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Opportunities in Chemical Distribution

Optimizing Marketing and Sales Channels, Managing Complexity, and Redefining the Role of Distributors

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Opportunities in Chemical Distribution

Optimizing Marketing and Sales Channels, Managing Complexity, and Redefining the Role of Distributors

In the fourth quarter of 2009, The Boston Consulting Group (BCG) conducted a study of future opportunities in the chemical industry, focusing on the role of the chemical distribution sector and on the "go-to-market" (distribution) approaches of chemical producers. The study involved quantitative research that utilized numerous databases—including BCG's own proprietary databases—and also the results of more than 150 interviews that BCG conducted with executives at chemical companies, customers of chemical companies, and chemical distributors in all regions of the world.

In 2008, global consumption of chemical products exceeded €1.9 trillion (roughly 3.5 percent of global economic activity). While chemical manufacturers have traditionally distributed their own products (with around 90 percent of chemical products still directly distributed today), competitive pressures will increasingly require new approaches to distribution to strike the proper balance between providing differentiated offerings and containing the resulting costs of complexity. Our study highlights the opportunities available through closer cooperation and partnerships among chemical producers, third-party distributors, and customers, as well as the importance of taking a strategic rather than an operational approach to chemical products distribution.

Challenges for Distribution in the Chemical Industry

The chemical industry produces essential raw materials and supplies for companies in the manufacturing and industrial sectors. Its diverse set of more than 100,000 products includes petrochemicals, solvents, polymers, and application-driven and customized specialty chemicals, such as those for the cosmetic or food industry. Some can only be distributed by pipeline; others are tank wagon products; some are shipped in containers, barrels, or sacks; some are distributed in small packages of a few kilograms. In 2008, global consumption of chemical products exceeded €1.9 trillion. The chemical producer landscape comprises more than 100,000 companies and shows considerable fragmentation. In 2008, the top five chemical producers—BASF, ExxonMobil, Dow Chemical, LyondellBasell, and Shell Chemicals—supplied only 11 percent of chemical consumption.

The traditional centers of the chemical industry have been North America and Europe, both mature markets. Both of these markets are now overtaken in chemical consumption by the Asia-Pacific region, which, following rapid recent growth, accounts for one-third of global consumption (about €660 billion in 2008). China's estimated consumption of €380 billion equals that of the United States. The consumption of chemicals is also linked to the maturity of industrialization. Especially in rapidly industrializing countries, chemical consumption is outgrowing industrial output because chemicals, like other basic materials such as steel or cement, form key ingredients for industrial development. So chemicals also play a more significant role in Asia-Pacific economies, with consumption accounting for 6 percent of gross domestic product compared to 2.9 percent in Europe and 2.4 percent in North America.

Region- and country-specific industry composition—especially the mix between manufacturing and service industries—underlies the differences in consumption patterns of chemicals. For example, in Germany or Japan, the automotive industry accounts for a large share of the chemicals consumed, whereas in Brazil, it is the agriculture and pulp and paper industries. Country-specific industry composition adds significant complexity for chemical producers and distributors, who have to provide customized approaches on the one hand and ensure critical mass and scale on the other. This is especially relevant for chemicals that need to be tailored to customer-application systems and that require technical and application support.

Between 1995 and 2005, worldwide consumption of chemicals also grew at a higher rate than overall industrial output, primarily because of increased use of chemicals in sophisticated applications, improved

processing and production, and insignificant price increases in raw materials. This trend conceals significant industry-specific variations. While the chemical share of overall output in some sectors, such as computers and precision instruments, rose by close to 10 percent in the decade from 1995 to 2005 owing to innovation and application development, there were decreases in other sectors—notably textiles, rubber and plastics, and coke/refined petroleum.

This heterogeneity in consumption patterns is characteristic of a complex, wide-ranging industry such as the chemical industry, which supplies not only all manufacturing sectors but also companies within those sectors varying from large multinational conglomerates to small, local manufacturers with as few as ten employees. The degree of customer fragmentation differs across industries, but our analysis indicates that between 20 and 40 percent of chemicals are consumed by small customers (defined as those consuming less than €100,000 of chemicals each year). There are also significant national differences—with variations, by country, in the composition of the customer industry and the mix of small, medium, and large customers. For example, Germany's consumption of €98 billion of chemicals is spread across 170,000 companies, including 35,000 small customers (about 20 percent). Rapidly industrializing countries such as China or Brazil have a much larger proportion of small customers (more than 75 percent).

All of this creates a challenging environment for chemical producers, which are required to supply a wide range of products in differing quantities to a hugely diverse customer base. They may be asked for deliveries ranging from daily tankloads or bulk wagonloads to quarterly shipments of a few barrels or sacks.

Small customers and countries are a particular challenge for chemical companies that may lack the infrastructure and processes to handle low product volumes or a high diversity of products. At the same time, particularly in mature markets, contribution margins are often higher in dealings with small and medium-sized customers.

