

**E- BUSINESS...
WHERE ARE THE OPPORTUNITIES
AND WHAT ARE THE STRATEGIES?**

***An Analysis of E-Business in the
Specialty Chemical Industry***

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Executive Summary

The Internet is revolutionizing all industries with an explosion of new concepts, from unique business models and strategies, to a new language comprised of clever acronyms and “technoid” vocabulary.

It is interesting to observe that to-date industry outsiders have boldly led the e-revolution in the chemical industry. While many critics blame chemical industry management for slow adoption, it is clear that most underestimate the cautious character and complexity of the industry.

E-Business (business to business transactions-B2B) and E-Commerce (business to consumer transactions-B2C) are constantly evolving with speeds characteristically un-common to traditional industries. Industry specialists Forrester Research, estimates that by 2002, 93% of firms expect to transact business over the Net representing nearly \$2.7 trillion in B2B transactions in 2004. Analogous to the Great Gold Rush, chemical companies are speculating on diverse business models to simultaneously protect their existing investments, and capitalizing on new opportunities . Thus far, however, the common denominator among industries transformed by e-business is that all are in the distribution business. It is interesting to note that Forrester forecasts the U.S. chemical industry will exceed \$180 billion by 2003, which represents a 35% market share of all transactions, far below the 53% forecast for other industries, albeit an explosive growth from a base of \$5 billion in 1998.

The fundamental challenges relate to top management commitment rather than technology. Although management of commodity and diversified chemical companies can envision a role for the Internet, their specialty chemical contemporaries, specifically adhesive and coating companies are reluctant. Caution is warranted. Moving too quickly to the Web could indeed jeopardize hard-won business now thriving on traditional relationships. As Jack Welch, Chairman of General Electric, recently stated, “if you’re not confused, you really don’t know what’s going on right now.” Nobody has yet created an effective e-marketplace. So, the jury is still out.



This paper will expound on the fundamentals of e-business strategy, provide structure to the various classifications of e-business models and illustrate a decision mechanism to pursue the most appropriate opportunities.



Should your company join the e-revolution?

The simple abbreviated answer is ***YES! AND QUICKLY!!***

However, as one might suspect, the answer to that question is far too complex to merely respond in the affirmative on the basis of peer/competitive pressure or the lure of gold at the end of the rainbow. While traditional product offerings risk failure upon launching, none have the severity of impact, nor the speed of consequence on the entire corporation as a failed launch on the Net. In a small fraction of time, a typical Internet buyer will make a decision regarding a Net community and its content. Therefore, any flaw in the offering (connection time, stale content, entertaining features, rapid customer service, slow fulfillment and/ or feedback mechanism) will lose the “VIEWING EYEBALLS” visiting you’re site.

In comparison, making the decision to create an e-commerce module is relatively easy. The difficulty is making it actually work. It is imperative to have a thorough understanding of one’s supply chain and value chain economics in order to build an effective e-business model.

The Internet creates a **STRATEGIC INFLECTION** in business strategy by restructuring the supply chains and compressing value chains across industries.

It is important to comprehend the stages of e-business to properly select a strategy for your company. There are basically four stages to e-business:

- STAGE I: Information accessibility and sharing
- STAGE II: Interaction and communication
- STAGE III: Price negotiations and transactions
- STAGE IV: Supply chain integration through collaborative planning

Although the evolution of B2B is still in its infancy, existing e-business models fall short of supply chain integration. Most incorporate facets of the initial three stages. The complexity and correspondingly higher value resides in the fourth stage, however, where significant pent-up value may potentially be liberated.



The present chemical “Net Market Makers” focus on Internet based e-hubs portraying purchasing practices within the industry. E-Hubs create value by accumulating buyers and sellers in a “Net Community,” generating market liquidity through collective leverage and reducing transaction costs. B2B communities are portrayed within two classifications- e-exchanges and e-hubs.

E-Exchanges produce spot market conditions for commodities where buyers and sellers rarely have direct relationships. E-Exchanges create value by smoothing out the peaks and valleys of supply and demand.

In contrast, e-hubs focus on conventional purchasing practices. E-Hubs attract buyers and sellers by aggregating catalogue services, generating “one stop shop” vertical communities that create value by reducing transactional costs.

Another important distinction in classifying B2B marketplaces is the mechanism of price negotiations and transactions. E-Exchanges tend to match buyers and sellers through auctions, either direct or reverse. Direct auctions begin with the seller posting its offering and conditions of sale, while reverse auctions begin with the buyer establishing its purchase requirements and conditions of purchase. Alternatively, e-hubs rely on the brand identity and/or functional differentiation of the aggregated offerings to facilitate transactions between buyers and sellers at a fixed price.



