

Does Your Corporate IQ Measure Up to Your Medical Technology Peers?

The concept of “IQ” – the “intelligence quotient” – dates back almost 100 years to a German psychologist named Stern, who was looking for a way to measure how smart children were relative to their peer group. Since that time, IQ scores have been correlated with a whole host of other measures, including educational achievement, happiness, job performance, and income.

At L.E.K. Consulting, we focus on a different kind of “IQ”: the Corporate IQsm, which measures a corporation’s success at innovation relative to its peer group. The concept is relatively simple: Take your overall sales and divide that figure into your total sales derived from products launched within the last five years. This is your five-year innovation rate. To turn this into an IQ, we divide this number by the average innovation rate for your peers (around 30% for all U.S. companies) multiplied by 100. To make the math easy, let’s say you are a general industrial

company with \$200 million in sales, and the current-year sales from new products launched in the previous five years are \$66 million. Your Corporate IQ is therefore 110 (66 million divided by 200 million, divided by 30%, times 100). Just like the old-fashioned intelligence quotient, a score of 100 means you are an average performer, so a score of 110 is slightly above average.

Lots of companies already monitor their rates of innovation, and some have been doing it for a while. Back in 2002, for example, DuPont announced its determination to raise its percentage of sales from new products from 18% to 33%. Reading between the lines, part of DuPont’s motivation was the realization that competitors like 3M were already at 33% and were aiming toward 40. In Corporate IQ terms, DuPont was at an IQ of 60, while 3M had an IQ of 110 and was aiming for 133. “You can’t get to be a 200-year-old company,” said then CEO Charles O. Holliday, Jr., “by doing

the same old thing year after year.” In other words, history, brand, and momentum – powerful ingredients for success, under most circumstances – wouldn’t be enough if a key competitor could make itself more than twice as innovative as DuPont.

For the Corporate IQ to be most meaningful, you need to understand the average innovation rate in your industry. For instance, the average for all consumer goods is around 30%. In processed foods, the norm is about 20% of sales coming from new products. In consumer electronics, as you might expect, it’s much higher – around 50%. Going beyond consumer products, rates of innovation range from a low of around 10% for utilities to around 25% for professional services and 45% for automotive and engineering companies. The average innovation rate for medical technology companies is about 35%.

Does Your Corporate IQ Measure Up to Your Medical Technology Peers? was written by **Stuart E. Jackson**, Vice President and Co-Head of L.E.K.’s Global MedTech Practice and author of *Where Value Hides: A New Way to Uncover Profitable Growth for Your Business* (Wiley 2007). Please contact L.E.K. at strategy@lek.com for additional information.

Growth and Margins

Perhaps your medical technology company is already focused on keeping its pipeline stocked with new products and services, both to sustain growth and remain competitive. If so, you're on the right track. But there's another dynamic at work here that may not seem quite so self-evident, and that underscores the importance of knowing your Corporate IQ: Innovation drives margins as well as growth.

Pharmaceutical industry executives know this in spades. When a drug's patent expires – typically 15 years after its introduction – prices fall by as much as 90% due to competition from generics. But the effect goes beyond technology-driven businesses. In some areas of packaged consumer products, for example, L.E.K.'s work suggests that for established companies, every 10% increase in the innovation rate is associated with a 6% increase in gross margin. Our research suggests that in the medical technol-

ogy industry, every 10% increase in your innovation rate may be rewarded by a 7%–10% increase in gross margin.

Innovation is the great value creator, and it has powerful predictive value. As you survey your current development pipeline and make allowances for unexpected failures as well as successes, you can forecast your future innovation rate and Corporate IQ. The higher your projected Corporate IQ, the healthier your business is likely to be in the future.

