



synnovation

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FULL SPEED AHEAD!

In the race for first place, know where you're going, how you're getting there, and what technologies, processes, and tools are equipped for the journey.

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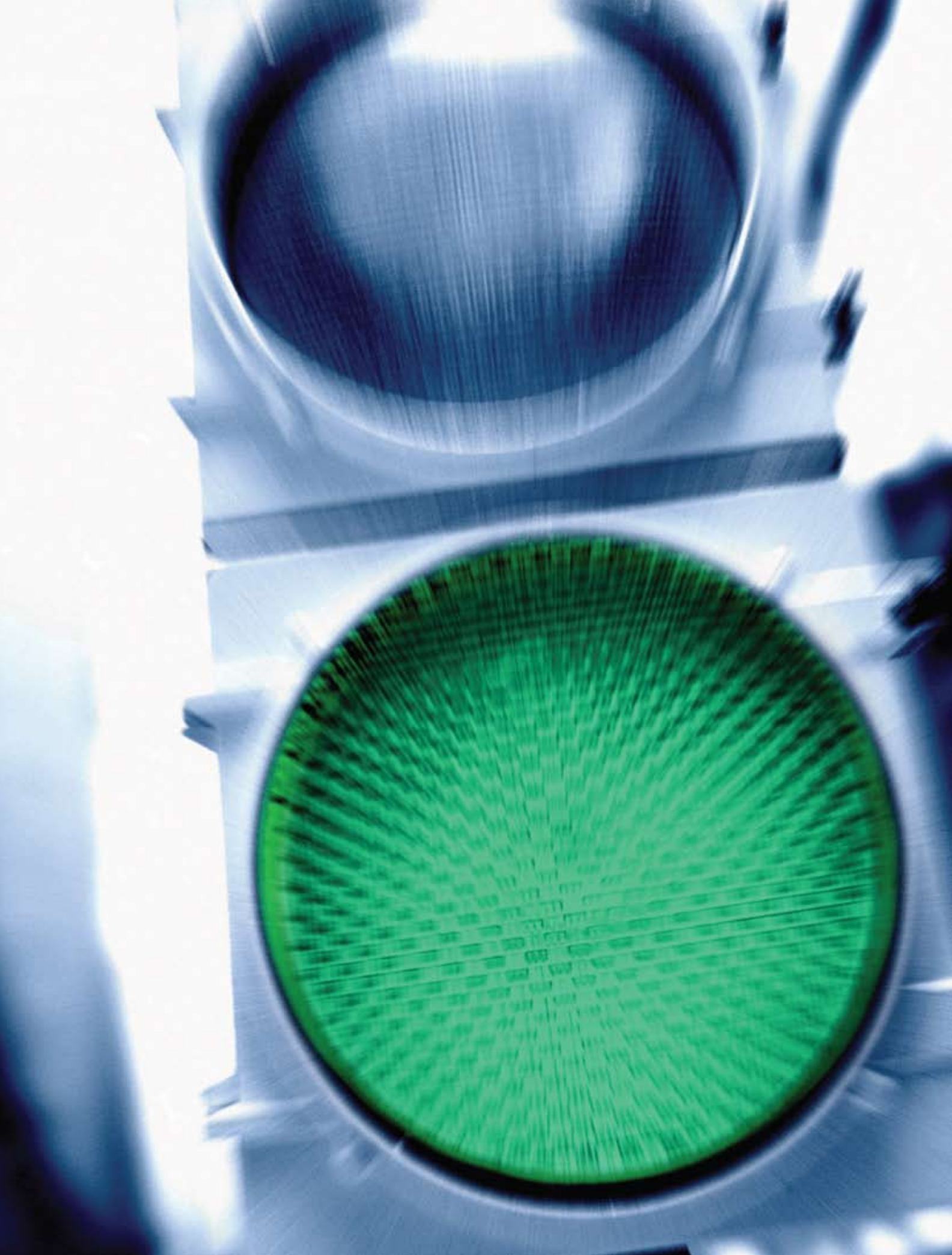
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Ready, Set, Go... to Market



Quickly green-lighting a product is only part of the journey; consider the more profitable advantages of a business ecosystem.

