INNOVATIVE CHEMICAL DISTRIBUTORS GAIN A DIGITAL EDGE

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Many chemical distributors, suppliers, and industry startups are digitizing—creating online platforms and increasing their digital connectivity. As the industry increasingly moves in this direction, boosting industry transparency and connectivity along the entire value chain, many believe the third-party chemical distribution model will gain value, increase efficiency, and improve distributor relationships with suppliers and customers alike. In sharp contrast, others think that third-party distributors will become obsolete middlemen, ultimately squeezed out by digitization.

While both views are valid to some extent, the reality is somewhere in between. Digitization is unlikely to eliminate the distributor model—and unlikely to preserve the status quo. Instead, those distributors and startups that digitize to build or grow a high-quality, innovative online platform will prevail, while others will probably struggle. Given the nature of the industry, successful platforms will likely have to be built around specific segments or value chains, such as food ingredients, coatings, or water chemicals.

The Digital State of Play

Most distributors today have digitized their operations primarily to differentiate themselves in a crowded marketplace. But the ongoing COVID-19 crisis is turning the use of digital technologies for remote working and customer collaboration into an essential step for survival, making digitization far more than just a tool for differentiation. More and more companies across the industry are therefore likely to jump on the digital bandwagon. As they do, chemical distribution—including the structure of the industry itself—may well be affected.

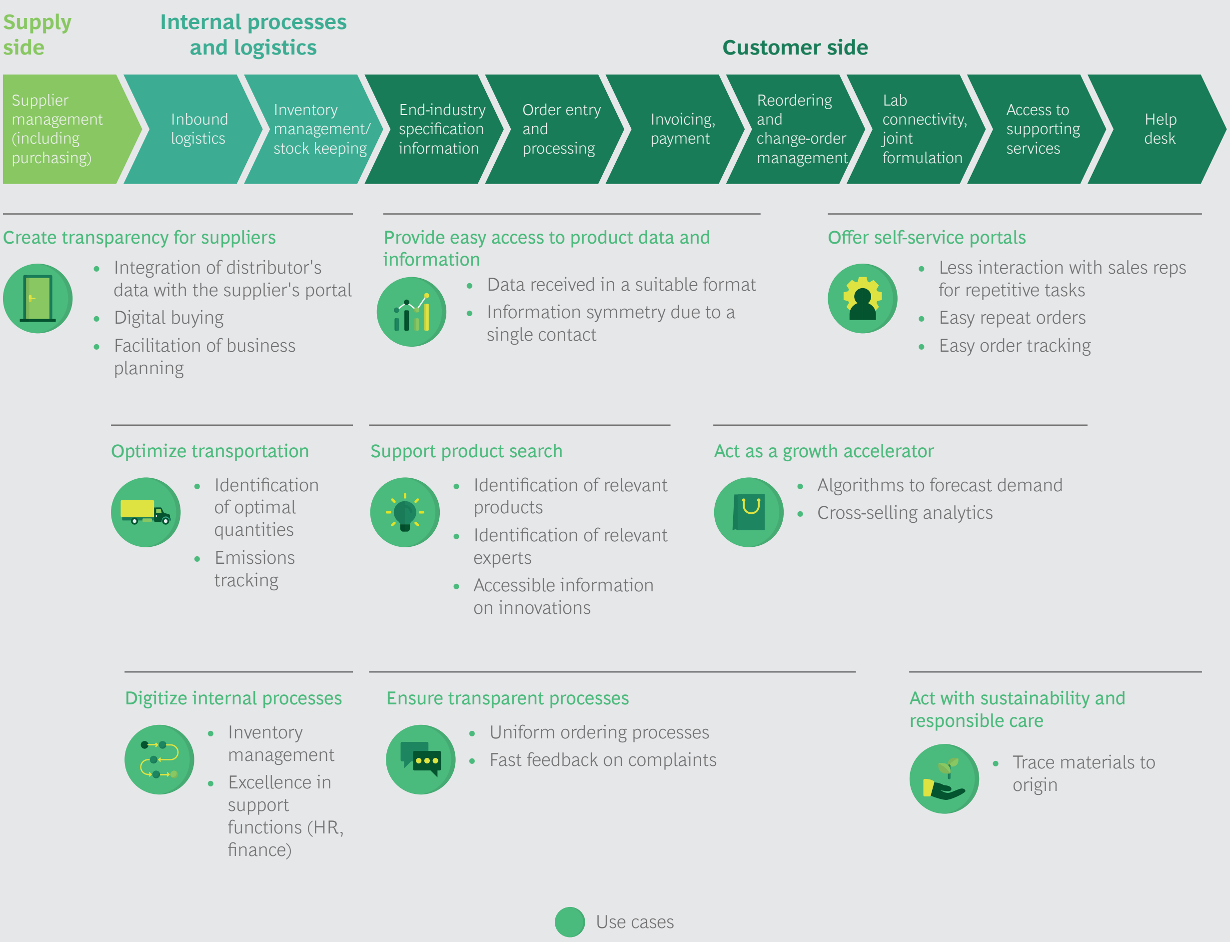
To learn more about this digital transition, we interviewed over a dozen leading distributors across the chemical industry, as well as many suppliers. Our research uncovered a wide variety of approaches based on factors such as knowledge levels, product sets, and target customer sets, and in some cases, even a disparity in the way distributors define "digital." Some are resisting the change, and even many of those embracing it are moving carefully, focused first on fixing the basics, including the modernization of their IT infrastructure, enterprise resource planning (ERP), and data cleansing. Some market leaders are moving more quickly, however, investing significantly to offer digital marketing portals, digital transaction support, and/or innovative digital distribution models. Meanwhile, new entrants, such as Xenon arc, are fully committed to a digital-first strategy, presenting new channel options to both suppliers and their end customers.

