

The decade ahead: Preparing for an unpredictable future in the global chemical industry

The US\$3 trillion global chemical industry plays a crucial role in today's economy. By one estimate, 96 percent of all manufactured products require the use of chemicals.¹

But as the chemical industry approaches the second decade of the century, it faces serious challenges. The commodity end of the business has been shifting to lower-cost markets and now finds itself struggling with overcapacity. Meanwhile, in the more profitable specialty arena, competition for market share has never been more intense. As the economy emerges from the recession, improving profitability in the next decade will require many companies to modify their strategies. Defining new directions will be a difficult task because the competitive landscape will be characterized by uncertainty.

This is the conclusion of research developed by Deloitte Touche Tohmatsu (DTT) that describes how chemical companies can move away from profit-limiting legacy strategies and towards more innovative responses to changing customer demands. Using three scenarios for the decade ending in 2020, a report will be released in December that illustrates why companies need new options to deal with evolving market conditions.

The root of the issue

A review of 231 chemical companies since 1998 highlights the sobering realities. For the commodity business, average gross margins from 1998–2003 reached 24 percent. Over the next five years, average margins fell to 15 percent. In specialty chemicals, gross margins shrank by 3.4 percent from 1998 to 2007, and declined even further in 2008 and 2009.

Between 2004 and 2007, large investments in new capacity were made in the Middle East and China. Meanwhile, major multinationals began selling or shutting down capacity in mature markets. Then came the Great Recession. Beginning in 2008, demand in key developed-world markets dropped 40 percent over a matter of months. Some companies found themselves on bankruptcy watch. Stock prices sank abruptly.

After the recession, a different approach

Signs of global recovery are certainly encouraging, but with so much excess capacity in the market, simply growing out of problems will be difficult. Furthermore, specialty producers may find their new products less profitable than in the past and may also add to the complexity and costliness of existing specialty operations.

The research reveals that chemical companies can no longer assume that growth and profitability are mutually reinforcing. Future competitiveness requires a much more disciplined and selective approach.

For the commodity business, this means more attention must be given to capital employed and to the profitability of all units and facilities. They must manage assets for cash flow rather than profit, view new capital investments skeptically, beware of cumulative investment traps that lead to overcapacity, shut down or sell capacity ahead of changes in the supply curve, use cash flow to pay down debt, and use debt to lower the average cost of capital — all without incurring new liquidity problems.

Make no mistake, managing for cash rather than profit and ceding share in markets that cannot be served economically would represent a *major* change

¹ DataMonitor (April 2009) and American Chemistry Council (June 2009).

The decade ahead (cont.)

for some companies. Yet, in a mature business this approach could be more beneficial to shareholders than managing for growth, market share, and economies of scale.

The same principles apply to the specialty chemicals sector. The research shows that investors reward growth in free cash flow more than growth in revenue or reported earnings. Specialty chemical companies that have simply expanded sales faster than industry average have not done well. Profitability has declined and shareholder returns have disappointed. What this shows is that buying market share will not only cost money but profitability, and leave the company in a weaker cash position for the future. The lesson is that companies should pursue profitability, not market share.

A crucial factor for specialty chemicals is capital productivity.² Research by DTT and Devon Value Advisers shows that operating return on capital of public companies has a high correlation with shareholder value — not only in chemicals but also in 70 other industries.

The implications for specialty producers are numerous. They must manage capacity with the same care as commodity chemical producers, know the actual full cost of products sold to end customers, and understand customer behavior. This latter task may entail the use of advanced tools such as Customer Relationship Management (CRM), pricing optimization, and test-and-learn software. This approach runs contrary to approaches that emphasize the acquisition of market share. Instead, it suggests that a company could (and often should) sell less and actually lose share. But the reward is better price capture and profitability. In this case, there is a more direct connection between capacity and profitability and it becomes easier to avoid the mistake of building capacity in unprofitable areas.

² Capital productivity is measured by operating return on capital: operating profit before interest, special charges, and taxes, divided by the capital required to operate the business — net working capital and net fixed assets.

Managing in uncertain times

Conventional wisdom suggests that economic growth will continue to shift toward the developing world, regulation of chemicals will tighten, and green technologies will become more prominent. But events over the past two years have shown that deviations from the expected path cannot be ruled out. Existing trends can unfold in different ways, change pace, or even reverse. Risk is expanded and amplified.

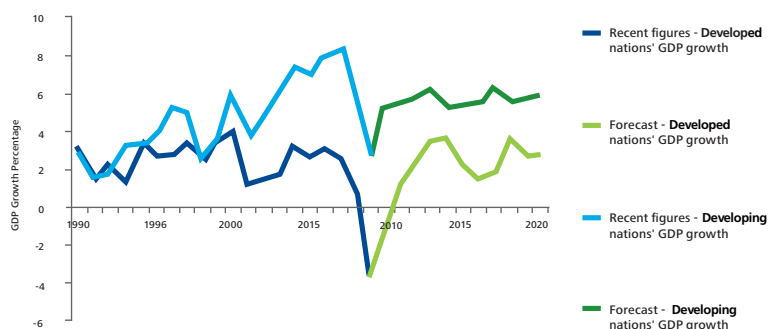
To manage these risks, a range of future market conditions need to be taken into account. The three scenarios for 2010–2020 are based on analysis of differing views from political leaders, pundits, academics, activists, and others. The three scenarios show how divergent viewpoints can be organized into models that furnish a basis for anticipating alternative sets of future competitive dynamics.

