



Navigating the Maze: How to Assess and Prioritize Opportunities in the Specialty Chemicals and Materials Market

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In the specialty chemicals and materials industry, the pace of innovation, shifting customer needs, and growing regulatory complexity make it challenging to determine where to invest time, talent, and resources. Whether you're evaluating new R&D initiatives, exploring emerging markets, or launching new product lines, the path forward can often feel uncertain. That's where a structured, interdisciplinary approach can help.

In this white paper, we'll explore how to effectively assess and prioritize opportunities. We'll outline a repeatable process grounded in cross-functional collaboration and practical decision-making frameworks. Our goal is to help you make smarter, faster decisions that align with both your organization's capabilities and the market's potential.

Building a Better Path

Why Interdisciplinary Teams are Key to Evaluating Opportunities

At the heart of a successful opportunity assessment is a diverse team. Too often, decisions are made in silos — by R&D without input from commercial teams, or by marketing without an understanding of technical feasibility. An interdisciplinary team prevents tunnel vision by bringing together different perspectives and expertise early in the process.

In the specialty chemicals and materials industry, this collaboration is especially critical due to the highly technical nature of products and the complexity of scale-up, production, and commercialization. Building a cross-functional team ensures you assess not only whether the opportunity exists, but whether it's truly viable from every angle.



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Who Should Be at the Table?

An effective assessment team includes individuals with expertise in:

- **Technical/R&D:** Evaluate performance targets, feasibility, formulation strategies, and technical options
- **Manufacturing/operations:** Analyze scale-up potential, process complexity, capital requirements, and compliance issues
- **Sales and marketing:** Bring voice-of-the-customer insights, assess competitive positioning, and evaluate the potential for differentiation
- **Regulatory/ESG:** Ensure early-stage awareness of environmental and compliance risks
- **Finance/strategy:** Assess ROI, potential investment requirements, and long-term alignment with business goals



Depending on the project scope, involving third-party experts can also be valuable. External advisors provide an unbiased view, benchmark performance against industry best practices, and offer strategic input based on broader market experience.

Aligning Early Around a Common Framework

Once your team is assembled, the next step is agreeing on the decision-making framework. This includes:

- A clear definition of success (e.g., revenue potential, IP creation, strategic positioning)
- Evaluation criteria
- Scoring methodology and weighting
- Timeline for assessment
- Roles and responsibilities

This shared framework allows your team to operate efficiently, avoid redundant work, and ensure accountability.

Collaboration in Action: A Hypothetical Example

Imagine a company evaluating an opportunity to develop a bio-based raw material for the coatings industry. Without interdisciplinary input, the technical team might green-light the project based on lab feasibility alone. But a manufacturing representative might point out that the required feedstock can't be sourced locally. Meanwhile, marketing might reveal that while sustainability is valued, price sensitivity in the target coating market is high — thus limiting premium positioning.



When teams work in isolation, critical constraints are often discovered too late. An interdisciplinary team ensures those constraints are surfaced and addressed up front, saving time and reducing risk.

Cross-functional collaboration isn't just good practice — it's your first step toward a smarter strategy.

What Happens when You Skip this Step?

If you're in the specialty chemicals and materials industry and want to drive more confident decision making, start by building your team. Cross-functional collaboration isn't just good practice — it's your first step toward a smarter strategy.

Without interdisciplinary alignment, companies risk:

- Developing technically impressive products that no one wants to buy
- Underestimating scale-up costs or regulatory timelines
- Misjudging market readiness
- Missing red flags until significant resources have been invested

In today's volatile and resource-constrained environment, those missteps can be costly.

Sizing the Market and Gauging Readiness

How to Evaluate Commercial Potential

Now that we understand the importance of building a strong interdisciplinary team as the foundation for evaluating opportunities in specialty materials, we'll shift focus to two of the most critical pillars of opportunity assessment: market insight and commercial viability. Without a firm



grasp of the market landscape and the commercial realities of introducing a new product, even the most technically sound idea can fall flat.

Market assessment and commercial considerations reveal whether the market is large enough, growing fast enough, and accessible enough to justify investment. Let's look at how these two pillars work together to identify where your next great opportunity lies.

Step 1: Understand Market Attractiveness

When assessing a potential opportunity in the specialty chemicals and materials industry, market size and growth are often the first metrics to consider, but they're just the beginning.

Key questions include:

- **How large is the total addressable market (TAM)?** This determines your overall potential revenue.
- **What is the projected market growth rate?** Is the segment expanding rapidly or maturing?
- **What are the key trends and drivers?** Green building standards, evolving environmental regulations, shift toward waterborne or bio-based coatings?
- **What's the competitive intensity?** Are you up against major global players or niche formulators?
- **How hard is it to enter the market?** What are the regulatory barriers, distribution complexities, and formulation IP challenges?

Gathering this information requires a mix of secondary research, voice-of-customer (VOC) feedback, and input from your commercial team. It's about more than size. It's about accessibility, timing, and alignment with your strategic strengths.