The clarity of distributors' strategic objectives also varies. Some have formulated their targets very clearly, such as aiming to handle 50% or more of their sales with digital solutions by 2025. Others have not yet established quantitative goals.

To delineate these digitization efforts, we looked along chemical distributors' value chains, from sourcing products to internal operations to sales and marketing. We found that practices often differ based on whether they concern the supply side of the value chain, internal processes and logistics, or customers. (See Exhibit 1.)

Supply Side. On the inbound side, we found a clear pattern of suppliers approaching distributors to request added transparency in the selling process and pipeline, both for business-planning purposes and to ensure that their products are well-represented in the market. And some manufacturers have requested a

Exhibit 1 | Digitization Use Cases from the Distributor's Value Chain



Source: BCG analysis.

digital link connecting the distributor to their own portal. However, there is a natural tension among distributors around providing visibility to their suppliers. Some distributors are acceding to these requests, particularly those with deep, mutually exclusive relationships. But those buying on the spot market, making one-off purchases, or engaging in chemical trading are not providing the same level of visibility.

Internal Processes and Logistics. Our research reveals ongoing digitization efforts within inbound and outbound logistics, warehousing, logistical and technical services, marketing, sales, support functions, and other areas. Here, there are many common use cases for digitizing pricing and cross-selling, purchasing and buying, inventory and transportation management, and certain support functions, such as finance and HR.

Distributors depend on large customer and product databases and on their order books. By digitizing these features, distributors are freeing employees from repetitive tasks while simultaneously allowing them to glean insights from an easily used data source. Although many distributors aim to know their customers well, some have moved even further ahead by using advanced analytics to predict additional products that customers have a high probability of needing. The benefits of such an approach include, most obviously, an increased margin contribution and lower selling costs, along with increased relevance to the customer and the opportunity to be a deeper strategic partner.

Customers. On the outbound side, we find some distributors already working toward the digitization of their customer interactions, particularly for repeat customers and typically through an enhanced web interface and electronic data interchange (EDI). They hope to make the customer's order history, service requests, in-transit deliveries, and other information readily accessible in a single online location, along with the required documentation, complementary or alternative products, and as-needed formulation support, among other data.

The majority, for example, are establishing customer-facing web portals, each with varying degrees of functionality beyond order management. We find that such portals are not being developed quickly, however. It may be that distributors are reluctant to disrupt their own service-intensive business models.

The breadth of provided services also varies among distributors. Some are simply allowing customers to see the internal view of their product catalog. Others are incorporating self-service order management, including the ability to see the status of orders, past invoices, and other documentation, as noted above. At the leading edge, these platforms incorporate technical services, such as digital "virtual lab" connections, between the distributor's application engineers and the customer's manufacturing and R&D engineers. Importantly, pricing typically remains hidden, except that of previously purchased items, and quotes are often customer specific.