A Medical Technology Case Study

Let's look at a specific medical technology case: Johnson & Johnson's Medical Devices & Diagnostics Division (MDD), a \$19 billion business that consists of more than 100 operating units worldwide and contributes close to 40% of J&J's total revenues. As J&J's pharmaceutical pipeline thinned out in recent years, the parent company invested heavily in MDD, both by making

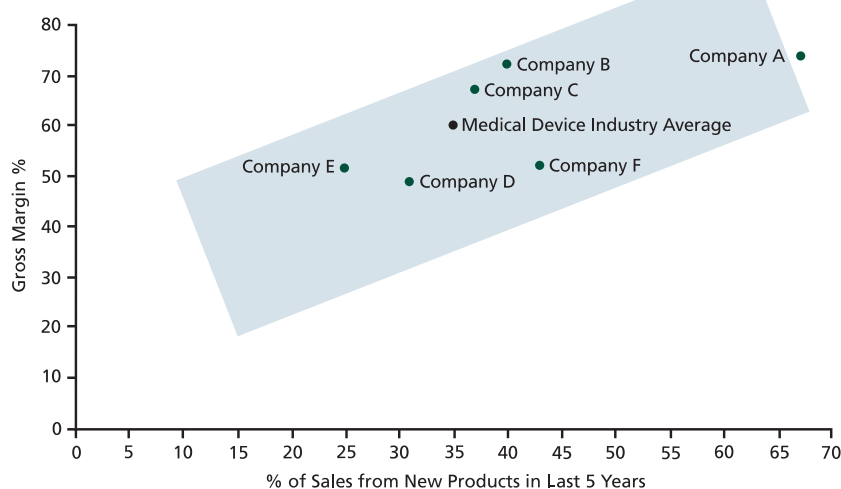
acquisitions and promoting "intrapreneurship" by steering substantial resources from its \$6.3 billion corporate R&D budget into the division.

According to *Medical Process Outsourcing*, 40% of MDD's device and diagnostics sales come from products introduced in the past five years. MDD's Corporate IQ, therefore, is a respectable 114 (40%, divided by the industry average of 35% times 100).

How did MDD establish this above-average track record? It combined major breakthroughs and innovations with incremental improvements on, and extensions of, existing product lines. In 2007, for example, the company introduced a new molecular diagnostic tool for detecting the spread of breast cancer into the lymph nodes; this invention was cited by *Time* as one of the top 10 medical breakthroughs of 2007. In that same year, however, MDD also introduced a range of more or less modest upgrades to its surgically implanted weight-loss devices, its daily disposable contact lens systems, and its artificial hips.

Some of the company's older products also received substantial investments. The Harmonic® surgical device line – which uses ultrasonic waves to drive machines that cut, coaptate, coagulate, and cavitate during operations – was introduced as a single product in 1995 and has been extended ever since. For example, in the six-month period between November 2007 and April 2008, seven new Harmonic products were introduced, bringing the total product line to more than 50 devices.

Figure 1
Medical Device Companies
Percent of Sales from New Products and Gross Margin



Source: L.E.K. Analysis

Ideas for Increasing Your Corporate IQ

How should your company assess its Corporate IQ? And, even more importantly, how can it take concrete steps to improve its performance along this all-important metric? Here are several principles to guide your thinking:

- **Use product age as a lens to analyze your margins, growth, and growth potential**

One somewhat surprising and consistent finding growing out of our work with companies in a range of industries is that older products are associated with lower margins, as well as lower growth. Many companies assume that their tried-and-true products (which they may not be upgrading or otherwise investing in) will deliver higher margins forever. However, L.E.K. has found that without upgrades or enhancements, older products almost always evolve into lower margin products as me-too competitors or low-cost “technosimilar” alternatives chip away share. In addition, older products that haven’t had the benefit of regular investments tend to be far more vulnerable to displacement from a dramatic new innovation. An example of a company that has capitalized on new innovation is Hologic, a market leader in the digital mammography market. As recently as 2005, analog systems constituted more than 90% of the installed base of the global mammography market. The development of digital systems, which studies have shown more effective at detecting various cancers than analog, has all

but eliminated the sales of new analog systems in the U.S. In 2008, less than 5% of mammography systems sold in the U.S. were analog. The penetration of hospitals and women’s centers has also increased from just 18% in 2007 to 54% in 2009. Hologic’s revenues increased from less than \$200 million in 2005 to well over \$800 million in 2008, while capturing an estimated 65% of the domestic digital mammography market in the first half of 2009.

