

The Innovation Premium: Capturing the Value of Creativity

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Wall Street increasingly places a higher value on innovation than on virtually any other approach to generating growth.

This power to increase both the top line and the bottom line – growth in total revenue and growth in earnings – is something investors consistently reward – and pay a premium for. More than leadership change, more than mergers or acquisitions, more than renewed commitment to cost reduction, investors reward innovation. We call this effect the innovation premium.

Innovation boosts a company's earnings, speeds growth, ensures an advantage over competitors, and appeals to shareholders. Put another way, businesses that deliver earnings growth based on a continuous stream of new products and services and new ways of doing business capture the innovation premium.

Arthur D. Little research supports this argument. *Fortune* magazine has rated and ranked companies by innovation for the past 15 years. In examining the shareholder returns of the companies in *Fortune*'s rankings, we found strong evidence of an innovation premium (Exhibit 1). In fact, the *Fortune* data revealed that Wall Street pays attention even to the promise of new products and services. Encouraged by these initial findings, we conducted our own survey of Wall Street analysts.

Item: the companies in the top 20 percent of *Fortune*'s ratings enjoy double the shareholder returns of the other companies in their industry.

Item: the companies in the bottom 20 percent report shareholder returns that are less than a third of the other companies in their industry.

Item: 95 percent of Wall Street analysts responding to the Arthur D. Little survey report that the more innovative companies enjoy a share-price premium over their less innovative counterparts.

Item: more than 90 percent of the analysts report that the importance of innovation has increased significantly over the last 10 years.

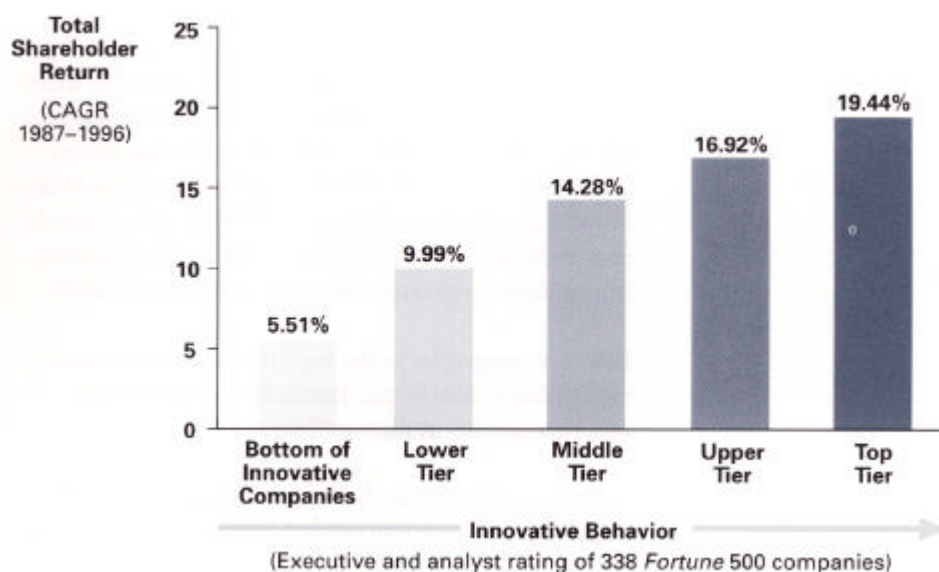
Item: more than 70 percent say that innovation is a key driver of the market's valuation of companies.

What Innovation Means

Innovation is the process of harnessing creativity to create new value in new ways through new products, new services, and new businesses. This value-creation activity is not limited to the products and services themselves, but also applies to business strategy and processes. In fact, strategic innovation, aimed at creating top-line growth and capturing innovation premiums, is one of the most critical challenges facing businesses today.

Exhibit 1

Shareholder Return Versus Innovative Behavior



Companies create the innovation premium by offering their customers not merely new technologies or new competencies, but unprecedented value. Being first to market is fine, but redefining the market or the industry in your own image, always with an eye to the customer, is the essence of successful innovation. Quantum leaps in value creation and competitive advantage come from reshaping entire industries, reinventing markets, and redesigning whole value chains. King Gillette's invention of the first safety razor in 1903 and the disposable razor in 1976 were market-defining innovation breakthroughs. More recently, Amazon.com took a page out of e-commerce to turn the book-selling industry on its head. And while General Foods and Procter & Gamble were duking it out in supermarket coffee aisles with their Maxwell House and Folger's brands, Starbucks reinvented the rules for coffee, prompting coffee aficionados to abandon their Sunday paper coupons in favor of premium-priced roasts at specialty stores. Starbucks created more than a billion dollars in shareholder value in the process.