Clearly, chemical companies increasingly recognize their marketing, sales, and distribution functions and capabilities as sources of competitive advantage and differentiation. But as they try to implement distinct go-to-market approaches to capture profit pools in different customer segments, they face a continuous challenge: how to strike the proper balance between differentiated offerings and containing the resulting costs of complexity.

The Chemical Producers—and How They Distribute

Chemical manufacturers have traditionally distributed their own products, and direct supply continues to account for around 90 percent of total global distribution. Direct supply is likely to continue to predominate in serving large customers, whose purchases account for the bulk of producers' output, ensure a baseload for plants, and create little complexity. The 80-20 rule—that companies generate 80 percent of their revenues from 20 percent of their customers—continues to be established conventional wisdom within the industry.

However, large customers increasingly leverage their purchasing power, so that producers often must make significant compromises on pricing in order to secure large-volume contracts and, thereby, baseload for their plants. This helps explain a shift in profitability, with medium-sized and small customers generating higher contribution margins.

Many producers in recent years have set up dedicated "key account" management structures and processes to serve large customers, while implementing sales-force-effectiveness measures for medium-sized customers. At the same time, many producers have found it difficult to develop an effective sales model for small customers and countries, particularly as the need for greater cost efficiency has led to continuing downward pressure on the size of sales forces in the field and the level of technical assistance offered to customers. Higher contribution margins from these customers and countries have been offset by the costs of complexity, so that EBIT (earnings before interest and tax) margins are often lower. Purchasing volumes from small customers have been insufficient to generate the required profitability, particularly in situations in which service levels, distribution models, and sales channels were not differentiated, and the same infrastructure and processes were used for all product portfolios—whether they featured high volume and low

diversity or low volume and high diversity. Another problem is that rapidly growing markets, such as China and Brazil, have a significantly larger share of small customers, so that differentiated distribution models are needed to simultaneously capture the growth potential and generate the required profit margin.

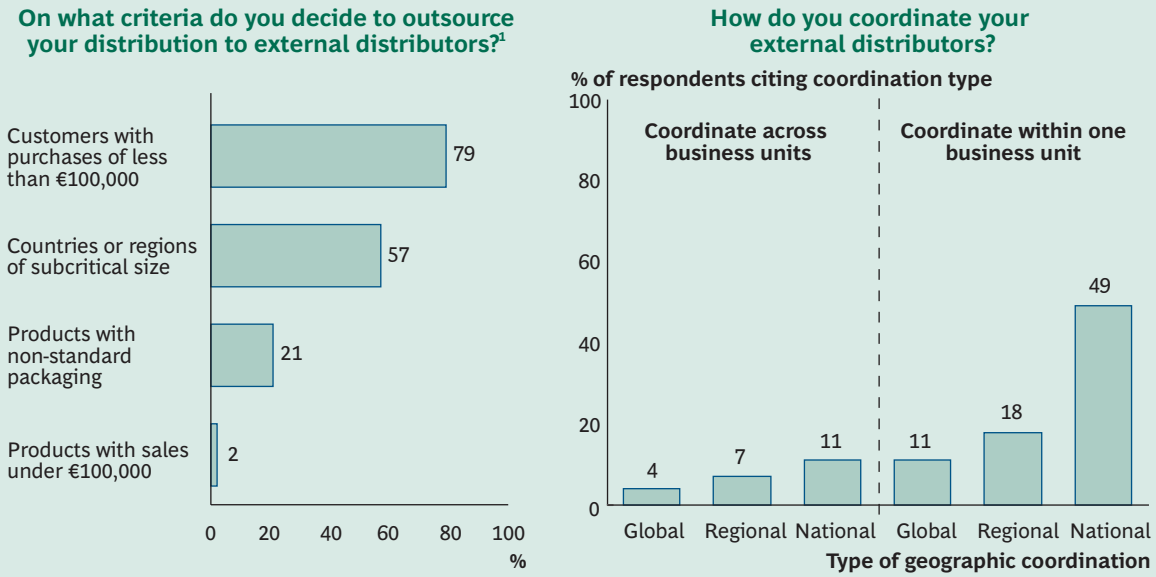
These segments of small and medium-sized customers have increasingly been handed over to third-party distributors, although the reasons for the shift have differed between mature and emerging markets. In mature markets, established European or North American chemical producers have been looking for greater cost efficiency by reducing and refocusing their direct sales efforts. In emerging markets, these same chemical producers typically lack the critical mass in sales and purchasing volumes of their products needed to justify direct sales. The broad rule has been that customer size is the main criterion—79 percent of producers said that customers whose annual purchases total less than €100,000 are outsourced to distributors, with 57 percent of producers outsourcing distribution to countries or regions of subcritical size. (See Exhibit 1.)

This process has still to be completed. Interviews with producers suggest that they expect to continue the reductions in field sales and technical support that are among the drivers of outsourcing. We anticipate that over the next several years this process will most likely expand the share of consumption held by third-party distributors.