Step 2: Evaluate Competitive Positioning and Differentiation

Even in large and growing markets, success depends on your ability to differentiate. Ask:

- **What makes this product unique or better?** More durable? Eco-certified?
- **Is it just another me-too product, or does it solve a real pain point?**
- **Do customers value the difference enough to switch?** Are you solving for cost, performance, or compliance?

Differentiation is especially important in markets where performance standards and service expectations are high. A strong value proposition must be relevant, validated, and clearly communicated.

Step 3: Assess Commercial Readiness

You've identified a promising market. Now assess whether your organization is commercially positioned to succeed.

Consider:

- **Do you already serve adjacent markets (e.g., protective, architectural, OEM)?**
- **Do you understand the application environment (e.g., temperature, surface prep, substrate)?**
- **Do you have the right channel partners (e.g., distributors, contractors, OEMs)?**
- **How long will it take to get spec'd in, tested, and approved by customers?**

Sales cycles can be long, especially in regulated or performance-critical environments. Understanding how to navigate these hurdles early is key.

Example: Low-VOC Construction Adhesive

Let's say your company is exploring a new low-VOC construction adhesive targeted at premium DIY and contractor markets. The overall market is large, but as you dig deeper, your team learns that many contractors remain skeptical of performance across the variety of substrates they routinely use. Your product has excellent lab performance but limited field validation.

Differentiation is especially important in markets where performance standards and service expectations are high.

Your commercial team also highlights that your brand is currently strong among DIY users but not contractors, and retail shelf space is already constrained. This insight doesn't mean the project should be abandoned, but it might shift your entry strategy toward partnering with a retailer with excellent contractor services, including more contractor field validation and targeted contractor marketing.

Integration with Interdisciplinary Teams

As with all parts of the opportunity assessment process, market and commercial evaluation should be integrated with your interdisciplinary team. Technical input helps ensure claims are feasible. Manufacturing insight determines lead times and costs. Finance evaluates margin potential and investment needs.

Making It Work

Assessing Technical Feasibility and Manufacturing Readiness

Understanding market trends and customer needs is only one part of the equation. You also need to know whether your organization is positioned to compete and win. Next, we'll explore technical feasibility and manufacturing readiness — two internal capabilities that are critical for delivering on your strategic vision.

In the specialty chemicals and materials industry, a promising market opportunity means little if your organization can't formulate, scale, or manufacture the product effectively. It is vital that you assess technical complexity and production viability before committing major resources.



Technical Feasibility: Is It Scientifically and Technically Achievable?

Before diving into pilot trials or commercial scale-up, your technical team should thoroughly evaluate whether the product can meet required performance standards and customer expectations.

Start by asking:

- **What are the critical-to-quality (CTQ) attributes for this application?** Dry time, adhesion, UV resistance, corrosion protection?
- **Do we have the expertise in-house?** Is specialty expertise required to develop and evaluate materials?
- **Are there technical trade-offs or limitations?** Will improving one property compromise another?
- **Is the development timeline reasonable?** Are we prepared for a multi-year validation process if needed?

Understanding what success looks like, both in the lab and in the field, is essential. Early lab results may look promising, but specialty expertise or an extensive development timeline can complicate the path to commercialization.

Example: Additives to Enhance Biodegradability

Imagine your company is developing new additives to enhance the biodegradability of plastic packaging. Initial screening evaluations showed promising results, but some of the most interesting results involved embedded enzymes. The technology is promising but still early stage. Your company understands all of the CTQs from the perspective of biodegradable plastics but has no internal expertise or lab capabilities for enzymes.



Your team must now determine if these limitations can be overcome through partnerships, talent acquisition, and/or investment in lab capabilities. If not, the opportunity may require substantially more time and investment than initially expected.

The Role of Intellectual Property

Technical feasibility also includes evaluating intellectual property (IP) opportunities and risks:

- **Do we hold or need patents?**
- **Is the formulation novel, or could it be reverse engineered?**
- **Can we create a sustainable competitive edge through technical know-how?**

Strong IP can increase the attractiveness of an opportunity and improve ROI by defending your innovation in the marketplace.

Manufacturing Readiness: Can We Produce It at Scale?

Once your product is technically viable, you must determine whether it can be manufactured at the necessary scale and cost. This is often where the rubber meets the road. Consider:

- **Do we have the right equipment and facilities?** Are we set up for batch or continuous production?
- **Are raw materials readily available and cost-stable?** What are the supply chain risks?
- **Are there environmental or safety hazards during production?** What additional training or controls are required?
- **Is capital investment required for scale-up?** If so, is the expected ROI compelling?

Manufacturing professionals bring valuable insight into these questions, identifying constraints that may not be obvious during the lab phase. Their input ensures you're not overpromising on cost, availability, or performance.

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Integration with Interdisciplinary Teams

Technical and manufacturing teams should work side-by-side with commercial leaders to assess trade-offs. For example, a product that performs exceptionally well but requires a \$2 million capital upgrade may not be viable unless it targets a premium, high-margin segment.

Your interdisciplinary team must weigh:

- Technical complexity vs. potential payoff
- Time-to-market vs. first-mover advantage
- Operational changes vs. customer expectations

These discussions help prioritize opportunities where capabilities and ambition are aligned.