The Decline of Business as Usual

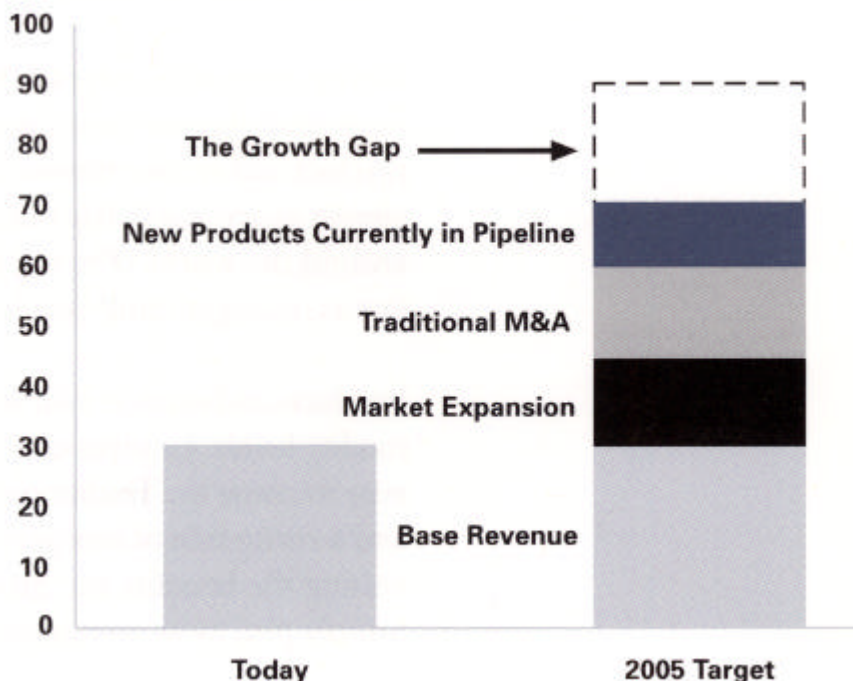
Before companies can earn the innovation premium, they must reinvigorate their innovation processes, especially product and service innovation. Reengineering has wrung almost every last dollar out of operations in businesses around the world. The top line isn't growing nearly as fast as managers and shareholders would like (Exhibit 2).

Products and services blur in the market and sink to commodity levels. Competitive differentiation is harder than ever to come by. Traditional market expansion initiatives and a rising tide of mergers and acquisitions aren't generating the benefits and growth they promise on paper. Simply put, most companies are seeing a gap between shareholder expectations and where they can reasonably get by doing business as usual.

Bridging the gap between current efforts and rising expectations for growth requires revitalizing innovation, not just in one or two of these areas, but across the enterprise in an integrated way. Intel offers an instructive example of innovation's power to create new value all along the value chain by balancing efficiency and creativity. Intel's string of advances in crystal lithography and chip technology are the harvest of continuous investment in innovation. But the creativity doesn't end with products. Intel's partnering and alliances with its computer-making customers marks a manufacturing process innovation that extends its value chain. An equally powerful innovation in marketing strategy, the „Intel Inside“ brand identity, has created a demand „pull“ for its products and turned what was a commodity – the silicon chip – into a household name. Taken together, Intel's array of innovation has produced a 42 percent compound annual growth in the value of its shares over the past 10 years – a premium from equity markets for sustained innovation. Of course, outstanding innovators at Intel's level are rare. How does a company achieve sustained innovation? One place to start is with its business model.

Exhibit 2

Sources of New Revenue in 2005



A Model for Business Innovation

Innovative companies share some characteristics regardless of the nature of their businesses. In our work across industries, Arthur D. Little has noted that innovation leaders work from business models that operate on two fundamental principles.

First, a company's managers must drive innovation across the entire enterprise to create and capture value. In any organization geared to robust idea generation and concept development and fast, flexible responses to business challenges, it is essential to accelerate learning, build cross-enterprise networks, and expect real-time expertise. Within this environment, the skills and capabilities of individual employees can be aligned with a particular challenge on a project-by-project basis. Furthermore, because dozens of permanent, cross-disciplinary networks are linked, their members, whatever their current assignments, can be tapped to work on special projects that fit their skills and experience.

True innovation never occurs in isolation. It comes from the transfer of ideas and knowledge from person to person. Whether it is learning how a new idea can be incorporated into a full-blown project or how a technique or best practice can revolutionize an entire department's view of its work, that learning animates the business model of high-innovation companies. If allowed to flourish, learning becomes the force that inspires all the company's stakeholders, from suppliers to end users.

The second fundamental principle of the innovative business management model is use technology and competency platforms to drive sustainable innovation and capture competitive advantage. This model requires the construction of what we call technology and competency platforms, each a powerful blend of human skills and state-of-the-art technology, which generate improvements in growth and performance.

These platforms might resemble, for example, the expert systems at a leading pulp and paper company, or the traction systems at DaimlerChrysler's railroad rolling stock business, ADtrans. Working from sophisticated technology platforms, developers at Millennium Pharmaceuticals, Inc., engage in gene mapping and production of a broad range of scientific compounds. Similarly, researchers at Alcoa profit from broad-based technology platforms used in the creation of new alloys. Canon builds competency platforms to improve digital imaging and to share with its business partners the fruits of new discoveries. Boston Scientific builds its platforms around leading-edge plastic-extrusion capabilities. In each case, a technology platform is designed specifically to support a given portfolio of innovations.

To activate these two principles and get to the innovation premium, a company must align and fine-tune its management efforts in five key areas: strategy, process, resources, organization, and learning. By alignment, we mean that all stakeholders in the company – from suppliers to stockholders to end users of the company's products and services – must be involved in and committed to the company's program for innovation. Think of an internal combustion engine in which all parts are so well-tuned that the engine purrs along in one smooth and efficient operation. To extend the metaphor, think of the cylinders of that engine as representing the five areas of strategy, process, resources, organization, and learning.

Let's examine each of these five areas as illustrated by companies on their way to capturing the innovation premium.

Innovation in Strategy. Traditionally, the perceptions and goals of major business units – marketing, manufacturing, and the like – have determined business strategy. More recently, corporate cost-reduction and restructuring priorities have also driven those strategies. Today, more than ever, as companies strive to grow both the top and bottom lines, innovation has moved to the forefront as a key strategic driver. Innovation leaders formulate strategies tailored to the needs and strengths of their innovation-and-technology apparatus, including research and development. An excellent example is Canon.