- **Don’t assume that innovation means “revolution”**

Many companies pursue truly radical departures, and rightfully so. But smaller innovations and upgrades can have major impacts on margins and market share. For example, Intuitive Surgical, a Sunnyvale, California-based developer of robotic technologies used in surgery, launched its revolutionary da Vinci® Surgical System in 1999. (The system consists of an ergonomically designed console where the surgeon sits, a cart next to the patient equipped with four robotic arms, and the software that makes these units work together.) Since that time, Intuitive Surgical has concentrated on continuously upgrading the da Vinci system rather than introducing revolutionary new products. By adding new components to expand the existing system, the da Vinci system has been adopted in additional surgical fields and has expanded its installed base to more than 900 academic and community hospital sites. As a result, Intuitive Surgical’s revenue grew by 57% annually between 2005 and 2008, increasing from \$227 million to \$875 million. The strategy of continuous upgrades

has allowed the company to improve gross margins from 68% to 71% over this same three-year time frame.

- **Innovate sideways**

Johnson & Johnson not only fosters innovation within MDD and its other divisions; it also promotes (and funds) innovation in the spaces between those divisions. (Dr. Harlan Weisman, chief science and technology officer in MDD and also J&J’s EVP of R&D, says that he targets the “white spaces” in the marketplace.) The convergence of drugs, diagnostics, and delivery systems in medicine creates obvious opportunities for J&J’s divisions to innovate “sideways,” into adjacent market spaces.

Another example comes from SonoSite, a Bothell, Washington-based developer of hand-carried ultrasound systems used in a wide range of medical applications. The first SonoSite system was introduced in 1999, and the installed base around the world today is around 50,000 units. SonoSite has “looked sideways” aggressively. In September 2005, the company announced a partnership with a market leader in veterinary ultrasound; in 2009, SonoSite released an iPhone app called SonoAccess®, designed to help clinicians improve their ultrasound-based diagnostic and treatment skills.

- **Manage your forward-looking Corporate IQ**

Today’s Corporate IQ is a measure of your innovation success over the last five years (and maybe some investments made well before that). Your future prospects will be highly impacted by your future Corporate IQ.

If you want to develop a perspective on how you are likely to perform in the future, try benchmarking against your competitors along multiple dimensions, including:

- Reviewing your current product development pipeline; and
- Maintaining your capabilities in sustaining technical research, uncovering customer needs, and launching new products or services

L.E.K.'s work in benchmarking recently helped a client realize the need for increased investment in more disruptive innovation, as well as the need to instill more rigor in governance and focus on innovating in adjacent spaces.

• Organize for Innovation

Some companies' cultures seem to effortlessly churn out new product lines

technologies, and/or services; doing so permeates their culture and corporate DNA. Our research and experience have taught us that underpinning sustained innovation success are robust structural elements that help manage the innovation process. Companies that do this well have advanced "sensing" capabilities, searching externally for technologies and identifying the more elusive unmet market needs that those technologies can help address. They have process discipline and appropriate metrics to seed, incubate, and transition innovations systematically in the organization. Innovation does not automatically happen effectively through standard processes and business units that are focused on day-to-day performance. The most successful companies proactively design capabilities and align organizations to deliver value-creating innovation with longer-term perspectives.

Achieving innovation excellence is not an easy path. It requires investment, patience, and commitment to multiyear programs that – in most cases – only produce returns sometime in the future. Not only that, but the bar is constantly being raised as competitors constantly seek new ways to replicate features from market leaders and develop new ways to better satisfy customers. Measuring and monitoring your company's innovation rate and Corporate IQ can help management teams make the tough choices and – even when faced with the pressures of day-to-day performance – create value for the long term.

L.E.K. Consulting is a global management consulting firm that uses deep industry expertise and analytical rigor to help clients solve their most critical business problems. Founded more than 25 years ago, L.E.K. employs more than 900 professionals in 20 offices across Europe, the Americas and Asia-Pacific. L.E.K. advises and supports global companies that are leaders in their industries – including the largest private and public sector organizations, private equity firms and emerging entrepreneurial businesses. L.E.K. helps business leaders consistently make better decisions, deliver improved business performance and create greater shareholder returns. For more information, go to www.lek.com.

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