs. These aspirations provide an overarching goal that permits exploitation and exploration to coexist. Curley's "network strategy" and Bradley's "Healthy Eyes for Life" were compelling visions that underscored the strategic necessity of ambidexterity and the benefits for all employees, both those in the traditional units and those in the breakthrough initiatives.

USA Today, well aware of the natural skepticism of newspaper reporters, took a particularly aggressive approach to communicating its new vision, strategy, and organization. Curley launched the effort by appearing at a company meeting dressed as a cyberpunk, complete with blue hair. The message, he recalled, was: "It's a new world, and we need to be ready to move into it." Jurgenson began sending daily e-mails to the entire news staff in which she highlighted the concrete accomplishments of the new approach – for example, explaining exactly how one reporter was able to take a story originally intended for the newspaper and get it onto the Web site and the television stations. In addition, all members of the company's management committee were expected to hold weekly communications meetings within their units as well as workshops focused on the changes employees had to make in their own jobs. As Curley now puts it, "When change is at a revolutionary level, you can't be aggressive enough in confronting the issues."

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The forces of inertia in companies are strong. The legions of once successful firms that have fallen on hard times or gone out of business underscore how hard it is to break out of a rut, especially a comfortable, profitable rut. The findings of our research should therefore be heartening to executives. Not only can an established company renew itself through the creation of breakthrough products and processes, but it can do so without destroying or even hampering its traditional business. Building an ambidextrous organization is by no means easy, but the structure itself, combining organizational separation with senior team integration, is not difficult to understand. Given the executive will to make it happen, any company can become ambidextrous.

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