

# The Quest for Relentless Innovation

***Maximizing innovation is a hot topic today. Innovative firms lead markets in both product leadership and financial returns. This report discusses the need for innovation and how traditional business models may not provide enough innovation horsepower to keep up in an increasingly speedy business world. We also examine a new IBM unit, Technology Collaboration Solutions, that is geared to helping their clients get ahead and stay ahead of the pack.***

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Innovation. The word has permeated every recent business publication and launched scores of books and speaking tours. Innovation is defined simply as “the act of introducing something new”, but this definition radically understates the true importance of innovation in today’s business world. The pace of business has increased from fast to frenetic with product lifecycles measured in weeks or months rather than years, driven by customers who demand constant product improvements and have the ability to get almost instantaneous information about competitive products. In the old days (maybe 5-10 years ago), most industries were able to rely on traditional entry barriers (high capital expense, govt. regulation, R&D costs, location, etc.) to protect them from dog-eat-dog competition, but these walls are rapidly dissolving. New competitors can quickly enter old industries, or even create totally new industries that make the old obsolete.

Although hard to quantify, innovation, and speed of innovation, is rapidly becoming a key differentiator between industry leaders and also-rans. A recent Business Week/Boston Consulting Group research project (published in the 4/24/06 issue of Business Week) attempted to quantify the benefits from innovation. The results were startling; the median profit margin growth (over a 10-year period) of the ‘innovators’ was 3.4% vs. only .4% for the S&P 1200 during the same period. Innovative companies were able to grow margins 8 times faster than less innovative firms. This ‘innovation advantage’ is also seen in the stock price – annual share returns for the innovators was 14.3% vs. 11.1% for the S&P 1200. In other words, innovative companies provided investors with 28% higher returns than their less innovative brethren. In short, innovation pays off for both the company and shareholders.

The only way to compete and win in this environment is through relentless innovation. Companies need to collapse product cycles by aggressively adding features/functions and rapidly developing new products to exploit opportunities or push into new markets. But product innovation is only half the story, internal innovations such as improving logistics and processes, forging closer ties to customers and the like can pay great dividends over time. An increasingly critical component in both product and process innovation is advanced technology and the ability to apply technology quickly and effectively.



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Relentless innovation is both an offensive and defensive weapon. Pushing the pace of product development, slashing attacks into new markets and paying ruthless attention to customer needs puts incredible pressure on competitors. When competitors are playing defense, only able to react to the rapidly changing competitive landscape, they often lose the ability to innovate on their own. They find that all of their efforts are devoted to following on the heels of the competitive leader and they become a perennial 'also ran' with products that are consistently behind those of the leaders - making their position in the industry tenuous, or at least less profitable.

Strong innovation is how the market leaders keep their position and is also the only way a market laggard can vault into the top ranks of their industry. Effective and focused R&D can provide lagging firms with advanced products, innovative delivery mechanisms and efficient internal operations, thus giving them the opportunity to leapfrog ahead of more established or successful competitors.

Business executives are fully aware of the importance of innovation; the Business Week study cited above also found that fully 72% of senior executives surveyed identified innovation as one of their top three priorities. While identifying innovation as crucial to their success, almost half of respondents said they were dissatisfied with their own firms' innovation ROI with many citing lagging development times as their biggest inhibitor.

### Two Traditional Routes to Innovation

Until now, there have really been only two routes to gaining organization-wide innovation. The first, and oldest approach, is an organic-like growth model where businesses rely exclusively on internal resources to develop their products, services, and processes. This is a vertical integration model, which brings with it a need to scale the organization in terms of facilities, headcount and R&D as the company grows. The problem with this approach is that it doesn't work well in rapidly changing industries – which describes most of the business world today. These organizations run into problems when forced to react to quickly changing market dynamics and faster product cycles. They also tend to have difficulty in optimizing internal processes to attain greater efficiency or tighter customer bonds. The only thing that the organic growth model guarantees is that the company is the sole source and owner of whatever their garden grows – there are no assurances that what they grow is going to meet rapidly changing customer needs.

It isn't that these 'organic growers' don't want to innovate; it's that they often do not have the in-house skills to cope with constant changes in products and the need to revamp processes to maximize profits. They also don't have the R&D bandwidth to explore new opportunities, such as product extensions or entirely new products, due to running flat out just to keep up with the ever increasing pace of change in their own sector. It also isn't getting any easier to innovate – as technology advances, it gains in complexity. How much resource should companies devote to developing technical skills and capabilities that are important, but perhaps only tertiary to their final product? Finally, the weight of 'this is how we've always done things' or the dreaded 'not invented here syndrome' keeps these companies from innovating quickly enough to attain break out performance – or sometimes, even to continue to tread water.