A Complex Reality

Exactly how digitization will ultimately affect third-party distributors is subject to debate. With so many offerings in progress, distributors seem to be increasing their value to suppliers and customers alike as they digitize. Yet many believe that digitization will ultimately disintermediate third-party distributors. In other words, once an open online platform becomes available, suppliers and end customers will simply reach out directly to each other instead of through a middleman.

The reality is far more complex, with digitization affecting distributors, distribution models, and varied chemical sectors differently. In some cases, relationships will indeed shift as customers are able to interact directly with suppliers via new online marketplaces, especially for certain specialty and commodity chemicals.

In other cases, distributors will rise to the challenge. Market-leading distributors have an excellent starting point for exploiting digitization. They have a set of unique advantages: access to (and the trust of) many small, local customers; a growing ability to offer their customers both chemical applications and value-added services; and the assets needed to service local supply chains. These advantages will give them the upper hand in using digitization to expand the value already added by their analog platform. Distributors lacking these advantages are much more likely to be removed from the equation.

Shifting Relationships

Although attempts to create an online chemical marketplace have generally failed in the past, new platforms are beginning to resolve earlier issues and, if successful, they could significantly change the balance of power in many chemical sectors. In fact, many in the industry have put forth the concept of the online chemical marketplace as a vision for the future. However, we do not expect to see a single global platform developed for all chemicals. Instead, individual sectors, such as food ingredients, may see sector-specific platforms develop. In the case of laboratory chemicals, such a platform is already a reality.

These marketplaces can work particularly well in the case of commodity chemicals—which are bought and sold based on their chemical composition and in relatively small sizes—and for products with minimal handling requirements. In fact, Amazon has already established a business in solvents and other chemicals and sells small quantities of ingredients for food and pharmaceuticals.

Outside of commodities, several fully digital marketplaces have arisen in the last few years only to fail to gain significant traction, such as ChemConnect. One reason is that these marketplaces could not coordinate and control the customer journey from end to end; instead, they relied on many partners they were unable to orchestrate—such as third-party logistics providers, and even distributors—to support fulfillment and documentation. Another reason is that no critical mass of buyers or suppliers existed to create liquidity in the individual chemical markets, resulting in price fluctuations. And of course, once a buyer and seller were introduced, they could often simply meet outside of the marketplace. In addition, such marketplaces offer no incentive for repeat purchases unless sellers can use their market power to consistently provide lower prices.

Conversely, some digital attackers are coming at the problem from the angle of solving recurring customer pain points. For example, some are providing product navigation based on functionality or performance, with a cross-supplier lens, or through the use of peer-interaction forums. These newer models lean toward the industry viewpoint that there is incremental value to be added to the system, in this case through the brokerage and exchange of information.

Some of the new digital attackers also exploit the latest revenue models, such as subscription fees paid to the supplier in exchange for always-available data and marketing assistance, while others aspire to earn revenues from either a sales commission or a share of the buy-sell spread. Some of the most successful digital chemical startups to date fall into this new revenue-category model, including Knowde, Xenon arc, and SpecialChem.

Rising to the Challenge

Many in the chemical industry believe that digitization will augment the tremendous value already brought to suppliers and customers by third-party distributors through activities that are hard to digitize, such as the physical movement of molecules, bulk breaking and blending, and lab analysis. After all, distributors have been an essential component of the chemical value chain, enjoying significant growth in recent years. (See the sidebar, "A Continued Growth Market.")

One of the most important ways in which digitization will augment value within the industry is by strengthening the connections between distributors and their suppliers and customers. It will support the sup-

A CONTINUED GROWTH MARKET

Chemical distributors have enjoyed significant growth in recent years. This growth has outpaced underlying chemical demand by 1% annually, reaching 4% p.a. growth from 2015 to 2019 and generating around €270 billion in revenues in 2019. The first quarter of 2020 was stable for chemical distributors.

However, the rest of 2020 will clearly continue to be affected by the global pandemic. In fact, even as digitization progresses, there is naturally a great deal of short-term uncertainty for the sector.

