



**THE RIGHT
CHEMISTRY
FOR RESILIENCE**

FROM VOLATILITY TO VALUE

With volatile demand from customer industries, fluctuating raw material prices and a high-asset intensity, the chemical industry is affected more than most by economic cyclicality. Its response to the seesaw of oil prices and customer demand has been a new wave of cost cutting that often fails to have an impact, even in the short-term.

Accenture Strategy analysis shows that chemical companies' performance has been far from stable in the last five years. In particular, they have experienced periods where revenues increased by 5 to 7 percent while their overall margin growth was only in the region of 1 to 2 percent—placing them firmly in survive, rather than thrive, mode.¹ Creating competitive agility demands more dramatic changes in strategy and operations—and employing digital technologies can help find new sources of value to drive growth.

RESILIENCE REVISITED

New technologies and operating models are enabling new sources of competitive advantage and growth for the chemical industry. Yet for many companies, it is business as usual and any technology advances in the industry tend to be in the form of incremental upgrades in automation. Change is gradual; operational behaviors, mind-sets and ways of working are deeply entrenched.

As “new” players from the Middle East and the Asia Pacific region benefit from raw material advantages and/or government-supported industrial policies, technologies and management systems that can bring resilient performance are becoming even more important. The technologies to drive resilience are available, but demand a break with established ways of working and fundamental changes in organizations.

Three actions can help chemical companies enhance their business competitiveness and pivot to a new way of working: 1. Recognize, 2. Manage, 3. Realize.

RECOGNIZE

THAT RESILIENCE DEMANDS MORE VARIABILITY IN FIXED COSTS THAN COST CUTTING

Accenture Strategy research shows that almost all, 91 out of 100 chemical companies, do not demonstrate resilience—stable profits when sales decline and profit growth when sales grow.²



Although this majority may seem surprising, it is less so when you consider that true resilience requires a radical rethink of the business to vary cost, a break with traditional input-output thinking and the need for greater agility.

New technologies offer an opportunity to break with traditional input-output relations and cost variability in unprecedented ways.

Examples are :

- **Artificial intelligence-based application technology support:** to extract insights and recommendations from unstructured data and to decouple service levels and service volumes in customer support from the number of employees in application technology units.
- **Advanced process control technology enabling “switches” in the operating modes of plants:** output focused mode resulting in compromises on yield and unit cost in periods of peak demand, versus cost and yield focused mode, which brings compromises on output in downturn periods.
- **Ecosystems of partners to complement companies’ own resources in an agile way:** pulling in more resources from ecosystems in periods of high demand, scaling down in periods of low demand.

Accenture research within the chemical industry reveals the challenges of moving beyond established ways of doing business. The survey findings reveal that the chemical industry has strong confidence in its leadership teams to achieve cost reduction targets; however, they also show that the necessary ingredients to achieve transformation—technology, change and experience—are core challenges.³

MANAGE

THE “FLEX POINT” BETWEEN PROFITS AND GROWTH

Resilience is more than cost cutting, as it requires managing the “flex point” for shifting from stabilizing profits in times of downturn to capturing profit growth in an upturn. Achieving this resilience requires a radical break with traditional thinking. As we have noted, chemical companies must move away from typical input-output thinking. They must sense early on the changing business environment and make clear changes in their strategy. Finally, they need to shift from simple cost reduction to reinvesting cost savings into growth.

