

INDUSTRY BRIEF

# Insights & Opportunities in the Chemical Industry: AI-Powered Digital Transformation

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# Executive Summary

The chemical industry has historically struggled with pricing its products and earning healthy margins. This problem has only gotten worse in recent times due to intense competition, increasing demands from customers, consumers, regulatory agencies, and the accelerated pace of change driven by unprecedented market conditions.

To complicate matters, many chemical companies had to slash prices during the last recession to retain customers, and while markets slowly returned, prices did not. One example of this, that we will discuss in more detail, is that a chemical company saw sales bounce back by 37%; however, EBITDA only improved by 1%.

A key factor is often that chemical manufacturers have little or no visibility into their customer needs and struggle to keep up with their changing demands. These changes are typically due to alternative sources, environmental consciousness, and most importantly, the rapid acceleration of digital commerce that has intensified with the lingering effects of the pandemic.

Without access to real-time data, chemical companies will not be able to anticipate their customers' needs, price optimally, or gain market share. It also contributes to the lack of confidence chemical companies have in setting value-based pricing. Many in the industry just don't know the value of the products they offer, so they often price purely on gut feel, further impacting margins.

**How can chemical companies gain visibility, earn healthy margins, grow market share, and exceed their customer expectations?** The answer lies in digitally transforming the end-to-end sales process with true artificial intelligence.

Doing so enables chemical companies to be proactive to customer needs and offer the right products, in the right quantities, with optimal prices, and sold in the way their customers want to buy. It also enables chemical companies to price optimally based on customer demand and willingness-to-pay, detect opportunities, maximize wins on long-term contracts, and improve the buying experience.

This paper explores the challenges faced by chemical companies and discusses the actions businesses should take to thrive in this new digital selling environment. It then discusses how these actions enable chemical companies to win on the new competitive front— customer buying experience.

Finally, the paper discusses how PROS AI-enabled pricing and selling solutions, founded on data science and over 35 years of deep industry insights, enable chemical companies to improve margins and revenue.

## Key Challenges Faced by Chemical Companies

While the overall chemical industry is expected to return to growth, manufacturers are still realizing plummeting profits due to supply and demand volatility, commodification pressures and intensifying competition, both from traditional players and new entrants.

The majority of this growth will come through new markets and will only attract more entrants, increasing competition, further driving down prices. Dr. Michael Reubold, Managing Editor of CHEManager, states: "With the rapid growth of newly industrialized economies and rising standards of living in many developing countries, the center of gravity of the global chemical industry is shifting. As traditional Western players are facing increasing pressure from rival producers and local players try to capture a larger share of the global market, specialty chemical companies around the world must find new ways to grow and compete."<sup>1</sup>

**To combat new competition, changing customer expectations, and the difficulty of achieving growth, chemical companies must now begin optimizing the entire value chain by harvesting new insights from customers.**

The COVID-19 pandemic has placed additional pressures on chemical companies on multiple fronts, including demand, productivity, and the supply chain. This current environment further emphasizes the paramount importance of digital transformation in overcoming low efficiency and pricing plateaus.

## The New Normal

Due to the COVID-19 pandemic, there has been disruption on demand, impact on global supply chains, and unprecedented hits on stock prices.<sup>3</sup>

In the immediate weeks following the initial outbreak, the chemical industry share price index dropped farther and more intensely than it had in previous cases. **By March 20, 2020, COVID-19 had resulted in over 135 plant shutdown announcements around the world.**<sup>4</sup>

During this time, the chemical industry was also pushed into oversupply due to demand destruction, with demand for chemicals in the automotive, transportation, and consumer products sectors falling by up to 30%.<sup>5</sup> Global chemical production witnessed a ~3% decline in March 2020 due to raw material and labor shortages, as well as governmentmandated plant shutdowns.<sup>6</sup>

The accelerated pace at which the global pandemic has affected the industry shows how digitization is no longer a competitive advantage, but an industry standard. Companies must now shift focus on data-driven innovation throughout the entire business model: using data to understand customer demand, identifying competitive and cross-sell opportunities, understanding the price variance for various customers, and scaling value-based product pricing and profitability.

## Evolving Customer Needs

Customer needs continue to evolve, and the pace of this change has been accelerated by the pandemic. Meeting these new requirements is complicated and time-consuming, requiring a great deal of investment. At the same time, chemical companies are often removed from the end-customers, so they develop, and price based on gut feel.<sup>7</sup> This may have been fine in the past; however, as technology advances and new competitors bring innovations, the entire value chain is under pressure to deliver “better, cheaper, faster.” Whether it is the auto, agri-food, electronics, or construction industries, all are under intense pressure for more durable, environmentally sustainable, smarter, and valuable products.

