

Seven Counterintuitive Trends

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Everyone expects turbulence, but few people are watching the most significant pressures that will confront industry this year.

by Dan Lewis

To anticipate the future, pay close attention to the present. Every trend in the current business environment represents a clue to what is going to happen next. And rarely have clues been more needed — or more open to contradictory interpretations: increasing globalization versus increasing international hostility; burgeoning economies versus depressed consumer markets; liquid capital versus uncertain investments; and technological promise that has yet to be delivered in such fields as energy, biotechnology, transportation, and even telecommunications. In such times, the best indicators of significant change are the counterintuitive trends — the trends that don't quite fit conventional wisdom, but that are so intertwined with the critical dynamics of the time that they cannot be ignored.

At the end of each year, teams of industry specialists at Booz Allen Hamilton get together and consider the trends they have observed, and what those trends spell out for the year ahead. This year, we found seven counterintuitive trends. They don't fit many people's expectations, but now that we have examined them, we don't think about the world in the same way.

1. Oil, gas, and electricity: talent shortages. No matter how the price of oil fluctuates on a month-by-month basis, energy will generally be less cheap and plentiful a commodity during the next five years. There are three

well-known reasons for this: first, the political tensions rife in the Middle East (and in such oil-producing nations as Venezuela, Russia, and Nigeria); second, the growing demand in emerging economies such as China and India; and third, the dwindling supply of “cheap and easy” oil and natural gas. Likewise, electric power producers will feel pressure to move away from coal, which is plentiful and relatively inexpensive, because countries around the world — even the coal-prolific United States and China — are increasingly likely to regulate greenhouse gas emissions.

But even if those factors did not exist, the industry would still be facing shortages because of an often-overlooked factor: a knowledge gap in energy companies caused by the retirement of the baby boom generation. In the oil industry, for example, the average age of employees is 46 to 49; with 55 as a typical retirement age, more than half of the employee base is expected to leave the workforce within the next five years. The resulting talent shortage affects all positions, from rig workers to senior scientists and engineers. Similar demographic shortfalls are coming in the electric power generation industry.

At the same time, the skills demanded by these industries are growing more involved. Oil exploration and production is now the domain of “megaprojects,”

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including immense offshore sites managed by multiple organizations and requiring complex maintenance. The prospective shift in energy fuels to alternatives like bio-fuels, wind, nuclear, and solar also adds complexity. Because it's still unclear which fuels will be most effective at replacing carbon-based fuels, both in electric power generation and in transportation, there are years of experimentation ahead of us. All of this puts an additional strain on already scarce human resources.

The dearth of talent is a strategic business challenge, and several companies, including Shell and ExxonMobil, are investing heavily in training new staff. Others may take on retired staff as consultants. Still others will turn to suppliers, which have a better bargaining position than they've had in years. And to leverage their talent, some companies will pursue information technology-based ("digital oil field") solutions, such as "Fields of the Future" at BP and "Smart Fields" at Royal Dutch Shell.

2. A shift in supply chain practices. Less visible than the well-publicized pressures faced by the Detroit "big three" — General Motors, Ford, and DaimlerChrysler — is a more pervasive and widespread trend that could affect the structure of the automotive industry more dramatically. Suppliers, which produce the components of the cars sold by mainstream manufacturers, are also in trouble. Delphi, Dana, Dura, Tower Automotive, and Collins & Aikman have all filed for bankruptcy. Even suppliers with a long track record of success have been squeezed, with profit margins often below the cost of capital.

Why has the year been so difficult for many suppliers? First, prices for many key commodities — for example, oil, steel, energy, and plastics — have risen dramatically. Second, many companies are still following strategies they pursued in the 1990s. In the auto-

motive industry, suppliers continue to focus on winning as much business as they can, whatever the cost; then they figure out the details of profitability later. Today, however, it makes more sense for most suppliers to reject business where they can't make a profit. Third, the supplier base is going global. This was once a business that had a few global suppliers; now, Toyota, DaimlerChrysler, BMW, and others are asking their suppliers to make that transition. The result is increasing competition as these suppliers also bid for business across manufacturers. Finally, the traditional adversarial approach to sourcing, common in much of the industry, has proved damaging both to suppliers and to the manufacturers that contract with them. That approach is so culturally ingrained that it is hard to dislodge; but those who move beyond it, as Toyota and Honda have done, will be positioned to thrive even against upstart car manufacturers from India and China.

We see similar supply chain pressures in other industries, as they adjust to shortages of raw materials and change long-established practices. In the oil and gas industry, for example, suppliers are coming to realize that the tactics of the past, developed during a time when oil was relatively cheap and services relatively plentiful, no longer work for them. They are moving away from spot bidding and seeking long-term contracts. As these practices continue, the balance of power in many business relationships will be changed, giving suppliers more of an edge — at least for those that survive.

3. Consumer packaged goods: reorganizing for growth. During the last 20 years, many manufacturers have struggled to grow their businesses in the sophisticated consumer markets of North America and Europe. They've based their strategies on cutting costs and grow-

ing through acquisitions, and they've found "organic" growth, based on increasing demand for their products and brands, harder and harder to achieve.