„A lone wolf among Japanese companies“ is how the media have characterized Canon. The company has shied away from the traditional interlocking keiretsu relationships with big banks and other corporations. Its treatment of employees also runs counter to custom. For one thing, Canon introduced the five-day workweek to Japan. And instead of developing spin-offs of others' products, a favorite tactic of Japanese companies, Canon relies upon its own researchers to break new ground.

The results have been extraordinary. Canon has leapt from cameras to copiers to computer peripherals (such as scanners and printers) to technical products (such as steppers for the semiconductor industry). For years, the company has been among the top five recipients of patents in the United States, and many of them have been category-killers. Profits have soared, reaching almost \$1 billion a year in 1997 on revenues of \$21 billion.

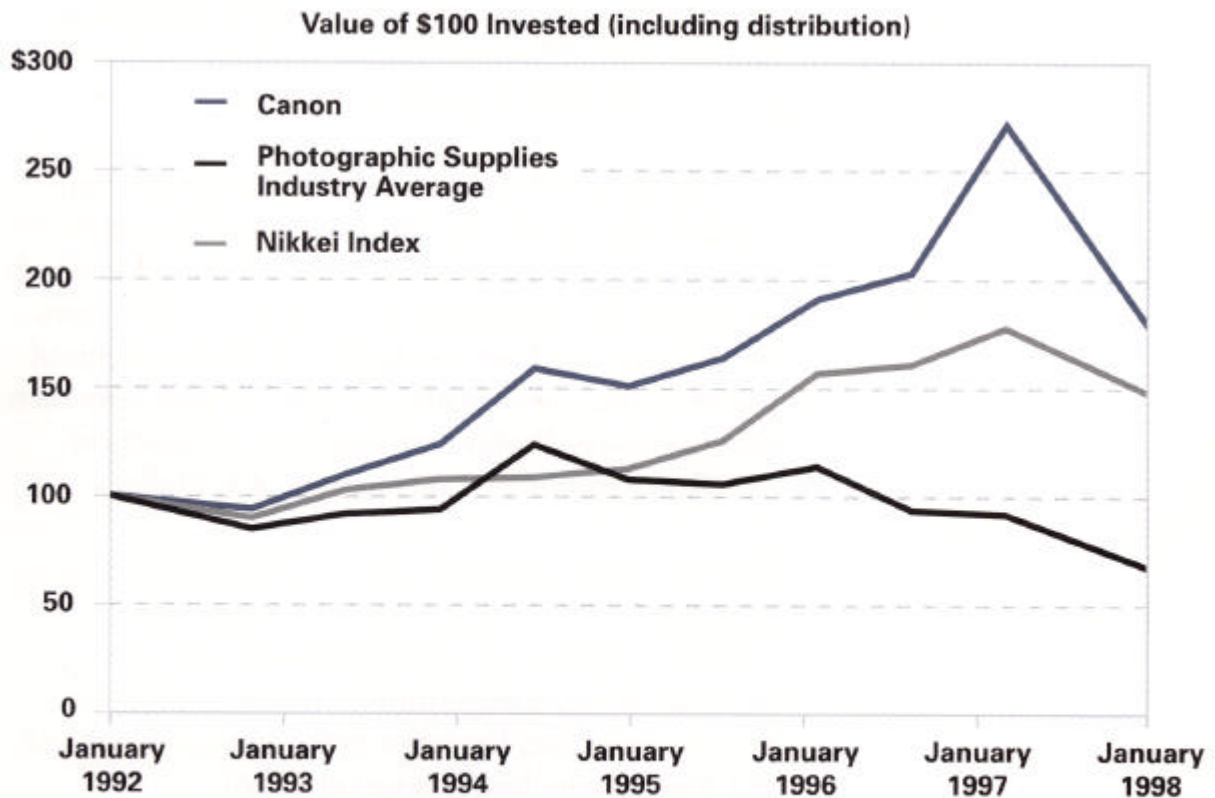
Canon's success is directly tied to its innovation strategy (Exhibit 3). The company makes no bones about it: „Advanced technology development and innovation is at the heart of our strategic thrust,“ says Toru Takahashi, Director and Chief Executive of the company's research and development headquarters in Tokyo.

Innovation in Processes. In the traditional view, the product development process begins with research and development and ends with a hot-off-the-assembly-line product or service. Innovative companies urge people to expand their thinking to include the point of origin of raw ideas and the point at which the product is in the hands of a loyal customer.

Think, too, of the new and more efficient techniques that a company puts into the hands and minds of its employees. Where do such techniques come from? From literally anywhere in the company's value chain – from competitors or even from other industries that may have been using the techniques in a different context for decades.