Executives must find the “flex point” across three levers:

STRATEGIC LEVERS

- Achieve a balance for example between products sold, geographies supplied, and customer industries served
- Break with traditional value chain models, for instance, by entering into digital ventures
- Be open to an ecosystem of customers, suppliers and competitors

OPERATIONAL LEVERS

- Differentiate operating approaches according to the demand situation and profit drivers
- Manage pricing actively in growth and downturn situations to avoid profit leakages
- Digitize manual activities, especially in the support functions for faster scale-up and down

EXECUTION LEVERS

- Move decision making and profit and loss responsibility down to management levels where volatility is not blurred by portfolio effects (for example, different customer industries mitigating their individual volatilities)
- Sense early and forecast market and price changes through analytics
- Speed-up decision making and implementation of change with an agile workforce

REALIZE

A MOLECULE MIND-SET IS HAMPERING THE TECHNOLOGY VALUE AGENDA

Few chemical companies would disagree with the suggestion that the development of new molecules has been their main business driver for the last 150 years. It explains why 60 percent of the industry's workforce are trained chemists and why molecule innovation was regarded as the sole harbinger of future growth.⁴ But differentiation resulting from molecule discovery is becoming harder, as basically all molecule variants are explored and the technological and economical feasibilities assessed. Where the industry can differentiate is in how molecules are produced—that means the yield, energy and asset-intensity of their production processes—and how molecules are marketed and applied in customer systems. Since 80 to 90 percent of their costs reside in the production process, the impact from introducing digital technologies to optimize processes and break existing cyclicality is significant.⁵ But for many chemical companies, exploiting technology is a lost opportunity.

Accenture Strategy found that only 8 out of 100 chemical companies communicate a value-based technology strategy to shareholders.⁶



Chemical companies need to rethink their businesses and apply digital technologies to improve their production processes—such as using production analytics, manufacturing execution systems and mobile-based cloud solutions—and actively communicate their approach to the market. Traditional marketing and sales approaches can be reinvented with technology—digital marketing, the use of analytics to determine pricing, or customer behavior profiling based on data insights.

Technology-driven strategies rewrite traditional thinking that specialties are more attractive than commodities and lead to a new normal. On the one hand, large volume standard products still have significant chemical process improvement potential, enabled by technology such as automation, chemical process technology and integration of information and operating technology (IT-OT integration). On the other hand, the customer interface and application support required for specialties is disrupted by digital technologies, with the main drivers being crowd intelligence or high levels of accessible expertise through the Internet today and artificial intelligence tomorrow.

Companies focusing on proprietary technology-based go-to-market strategies are already demonstrating impressive performance improvements that are challenging the status quo.

ROTATE TO THE NEW

Steps chemical companies can take to regain competitive agility include:

- 1. Conduct a forensic review of the “as-is”:** break free from established beliefs by taking a new approach to strategy, operations and technology—adopt an “outside-in” view by taking into account the behaviors and practices of companies in your own and other industries. Revisit and re-evaluate the status quo ongoing.
- 2. Remodel as a technology company:** adapt your molecule mind-set to delivering a value-driven technology strategy. Becoming a fully-fledged technology company means adapting your investment patterns (such as a focus on new technology training or user adoption). Developing proprietary, leading-edge technology for your given portfolio business adds value to capital markets and positions you more favorably for investors and shareholders.
- 3. Break the traditional mold:** re-focus your initiatives into five or six platform “bets” rather than launching multiple initiatives that are not part of a cohesive strategy. Consider value pockets that are found in technology-related improvements from automation, robotics, analytics, process technology and as-a-service—and invest in user adoption.

THE CHEMICAL INDUSTRY WILL REMAIN CYCLICAL UNTIL ITS LEADERS RECOGNIZE THE IMPORTANCE OF COST VARIABILITY AND DIGITAL TECHNOLOGIES. FOR THOSE LEADERS THAT ARE PREPARED TO UNLEASH THE POWER OF DIGITAL TECHNOLOGIES, VALUE AWAITS—
VALUE ON WHICH THE FUTURE GROWTH AND COMPETITIVENESS OF THE INDUSTRY DEPENDS.

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NOTES

- ¹ Accenture Strategy market analysis, 2016
- ² Accenture Strategy market analysis, 2016
- ³ Accenture Agility to Compete research, 2015
- ⁴ Accenture Strategy analysis based on client experience
- ⁵ Accenture Strategy market analysis, 2016
- ⁶ Accenture Strategy market analysis, 2016

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