By Martin Curley, Intel Corporation



In a market where timing is everything, who isn't gunning for a first-place finish? More than ever, balancing the constraints of research and development (R&D) with the need to quickly introduce a product to market is critical. Speed to market itself has become part of innovation, and while we're always looking to build a better mousetrap, we also have to examine how to do it more quickly.

Though its effects are felt at every level and in every industry, a sense of urgency can differ dramatically from one enterprise to the next. New varieties of hybrid seeds every five years or so may be a red-hot introduction to a rural cotton farmer, but to a high-tech company trying to keep ahead of its competitors, the product life cycle is often measured annually.

Although speed and R&D don't always mix, the two can work in tandem. But when an organization focuses narrowly on individual product development—as most do—it misses an opportunity for innovation *and* additional revenue. The highest returns may actually come from other parts of the R&D equation, particularly when efforts are concentrated on creating a successful product ecosystem—a family of supporting products and infrastructures. While laborious in itself, a product launch should be just one segment of a thoughtfully conceived ecosystem that determines long-term success and helps enterprises thrive and *survive*.

Like a biological community of related organisms and the environment it flourishes in, a product ecosystem comprises the interacting synergies of different entities within a company and often its suppliers, working together to bring products to the marketplace. The success of Disney's multimedia range of services, toys, games, and destinations is a prime example of a finely tuned, extended product ecosystem that propels market share.

The next layer beyond the product ecosystem is the business ecosystem—a network, or coalition, of resources, competencies, potential, energy, commitments, and promises to realize a shared profitable future. Often in a business ecosystem there is a set of organizations collaborating to bring forth offerings through a product or service ecosystem.

The speed of innovation, or more accurately, velocity (speed moving in a particular direction)

of an ecosystem can be crucial to its sustainable success. Using the analogy of linear momentum (the product of mass and velocity), a smaller ecosystem could generate more economic momentum than a large ecosystem if its innovation velocity is faster. Often in different vertical industries, competing ecosystems try to innovate faster to capture the most value. In the semiconductor industry, there was intense competition between the Power PC (Apple and Motorola) and the Intel architecture ecosystem. Ultimately the Intel ecosystem won out in part due to the faster rate of innovation and broader adoption of Intel architecture-based products.

In this context, the concept of open innovation—whereby an organization buys, licenses, or jointly develops new products with ecosystem partners rather than rely solely on its own research—is important. Through pooled resources, new products can be developed faster and brought to market more efficiently. Procter & Gamble's (P&G) Connect + Develop strategy is a great example. The initiative connects people, ideas, and technologies to create an open innovation pipeline that's bigger and stronger than it might otherwise be. P&G's goal is to source up to 50 percent of new product ideas externally.

So how does an organization make the shift from product R&D to ecosystem R&D? How do you get your money's worth from the effort? And for what caution flags should you slow down?

Pacing the Product Ecosystem

Speed is an important factor, and it often leads to a faster adoption rate among users. But there has to be a balance between speed and R&D. While R&D turns money into knowledge, innovation turns knowledge into money. Speed is the component that puts innovation into users' hands faster.

To achieve that with all opportunities for



additional revenue intact, it is vital that innovators focus on the R&D of a product ecosystem rather than only on the R&D of an individual product. For instance, Kellogg's has reached beyond breakfast to cater to calorie-conscious consumers with a Special K product ecosystem of snacks, water supplements, and social networking groups—that's a horizontal approach that allows them to meet the needs of a variety of users.