Exhibit 3

Canon Shareholder Returns vs. Industry Average, 1992-1998



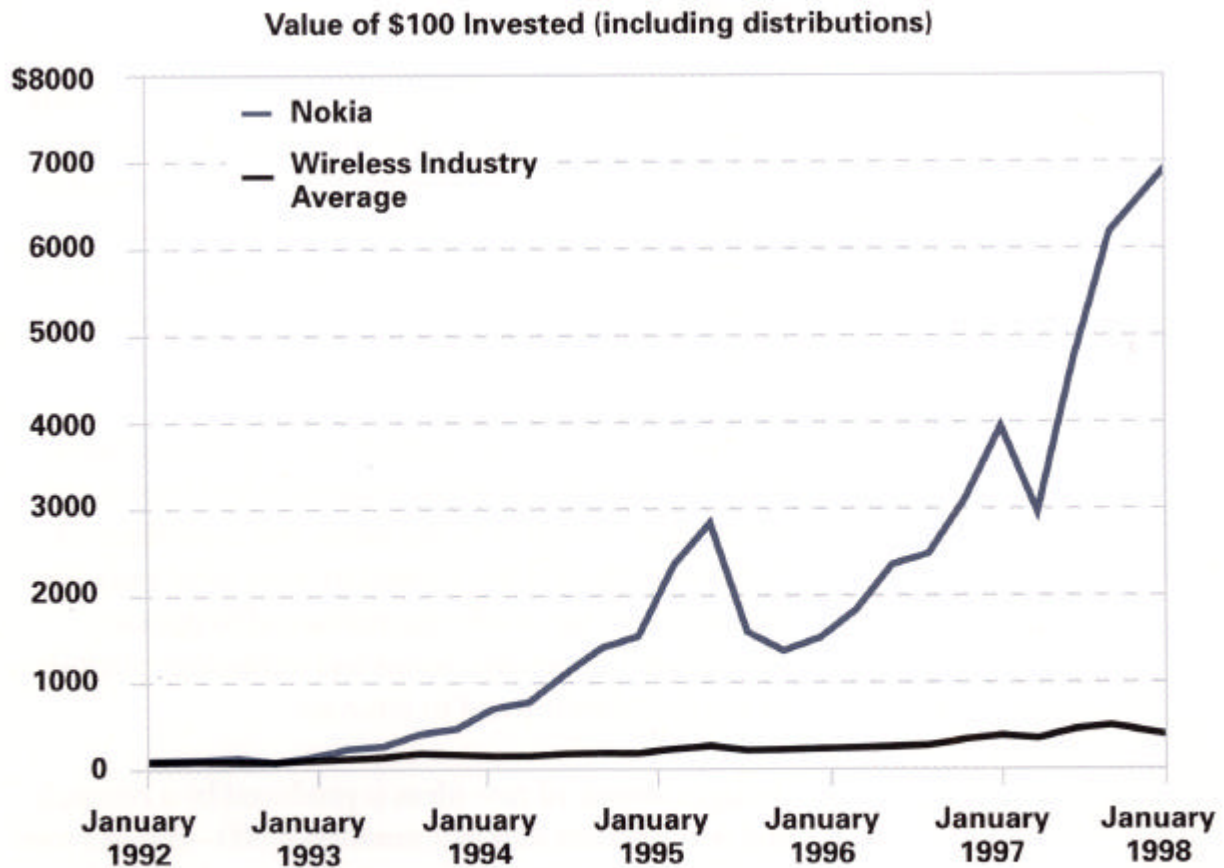
Source: Tradeline®/Dow Jones Interactive, Arthur D. Little Analysis

Note: Stock prices and dividends for non-U.S. companies have been converted from their local currency to U.S. dollars for this comparison.

The Nokia Corporation shows how an expanded perspective can take the process beyond the day-to-day demands of a single business unit and enhance value for the long term. For a decade, this Finnish conglomerate floundered as sales in its paper, rubber, and telecommunications divisions steadily eroded. The breakup of the Soviet Union, the company's major market, increased its anxiety and losses, which for 1991 and 1992 totaled a whopping \$200 million (Exhibit 4). Then, to the astonishment of the business community, Jorma Ollila, Nokia's Chief Executive Officer, bet the company's future on a single market: the „telecom,“ or smart mobile phone. Today, Nokia is the largest company in worldwide mobile phone sales, having recorded annual revenues of \$15.7 billion in 1998. And the company is outdistancing all comers in maintaining its technological lead in so-called smart phones.

Exhibit 4

Nokia Shareholder Returns vs. Industry Average, 1992-1998



Source: Tradeline®/Dow Jones Interactive, Arthur D. Little Analysis

Note: Stock prices and dividends for non-U.S. companies have been converted from their local currency to U.S. dollars for this comparison.

Virtually unknown in the United States until a few years ago, Nokia is now a brand to be reckoned with. Indeed, the company has become a source of thoroughly innovative products. How did it happen? Nokia redesigned its innovation process.

„In the past,“ said Kaj Linden, Senior Vice President of Technology at Nokia, „we were very much engineering-driven. Research and development was a separate and sovereign entity pursuing its own esoteric goals, and the company simply awaited the results of this group’s activities.“

In a redesign of the old R&D process, however, Nokia engineers were introduced to their end-use customers and to the realities of the marketplace. „We learned to understand that the new emphasis would be on time-to-market,“ Linden said, „and that the earlier you’re in the market, the more control and profits you are able to garner.“

For the first time in any systematic way, the engineers were also introduced to the exigencies and logistics of production, as well as to the needs and capabilities of Nokia’s suppliers. They learned to share ideas and information across the whole enterprise and to operate through multifunctional teams and technology platforms. In essence, they learned to innovate.

Today, a stream of new ideas is produced by a research and development staff that numbers 8,000 – out of a total workforce of 34,000. But everyone is involved in the innovation process at Nokia, where ideas are just the beginning of business wisdom. When market conditions demand, the people at Nokia can launch a new product from a standing start in no more than six weeks.

Innovation in Resources. Innovative companies enlarge the definition of business resources to include all the capital, facilities, capabilities, and people that are part of, or connected to, the supply chain. Customers and suppliers are definitely on board. Managers need to determine whether – and how – these resources are leveraging innovation and technology.