Decisions on whether to transfer direct sales efforts to distributors, and which distributor to choose, have frequently been taken on the local or business-unit level, with little management and coordination across regions and business units. In our interviews, we found that only 22 percent of producers organize distribution across business units. The result is that companies often end up in highly complex relationships with a large number of distributors, and substantial resources are needed in order to create transparency into distributors' networks and to manage these multiple relationships. This complexity handicaps attempts to actively steer the distributor network or ensure the seamless flow of market, competitive, and customer information needed to exploit full market and growth potentials.

Complex relationships with distributors can also lead to duplication of efforts and resources. Many chemical producers organize their businesses by product group rather than by customer industry. That means customers within one industry purchase products from several of a chemical producer's business

Exhibit 1. Industry Standards Emerged for Outsourcing Criteria but Not for Coordination Methods



Source: BCG Global Chemical Distribution Market Survey.
Note: In October and November 2009, BCG conducted a survey of executives at 70 companies that produce and sell chemical products in Western and Eastern Europe, North and Latin America, Asia-Pacific, the Middle East, and Africa.
[1]The numbers do not add up to 100 percent because multiple answers were allowed.

units. If third-party distributors are managed at the business-unit level, several distributors can end up targeting the same customer with different products from one producer—and rationalization or bundling effects are not fully captured.

While management of chemical distributors by chemical producers remains diverse and highly variable, many producers intend to pursue a much more structured approach in order to capture the full bundling and rationalization effects. In particular, producers may seek to reduce the number of distributors they use and develop strategic partnerships with distributors that have the ability to invest in market development and information exchange.

The Chemical Distribution Sector—and How It Is Evolving

High product diversity and chemical-producer and customer-industry landscapes that are fragmented into numerous small companies create a need for middlemen in chemical distribution who can match supply and demand. The distributors can add significant value by managing complexity for producers and customers, physically handling the chemical products, and providing financing and support.

Key elements in the value chain of a chemical distributor include: sourcing from multiple producers to ensure a broad and complementary product offering; taking physical ownership of products, warehousing them, and mixing, blending, and repackaging them according to customers' needs; and then selling and physically transporting goods to customers. Chemical distribution needs to be differentiated from logistics-only companies that typically do not take ownership of products, and from trading companies that typically do not repackage and assemble product portfolios according to customers' needs.

Business models for chemical trading and for distribution sometimes converge when third-party distribution companies pursue both models. However, because repackaging and value-added services such as mixing, blending, or formulation are important value and growth levers for distributors, these business models must be differentiated in order to understand their respective financial performance.

Often, the distribution networks and processes of chemical producers lack the critical mass or the density needed to handle low-quantity, high-diversity product portfolios. Distributors can attain these objectives by sourcing from multiple producers in situations in which individual producers are subcritical in size and limited to their own products. Bundling products from multiple producers enables scope and scale effects that allow distributors to operate distribution networks with sufficient profitability. Such distribution bundling has relevance not only for chemicals but also for a range of distributed products that includes maintenance and repair supplies, electronic components, and pharmaceuticals.

Smaller consumers typically lack the critical mass needed to tap into low-cost sources for chemicals from China, Eastern Europe, or the Middle East. Again, third-party distributors can create critical mass by aggregating demand from individual customers and so offer product portfolios sourced globally. Network density, enabling speedy and flexible deliveries, follows a similar logic.

Sourcing from multiple producers allows chemical distributors to profitably operate warehouses, mix and blend assets, and so forth on a local level and in close proximity to customers. This allows them to differentiate their services by offering single sourcing, speed, and flexibility of delivery—sometimes in the form of same-day delivery or customized volumes—that are not available through direct distribution by chemical producers.

Our research shows that around 9 percent of relevant global chemical consumption is distributed by third-party distributors. Based on global consumption of €1.9 trillion in 2008, and adjusted for typical pipeline products such as ethylene and propylene that are not distributed, this translates into global third-party distributor sales of €115 billion for the distribution of products varying from industrial chemicals—such as basic and intermediate chemicals, polymers, and agrochemicals—to specialty chemicals.

The worldwide third-party chemical distribution market acheived a compound annual growth rate of 10 percent from 2006 through 2008—faster than either GDP or chemical consumption. (See Exhibit 2.)

Exhibit 2. The Market for Third-Party Chemical Distribution Outgrew Chemical Consumption

Impact of individual growth drivers on market development, January 2006 through December 2008

	Change in industrial output (%)	Change in chemical consumption (%)	Change in chemical product prices at constant volumes (%)	Change in distribution via third-party distributors (%)	Change in value-added services (%)	Total compound annual growth rate, 2006–2008 (%)
Global	2.7	0.1	5.7	1.0	0.5	**10.0**
Europe	1.7	–0.4	4.1	0.5	0.4	**6.3**
North America	–1.1	–0.3	8.5	0.5	0.8	**8.4**
Latin America	3.2	0.5	6.9	0.5	0.6	**11.7**
Asia-Pacific	8.1	0.7	6.9	1.0	0.6	**17.3**

Sources: Oxford Economics; Economist Intelligence Unit; BCG interviews; BCG analysis.
Note: Regional growth rates do not add up to the global growth rate because global growth rates reflect the weighted average of the regions; the numbers in the total compound annual growth rate column have been rounded.

