

An Introduction to Dynamic Commerce and Negotiated e-Commerce

A Review and Analysis of Trends and Opportunities in Commerce on the Internet

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TABLE OF CONTENTS

Executive Summary	5
The Introduction of e-Commerce: Mapping Traditional Businesses to the Internet	6
From Static Prices to Dynamic Commerce	7
Key Aspects of Dynamic Commerce and Negotiated e-Commerce	
Flexible Market-Driven Pricing Models	8
Multiple Parameter Bidding	8
Market Aggregation and Community Cohesiveness	8
Competitive Advantages through Improved Operational Efficiency	9
Multiple Stage Negotiations for Complex Transactions	9
Dynamic Commerce and Emerging Negotiated e-Commerce Implementation Models	
Enterprise-Driven Markets	10
Procurement-Focused Applications	10
Marketplace-Focused Exchange Environments	11
e-Commerce Portals and Application Service Providers	11
Conclusion	13



EXECUTIVE SUMMARY

With the advent of e-commerce, businesses have low-cost, global access to a highly focused and greatly expanded network of trading partners. Already, the e-commerce world has produced many undisputed successes, from entirely new Internet-focused companies, like Amazon.com and eBay, to existing companies that have extended their organizations to take advantage of the Internet, such as Dell Computer.

While the Internet represents a new channel for marketing and selling to customers, the future opportunities are far greater. Initial e-commerce applications targeted the implementation of online advertising, catalog, and order fulfillment systems, producing good bottom-line results for many companies. The online market has now embraced dynamic commerce, which is the buying and selling of goods and services through flexible pricing mechanisms that change with supply and demand. Moai is an innovator in this space and immediately recognizes the limitations of first generation dynamic commerce applications.

These applications focus on basic price and quantity bidding. As the market has quickly evolved, Moai has introduced negotiated e-commerce that fully leverages the Internet's inherent potential to facilitate complex decision-making processes that require the ability to negotiate multiple factors.

This paper focuses on the benefits and elements of dynamic commerce and begins to explore the uses of negotiated e-commerce on the Internet. It is designed to help companies better understand market opportunities and enable them to participate in a new breed of e-commerce solutions.

Presently, dynamic commerce manifests itself most commonly in exchanges and auctions. Companies employing these trading mechanisms are enjoying a number of significant benefits including:

- Higher yields on surplus, obsolete, or slow-moving inventory
- Access to new trading partners domestically and globally
- Additional sales channel for cross-selling
- Reduced overhead costs
- Streamlined negotiation processes
- Lower transaction and research costs
- Community building in vertical markets

Current estimates from Forrester Research on the future of this market illustrate the tremendous growth potential moving forward. Forrester predicts that by 2004, in the United States alone, total online trade will reach almost \$2.7 trillion, with a little over half (roughly \$1.4 trillion) coming from online marketplace transactions.

THE INTRODUCTION OF e-COMMERCE: MAPPING TRADITIONAL BUSINESSES TO THE INTERNET

When business first moved to the Internet and the term “e-commerce” was originally coined, companies simply replicated traditional business practices. Web-based models, relying on static pricing schemes, were popular methods for implementing e-commerce. While these models took advantage of the Internet’s global reach and around-the-clock availability to deliver customer convenience, the actual business methods remained rooted in existing practice.

The migration of business-to-business (b2b) activities to the Internet has been built upon existing pricing models and traditional distribution channels, and has used the Web’s reach and responsiveness to improve the speed and lower the cost of doing business. Suppliers

have found more efficient access to their customers and buyers have expanded their ability to research available vendor options. However, the traditional purchasing paradigm has remained largely the same—buyers research the range of posted prices, compare their relative value, select the best option, and either purchase at the stated price or negotiate a final price offline.

Although these initial e-commerce implementations have given many companies immediate and uninterrupted access to an expanding population of online customers, these solutions have barely tapped the full potential for interactivity and market responsiveness inherent to the Internet.

FROM STATIC PRICES TO DYNAMIC COMMERCE

Static pricing models grew out of the Industrial Age as mass production and extended distribution chains encouraged large economies of scale. Static prices became necessary to manage the increase in both volume and variety of products over far larger geographic regions. Despite these benefits, static pricing still had a number of shortcomings, made more apparent today with the fast pace of Internet commerce.