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The second traditional route to innovation is through acquisition, gaining new products, new skills, entering new markets/industries, or capturing efficiency through purchasing or merging with other companies. Some firms have become serial acquirers, buying tens or even hundreds of smaller firms in pursuit of better markets, products and people. Innovation through acquisition does allow purchasing firms to avoid the ossification caused by relying on internal growth alone, and it also can enable companies to exploit new product or market opportunities more quickly. However, there are some significant downsides to this strategy over time.

Acquisitions can consume copious amounts of time and capital, the more successful and attractive the target company – the more it will cost (and the longer it will take) to purchase. In addition to the cash outlays, there are considerable hidden costs like the lower productivity that results from employees on both sides of the transaction spending much of their time pondering their fate in the merged organization. Acquisitions also carry quite a bit of risk, there are always surprises (some pleasant, most not) that are revealed after the purchase is completed.

Hard and fast figures on ‘successful’ vs. ‘unsuccessful’ mergers are hard to come by, but Wall Street tends to judge mergers harshly. When public companies announce plans to merge, the share price of the acquirer almost always drops significantly. While the share value of the target generally rises (to meet the offering price), the total market value of the merged companies is generally lower than the market value of the separate firms pre-merger.

Lower share prices aren’t the only financial downside of mergers and acquisitions. These deals also add facility, headcount and other overhead to the acquiring company. Some would argue that the purchaser always has the option of paring the overall organization after the merger. But the costs of divestiture are high, witness the number of firms who are constantly taking extraordinary financial charges as they try to digest the firms they have acquired. Another factor, that should be of paramount importance to the company who is trying to innovate through acquisition, is that the most valuable assets of an innovative firm – the people, are extremely mobile and will bolt for the doors if they perceive that the merged organization may negatively impact them.

### A New Wave in Innovation

As we alluded at the beginning of our discussion of innovation and how to get it, there is another route to innovation that is beginning to emerge, that is collaborative innovation. This route can be loosely defined as leveraging core competencies of an outside organization to augment and drive internal innovation while minimizing cost, speeding time to market and improving success rates. The first example of this new model is IBM’s Technology Collaboration Solutions unit, which has been built from the ground up to help customers develop innovative strategies, products and solutions to their biggest challenges. Technology Collaboration Solutions is, in our view, an entirely new type of animal in the corporate jungle – with a range of offerings that current outsourcing companies, design houses, or consultancies can’t match.

Technology Collaboration Solutions functions as the gateway to all of IBM’s vast resources. It has incorporated IBM Engineering & Technology Services and, in the process, added many more capabilities to its portfolio. At a high level, this unit can provide clients with a new perspective on potential opportunities along with the means (both business and technology based) to exploit them. On the technology side, IBM offers full engineering services that range from, for example, custom processor design and programming to chip fabrication to customized and embedded

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software. Adding to this is access to the full slate of IBM technologies and patents – something that no contract engineering firm can offer. In 2005 alone, IBM was granted almost 3,000 US patents, which is more than any company in the world. Moreover, IBM has led the world in patents for thirteen consecutive years.

Working with Technology Collaboration Solutions, customers can build on existing technology or receive help building entirely new approaches. To that end, they give clients access to researchers at IBM's world-wide research organizations. Customers can tap into some of the most advanced intellectual property in the world and use it to improve their own products or business processes. The real benefit to customers is the ability to utilize IBM's world-class research organization just as if it were their own private in-house think tank – without having to hire a single new employee or buy a bunch of new desks and white boards.

A good example of IBM Technology Collaboration Solutions in action is their recently announced collaboration project with St. Jude Medical Inc. which resulted in the introduction of the Merlin Patient Care System. Merlin is essentially a portable computer that is specially designed to test, analyze, and program implanted devices more effectively. Working closely with clinicians, IBM and St. Jude built a system that, utilizing touch screen technology along with other advanced technology, makes it much easier and quicker to program medical implants – resulting in better patient outcomes and lower overall costs. This project also highlights the breadth and the range of IBM's capabilities; they were active participants in this project beginning in the early design phase all the way through to volume production of the finished product.