Overall, we anticipate that third-party chemical distribution markets will continue to grow faster than global GDP and chemical consumption in the mid- to long-term period, with regional and possible short-term deviations.

There are several drivers fueling growth in the third-party distribution market. The growth of industrial output and increased use of chemicals contributed 2.8 percent to the global compound annual growth rate from January 2006 through December 2008. Because chemicals are consumed in a broad range of industries, chemical distribution addresses the needs of diverse customers. However, the specific industry exposure of individual third-party distributors varies, depending on their chosen strategy. Some focus on specific customer industries, resulting in greater exposure to the industry's cyclicality; others distribute to highly diversified customer industries, thereby reducing their exposure to the cyclicality of any single industry.

Increases in the chemical price index accounted for a further 5.7 percent, which both shows that third-party chemical distributors can pass along price increases in raw materials and also suggests that sales are linked to the volatility of raw materials and chemical price indexes. The remaining 1.5 percent comes from the increase in market share of third-party distributors and the growth of value-added services—the key drivers for growth above chemical consumption. Value-added services such as mixing, blending, or formulation create additional profit pools for third-party distributors.

With reasonable confidence, we expect that the share of third-party chemical distributors and the demand for value-added services will continue to expand, enabling growth above chemical consumption. This expectation is supported by our survey results, which show that chemical producers are still in the process of transferring small customers to third-party distributors. Consequently, the third-party distributors' share of consumption may grow from 9 percent at year-end 2009 to between 10 and 13 percent over the next five years. Even though the survey confirmed that in most cases chemical producers will not transfer key accounts or large customers to third-party distributors, there remains significant long-term market potential for third-party distributors owing to the fragmentation of customer industries—particularly for those distributors that can operate on a global scale and across industries.

Distribution is itself a fragmented sector with more than 10,000 distributors worldwide. Most firms operate locally or regionally and specialize in particular products. The five largest distribution companies worldwide—Brenntag, Univar, Ashland, Ravago, and Helm—controlled less than 19 percent of the global market in 2008. (See Exhibit 3.) The top ten controlled only 23 percent.

Exhibit 3. In Chemical Distribution, Market Share—and Market Leaders—Vary by Region

		Global[1]				Europe				North America		
Market size (€billions)			2008	2007	2006		2008	2007	2006		2008	2007	2006
			114.7	102.7	95.0		36.9	35.4	32.8		24.5	21.8	20.9
Market share (%) and position	1	Brenntag	6.9	6.9	6.9	Brenntag	12.0	11.4	11.1	Univar	20.4	18.4	15.2
	2	Univar	6.0	5.8	5.1	Univar	5.0	5.4	4.8	Ashland[2]	13.0	13.5	14.2
	3	Ashland[2]	2.8	2.9	3.1	Azelis	3.1	3.1	2.8	Brenntag	10.0	9.7	9.8
	4	Ravago[3]	1.5	1.5	1.5	Ravago[3]	3.0	3.0	3.0	ICC[4]	3.0	3.7	2.8
	5	Helm[3]	1.4	1.4	1.0	Helm[3]	2.5	2.3	2.0	Ravago[3]	2.0	2.0	2.0
	Top five		18.6	18.5	17.6		25.6	25.2	23.7		48.4	47.3	44.0

		Latin America				Asia-Pacific			
Market size (€billions)			2008	2007	2006		2008	2007	2006
			11.8	10.4	9.5		31.5	27.0	23.2
Market share (%) and position	1	Brenntag	7.1	6.5	6.6	Sinochem	3.0	3.3	3.4
	2	Bandeirante[5]	2.0	2.0	2.0	Itochu	2.0	2.4	2.8
	3	quantiQ	1.5	1.5	1.4	Miki & Co. Ltd.	1.7	2.3	2.6
	4	M. Cassab	1.0	1.1	1.0	NCLI	1.6	1.4	1.9
	5	Pochteca	0.9	0.8	0.9	Orica	1.4	1.7	1.9
	Top five		12.5	11.9	11.9		9.7	11.1	12.6

Sources: Company press releases; legal entity reporting; BCG market interviews; BCG chemical distribution market model.
[1]Global includes not only the four regions shown here but the rest of the world as well.
[2]The data refer only to Ashland's distribution business.
[3]Revenues and market share have been adjusted to capture only the distribution business.
[4]ICC Chemical Corporation.
[5]Bandeirante Química.

The third-party chemical distribution market shows significant regional differences. In mature markets such as North America and Europe, the top five third-party chemical distributors have significantly higher market shares than in emerging regions such as Asia-Pacific, where those leaders accounted for 9.7 percent of the market in 2008.