Now the game is changing. Partly because of the growth of emerging markets in countries such as China, India, and Brazil, and partly because the mix of products is becoming more complex and sophisticated, some of the most successful companies have started to seek a new approach to growth. They face a difficult challenge: finding the right balance between large and profitable global brands on one hand, and, on the other, locally customized and tailored products. The most successful companies are reorganizing themselves accordingly, adopting more complex organizational structures that can make more sophisticated products and brands. Consumers will see this play out in the form of products that vary more from one region to the next, for example, or change more rapidly on the shelves. Corporate employees and managers will find themselves balancing two or three bosses at once, embracing ambiguity, and having their incentives more closely linked to organizational profitability and performance, with better flow of information and more emphasis on letting people throughout the enterprise make broader-based decisions.

Our own research on the "DNA" of effective organizations suggests that, although the difference is invisible to many, it will be very real to people who work in those companies — particularly the winners. Not every consumer products company will figure out how to become an effective global, execution-driven enterprise — but those that can't make the switch will probably not survive.

4. Credit cards: challenged by their own success. As financial historians have noted, the availability of short-term, relatively easy, unsecured credit has been one of the major factors in transforming the purchasing power

of the consumer class. Credit card issuers, for their part, have been one of the most consistently innovative branches of the financial-services industry. But now their own success threatens their profitability.

In 2006, the number of cards in circulation in the United States increased by double-digit percentages. But the overall amount of interest and fees collected did not grow; it takes more and more effort to chase the same desired business. Debit cards, much less profitable than credit cards for banks that issue them, are gaining in adherents. And regulatory scrutiny of bankruptcy, predatory lending, and minimum payments is increasing in many areas.

The financial-services industry is thus poised for another new wave of credit card innovation. We'll see more cards oriented to particular niche markets; alliances among banking chains; and, probably, banks that market their transparency, reliable advice, and flexibility alongside their rewards.

5. The globalization of R&D. The outsourcing of R&D to the emerging markets of Asia is taking off, with a particular emphasis on software design and development. China and India will account for 77 percent of all newly established R&D sites between 2005 and 2008.

Some of the motive is labor arbitrage: to take advantage of the highly skilled talent available at significantly lower cost in economies like India and China. But the cost differential between professionals in advanced and developing countries is rapidly declining, and other motives for engineering services outsourcing (ESO) are growing more compelling. For example, engineering facilities in China can capitalize on being close to the factories where so many products are being made. Also, as markets grow in India and China, it helps innovative companies to have an R&D staff locat-

ed in those countries, where they will be familiar with consumer preferences. Relatively few companies have reaped the potential gains from these sites so far, in part because they have not yet coordinated their R&D efforts into well-designed networks. But some farsighted companies are improving their global innovation footprints, and they will set the standards for the rest.

6. The rising use of software in manufactured goods.

There is more embedded software in many children's toys today than there was in the Apollo lunar module. The same is true for appliances, tools, and even consumer products like toothbrushes — let alone for automobiles. That's why the German industrial giant Siemens employs more software engineers than Microsoft. This use of software will increase in 2007 as two technologies for tracking location and movement become more commonplace in everyday life. Radio Frequency Identification (RFID), embedding miniature transponders in products and animals to send unique digital ID signals, has been around since the 1940s, and Global Positioning System (GPS) satellite-based navigation technology is equally well-established. But when combined with embedded information technology, they are leading to a world in which software is everywhere, keeping track of many more things.

Already, Monsanto is developing seeds equipped with RFID chips to be sown into the soil; they can help monitor and transmit information about weather and soil conditions. We will see self-authenticating passports, drivers' licenses, and other forms of ID; new kinds of mobile payment (in Japan, more than 30 million cell phones are now equipped with chips capable of processing swipeless transactions); and laptops that automatically adjust themselves to new business applications as they cross international boundaries. The implications for pri-

vacancy are already much discussed, but we have yet to see them tested by a legal case that creates a popular backlash; we don't yet know whether public opinion will deem convenience or privacy more important.

7. Simplicity matters. We do know, however, that the complexities of embedded software have unleashed a growing countermovement toward simplicity. Often both underused and unappreciated by many customers, hyper-engineered feature sets also account for the majority of bugs, quality issues, and user-adoption tribulations. Hence the much-noted success of the Apple iPod, the Motorola Razr, and other simple but elegant devices. More will follow, as ease of use and feature simplicity become key technology selling points. For example, Apple's iPhone introduction this year may lead to a major shake-up in consumer electronics as other companies, emulating the same approach, enter the market with intuitive technologies.

Just as customers will want technology that is simpler in its features and easier to use, they will also respond well to technology products that express their identity in smart design. Design itself will be a crucial differentiator: The era of generic look and feel in devices is over. The style of a machine is part of a company's brand, and as the boundary between software devices and consumer products increasingly blurs, distinctively designed, technology-driven goods will have an edge around the world.

How these seven trends affect us will depend in large part on whether the business world recognizes them and how it responds. Where some see dangers and difficulties, others will find opportunities to unlock value and drive change. At Booz Allen, we look forward to helping our clients navigate this uncertain environment and build enduring capabilities for the future. +

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