When Chrysler was facing possible bankruptcy in the 1980s, it lacked the capital to support its research and development resources. Mere survival required some innovative thinking on how best to use what resources the company had. Management at all levels began taking a hard look at every possible source of research and production, in effect redefining what the term „resources“ meant. By viewing the company as an extended enterprise – in part by wooing its suppliers and winning their loyalty – Chrysler was able to turn near-demise into bonanza. Today, one in every six vehicles sold in the United States is a Chrysler product (Exhibit 5).

In years past, carmakers in the United States were vertically integrated, manufacturing virtually every part of the vehicles they sold. Suppliers were treated like second-class citizens, expected to compete on price and delivery for every scrap from the Big Three’s table. Contracts were short, and the relationship between assembler and supplier was, to put it mildly, at arm’s length.

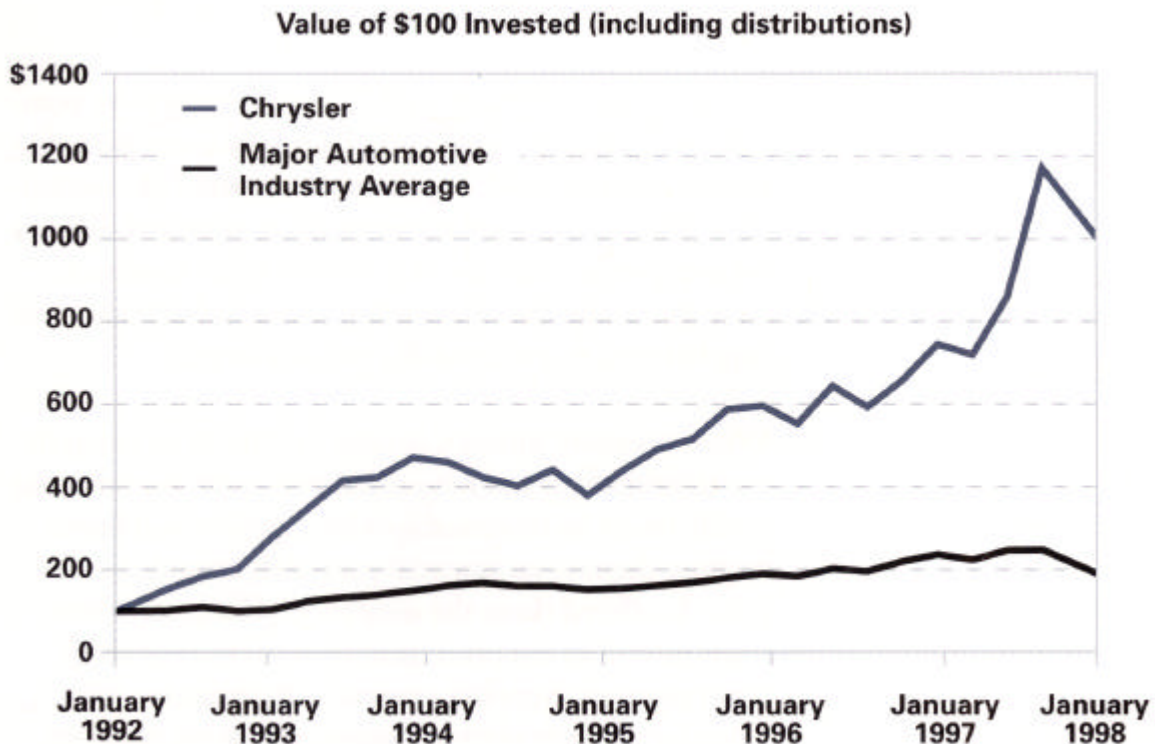
When necessity forced Chrysler to rethink its research and development and innovation structures, the company totally recast its relationship with suppliers and began treating them as an essential part of its extended enterprise. It offered them the assurance of long-term contracts as well as the price incentives to become allies, if not partners. Supplier experts were invited to join Chrysler’s vehicle platform teams, which are made up of engineers, designers, and factory personnel.

Accepting the invitation, Chrysler’s suppliers responded by sharing their own new technologies with Chrysler. Some 85 percent of all automotive suppliers consider Chrysler their preferred customer. Those supplier/ Chrysler teams are an integral element of the company’s innovation process.

To achieve its objectives, Chrysler has at times upended automotive tradition. For one thing, the company now shares knowledge of its operations across its extended enterprise. „Ford and General Motors work hard to keep their cards close to their chests, so to speak,“ Tom Moore, General Manager for Chrysler’s Advanced Technology Division, told us. „What we do is entirely the opposite.“ Before Chrysler designers, engineers, and executives even know what a new vehicle will look like or how it will function, the suppliers are brought in as partners.

Exhibit 5

Chrysler Shareholder Returns vs. Industry Average, 1992-1998



Source: Tradeline®/Dow Jones Interactive, Arthur D. Little Analysis

„Suppliers can then see how the part they are supplying interfaces with other parts,“ Moore said.

That kind of team involvement encourages the participation expected of a partner and is far removed from the old hired-hand approach. The arrangement not only offers suppliers many benefits, it also gives Chrysler much-needed access to the innovation resources of its suppliers.

Organizational Innovation. Innovative companies build a highly collaborative organization from the top down and the bottom up, one that is thoroughly networked in ways that enable people to communicate rapidly with one another. By connecting workers at every level and in every corner of the organization and beyond, managers encourage the personal interactions and cross-fertilization that foster innovation. An idea that pops into one worker’s head can be shared with colleagues and transformed into a new project. A newly devised manufacturing technique in one department is passed on to the whole enterprise. A best practice garnered from a partner or a technical paper is extended to all stakeholders in the value chain.