**Only the chemical companies with new and agile go-to-market models, offering a digital-first, optimized buying experience, will survive, recover and thrive.**

## Demand Uncertainty

Without actionable insights, demand is always unpredictable. This is further complicated due to trade wars, global pandemics, and geopolitical challenges.

This lack of demand visibility creates several challenges from production planning all the way down to pricing and quoting. Over-production means too much inventory, which ties up cash and leads to heavy discounting when moving excess inventory. Under-production presents a different problem—lost opportunities, revenue, and market share.

Additionally, a general downturn in demand, coupled with ongoing oversupply in commodity chemicals, drives weaker pricing that makes achieving organic growth difficult.<sup>8</sup>

## Increasing Raw Material Costs

The cost of raw materials is often the most significant single component in the cost of chemical products and can account for as much as 35 - 40% of the net sales.<sup>9</sup> In 2019, EY reviewed the top 20 chemical players and found that they were only able to pass on roughly 25% of any cost of goods increase to the customer.<sup>10</sup> Given that freight costs have risen in the past few years and are likely to remain about 12% more than recent numbers, this highlights the significant effect of pricing on revenue growth.<sup>11</sup>

**To mitigate and account for demand uncertainty and increasing costs, it is important that chemical companies look into their pricing processes and capabilities. Unfortunately, chemical companies have rarely seen pricing as a key priority.**

# Chemical Companies Lagging in Digital Transformation

Digital transformation is essential to both reducing costs and improving revenues and margins.

A new digital approach enables chemical companies to provide actionable insights that help manage demand, improve sales and pricing processes, reduce risk, and optimize employee productivity, all of which reduce costs and maximize profitability. According to Deloitte, data availability and processing hold considerable potential for expanding efficiency and productivity in the chemical industry.<sup>12</sup>

Digital transformation, however, goes beyond cost-cutting, into selling the way customers want to buy, and creating differentiation through an optimized buying experience. Procurement professionals across industries are increasingly demanding digital platforms providing them ease, convenience, historical transaction visibility, and the ability to manage their purchases. A recent EY Commercial Transformation Survey indicated that 64% of chemical manufacturing companies with 5 - 15% revenue growth are customer-centric.<sup>13</sup>

## Untapped Potential of Dynamic Pricing

Compared to other industries, chemical companies have less confidence in their pricing decisions and are less likely to change prices regularly. According to research conducted by Bain & Company, only 2% of chemical companies strongly agree that they consistently set prices at the right level. Only 4% strongly agree that they can increase prices regularly, with the customers' knowledge and expectation.<sup>14</sup>

Chemical companies rarely consider pricing as a top priority. However, setting prices based on real-time monitoring of market dynamics helps producers track metrics over time, set their prices at appropriate levels, and identify willingness-to-pay. Further, Bain's research shows that improving pricing capabilities typically adds 200 to 400 basis points to the bottom line, impacting an industry where margins average 10 -12%.<sup>15</sup>

Dynamic pricing introduces best-in-class market intelligence and foresight about downstream demand and upstream supply, a feature particularly valuable in this sector, given its sensitivity to raw material prices.<sup>16</sup>

Designed for the chemicals industry, where commodity costs are subject to constant price fluctuations, PROS empowers organizations to adopt agile pricing processes by negotiating formulas, instead of fixed prices, for a specific contractual period. Dynamic price recalculations are performed dependent on the business' needs and customer agreements, making sure both sales teams and customers always have access to the most current pricing information. This allows for higher price flexibility, competitiveness and profitability in a volatile marketplace.

# Digital Transformation of the Selling Process

Given the shift in selling models and increasing consumer expectations, it is now more important than ever for the chemical industry to digitize and optimize the end-to-end selling process.

Many chemical companies are struggling with tensions between pricing teams and sales-centric commercial teams, leading to an emphasis on short-term sales over long-term value advantages. Many chemical companies are now finding themselves in a “data disadvantage” relative to their competitors, who invest in resources and technologies to analyze a product’s price and effectiveness.<sup>17</sup>

As a result, many chemical companies typically use ERP systems which have a limited visibility into pricing performance and often lack basic AI tools to generate price tracking, reporting, and analysis. Those who are unable to listen to customers and optimize prices with data-driven analytics cannot easily differentiate their value and compete in the new digital normal.