Given our focus, we refrain from laying out COVID-19 scenarios here in detail. However, in prior crises we have seen, and expect to see now, a higher resilience in specialty chemical segments due to the nature and growth of underlying markets, such as pharma, food, and livestock feed.

Further, our new reality—as well as digitization efforts already underway—will lead to a sorting out of distributors with a solid, high-quality business strategy from those with an unclear value proposition. We believe this sorting out will also lead to accelerated consolidation in chemical distribution.

Currently, forecasts for the depth of the recession in the industry range from a 10% to a 25% decline in market value in 2020, based on the revenue forecasts of market leaders. A recovery to pre-COVID levels is expected for 2022 and 2023, but the exact shape of the recovery is unclear.

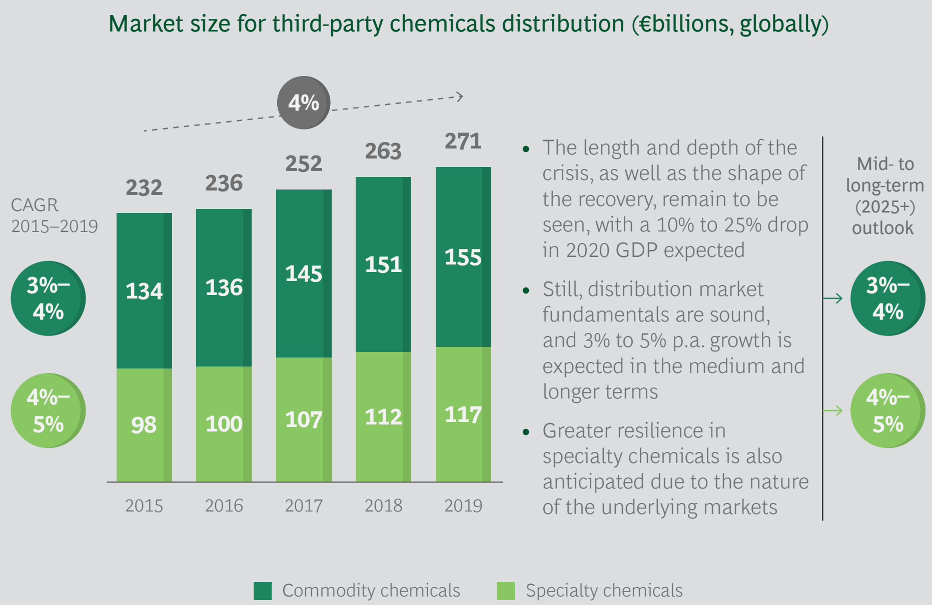
Nonetheless, the share of third-party distribution in chemicals remains low relative to others, such as the steel, building materials, and pharmaceutical industries, leaving significant room for growth. Growth engines in commodity chemicals distribution are numerous, bolstered by: a) a continued push by suppliers to reduce their own business complexity in areas such as logistics, marketing, and sales, as well as outsourcing these activities to distributors; b) an increase in the need for know-how at a local level in specialty-chemicals distribution, such as product formulation or optimization; c) an increased need to access new customers on the part of suppliers; and d) a tailwind coming from industries requiring specialty chemicals, in particular from small customers. The serial M&A activities of market-leading distributors, as they buy up smaller companies, will be an important way for distributors to realize growth targets.

We note that, looking back to the 2009 financial crisis, capital-goods-related demand—such as that for chemicals and plastics used for automotive and aircraft applications—suffered significantly, whereas demand linked to everyday needs, such as that for food packaging and food ingredients, did not. That same pattern is repeated today. Moreover, unlike chemical suppliers, chemical distributors do not face an asset-utilization risk and thus had significantly lower earnings volatility in the 2009 crisis. The asset-light distribution business model provided significant resilience back then, and it may protect distributors in today's crisis as well.

Looking toward the future, therefore, we believe that strong market fundamentals will not change, with mid- to long-term growth rates of 3% to 5% p.a. (See the exhibit.) We expect to see a higher resilience in specialty chemical segments, given the nature and growth of the underlying markets.