Furthermore, in the Asia-Pacific region, which consumes more chemicals than any other region, third-party distributors currently account for only 6 percent of the distribution business, compared to third-party distributors' share of 9 percent of the chemical distribution business worldwide. (See Exhibit 4. For information about the methodology we used to create our market model, see the Appendix.)

While strong growth in industrial output and chemical consumption, combined with a large share of small customers, creates an attractive environment for chemical distributors in the Asia-Pacific region, it must be remembered that Asia-Pacific is also a heterogeneous market with varying levels of maturity. In China, in particular, the dynamic evolution of the market and competitive environment creates uncertainties about, for example, both the market share of third-party distributors and the applicability of the typical chemical-distributor business model.

Some larger companies have used mergers and acquisitions to develop cross-regional capabilities, critical mass, scale effects, network density, and capabilities needed to meet producers' and customers' needs. Medium-sized enterprises have formed networks such as the 15-member Omni Chem alliance and the 22-strong Chemical Distribution Network. Still, there is as yet no distributor with a significant presence in

Exhibit 4. Third-Party Distributors Captured Varying Shares of Regional and Country Markets

Market	GDP (€billions)	Consumption of chemicals (€billions)	Chemicals as a percentage of GDP (%)	Distribution-relevant chemical consumption (€billions)	Distribution-relevant chemical consumption as a percentage of all chemical consumption (%)	Share of distribution conducted via third-party distributors (%)	Size of third-party distribution market (€billions)	Share of industrial chemicals within the third-party distribution market (%)	Share of specialty chemicals within the third-party distribution market (%)
Global[1]	**56,002**	**1,961**	**3.5**	**1,236**	**63**	**9**	**115**	**59**	**41**
Europe	**19,758**	**571**	**2.9**	**353**	**62**	**11**	**37**	**58**	**42**
Germany	3,477	98	2.8	66	67	10	7	63	37
United Kingdom	2,843	52	1.8	26	50	11	3	55	45
France	2,673	83	3.1	55	66	8	5	60	40
Italy	2,219	72	3.2	49	69	11	5	62	38
Spain	1,409	40	2.8	23	57	10	2	61	39
Belgium	470	28	6.0	11	38	8	1	63	37
Other Western Europe[2]	3,467	99	2.9	62	63	10	6	58	42
Central/ Eastern Europe[3]	3,200	98	3.1	61	62	14	8	51	49
North America	**17,157**	**413**	**2.4**	**192**	**46**	**13**	**25**	**61**	**39**
United States	15,744	378	2.4	172	45	13	22	60	40
Canada	1,412	35	2.4	20	58	14	3	71	29
Asia-Pacific	**10,973**	**656**	**6.0**	**489**	**74**	**6**	**32**	**57**	**43**
Japan	5,672	150	2.6	110	73	8	9	56	44
China	2,869	379	13.2	285	75	6	16	58	42
India	1,009	42	4.2	31	74	9	3	58	43
Other Asia-Pacific[4]	1,424	85	6.0	63	74	6	4	57	43
Latin America	**3,141**	**151**	**4.8**	**104**	**69**	**11**	**12**	**64**	**36**
Brazil	1,098	63	5.8	48	75	11	5	64	36
Mexico	1,058	39	3.7	21	55	13	3	60	40
Other Latin America[5]	985	49	5.0	35	72	11	4	64	36
Middle East	**1,126**	**36**	**3.2**	**14**	**39**	**15**	**2**	**NA**[6]	**NA**[6]

Sources: OECD; Eurostat; Destatis; UN Comtrade; Economist Intelligence Unit; Oxford Economics; SRI; BCG interviews; BCG analysis.
[1]Global includes not only the four regions shown here but the rest of the world as well. Country numbers do not add up to regional numbers due to rounding.
[2]Austria, Denmark, Finland, Greece, Ireland, Luxembourg, Netherlands, Portugal, and Sweden.
[3]Bulgaria, Czech Republic, Estonia, Latvia, Lithuania, Poland, Romania, Russia, Slovakia, and Slovenia.
[4]Australia, Hong Kong, Indonesia, Japan, Malaysia, New Zealand, Pakistan, Philippines, Singapore, South Korea, Taiwan, and Thailand.
[5]Argentina, Chile, Colombia, and Venezuela.
[6]Not assessed.

every region. For example, none of the top five Asia-Pacific distributors has a significant presence in another region. On the other hand, none of the globally leading chemical distributors has a significant presence in Asia-Pacific, so they do not yet fully participate in the region's growth and market potential.