Scenarios for the coming decade

Scenario #1 — Transition.

In this scenario, North America and Europe are unable to contain inflation following the recession. Developing nations are more adept at managing growth, and they decouple from the West in favor of a China-centered bloc (which Japan also joins.) Peak oil theorists appear to be vindicated as it becomes more difficult and expensive to produce enough oil and gas to meet demand. Given the economic turmoil, measures designed to raise environmental, health, and safety (EHS) standards take a back seat to protecting jobs, finding new energy sources, and cutting energy use. Regulatory requirements affecting nanotech, biotech, and other advanced research and development (R&D) mainly incorporate industry codes and best practices.

Figure 1. GDP growth rates of developed and developing nations in the Transition scenario



Scenario #2 — Resilience.

A strong recovery is attributed to astute government management of national economies, and the policy pendulum swings away from reliance on market forces. Strong international coordination proves valuable to buffer competition among blocs that form around China, Europe, and the U.S. political leaders maintain an orderly system of international relations as they promote economic development and their cooperation prevents geopolitical problems. Public opinion favors more stringent global EHS standards. Renewables and nanotechnology benefit from various forms of government support.

Scenario #3 — Dislocation.

The Great Recession never really goes away. In developed nations, an anemic recovery means coping with dispirited consumers, wary investors, and disgruntled voters. For developing nations, the falloff in foreign export demand has adverse repercussions. With growth curtailed, domestic social and political unrest intensifies and international frictions flare into conflicts. The upheavals intermittently affect global oil markets, but generally, resource prices are low due to reduced demand and excess capacity. Regulatory policy and R&D support during the decade are uneven thanks to the turbulence of the times.

Implications of these scenarios

Scenario #1 — Transition.

GDP fluctuations in the developed world (from as high as 4 percent to as low as -2 percent — see Figure 1)³ mean that it is difficult to balance capacity with demand. The temptation to retain or add capacity during upturns proves regrettable when demand suddenly retreats. It is more essential than ever to make sure every dollar spent in developed markets is profitable, even if this means giving up some less profitable (or unprofitable) market share.

With the West rationalizing capacity, new players in China, India, and the Middle East capitalize on strong growth at home and emerge to compete with established companies. They benefit from their favored access to growing markets in the developing world. Ties with Japan give companies in the developing world access to intellectual property and technology that boost their competitive clout.

To survive, Western chemical companies look to gain access to these booming developing world markets. This is problematic since the emergence of regional trading blocks favors domestic producers. Moreover, moving into new markets requires cash, and with margins squeezed at home, there will be little of it to spend on expansion abroad.

Companies take on new risks as they enter new markets. Questions of the protection of intellectual property, people, and capital arise along with others that accompany entry into more centrally planned and controlled economies. The role of government is more important than ever.

Under the Transition scenario, R&D efforts become more cooperative, with governments and universities assuming a greater role in partnerships with the cash-focused private sector. This arrangement results in longer time horizons for the development of new products. The developing world, although aided by links with the Japanese industry, focuses on expanding existing R&D infrastructure and chemical engineering capabilities.

³ International Monetary Fund and Deloitte Research in the United States (October 2009).

Scenario #2 — Resilience.

Stronger global growth under this scenario means that companies can take on more risk. In the absence of economic volatility, capacity demands are more predictable, leading to more informed investment. Healthier cash flows allow for more aggressive entry into emerging markets, which remain attractive. R&D decisions are channeled by government mandates and incentives geared to environmental protection and climate change concerns.

Scenario #3 — Dislocation.

A worst-case scenario in which demand is uneven and thin margins paralyze capacity expansion. Even the promise of the developing world is diminished.

Managing for 2020

Even in the worst-case scenario, the demand for innovative uses for chemicals and chemical-based products will remain strong. The challenge is to identify ways to achieve market differentiation, profitability, and value through a deep understanding of the customer behavior in each set of conditions. Assembling and maintaining winning strategies requires a careful evaluation of the full range of future developments that could influence what customers want and how best to meet their needs.

Systematic thinking about alternate futures is important when setting or reviewing strategic direction. It not only ensures that the strategy selected for the business is well considered, but makes it possible to prepare strategic options that equip the company to keep its strategic footing in the face of changed competitive dynamics.

During the decade ahead, those who have the ability to manage with both discipline and perspective will be leaders in a chemical industry that brings value to so much of the world's daily commerce.

To register for an advanced copy of the report scheduled for a December 2009 release or learn more on each of the three scenarios described in this article, please visit www.deloitte.com/thedecadeahead.

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