Where And How To Begin?

Many adhesive manufacturers express skepticism relative to the applicability of e-business to a fragmented specialty industry, which relies on a high degree of application service and close customer relationships. While their cynicism is generally unsubstantiated, its basis stems from the lack of available evidence of e-business models founded on building “Integrated Solutions” aimed at maximizing the efficiency of the transactional supply chain or liberated value from the value chain.

Profile Your Customers

Begin with a profile of your customers according to purchasing behavior and requirements. Segmentation is critical to success. Diverging requirements within customer buying needs will require corresponding tailoring of the e-Business offering.

	Spot Purchasers	Catalogue Purchasers	Supply Chain Integration & Collaborative Planning
Characteristics:	<ul style="list-style-type: none"> ✓ Demand and prices are volatile ✓ Quick access to excess inventory ✓ Access to samples ✓ Logistics and fulfillment can be done by third parties 	<ul style="list-style-type: none"> ✓ Quick access to specs., sources and pricing ✓ Lead time ✓ Specialized products ✓ Large number of SKU's ✓ Fragmented suppliers with diverse offerings 	<ul style="list-style-type: none"> ✓ Streamlined procurement ✓ Technical service and application development
Profile:	<ul style="list-style-type: none"> ✓ Undifferentiated products ✓ End users with non critical applications ✓ Adhesive volumes are high relative to transaction costs 	<ul style="list-style-type: none"> ✓ Custom applications ✓ End users with changing requirements ✓ Equipment purchasers ✓ The cost of processing a P.O. is high relative to cost of adhesive ✓ Purchasing done through pre-negotiated contracts 	<ul style="list-style-type: none"> ✓ Large and/ or contract end users ✓ Large custom applications ✓ Purchasing done through pre-negotiated basis ✓ Systematic purchasing
E-Business Offering:	<ul style="list-style-type: none"> ✓ Exchange 	<ul style="list-style-type: none"> ✓ Multi-vendor aggregated catalogue 	<ul style="list-style-type: none"> ✓ Custom Catalogue ✓ Reverse Auctions

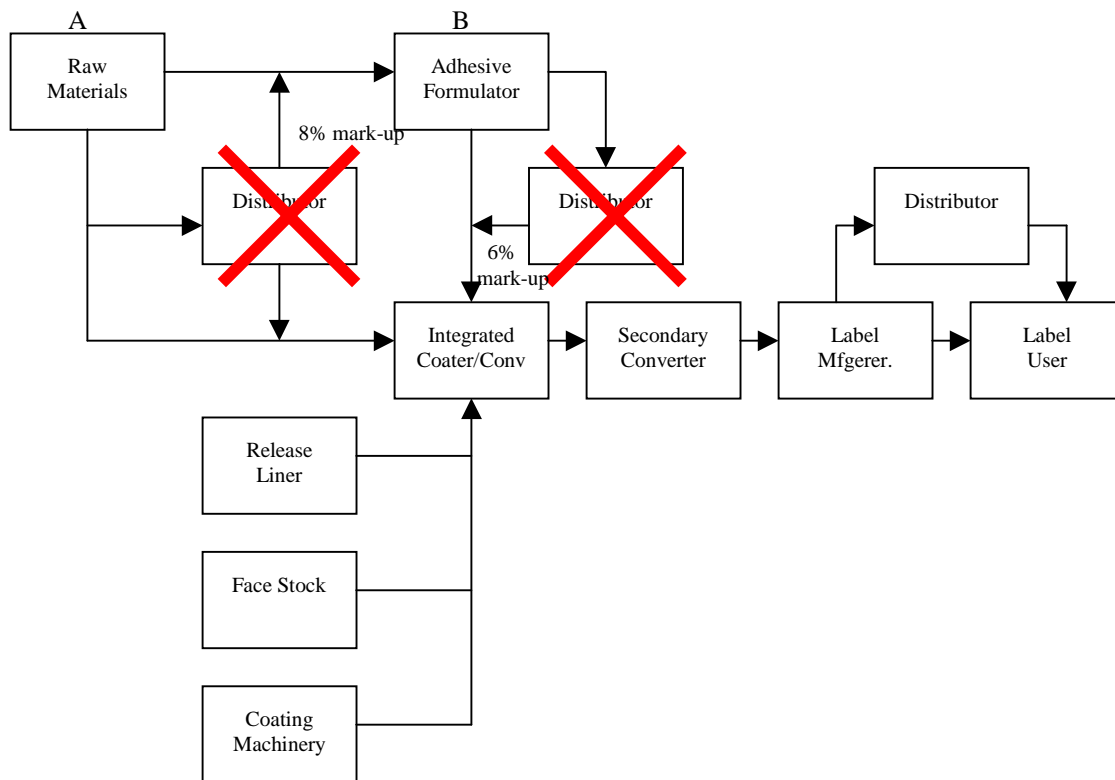


Map Distinctive Value Chains Matching Your Offering

The fragmentation of the Adhesives Industry demands a large breadth of product offerings from its participants. Just as in traditional industrial marketing, e-business requires a fundamental understanding of the value chain and its in-efficiencies. The value chain refers to the discrete activities of added value as a product moves from feedstock manufacturer to the ultimate consumer.