Nonetheless, market shares are often the result of mergers and acquisitions within the chemical distribution landscape. Acquisitive growth is driven by the success factors in chemical distribution and the

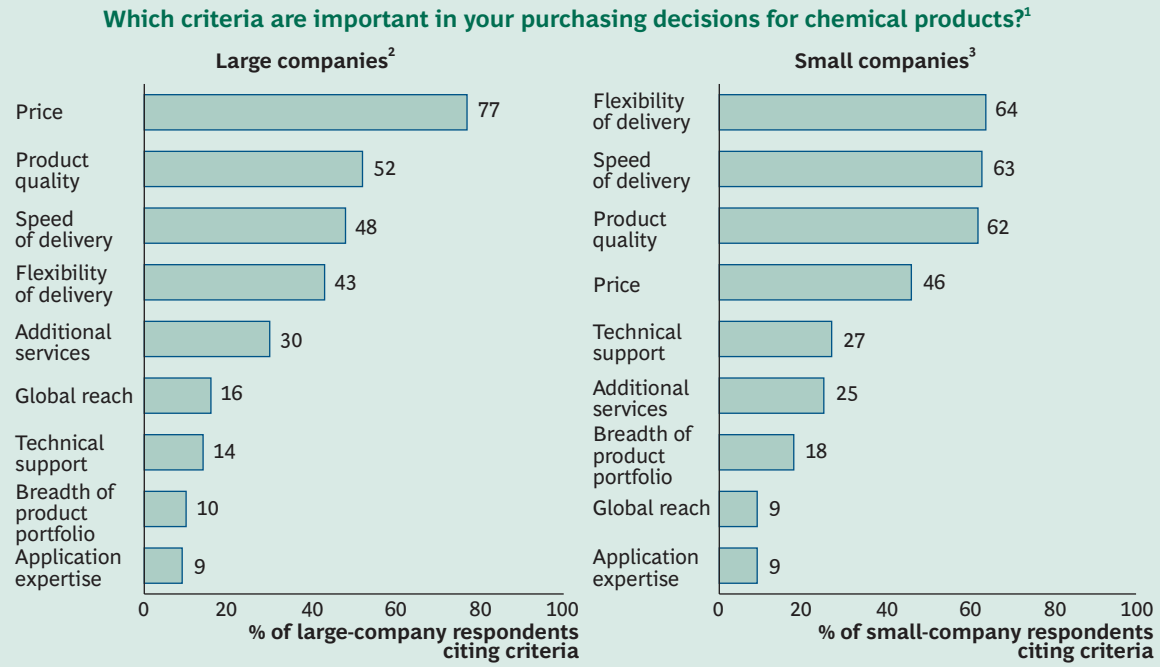
requirements of both chemical producers and customers. First, chemical distribution is a business driven by scale and network density, so there is a clear rationale for acquisitive growth as a value driver. Second, our survey results show that chemical producers expect third-party distributors to have strong local plus global capabilities, along with the critical mass to invest in market development, technical expertise, and information-exchange systems. Third, customers expect chemical distributors to offer broad product bundles and to set up and operate a global network for sourcing. Fourth and last, but not least, critical mass and a global network form a competitive advantage. Whereas entry barriers for a local distribution business are low, the buildup of a global distribution network requires significant resources, time, and management. In addition, distributing to numerous industries creates scale effects that are difficult to duplicate because different, industry-specific regulatory requirements need to be met. The survey results clearly confirm this: 69 percent of the chemical distributors we interviewed see network and cost advantages as most important for their future growth and value generation.

The Customers—and What They Want

A large proportion of chemical products have standard specifications, making it easy for customers to switch producers in search of the best price. So it is not surprising that our interviews with executives at 100 companies that purchase chemicals showed that price (for 61 percent of respondents) was the main consideration. What is striking is that price was closely followed by flexibility of delivery (50 percent) and speed of delivery (48 percent).

However, there is a sharp differentiation between what is important to large and small companies when they purchase chemical products. (See Exhibit 5.) While price is by far the most important criterion (77 percent) for large customers (defined in this case as companies with annual sales of more than €5 million)—in other words, those who will almost invariably deal directly with the producer—smaller

Exhibit 5. Company Size Affects Purchasing Criteria



Source: BCG Global Chemical Distribution Market Survey.
Note: The data in this exhibit come from interviews—conducted by BCG in October and November 2009—with executives at 100 companies that purchase chemical products in Western and Eastern Europe, North and Latin America, Asia-Pacific, the Middle East, and Africa.
[1]The numbers do not add up to 100 percent because multiple answers were allowed.
[2]Large companies are defined as companies with more than €5 million in sales.
[3]Small companies are defined as companies with less than €5 million in sales.

companies have different priorities. Price (46 percent) is of course not unimportant, but it matters less than flexibility of delivery (64 percent), speed (63 percent), and product quality (62 percent). Technical support (27 percent) was also considerably more significant for small than for large customers.

At the same time, customers would like more from chemical producers and distributors. Most would like the increased simplicity of dealing with fewer distributors—with 59 percent of customers naming single-supplier deals as an unmet need. They cited as the main obstacle the limited breadth of product portfolios—as yet even the large distributors do not offer the required range of products and specifications.

Almost as many customers, 54 percent, said more technical support would help. The dilemma facing these companies was expressed by the representative of a French company, who said, "Distributors have far better speed and flexibility of delivery than chemical producers—and they could provide even more of the technical support we need in some categories."