IBM's Technology Collaboration Solutions isn't limited to technology product innovation. They also have the ability to help customers address a wide range of business problems. They have had a number of engagements where they have applied their expertise to business problems, such as scheduling, product tracking, and advanced business intelligence applications. A recent IBM engagement with Analog Devices Inc. (ADI) produced a new custom supply chain management process that allows ADI to model and optimize their production plans in real time. With 10,000 unique products and 60,000 world-wide customers, ADI now has the ability to match current demand with supply to an astounding degree. ADI can now quote more accurate lead times to customers while minimizing their own inventory levels. With IBM and ADI working together, the project was implemented in just half the time (11 months) of typical industry supply chain redesigns.

The Technology Collaboration Solutions value proposition also includes all of the rest of IBM's technology products and services, including servers, storage, and integration services. However, they are different in that their mission is not to move hardware or software, it is to forge customer relationships in diverse industries through use of IBM's formidable internal assets – intellectual property, design expertise, manufacturing prowess, business planning/management skills and their, for want of a better term, 'innovation religion' that has allowed them to be the only major technology company to remain relevant for more than half a century.

IBM's Technology Collaboration Solutions is quite a departure from "your father's IBM" and what is currently available in the market. While technology companies will license technology, consulting companies will advise on its use, and a huge number of other companies can add ancillary value, there isn't a single organization that supplies – or even can supply the 'soup to



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nuts' skills, intellectual property, manufacturing expertise, and collaborative attitude offered by IBM. Think of it as a restaurant that not only offers in-house dining and take out, but will also

give you access to their recipes, have their world-class chefs help you design your own recipes, help you pick out your ingredients, assist you in building your kitchen, or even cook the food for you. This, in our mind, is a huge departure from business as usual.

IBM, quite correctly, is aiming this unit squarely at helping customers address their real needs – revving up their own innovation engines so that they can thrive in the cut-throat business environment of today. In other words, IBM's Technology Collaboration Solutions is more about teaching a customer how to fish rather than just selling flies, hooks, and a wide variety of fashionable fishing hats.

This new IBM approach offers customers the ability to utilize the innovative capabilities of the world's largest technology company. According to customers, IBM has helped them radically improve products, speed to market, and internal processes. They have also used IBM as a resource to help them analyze new opportunities and enter new markets. This is a flexible resource, clients can use as much or as little of IBM capabilities as they need and, key point here, when the project is done, IBM goes away – customers are not saddled with huge amounts of additional overhead that a massive R&D organization (or an acquired company) consumes over time. The associated costs involved with a Technology Collaboration Solutions engagement are controllable and of limited duration. Just as important, since these costs are measurable they can be evaluated in terms of return on investment, payback, or any other profit/value metric.

### Time Value of Innovation

However, the greatest potential benefit from a Technology Collaboration Solutions engagement is what can arise from the combination of the customer and IBM collaborative efforts. Not just new products or better processes, but the speed to realize better/new products and improved processes benefits. Just as there is a mathematical time value of money, showing that money now is always better than money later, there is also a time value of innovation. In short, innovation now is always better than innovation later. To some extent this is a financial truism, in that the monetary benefits arising from higher margins (which can be achieved with new and inventive products) coupled with first mover advantages will result in higher quality revenue and the ability to avoid commoditization. Bringing out a new product sooner, even if it requires the help of others, is better than selling an entirely 'home grown' product later.

Collaboration with other organizations, bringing in fresh perspective and different skills, can turbo charge creativity and fuel considerably better outcomes. Innovation begets more innovation as the culture of relentless innovation takes root.

### Brave New World

Our research into IBM's Technology Collaboration Solutions organization launched much thought about the future implications of such a collaborative business model on the broader business world. IBM clients will be able to apply much more intellectual and technological horsepower to their tasks than they would on their own. If this new model proves successful, it could usher in a new era where companies rely on a shifting set of close knit partners to enable quick product turnover, advanced product capabilities, and fluid internal operations. Being able

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to draw on skill and resources from partners will enable much faster paced product and process innovation along with the ability to scale the business much quicker. As important, this model can give client companies the ability to rapidly find and exploit new opportunities faster than their competition.

With Technology Collaboration Solutions, IBM is offering up access to their crown jewels (business know-how, proprietary technology, research abilities, and patents) in order to help customers craft their own crown jewels. Only time will tell if this approach will continue to bear fruit as it expands. We will delve a bit deeper into IBM's Technology Collaboration Solutions organization in subsequent research reports as we examine in detail how they work with customers who have widely varying needs.

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