One of the reasons for this change of pace in innovation can be found in Moore's Law. Named in honor of Intel co-founder Gordon Moore, his 1965 observation states that the number of transistors that can inexpensively be placed on an integrated circuit is increasing exponentially, doubling at a rate of approximately every two years or less—and has been doing so since the integrated circuit was invented. The concurrent invention of the microprocessor and DRAM (Dynamic Random Access Memory) and the extraordinary economics associated with improving performance of these devices has created a wave of growth enabling more and faster innovation with 24/7 global collaboration now a daily reality.

Today that observation is joined by a second kind of Moore's law, which says the cost of building semiconductor factories is doubling from generation to generation. Of course, this means semiconductor manufacturers must continue selling larger quantities of chips to remain profitable. So an examination of the typical PC ecosystem demonstrates a need for

developing horizontal applications that stimulate demand and build customer value.

The creation and diffusion of technology has further accelerated both innovation and adoption. Fast diffusion brings the rapid replication enterprises depend upon, and that's why the Internet is such an important vehicle for innovation. Another plus—the ever-quicken pace of new technology has dramatically improved the ease and cost of innovation. For example, today's mainstream PCs and laptops deliver more power than the original Cray C1s at a tiny fraction of the cost, moving the sweet spot of

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innovation to individual users.

European leaders are taking a novel approach with their Living Labs project—establishing small towns as laboratories to swiftly gauge and test products in a managed environment and to provide a platform for collaboration. This approach is beginning to help European companies innovate at a faster rate, as they are able to see consumers' hands-on applications and problems. Users play a major role in identifying needs, shaping applications, and even developing a more effective interaction with the developer.



Good R&D always takes time, but through the Living Labs, many European enterprises are discovering that, by involving the user earlier, they can build some of that trial-and-error into the R&D process. This allows them not only to launch products earlier and with more of the potential bugs worked out well before they arrive on the market, but also to deliver products and services that better meet users' needs and requirements.

Essentially, Living Labs provide a sterling example of the ultimate goal—to align speed to work together with R&D instead of the two constantly working against each other. The most successful regions in Europe are those that are operating as urban laboratories, and the firms located in these areas are ahead of the curve in modern technology. The goal now is to expand the Living Labs concept to a broader base by 2010 and stimulate the European platform for collaboration and innovation.



The current poster child for product ecosystems, Apple, is an excellent example of how focusing on full integration within a product ecosystem directly affects the success of the company.

Designing an Effective Ecosystem

The collaboration between stakeholders and the various layers of an enterprise, from marketing to infrastructure, has added benefits, albeit sometimes unexpected. For example, American Airlines' parent company, AMR Corporation, routinely made more money from Sabre, its reservation system, than it made from the actual airline. If American Airlines focused solely on transporting customers, it would miss out on a substantial amount of revenue.

And the current poster child for product ecosystems, Apple, is an excellent example of how focusing on full integration within a product ecosystem directly affects the success of the company. If Apple hadn't focused on creating iTunes and building a supporting model, it's likely that the iPod might not be enjoying the popularity that it has today. Now, that product family has expanded beyond devices and accessories to include partnerships with

companies such as BMW.

Intel's Centrino platform marketing initiative is an excellent illustration of what happens when a broader emphasis is placed beyond product innovation. Intel established an entire ecosystem to get Centrino into the marketplace,

and its usability made consumers accept it. So there was the perfect blend of awareness and consumer applications. That's what successful product ecosystems need—usability, availability, and, of course, room for growth.

Without such utility and usability, customer adoption slows down, and these delays become the difference between leading the market and appearing as a pale imitator. A well-established ecosystem can greatly speed the public's reaction to and adoption of a particular product.

In his book, *Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers*, Geoffrey A. Moore emphasizes the need for having everything in place before releasing a product. The entire ecosystem must work together in order for it to be a success; the utilities, the ease of use—from the user manual to the main features and support—all of that has to be in place. The end result is that the



Apple CEO Steve Jobs (above) and Starbucks both grasp the importance of creating a strong product ecosystem.

process will run more smoothly, and it will become infinitely easier for a consumer to adopt the product.