A CONTINUED GROWTH MARKET
(continued)

Third-Party Chemical Distribution Is a Resilient Market with a Positive Mid- to Long-Term Outlook



Source: BCG chemical distribution market model (May 2020).
Note: 2015–2019 growth rates are shown in real terms; all forecasts are made at fixed 2015 prices.

plier-distributor relationship by creating more transparency in the sales funnel and order book, which will help optimize inventory levels. As noted earlier, we already see some suppliers working with distributors to this effect.

Digitization will enable the creation of highly functional customer portals that feature order management, documentation, and history—ultimately lowering customer service and purchasing costs. We already see ongoing investments by several mid- and large-sized distributors in providing information and other support to customers, all aimed at enhancing the customer experience. Digitization can also transform the role of sales representatives by freeing them from transactional tasks, allowing them to focus instead on relationship development and working with customers to develop joint formulations, ideas for business expansion, and innovative solutions.

In addition, digitization can sometimes tighten the bonds among all three players by providing greater access to technical documentation and case studies, enabling digital product demonstrations, and improving product selection and usage.

Quality Counts

Whatever the benefits of digitization for individual distributors, success or failure will inevitably be linked to the quality of the business. Only distributors that truly add value in the analog world will be successful in the digital one, and this is true no matter what plays out in the market. We therefore expect those with a clear competitive advantage in terms of quality to be able to expand the value of their analog platform business into the digital world and increase that value.

In fact, a poor business model that adds little value will not be saved by digitization—

rather, the opposite is likely. Many of the industry's failed startups, for example, were simply focusing on matchmaking and did not provide relevant further benefits, such as application navigation and transaction and logistics support.

When we say that only the highest-quality distributors survive, it is important to define what we mean by "quality." Exhibit 2 offers KPIs for evaluating the quality of a third-party distribution business that go beyond the value typically added by the distributor. They include the share of multiple-product, multiple-principal customers; the number of unique customers; whether the business has a differentiated or exclusive product basket; and the share of "solution sales" (based on the ability to offer meaningful support to customers) instead of purely transactional ones. These KPIs therefore count as make-or-break factors for distributors. Those that score highly can transform their traditional analog business platform into a successful digital platform and avoid the risk of being disintermediated.

Transforming Distribution

Given the possibilities for increasing value through digitization, what do individual distributors need to do to transform their existing analog business into a highly scalable digital one? Depending on the segments served—and the business models pursued—the degree of transformation required for the business may be small or large. Distributors will need to approach the process with their unique segments and models in mind, as each will provide different opportunities and have varied requirements.

Leading distributors typically have several different business models and will need a tailored approach for each:

- **Supplier-Driven Businesses.** Some suppliers outsource their marketing and sales to the distributor, often through contractual arrangements and sometimes through mutually exclusive relationships. This model is typically most relevant in specialty chemical distribution. Digitization efforts tailored to this model should focus on the supplier interface and provide first-class market information back to the supplier.

- **Customer- and Best-Source-Driven Businesses.** Distributors often source multiple products from the global

Exhibit 2 | Business Quality Is Crucial to Distributors' Success in the Era of Digitization

Examples of quality KPIs

Indicators of resilience	Indicators of vulnerability
Value-added business	Drop-shipping business
Multiproduct/multisupplier customers and transactions	Single-product customers
Exclusive contracts	No, or few, contracts
Warehouses with bulk-breaking capabilities for standard products	Low value-add for standard products
Own formulations and/or recipes	Only sell unformulated products
Value-added services (sampling, return, handling, etc.)	No value-added services
Joint product and application dev. with customers and/or suppliers	No joint developments
System linkages with customers and/or suppliers	No system linkages
Seamless order entry, tracking, and reordering	Largely paper-based processes
Face-to-face contacts focusing on solutions and new business	Face-to-face contacts focusing mainly on transactional issues
Formulations that add demonstrable value for applications	Artificial sophistication of formulations

Source: BCG analysis.

marketplace to make sales. This model, which is specifically relevant for standard or commodity products, as well as for formulated (specialty) products, is often linked to breaking down bulk packages as well as repackaging, and sometimes to the subsequent formulation of several different products. In this model, digitization efforts should focus on the identification and qualification of the best suppliers on a global scale, the steering of each respective global supply chain, and product navigation for customers. Distributors should work closely with logistics partners in this process.