The chemical industry is seeing increasing success through virtual and digital sales, a small but rising portion of the industry’s revenue. Although many companies still heavily rely on in-person relationships and are often reluctant to expand into digital selling, the industry now realizes the importance of it after the dramatic shift to virtual engagement with the pandemic. Companies must evaluate and optimize technologies such as digital commerce platforms, CRM systems, and intelligent pricing and quoting systems, allowing them to interact with customers consistently across all channels.

# What This Means for Chemical Companies

In this section, we have outlined the major business disruptions that chemical companies are currently undergoing and what it could mean for their continued viability:

- The industry can no longer rely on traditional business models and must incorporate analytics to differentiate itself in a customer-centric environment.
- Changes in consumer expectations and consequent demand fluctuations put pressure on chemical companies to better understand and define customer needs.
- As input costs in raw materials and freight charges have increased in the last few years and are not likely to come down much, chemical companies must learn how to optimize product prices to increase profit margins.

**All of these converge to create a significant risk for chemical companies: how do they continue to grow revenues in an extremely competitive environment without price-cutting?**

The key for chemical companies is to get closer to customers so they can understand what they want and how much they are willing to pay for it. This is where machine learning, data science, and artificial intelligence come in. Chemical companies need to build digital selling capabilities that reduce costs, identify new selling opportunities, optimize pricing according to demand and customer willingness-to-pay, and grow both revenues and profit margins.



# A Better Customer Experience: The New Differentiator

Chemical companies are on the brink of something airlines began experiencing many years ago: a far-reaching technological transformation that radically affects the pricing, sales, and buying processes.

**The scale of the change to come has many chemical companies wondering: Where do I focus?**

The best place to begin any process of change is where that change will have the most impact. When it comes to digital transformation, the change will have the most meaningful and measurable impact on the interactions between the company and its customers. From product design, delivery, and pricing through creating a long-term value relationship with the customer, the end-to-end sales process is the best place to kick things off and the most critical process to optimize going forward.

To successfully transform the end-to-end sales process to create a better customer experience, chemical companies must focus their attention to three critical areas to achieve success in the new digital paradigm. Each of these three strategic elements delivers crucial capabilities, but in tandem, they fundamentally change an organization’s ability to meet the challenges and opportunities of the new normal.

## 3 Actions to Thrive in The New Normal

The new competitive strategy in the digital era is one based on creating an exceptional experience for customers, so they stay away from competitors.



**Ensure Consistent Customer Experience Across All Buyer Touchpoints**



**Prioritize Cross-Organizational Alignment**



**Leverage New Technologies to Improve Sales & Pricing Processes**

Not only will digitally transforming the end-to-end sales and pricing process lead to healthier margins and increased market share, but it's a far better defense against market-disrupting competitors than lowering prices to retain customers.

**1**

**Ensure Consistent Customer Experience Across All Buyer Touchpoints**

Customers can, and will, interact with your business through multiple channels, so it is imperative to support the buyers ability to move freely between online and offline touchpoints.

**2**

**Prioritize Cross-Organizational Alignment**

Double down on all alignment efforts across marketing, pricing, sales, eCommerce, and support processes to better understand your customers needs and ensure you offer the right product at the right price for each customer. These functional areas are critical to driving an improved sales process.

This requires building a consistent, data-driven view of your customers and your product and pricing data, as well as a selling workflows.

**3**

**Leverage New Technologies To Improve Sales & Pricing Processes**

Prioritize systems that are cloud-first with modern, flexible architectures designed for scalability and reusability that prepare your business for delivering intelligent and personalized experiences.

By focusing on key buying and selling capabilities, you can reuse these capabilities in your current selling channels and whatever selling channels you choose to activate in the future.

# The Role of AI

Chemical companies must now lean on the power of machine learning (ML), and especially of Artificial Intelligence (AI), to consume, evaluate, and extract insight from the market and customer data.

Most importantly, true AI will continue to learn over time, optimizing every step to improve and optimize customer experience and revenue growth.

AI-powered tools already feed organizations insight into buying intent and preference. Broadening the use of AI tools to more fully evaluate the overall markets for customers, and to more deeply understand buying behavior, will enable Chemical companies to deliver a more agile, better informed, and more intelligent selling process tailored for every customer.

The true promise of AI is to reimagine how data is used within the digital transformation of businesses, and especially with the transformation of the overall sales process. Without AI, the sales process will be too slow, and will miss critical market and customer signals that will undermine the business and its competitive edge.

Therefore, the digital transformation of the sales process must begin with a foundation of AI-powered insight, delivered to every engagement channel, as needed, to shape the overall customer experience and therefore build meaningful differentiated value.