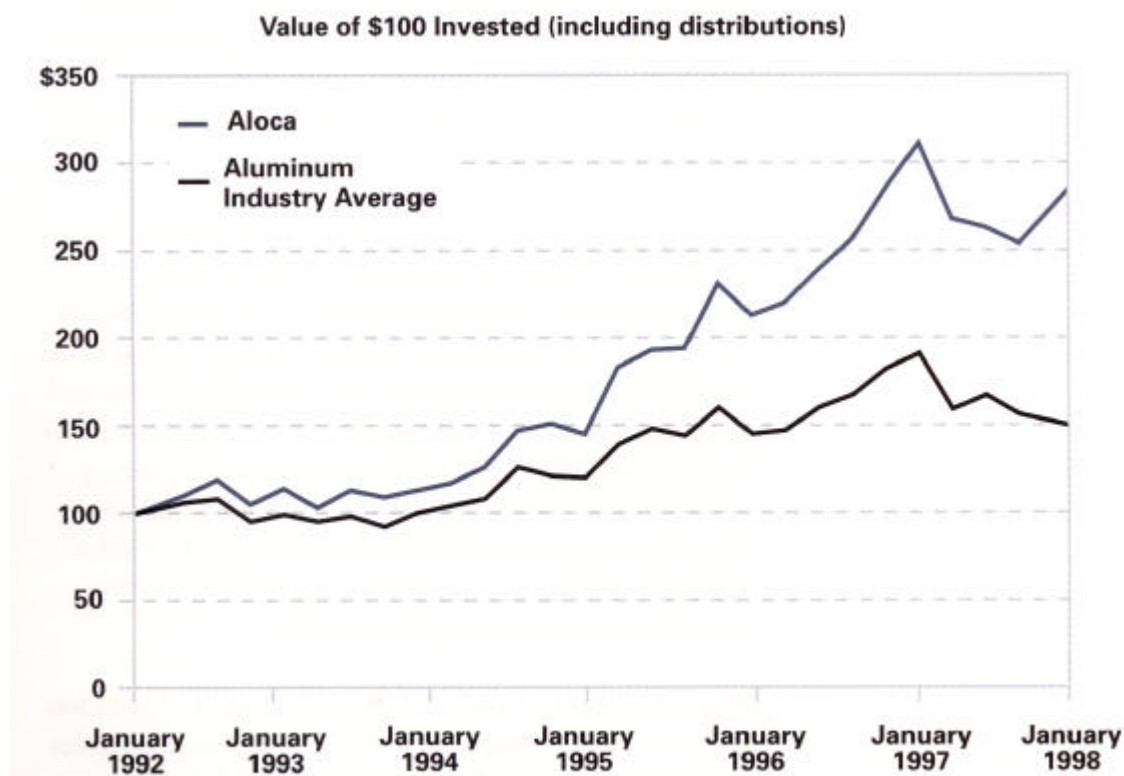
In managing this interaction and cross-fertilization, a company’s Chief Development Officer (CDO) stands responsible for inspiring, fostering, and riding herd on company-wide innovation and technology. On the executive level, the CDO is assisted by innovation boards and councils. On the day-to-day level, the officer’s mission is supported by permanent technology and competency networks made up of specialists from across the supply chain who can be called on to lead innovation projects. The CDO also encourages alliances with innovative outside organizations and individuals.

Alcoa – originally known as the Aluminum Corporation of America – encompasses a diverse range of companies and business units with a large research and development component. The parent company, which has made innovation synonymous with the name, is famous for its aluminum beverage cans, the aluminum space frame for Audi automobiles, and most alloys used in the aerospace industry. While reaching for wide product diversity, Alcoa embraced an ambitious strategy to extend its enterprise globally and to improve communications and manufacturing techniques while also attempting to cut production costs and inventories (Exhibit 6).

In 1996, recognizing the impossibility of realizing such a strategy if the company continued to function in discrete, hierarchically structured silos, where the production and sharing of knowledge and innovation were hindered by the word „proprietary,“ Alcoa’s leaders undertook an ambitious plan to streamline the organization and ensure that processes and people worked seamlessly together.

Exhibit 6

Alcoa Shareholder Returns vs. Industry Average, 1992-1998



Source: Tradeline®/Dow Jones Interactive, Arthur D. Little Analysis

Dr. Greg Smith, Director of Strategy and Planning at Alcoa’s Technical Center near Pittsburgh, Pennsylvania, points out that merely downsizing or instituting various measures to ensure continuous improvement would not have been sufficient in themselves to bring the company up to leading innovator status. He believes that closing the technology gaps – both internally and across the extended enterprise – depends on a networked and team-oriented approach for the entire organization.

Innovation in Learning. Above all, innovative companies are dynamic knowledge-based learning machines, committed to continuous and sustainable innovation. That, too, requires the leadership of the CDO, who might as easily be called the CLO, or Chief Learning Officer. The electronic network is organized to gather ideas and best practices from every corner of the company, to select and edit them, and to send the newly polished versions back to the desks and workstations where they can be put to practical use.

