

# **KnowGenix** *Insights*

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**Sustainable value creation**

**A comment**

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The customer is now the key element that drives the future growth in diverse segments. Coupled with regulatory protocols and sustainability demands it is likely that in the next few years there will be major changes in areas with potential for consolidation and in particular, textile chemicals, surfactants, adhesives/sealants, paints/coatings, food ingredients, personal care chemicals, and water management chemicals, a trend which holds true for emerging nations.

End use consumer markets like textiles, automotive, construction, consumer products have all migrated to Asia along with raw material suppliers. Their demand for high end sustainable products have led to innovative collaborations by chemical firms to develop customized products. Fast growing Asian economies of China, India, South Korea, Indonesia, Singapore, Malaysia, and Vietnam will continue to drive the future fine and specialty chemical markets. Chemical firms will continue to move their operations close to their customer base while focusing on innovation, customer proximity, novel supply chains to respond to customer demands.

In future value creation strategy will embed sustainability protocols in both internal and external processes. While focus will be on driven differentiated products and services, resource efficiency and lower emissions and investing in innovations the industry will have to develop strategies to manage fast changing regulatory, market and consumer networks. The specialty business is also likely to witness major changes as restructuring and consolidation will continue to occur in shorter cycles.

Developments in new technologies and new pathways for fine and specialty chemicals will be complemented by increasing regulatory and complex customer space requirements. It will be critical for specialty companies to focus on value creation strategies for future growth. Developing a successful value creation model is just a beginning. The major challenge for the specialty chemical players is in sustaining the created value as new pressure points emerge on financing, manufacturing and market spaces. In future, strategies and counter strategies will continue as efforts to gain critical mass, widen geographic reach, and improve competitiveness increase in the specialty chemical business where today's high performance specialties become tomorrow's commodity products.

Innovative companies will continue to validate the premise that sustainable models based on green chemistry - a science based, non-regulatory, and economically driven approach will lead the industry on a sustainable growth path in future. The firms pioneering innovative feedstock, process and product redesign around sustainability protocols will develop leadership position. Global companies must learn to compete in the backdrop of regulatory requirements emanating from multiple political jurisdictions. Despite the opportunities that exist, significant barriers remain for translating those opportunities into reality.

Chemistry and chemical engineering education is rapidly shifting focus and future chemists and chemical engineers will have to develop new skill sets to develop innovative solutions to complex challenges at the interface of technology-environment and society. For sustainable practices to be applied on a wider level appropriate techniques and yardsticks have to be employed. Incorporating societal costs related to sustainably manage the business goals need a critical analysis, co-ordination, and planning by the concerned people.

The capacity of the fine and specialty chemical industry to meet the challenges of sustainability will depend on micro factors like, new feedstocks slate, tools and metrics, new reactor technologies, enabling technologies. At a macro level financing, policies, business integrations and consumer preferences will play a key role. Ensuring sustainable e practices right from design through dispatch to disposal stages requires long term commitment on the part of industry. The technical, financial, administrative and commercial bottlenecks need to be resolved.

The chemical industry will continue to face tighter legislative controls and market pressures to conform to process and product protocols as mandated under various environmental acts. To be able to sustain its growth while complying with future environmental mandates would require a closer audit of existing practices. The challenge in coming years will be to continue to maximize innovation, which meet the increasing demands for sustainable products.

The knowledge and experience within the sector, together with the new technological advances, needs to be leveraged responsibly. Twenty five years have lapsed since the Bhopal incident and the industry has just made a beginning towards sustainability. It is to be seen if the current momentum will be sustained over the next twenty years even as technological, societal and political complexities increase. Western world with slow growth and

recessionary pressures will have to explore novel partnering models with governments companies in emerging and transition economies. This decade should see a new industrial culture which recognizes the importance of resource efficiency, social equity and sustainable practices to ensure sustained growth.

Development with an environmental perspective has to be made a reality by encouraging diversity, co-existence and interdependence of different disciplines, and accommodation of diverse viewpoints. The future growth of the chemical industry will depend on identifying innovative approaches to meet demands for sustainable products and customer needs. This requires close collaboration with all the stake holders. The issue goes beyond just deploying these technologies. We should be able to do a predictive and consequence analysis of the impact these technologies will have on our resources. Companies will need to learn how to embed sustainability and climate change factors into their business, innovation and operating models.

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