# The PROS Platform

PROS provides a single, dynamic, scalable, AI-powered platform that enables chemical companies to transform their end-to-end pricing and selling process and offer a frictionless and personalized customer experience for ultimate growth. Our integrated platform provides analytic, pricing, and selling solutions.

We work with specialty chemical companies in various segments, including basic and intermediate chemicals, agricultural chemicals, paints, coatings, industrial gases, adhesives, petrochemicals, fibers, elastomers, polymers, and more.

We understand that digitization isn't a one-size-fits-all solution. Chemical companies must find solutions that fit every team's unique needs, help them get up and running from day one, and align with their strategic goals. PROS moves forward with customers as partners in their success, easing the fear of digital transformation with ongoing strategic consulting and implementation support.

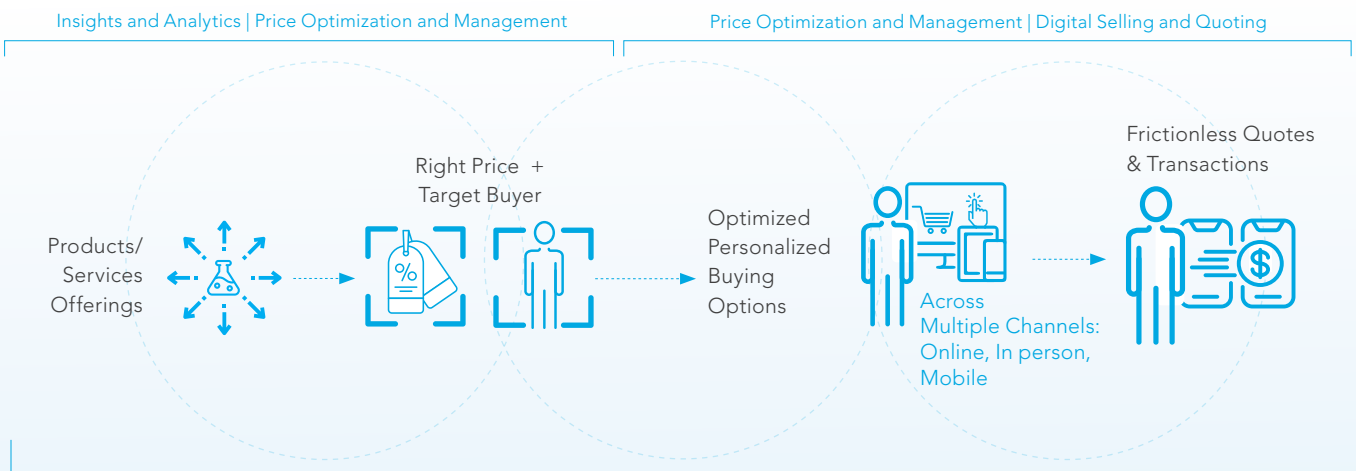
After 35 years, working with over 30 different industries, PROS continues to pioneer data science strategies to support chemical companies' success. AI and machine learning are the foundation of our business model.

Our unique value lies in our ability to deliver both a breadth of technological know-how and a depth of practical experience in transforming the end-to-end sales process to meet the demands of businesses in the digital economy.

We understand chemical pain points and we know how to alleviate them. Whatever your challenge is, we've solved a similar one for someone in your industry.

## Transforming the End-to-End Sales Process

**The PROS Platform for Chemical Companies** *Including, but not limited to:* **Insights & Analytics, Price Optimization & Management, & Digital Selling and Quoting**



# With the PROS Platform, Chemical Companies can:



## GAIN REAL-TIME, AI-POWERED BUSINESS INSIGHT

**Identify targets for margin and price opportunity**, quickly adjust prices for all products and customers, and bring those opportunities in line with optimal pricing strategies, market-relevance, and competitive pricing.

**Help sales teams place their bets** by giving them unprecedented personalized AI-based insight into their customers and markets, identify whitespace organic growth opportunities, risk of churn based on transaction behavior, and cross-sell and upsell recommendations across customers, products, and sales territories.

**Gain complete visibility** from List Price to Pocket Margin while gaining insight into period-over-period trends to identify price, volume, mix, customer attrition/acquisition issues to execute and validate strategies.



## OPTIMIZE AND ENABLE REAL-TIME PRICING

**Manage, optimize, and update prices dynamically** and automatically with a system that is responsive to real-time changes, including data from various indexes, costs, tariffs, competition, inventory, supply and demand history, customer tier, region, capacity, business unit strategies, customer behaviors, etc.