It is imperative to map each value chain in your offering in conjunction with the corresponding value associated with each step—supplier, customer and distributor:

Pressure Sensitive Adhesive (PSA) Labels Value Chain E-Migration



At the most basic level of e-business, an adhesive formulator may participate in an aggregated e-exchange on the procurement side to purchase raw materials, and develop or participate in an e-hub model on the sell side to eliminate the need for a distributor. Hence, liberating 14% of additional value in our example and compressing the value chain. However, one must also assess the dynamics relating to capacity utilization, switching costs, and un-met needs.

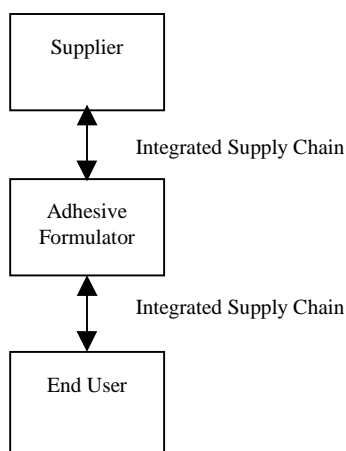


Map Discrete Activities Of Your Supply Chain

The value liberated from the value chain is only the beginning in our relatively simple example. The internal supply chain is rich with opportunities:

- Procurement process
- Order entry process
- Fulfillment process
- Shipping and receiving
- Production planning, scheduling and inventory management
- Technical service
- Sales service and customer support

An effective e-business model will likely gain the most value in developing collaborative planning amongst yourself and your supplier, and yourself and your customer:



E-Business models will deliver real time self-service capabilities with a single click. Through the Internet, one can process transactions between customer and supplier relating to:

- Orders- open orders, accreditation, SKU's, etc.
- Access prices- currency, different units of measure, etc.
- Review inventory telemetry- raw materials and finished goods inventory
- Access MSDS information, certificates of analysis, order samples, etc.
- Submit customer service inquiries- Q&A, FAQ's, complaint handling
- Review shipment status
- Access technical solutions



- Transfer funds electronically
- View special promotions and advertising

The future in e-business does not suggest loss of personal relations. In fact, the complexity of the adhesives business shall require you to maintain a high degree of personal support, thus imparting value through differentiation.

However, collaborative planning benefits are of a unique quality:

- Instantaneous volume telemetry and demand usage pattern
 - ✓ Produce to plan rather than to inventory
 - ✓ Level out seasonal demand
- Improving cash flow by reducing working capital
 - ✓ Inventory carrying costs
 - ✓ Account payables and receivables through electronic funds transfer
 - ✓ Reduction of SKU's
- Reducing excess capacity
- Logistics efficiencies due to small orders
- Invoicing efficiencies and consolidation
- Efficient allocation of labor
- Generates detailed customer and end user information for marketing professionals

Preliminary estimates from early adopters indicate that order transactional costs alone are only 15-20% of traditional businesses. That's an 80% cost savings that goes directly to the bottom line primarily due to integration of supply chains.

Assess Net Community Leverage

Whether your company belongs to an aggregated net community and/ or develops a smaller community, e-business models can build significant leverage on both the buy and sell sides.

Incremental revenue may be generated from several sources, including but not limited to:

- Banner advertisers
- Leveraged purchasing costs of common raw materials
- Sale of databases
- Shared logistics services
- Pooled training needs



- Power of mutual health and medical costs

There are numerous other ways entrepreneurs may be able to generate additional revenues through liquidity and leveraged net communities, albeit incrementally and quantifiably diminishing.



SUMMARY

In review, an effective e-business strategy will likely generate improved margins from three major categories in order of priority:

1. Supply chain integration
2. Value chain compression
3. Leveraged Net Communities

The rapidly evolving B2B marketplace, while causing enormous confusion, provides a strategic inflection with ample opportunity for the motivated and disciplined entrepreneurs.

We hope this paper de-mystifies the Internet by offering guidance relative to different B2B strategies, providing structure to various business model classifications, and counseling for a logical decision mechanism.



Questions or request for additional copies of this paper may be directed to the author at:

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