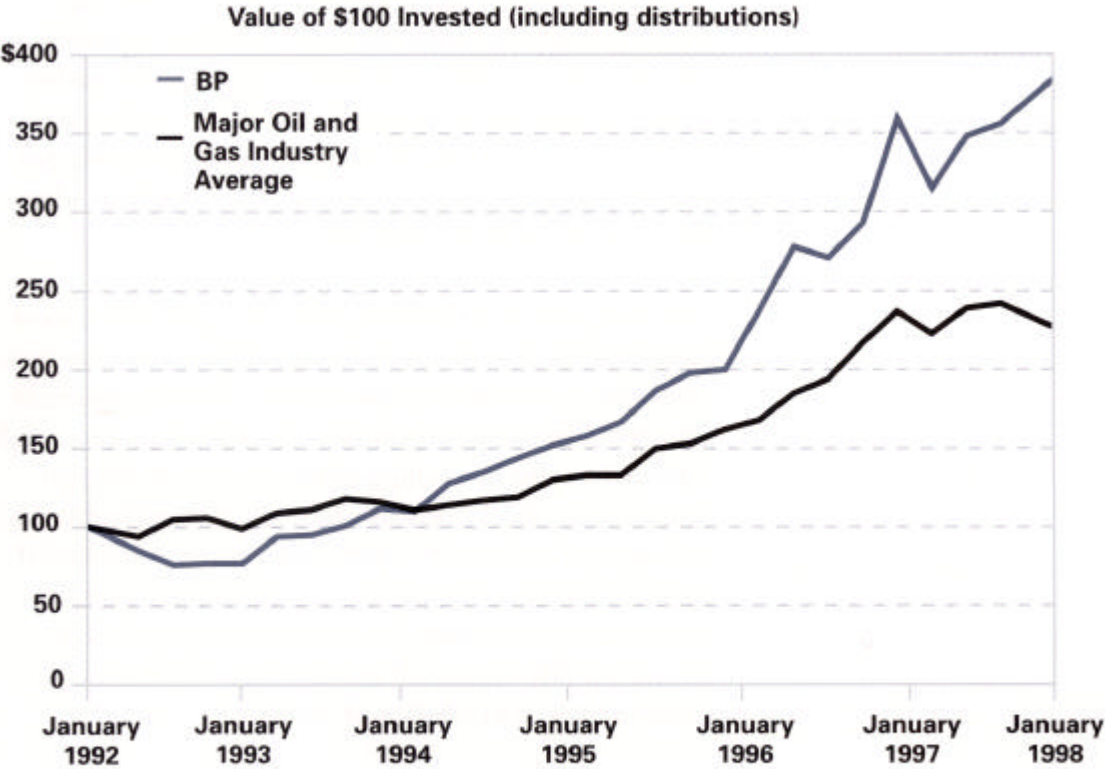
The company-wide learning that takes place at London-based British Petroleum Company (BP) shows that such a network can be a tremendous asset. BP officials credit a powerful learning program for the dramatic turnaround achieved by this \$71 billion global giant over the past decade. The old BP was an unwieldy, extremely diversified organization, with major stakes in coal, oil, natural gas, and various minerals. Its exploration and development costs were among the industry’s highest, and by the early 1990s corporate indebtedness had reached an all-time high of \$16 billion (Exhibit 7).

Since then, BP has reduced both its workforce and its debt by half and become the most profitable of all the major oil companies. In its turnaround, BP has relied on units it calls performance improvement teams, which incorporate elements of various networks, each responsible for one of three primary assets: learning, competency building, or performance improvement.

In many companies, the time that employees spend in dialogue and in reflection is often seen as a wasted effort. But at innovative companies such as BP, just the opposite is true. It focuses much effort on getting people to reflect and learn from what they’ve done and share that learning with others, creating value for all.

Exhibit 7

British Petroleum Shareholder Returns vs. Industry Average, 1992-1998



Source: Tradeline®/Dow Jones Interactive, Arthur D. Little Analysis

Note: Stock prices and dividends for non-U.S. companies have been converted from their local currency to U.S. dollars for this comparison.

One of the values BP has derived from this learning is the importance of a corporate culture built on teamwork. Workers are strongly encouraged to move beyond a focus on their particular personal or departmental concerns and to treat all teammates as collaborators in a common cause. „We reward people for how well they work with others,“ said Atul Arya, Group Planning Manager at BP. „One of the criteria for moving up to more senior levels in the organization is how well you deliver on that particular metric.“

The Peer Assist Program is one tool BP uses to teach teamwork and the larger view. Instead of bringing in an expert to solve a team’s problem, peers operate in a shared learning environment.

Putting It All Together: Lucent Technologies

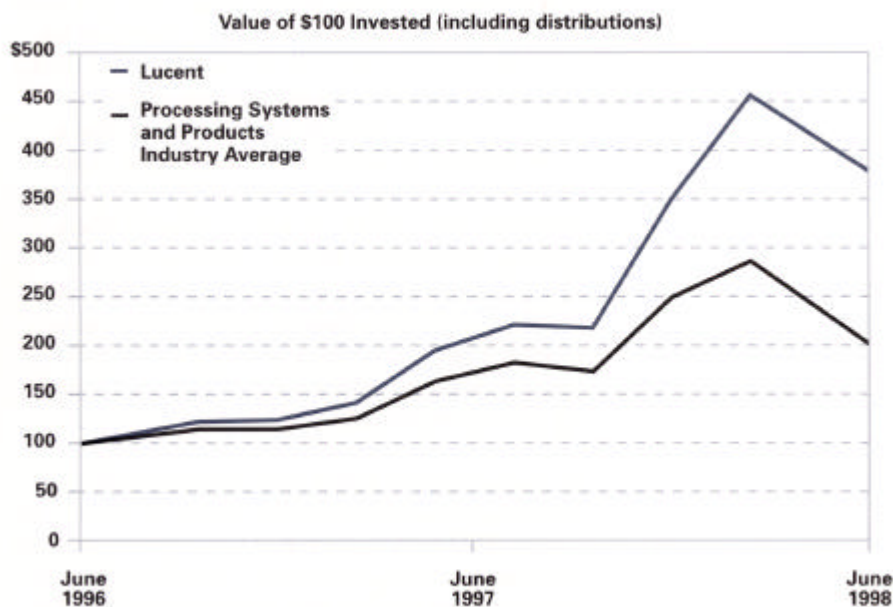
Few companies can match Lucent Technologies in producing innovative products and sustaining the energy of that innovation. Since parent AT&T spun off Lucent in 1996, the new entity has accrued an impressive list of innovations, such as the digital subscriber line (DSL) modem chip, which offers Internet connections up to 25 times faster than a typical 5 6K modem. And a recent announcement disclosed Lucent’s plan to put its HomeStar Wiring System into 55,000 new houses scheduled to be built in Las Vegas, Nevada; Gilbert, Arizona; and Miramar, Florida. These houses will feature high-tech wiring systems for telephones, fax machines, personal computers, entertainment equipment, and video surveillance systems – all of which appeal to homeowners eager to be digitally equipped for the next millennium.