Critical Checkpoints

Technical feasibility and manufacturing readiness are critical checkpoints in the opportunity assessment process. They ensure that your team isn't just chasing the right ideas — but also executing them in ways that are cost-effective, compliant, and scalable.

The Final Filter

Using Quantitative Scoring to Prioritize Market Opportunities

Here comes the final step: prioritizing opportunities. When your list of promising projects exceeds your capacity to pursue them all, a structured scoring system ensures objective, data-driven decision making.



We'll now explore how to build and implement a quantitative framework to evaluate and rank opportunities. This final filter brings discipline to strategy execution, ensuring that your organization invests in the right innovations with the highest potential for return.

Why a Scoring System Matters

Without a scoring model, opportunity assessment often defaults to opinion-driven discussions. The loudest voice in

the room — or the trendiest technology — can drive decisions, even when they don't align with your core strengths or market strategy.

A quantitative scoring system reduces bias and brings transparency and consistency to the process. It allows teams to:

- Compare different opportunities on common criteria
- Align around strategic priorities
- Focus on high-value projects with acceptable risk profile
- Document rationale for decisions (especially useful for leadership reviews)

Step 1: Define Evaluation Criteria

Begin by identifying key dimensions that reflect your business goals. Common criteria include:

- **Market size and growth:** What is the revenue potential?
- **Competitive differentiation:** Can you win in the space?
- **Customer demand:** Is there unmet need or pull?
- **Technical feasibility:** Is development within your capability and risk tolerance?
- **Manufacturing readiness:** Can you scale production reliably and affordably?
- **Strategic fit:** Does it align with your brand, channels, or portfolio direction?
- **Time to revenue:** How quickly will returns be realized?

Each criterion should be clearly defined so that different evaluators interpret them consistently.

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Criterion	Weight (%)
Market size/growth	20
Competitive advantage	15
Customer pull	15
Technical feasibility	15
Manufacturing readiness	10
Strategic fit	15
Time to revenue	10

Step 2: Assign Weights

Not all criteria are equally important. Assign weights to reflect your strategic priorities. For example, a growth-stage business might weigh “Time to Revenue” and “Market Size” more heavily. An innovation-driven firm might emphasize “Technical Differentiation” and “IP Potential.”

A sample weighting is shown at left.

Step 3: Score Each Opportunity

Rate each project on a consistent scale (e.g., 1 to 5 or 1 to 10) for each criterion. Be rigorous but fair. Involve representatives from each function to ensure a balanced view, and use data wherever possible (e.g., VOC, benchmarks, cost estimates).

Multiply each score by its weight and sum the totals. This process produces a final weighted score that can be used to rank projects.

Example: Prioritizing Two Coating Concepts

Imagine your team is choosing between two new industrial coatings:

- Option A: Corrosion-resistant epoxy for marine equipment
- Option B: Low-VOC polyurethane for flooring applications

Option A scores high on technical feasibility and manufacturing readiness, but the market is slower-growing and highly competitive. Option B shows strong customer pull and aligns well with ESG trends but requires new raw materials and equipment upgrades for scale-up.



Scoring these options reveals trade-offs, highlighting not only which idea is stronger overall, but which criteria might justify an exception. For example, if Option B better aligns with long-term strategic positioning, you might still move forward despite the scale-up investment.

Step 4: Review, Debate, Decide

Scoring is a decision support tool, not a replacement for judgment. After calculating scores, bring your team together to:

- Review score ranges and sensitivities
- Debate assumptions behind each score
- Consider qualitative insights (e.g., market buzz, customer feedback)
- Finalize your short list

The goal isn't to remove human input — it's to elevate the discussion with shared facts.

Bringing It All Together

With a structured scoring system in place, your team can confidently prioritize opportunities that align with your strategy, capabilities, and growth goals. Combined with interdisciplinary input and rigorous assessment across market, technical, commercial, and operational domains, this approach builds a resilient process and pipeline.

In a market as dynamic as specialty chemicals and materials, there's no shortage of good ideas. But only a disciplined, data-driven process will help you turn ideas into impact faster, smarter, and with greater success.

To learn more, contact the author at cmorrison@chemquest.com or visit <https://chemquest.com>.

About the Author

Crystal G. Morrison, Ph.D., is a highly regarded executive advisor, strategist, and scientist with over 25 years of experience in the global specialty chemicals and materials industry. Her career spans academia, national laboratories, industry, and startups.

Following graduate school at the University of Michigan, Crystal served as a Harold Agnew National Security Postdoctoral Fellow at Los Alamos National Laboratory (LANL) and later became a staff member, team leader, and program leader. Following her time at LANL, she held leadership roles such as principal investigator and senior materials scientist at RJ Lee Group, as well as global R&D leader at PPG, where she oversaw two business units and 11 market segments with nearly \$3 billion in annual sales.

Crystal joined ChemQuest in 2018 and currently serves as vice president, supporting clients worldwide in mergers, acquisitions, business strategy, and technology development. She holds a Ph.D. in macromolecular science and engineering from the University of Michigan and a BS in chemistry from the Missouri University of Science and Technology.