There was also strong interest on the part of customers in application expertise (48 percent) and vendor-managed inventories (31 percent). As a German company spokesman put it, "We would love to get rid of all of the inventory management. Unfortunately, only few distributors are offering such a service for medium-sized companies."

All of this suggests that larger distributors will enjoy a significant competitive advantage, provided they raise their own standards. One head of European Union business management said, "Large distributors are conglomerates of acquired businesses; performance capability and processes differ significantly among individual companies."

Winning Distribution Models—and How to Build Them

Competitive pressure in customer industries and in the chemical industry requires increasingly differentiated distribution approaches. "One-size-fits-all" approaches attempting to serve everybody from high-volume, key-account customers to low-volume, small customers are not viable anymore. Fully exploiting the value pools of the various customer segments requires a differentiated approach to channel management and distribution. In particular, key performance characteristics, service levels, resource commitment, and the partnering approach need to be differentiated. It is clear that producers and third-party distribution companies can accommodate only a limited number of different business and distribution models within each organizational entity. This leads to a series of tradeoffs, which need to be tailored in ways specific to a company and its customer portfolio. Typical tradeoffs include the following:

- The density of the distribution network required for speed of delivery versus the cost efficiency dictated by pricing pressure
- The complexity cost of a diverse portfolio (products, packaging units, logistic terms) versus the ability to realize price points, and thereby meet profitability targets
- The need for cost efficiency and scale versus the need to invest in market development, especially in emerging high-growth markets
- The availability of distributors with the required expertise and geographic reach versus the need to develop distributors with the required expertise and geographic reach for the medium to long term
- The need to combine global reach with strong local presence versus the resources required to do so and the need to meet profit targets

Fully realizing the value from distribution starts with the recognition that it is more than a simple operational issue. A strategic approach, rather than an undifferentiated one based purely on customer size, is needed to decide which segments should be outsourced and which kept in-house. Our experience from extensive client work and the more than 150 interviews we conducted point to the following five actions, which typically are relevant for both chemical producers and third-party distributors.

Understand Customer Segments and Customer Needs

While chemical producers and distributors implemented significant programs and initiatives to understand customer needs, these efforts can be further deepened. So, start with existing customer segmentation and review, cross-check, and validate fact bases on customer applications, customer systems, and buying patterns across business units and regions (order volume, order frequency). Also, map unmet customer needs, profit potentials, and development opportunities—and prioritize them based on their value potential.

Create Transparency on Costs

All companies track costs and plan expenses for marketing, selling, and distribution by business unit and region. However, a more differentiated perspective on individual customer segments and channels is required to exploit the full value potential. So, assess the cost structures, cost-to-serve, and resulting profitability by customer segment, product line, and channel—including the cost of complexity. Explicitly consider the costs of complexity in serving individual customers—for example, those costs due to nonstandard packaging or logistics—and develop an honest view on your cost position and capabilities versus those of your competitors. Compare resources, assets, and infrastructure from a critical mass and a financial perspective.

Differentiate Channel Strategies and Tailor the Go-to-Market Approach

Structure follows strategy—so clearly differentiate distribution channels and define channel strategies based on a thorough customer understanding and transparency on achievable cost structures. Then design the distribution approach by differentiating roles for distribution channels on the basis of the objectives for each channel: where to focus on market and customer development and where to focus on cost efficiency or to opportunistically sell fringe volumes. Then integrate the distribution approach for various channels into a cross-channel concept.

Once channel strategies are defined, set the operational requirements. Take a holistic view of all relevant customer-facing functions, including sales, marketing, warehousing, logistics, and support. Define the requirements—the target cost structures, asset footprint, and service levels—needed for sustainable competitiveness. Then develop an honest perspective about how each requirement can best be met. Explicitly address the make-or-buy decision: which segments justify a direct approach, which segments can be addressed by alternative channels (such as e-commerce, telephone sales, and standard logistics-only approaches), and, in the case of chemical producers, which individual activities of distribution and customer segments are better transferred to a third-party distributor.

Define Processes, Tasks, and Ownership

Chemical distribution means steering a network. For both chemical producers and third-party distributors, clearly defined processes across regions and countries, businesses, business partners, and customers are critical, even though the focal points are typically specific to each company.

Although chemical distribution is often perceived as supplying customers only “around the warehouse” (that is, within a certain radius), distributors need management processes that integrate individual warehouses into networks, in order to supply customers with a global footprint and to fully benefit from global sourcing opportunities. Therefore, review current processes. Validate process documentations and ownerships. Identify “island solutions” and undermanaged interfaces between businesses, functions, and regions and countries. Align key stakeholders on the target processes, roles, and responsibilities.

Build a Partner Network

Twenty years ago, the make-or-buy balance in chemical distribution was heavily geared toward in-house capabilities, logistics, and distribution. A more open model is needed to realize scale and to focus assets on areas in which competitive advantages are feasible. If a company is subcritical, scale, network density, and critical mass can be attained though collaboration.