In a demonstration of both growth and profitability, Lucent has compiled a record that is the envy of its competitors (Exhibit 8). And it continues to capture value that translates into rewards for all its stakeholders. (Lucent’s stock price shot up more than 160 percent in 1998 alone.)

The company spends 12 percent of its annual revenues on research and development, a healthy allocation of resources, but far from the highest in its industry. What makes the difference is how Lucent manages those investments of about \$3 billion per year. For example, Lucent has its own venture capital fund, which seeks out companies with innovative technologies that will complement the Lucent product line. And the company leverages its assets and resources in ways that enable it to manage the decisions about whether to make, buy, or collaborate in the production of innovations it needs. Lucent, in short, is an innovation pathfinder, a company that is putting strategy, process, resources, organization, and learning together to capture the innovation premium.

Exhibit 8

Lucent Shareholder Returns vs. Industry Average, June 1996-June 1998



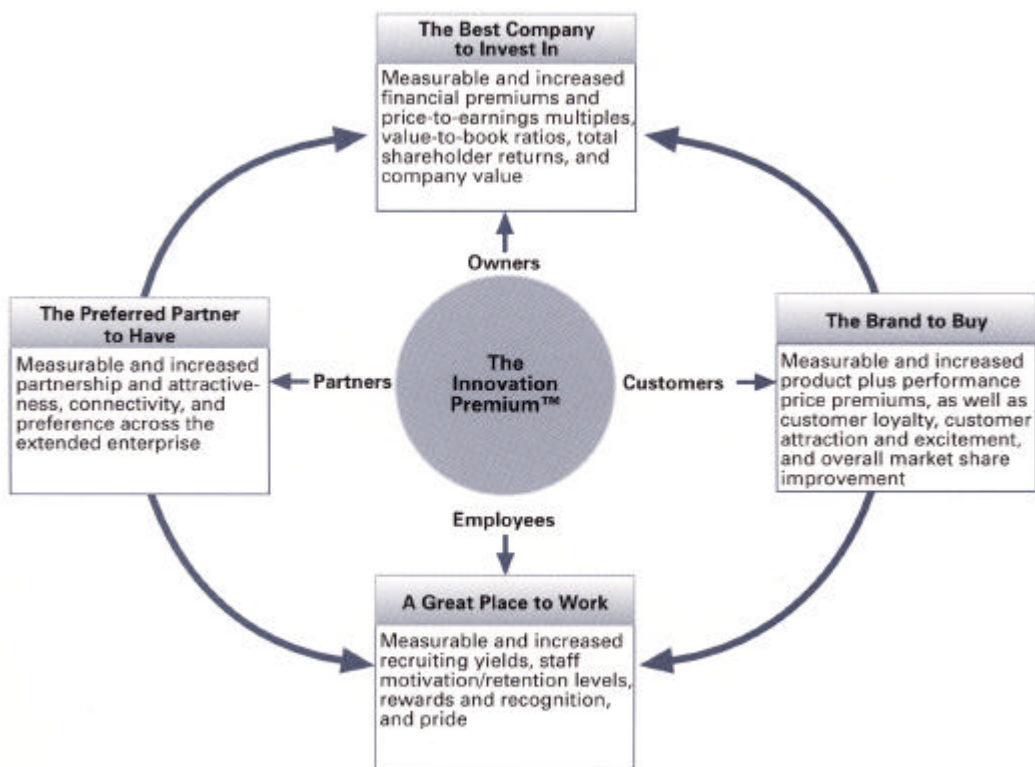
Source: Microsoft Investor, Arthur D. Little Analysis

Capturing the Innovation Premium

In sum, innovation builds customer satisfaction and brand loyalty, helps keep employees satisfied, increases partner satisfaction and preference, and wins more share of market and of mind (Exhibit 9). All these benefits, in turn, translate into consistently strong financial performance, improved investor returns, and glowing financial health.

Exhibit 9

The Dimensions of the Innovation Premium



Source: Arthur D. Little, Inc.

In our work with clients, in our research across industries, in our collaboration with the financial community, we are finding that businesses that innovate consistently and effectively – not just in products or services, but in strategy and operations as well – are accorded a premium in the marketplace. These companies are more valuable to owners of their equity and debt, and more valuable as suppliers and customers of choice in their webs of commercial interaction.

Is there risk involved in setting out on the pathway leading to the innovation premium? Of course. Innovation implies risk. But when innovation is properly conceived and managed, the reward repays the risk many times over. The consequence of consistent, enterprise-wide growth and the ability to reward all stakeholders with the benefits of the innovation premium make it a risk well worth taking.

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