As important as consumer reaction is to the survival of a new product and to the longevity of its ecosystem, it is certainly not the only indicator. Good design also plays a crucial role in developing an innovative ecosystem. It's a core component that must also be looked at independently.

Remember that very simple advertising slogan, "Design is a good idea"? An uncomplicated, basic thought—but it's true. You can build an entire body of work around user experience and design that incorporates packaging, interchangeable parts such as a battery charger, and consistently recognizable controls right down to the "on" button.

An interesting proof of this notion on the market today is Nintendo's Wii game console. Although other competitors seemed to have the video game market cornered, Nintendo's system targeted a broader demographic and was more user-friendly—particularly for very young and for older consumers. Now, it has expanded from a platform for video games into offering products as diverse as fitness applications, which has expanded the market considerably and even drawn non-gamers into the brand. It is an exemplary illustration of how great design of a product ecosystem can lead to lightning-fast

consumer adoption.

In addition to design, don't forget to consider the "experience economy." You aren't just selling a product, you are selling an experience—and a well-designed ecosystem offers that experience. Case in point: coffee. A convenience store sells coffee as a commodity, and sees a profit—but Starbucks sells the *experience*, from the décor and in-store music, to the packaging, they are able to sell that same cup of coffee at a premium. In terms of a product ecosystem, the profit comes from creating the experience. Without a well-developed product ecosystem, that experience is difficult to create.

Some enterprises are shifting from product ecosystems to service ecosystems, attempting to develop an annuity service revenue in parallel to existing product revenue. Companies such as SAP are increasingly shifting from emphasizing product sales to including hosting deals, with the software as a service paradigm becoming a candidate for the dominant future software business model. However, this service mindset is not limited to the high-tech industry. Even manufacturers like Rolls-Royce are now selling "power by the hour" instead of expecting one-off payments for their aircraft engines, where advanced telemetry enables the tracking and provisioning of service by the hour.

When Speed Kills

As important as speed is, it also has many inherent dangers. The fastest car may win the race, but if it's out of control, it's headed for disaster. A product sped to market without proper preparation can be costly and could spell failure for the company. Remember "New Coke"? Launched in the height of the soft-drink war, Coca-Cola didn't foresee that consumers would be so resentful about the withdrawal of the original formula; a subsequent reintroduction later led to great sales gains, but it was a major marketing lesson.

Yes, getting to market first is significant, but so are quality and the impact of consumer reaction. It is a thousand-fold more expensive to repair bugs or problems with a product after it is on the market than to fix it when it is still in the design and development phase. That means you have to manage speed vs. functionality—and common sense must win out every time.



Embracing Ecosystems: Changing the Mindset

In a successful ecosystem, the level of interconnectedness of products is much greater than in traditional business designs. That puts the whole concept beyond the reach of the typical corporate comfort zone. Yet increasing dependence upon an ecosystem is the only way companies will be able to continue competing in the new marketplace.

To build that dependence, the first hurdle executives face is simply to embrace the idea—accept the ecosystem concept and work together for real results. Next step is to identify key players and determine the role of each in developing the product ecosystem. Changing needs call for a change in skill sets, and mapping out how those new roles will be executed is an essential part of the game plan.

And finally, before putting the plan into action, it's important to determine how to construct positive, win-win relationships. In the old way of thinking, bigger players could put a squeeze on suppliers to get the lowest cost, but they would miss an opportunity to develop a relationship with those suppliers. In building a thriving, successful, and self-reliant ecosystem, leaders who have strong relationships will find themselves with the advantage. Win-lose structures are based on cost alone, but win-win relationships come from working together.