Third-party distributors can deliver significant value to chemical producers by managing complexity, increasing the efficiency of handling physical goods, and ensuring short cash-conversion cycles. That the “ideal partner” is not yet readily available too often serves as an argument for sticking to the status quo or targeting only moderate change. Setting strategy and developing a partner network with a five- to ten-year

perspective make it possible to build a competitive advantage on the basis of distribution networks with leading density and scale. Currently, most contracts are spot-based, transactional, and developed from a local and business-specific perspective. They do not realize full value. So, assess in which segments stable partnerships add most value, which potential partners are already available, and which partnerships still need to be developed to increase cost efficiency or develop markets.

While the above actions for building winning distribution models are relevant for both chemical producers and distributors, our experience also pinpoints areas in which the actions needed are distinct.

For chemical producers, the stringent differentiation of channels beyond the sales function is often neglected. Setting different service levels for packaging, logistics, and delivery flexibility often enables significant efficiency gains. Additional value potential can often be realized by defining processes and ownership for a more structured approach toward distributors. While, currently, few chemical producers coordinate their third-party distributors across businesses and countries, implementing the key rules of supplier management can reduce management complexity and strengthen active steering of distributors. So, define clear roles for third-party distributors—complexity-optimization partner, market-development partner, innovation partner, global partner, local partner, and so forth—and reduce the complexity in third-party distributor relationships by focusing on partners willing and able to support your strategy.

For third-party distributors, combining global reach and local presence is decisive to meeting producer and customer needs and to fully realizing scope and scale effects. Especially for large chemical distributors, processes for managing distribution networks across acquired companies are often underexploited as levers for scale effects and leading logistics. Customized offerings, speed, and flexibility of delivery are highly relevant in customers' purchasing decisions, but they are often neglected sources of competitive differentiation in chemical distribution. Even though chemical distribution is often perceived as an asset-light business model, warehouses, tank wagons, and trucks are the underlying assets that constrain growth. So, assess where asset intensity can be reduced by transferring logistics and warehousing to partners. This can free up resources to invest in the requirements for strategic partnerships—for example, information-exchange systems and technical expertise for partnerships with chemical producers or single-sourcing and vendor-managed inventories for partnerships with customers.

The third-party chemical distribution market outgrew chemical consumption in recent years, and we expect, with reasonable confidence, that it will continue to do so in the mid- to long-term period. To fully capture the potential value in the various customer segments, a differentiated distribution approach is required for both chemical producers and third-party distributors. Striking the proper balance between differentiated offerings and containing cost complexity will be facilitated by closer cooperation and partnerships among chemical producers, third-party distributors, and customers. Operating on a global scale and across industries will be a critical success factor in realizing the benefits of scale and scope in chemical distribution.

Appendix: Chemical Distribution Market Model

We developed a market model for chemical distribution comprising both 50 individual countries and region-specific clusters of countries. The data were consolidated from Eurostat, OECD, and various national statistics bureaus. Country-specific data were also derived from BCG's proprietary ChemCom database of chemical production assets and from BCG's proprietary ChemProd database of chemical products. We calculated the market size of third-party distribution markets using the steps described below.

Step 1: Assessing Domestic Consumption of Chemicals. Domestic consumption of chemicals includes domestically produced chemicals that are consumed by customer industries within the country and imports of chemicals for domestic industries. Exports are not for domestic consumption, and they are therefore accounted for in the country of consumption.

Step 2: Adjusting for Chemicals That Are Not Relevant for Distribution. Not all products within the chemical product landscape are distributed, owing to economic, technical, or safety reasons. For example, ethylene and propylene are predominantly delivered by pipeline. The domestic consumption of chemicals is adjusted for consumption of ethylene, propylene, benzene, butadiene, toluene, p-xylene, ethylene oxide, and cumene, which are typically not distributed.

Step 3: Determining Third-Party Distributors' Share of Distribution. Our assessment of third-party distributors' share of distribution was made on the basis of more than 150 interviews with executives at chemical companies, customers of chemical companies, and chemical distributors in all regions of the world. We conducted the interviews using a standardized questionnaire of 25 quantitative and qualitative questions.

Step 4: Differentiating the Share of Industrial Chemicals and of Specialty Chemicals. Our analysis of the share of industrial and specialty chemicals in the third-party distributor market was based on BCG's proprietary ChemProd database, comprising more than 200 chemical product groups and their respective applications in customer industries. We categorized the chemical product groups into industrial and specialty chemicals and then linked them via relevant applications in customer industries.

Projections for the future development of the chemical distribution market and the relevant market segments were based on forecasts of GDP and chemical consumption developments, the results of our more than 150 interviews, and BCG's proprietary ChemCom and ChemProd databases. We consolidated the data, cross-checked the data for consistency, and made adjustments, when required, to ensure a comparable and robust database.

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