**Fight downward pricing pressure** by providing sales with personalized recommendations and guidelines based on their customer's willingness-to-pay and your pricing strategy.

**Deliver the right price to your ERP, CRM, and eCommerce systems** with integrated availability and unmatched performance globally by evaluating the sequence to grab the right price across contracts, quotes, promotions, and list prices.



## PROVIDE A FRICTIONLESS BUYING EXPERIENCE BOTH ONLINE AND OFFLINE

**Improve customers' digital experience** by delivering tailored searches, real-time online prices, personalized recommendations, seamless product catalogs, and where appropriate, include contract/negotiated pricing.

**Accelerate sales team's quoting process** to quickly respond to large RFPs and easily generate complicated quotes and price agreements with thousands of products through guided workflows and streamlined mobile approvals, integrated with existing ERP, CRM, and eCommerce systems.

**Automate the creation, analysis, and amendments** of sales agreements, renewals, extensions with rebates, and terms & conditions through a harmonized platform that ensures consistency regardless of what channel customers engage through.

# Solutions in Action

A specialty chemicals innovator and supplier, with a global reputation for quality and reliability, recovered \$1 million in monthly margin leakage through improved pricing discipline powered by dynamic pricing science.

## CHALLENGES

- Undisciplined pricing, alongside fluctuations in raw material costs, had led to year-after-year margin declines.
- While this company recovered its revenues from declines during the 2008 - 2010 economic slowdown, margins and earnings had remained depressed at recession-time levels. In the recovery, revenues increased by 31%—however, EBITDA only grew 1%.
- Even slow fluctuations in raw material pricing or freight costs had a devastating impact on margins. Furthermore, updating pricing to account for cost increases took too long, and the company did not have transparency on alternative global suppliers, with intense competition from Asia placing further pressure on cost and supply.

## SOLUTIONS

- The company initiated a business excellence program called “Good to Great” that addressed its need to reorganize and changed how it approached its market.
- Pricing was identified as a critical component of this transformation, and the company set forth on a nine-stage journey that started with visibility into the “margin leakage” and led to consistent execution of pricing best practices. A significant step in that journey involved integrating algorithmic price guidance into the quoting and price management processes.
- With the integration of dynamic price guidance, the company was able to measure pricing improvements at the sales rep level through a metric called Pricing Discipline Index (PDI).

## RESULTS

- This company improved its Price Discipline Index by 42% in just 20 months to recover \$1million in margin leakage per month and a 20-basis point improvement in margins.
- This new level of discipline enabled the company to report its second strongest EBIDTA quarter in recent history, alongside an EBIDTA margin of 17.4% - 20 basis point higher than its best year during the recovery.

# Cost of the Status Quo

The need to sell through multiple channels and the ability to update pricing immediately as market conditions change is critical in today's marketplace. All these complexities require chemical companies to adopt a new way of thinking and analyze how to price and sell their products to win profitable new business.

Continuing to rely on slow, inaccurate, manual processes using data that exists in stand-alone systems is having a direct impact on productivity, revenues, and profits.

These manual processes lead to unnecessary discounting, inconsistent customer experiences, and significant time wasted on lengthy processes and needless tasks often leading to errors. ERP systems were undoubtedly a significant leap in productivity and accuracy from paper and pen.

Today, once more, chemical companies have to accept the limitations of static, stand-alone systems and move to a new level of productivity and accuracy in pricing and digital selling, using the latest Artificial Intelligence (AI) tools.

Chemical companies are facing significant challenges in pricing and selling their products and services right to grow margins and revenue. Consumer and business buyers alike want highly personalized, faster, and more streamlined buying experience.

## PROS RESULTS

**PROS customer data analysis shows that on average chemical companies leak about 2–3% of their margin.**

**According to Gartner<sup>18</sup>, companies who invest in pricing systems can expect:**

1–5% revenue increase

2–10% margin increase

20% lifetime value increase

80% reduction in manual discount approvals

**How much is the status quo costing you?**



# Next Steps

Let's get together to transform your end-to-end sales process.

Visit Our Website [pros.com/industries/chemicals-energy/](https://pros.com/industries/chemicals-energy/)

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## About PROS

PROS Holdings, Inc. (NYSE: PRO) is a leading provider of SaaS solutions that optimize shopping and selling experiences. Built on the PROS Platform, these intelligent solutions leverage business AI, intuitive user experiences and process automation to deliver frictionless, personalized purchasing experiences designed to meet the real-time demands of today's B2B and B2C omnichannel shoppers, regardless of industry. To learn more, visit [www.pros.com](https://www.pros.com).

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