This mentality is carrying over from the business sector into government. Today, we are at the start of a heightened awareness of the power of this new way of thinking, and governments are applying the principles to create national innovation systems. For example, in Singapore and Ireland, the governments have created ecosystems that make it easy for companies to innovate. Instead of keeping strict reins on businesses, they have loosened legal requirements and allowed more flexible labor laws. This has given innovation the freedom to thrive, and ecosystems the opportunity to evolve. Through this evolution, an entire nation can develop momentum.

In the U.K., innovation is an initiative spearheaded by NESTA—the National Endowment for Science, Technology, and the Arts. And in the United States, Massachusetts is a leader, having developed the Massachusetts Technology Collaborative, which explores how to harness available tech sectors and create true innovation systems.

Such ways of thinking lead to faster innovation, and at every level, we're seeing the shift to ecosystem dependence. From business and industry to local and national governments, innovation is thriving through the development of strong, well-designed ecosystems. It is this new mindset that will give us continued inspiration for innovation—and the momentum to keep driving it forward.



It's essential to develop an index of cost, speed, and functionality. If a product only has 70 percent functionality, getting there first doesn't matter; it likely won't succeed. There has to be a compromise in the mindset of all the players—it's good to be the first to market, but it is hard to be the first to market *and* be perfect. Today's dramatic reduction in preliminary research costs and the rapid information available through the Internet translates that good ideas will be copied almost instantaneously by competitors. So timing—and quality—count.

Consumer electronics offer many great examples of the fast pace of innovation—and offer further proof that being first does not always guarantee success. Apple was not the first MP3 player to hit the market, but it benefited from other players that appeared on the market early and had problems. Apple improved upon those ideas and became the undisputed leader in that arena.

Thus, the balance of innovation and common sense also requires that leaders shift their skill sets and become more entrepreneurial in nature. For the past 50 or 60 years, business leadership has been about efficiency and managing costs—cutting expenses and bringing the lowest cost product to market. Today, it's all about personalization for the consumer and, because of that, leadership means developing more intrapreneurial and entrepreneurial skills—the ability to innovate and shift not only your focus, but your resources as well.

IT and Innovation: The Critical Factors

Two of speed's critical allies are IT and innovation. We hear a lot of talk about our 24/7, always-“on” world. The combination of IT and innovation makes that possible. Now emerging are collaborative design tools that make it easier to innovate and will increase the speed to market on a global level. Managing IT and innovation is a crucial part of the ecosystem equation.

More than ever before, timing is becoming another of the most critical components of success. By adopting programs that let them test and improve products in a virtual setting, companies can expedite their innovation capabilities and cut down on the amount of time it takes to get a product to market.

Of course, there's a tremendous difference between

consumer adoption and business adoption. While consumer adoption may require the customer to adapt or discard one or two items, in the business realm the changes become much more significant. Adoption of a single new product can trigger a change that affects tens or tens of thousands of other things. Every new device introduced or adopted by a business has to work with the current system, and that integration can impact a lot of equipment and staff. Accordingly, the need to have an efficient product ecosystem in place is exponentially more important when dealing with business adopters vs. consumer adopters.

Still, carefully integrating and managing IT and innovation can have a big pay-off. Nowhere is that more clear than amongst Formula One racers. In their world, of course, speed is crucial because the fastest car wins the race. However, innovation is also imperative.

So drivers now use a combination of technology and innovation to increase the speed of their cars. Supercomputers and design teams mock up new designs, and then use computational fluid dynamics (CFD) to see which ones work best. From that, the design team fabricates two or three models for testing in wind tunnels. This approach greatly increases the speed of innovation through computer simulation, and it's just one example of the impact of IT. Innovation is no longer viewed as an act of serendipity—it has become a necessary element that must be managed and nurtured.

The proper use of innovation can create the momentum needed for an ecosystem to succeed. As we bring new products to market, innovation enables us to turn unlimited possibilities into valued realities. And in a well-planned, well-managed environment, that ecosystem momentum provides companies with the speed they need to succeed. |s|

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