- **Value-Added Services and Formulation Businesses.** Distributors often combine different—frequently standardized—products into application-specific formulations. Some distributors handle the physical formulation, while others develop recipes for formulations and sell the ingredients to their customers, who handle it themselves. In this model, digitization efforts should support recipe and formulation development (creating "digital labs") as well as joint formulation-development and testing with customers.

Nevertheless, distributors can take several no-regret actions regardless of their business model. For example, all distributors should identify and strengthen their cross-selling opportunities. They should take stock of their business quality to understand which parts of the business, if any, have the potential to be disintermediated in the medium and longer terms by suppliers or digital startups. They should also be sure to use their unique corporate advantages with suppliers and customers—including established relationships, a solid track record, and technical know-how—to defend against any digitally native startups. We recommend three explicit steps for all distributors to take:

1. **Evaluate.** Distributors should begin by undertaking an honest and unbiased view of the current strengths and weaknesses of their business while also considering how far they want to take their digital transition. They should build on the quality KPIs outlined in Exhibit 2 to understand the state of specific markets. They should carefully evaluate their IT infrastructure, as well as internal and customer pain points. Once armed with this information, they can extrapolate the digitization efforts needed to make and develop a strategy and roadmap for the transition. In chemicals, the amount of direct sales by suppliers is still extremely high compared to other industries. We can therefore envision a game-changing increase in indirect sales within specific segments.

2. **Modernize.** Next, distributors will likely need to perform some degree of IT modernization. This is a precondition for any fully digital platform and should be scoped in a very focused manner, using agile methods, as opposed to a top-down, large-scale transformation with little scope for change. In fact, we've noted that many companies can even fund a portion of the digitization journey by first implementing IT fixes that address very focused digital use cases.

   Distributors should additionally structure and clean their data to unlock all the potential value behind their core supplier-management, commercial, and operational activities. Many still neglect the importance of this step. They should start by prioritizing their data's relevance from a business point of view to determine which data is most critical instead of attempting to cleanse all data. Once they've reaped the benefits of using clean data, they should reallocate the reclaimed costs toward carrying out their broader digital strategy.

3. **Digitize.** Distributors can then embark on creating a fully digitized business model. The appropriate approach will be determined by the respective business strategy of each distributor. Those with a dominant share of repeat purchases, for example, will want to digitize their supply chain to generate

orders that are both "no-touch" (received, processed, and shipped without human involvement) and "perfect" (on-time, in full, and undamaged). Distributors with a high share of the formulation business, in contrast, will need to differentiate themselves through a digital customer-collaboration portal.

Note that the necessary digitization efforts and resources will likely lead to a further wave of consolidation in the chemical distribution industry, as many small and mid-sized companies may not be able to unlock the necessary resources independently. In essence, the strategic imperative to digitize the chemical distribution value chain is likely to boost the size required for distributors to be able to remain in business, thus increasing industry M&A.

Suppliers and Producers, Take Heed

As distributors gradually digitize their business models, suppliers and producers, too, will need to choose where and what to digitize. They should begin by reviewing their channel strategies, as conventional wisdom on serving customers may no longer be valid. In addition to measuring their channel options by lowest product cost and complexity, they should also consider which channels are the most customer-centric, easiest to do business in, and provide the highest levels of transparency. In addition, suppliers and producers may want to take stock of the new breed of digitally native distributors that tend to focus on outsourcing suppliers' marketing and sales activities.

Next, they should connect their various systems to give them an end-to-end view of customer engagement. Multichannel and omnichannel interactions will become increasingly common; suppliers and producers must be prepared to serve customers wherever they may be.

Finally, these players should avoid the temptation to build an imitative web shop that simply takes their products online. Instead, if they choose to build a customer portal, they should ensure that the portal is consistent with their overall channel strategy. In addition, they will need to anticipate all the typical challenges they may experience in data connectivity, data governance, and other areas—and budget accordingly.

In the wake of the coronavirus pandemic, the need to digitize the chemical distribution value chain has become even more pressing. Distributors must review how best to integrate digital technology into their businesses, challenge how it fits into their strategic goals, and develop the appropriate funding and business cases accordingly. By taking these steps, distributors with high-quality business strategies can propel themselves into a period of sustained growth.

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