Static prices are slow to adjust to market conditions, thereby causing a gap between the price that is charged for a good and its actual market value. Providing just a glimpse of the overall market demand, static prices convey only whether or not there was a buyer at a given price. Consequently, businesses spend a substantial amount of money on market research to help them understand and forecast demand.

Enabled by the Internet, dynamic commerce solves the dilemma of “sticky” prices by providing virtually instantaneous knowledge about market demand, such as how many bidders exist, who they are, how motivated they are, and the prices and quantities they desire.¹ Essentially, dynamic commerce breaks free of the relatively static pricing methods used in traditional business models, and uses the Internet’s intrinsic capacity for continuous interactivity to create new types of fluid, market-driven environments. These markets inject unprecedented immediacy into the buying process and optimize value-driven pricing for sellers.

Dynamic Commerce is the ability to buy and sell goods and services over the Internet where price and quantity change with supply and demand.

At the same time, dynamic commerce markets eliminate the need for layers of intermediaries and reduce the overall cost of sales. For buyers, these markets provide access to excess inventory, a wider variety of suppliers, and better, more widely available information—all of which reduce costs and increase customer

satisfaction. For sellers, participation in these markets translates into higher revenues and quicker inventory turnover. By creating better parity between buyers and sellers, dynamic commerce facilitates a more efficient allocation of supply and demand.

Embraced by the marketplace, dynamic commerce has evolved as markets have grown and changed. The first generation of dynamic commerce applications focuses on the common negotiable: pricing. Depending on the business, quantity and time can also be negotiated.

The next generation of dynamic commerce applications facilitates complex negotiation processes. This new generation is called negotiated e-commerce, which is the mapping of complex negotiation structures in business transactions to the Internet. Augmenting dynamic commerce, negotiated e-commerce allows buyers and sellers to include multiple factors in the decision making process. These multiple factors can include, among others, price, delivery time, condition of goods, or payment terms.

Negotiated e-Commerce is the ability to map complex negotiation structures in business transactions to the Internet. These structures can include multiple stages of negotiations with more than one bidding parameter.

Initially, companies that wanted to employ simple dynamic commerce capabilities built the applications themselves. However as the benefits of dynamic commerce were recognized, solutions providers emerged with both the technical and business expertise to provide a full spectrum of dynamic commerce platforms. Companies, like Moai, have become specialists in this field and are able to provide businesses with the latest technology, expert business services, and rapid deployment capabilities. Today, e-commerce companies that want to augment their online strategies with dynamic commerce capabilities do not have to build it—they can turn to these experts.

¹ The Economist, “The Heyday of the Auction,” July 24, 1999.

KEY ASPECTS OF DYNAMIC COMMERCE AND NEGOTIATED e-COMMERCE

The emergence of interconnected exchange networks and the increasing acceptance of e-commerce tools and capabilities are only two of the many factors driving the dramatic growth in commerce on the Internet. While companies continue to discover innovative ways to apply new dynamic technology, it remains the most beneficial mechanism to sell excess or scarce inventory and is quickly becoming the predominant mechanism for procuring goods and services.

In essence, dynamic commerce solutions leverage the power of market-driven pricing and dynamically responsive, personalized transactions, while negotiated e-commerce uses the Internet to facilitate advanced negotiations and bidding functions. There are several characteristics of dynamic commerce and negotiated e-commerce that enhance a business's online practices.

Flexible Market-Driven Pricing Models

At the core of dynamic commerce is the ability to drive the final price point of every transaction to yield optimal value for both buyer and seller. Unlike initial e-commerce applications in which a fixed price is pre-established for each item, dynamic commerce solutions incorporate fluid bidding and pricing mechanisms, such as those used in traditional auctions and trading exchanges. These formats serve various purposes when they are employed. For example, a company that wants to move inventories quickly, but are not as concerned about price, may employ an open Dutch auction.² A company that wants to increase competition among its suppliers for the best price for goods may choose to host a reverse auction.³ Within these new applications, individual buyers and sellers can track and update the current status of bids via easy-to-use, online interfaces. Current information is always available on bids, bid history, available inventory, time remaining for

Initial e-Commerce

- Online catalogs
- Order processing
- 24-hour access to customers

Dynamic Commerce

First Generation Applications

- Fluctuating pricing mechanisms
- Better access to information

Negotiated e-Commerce

- Multiple bidding parameters
- Multiple stages of negotiations
- Threaded discussions

bidding, etc. This information, in turn, facilitates increased activity between buyers and sellers.

Multiple Parameter Bidding

In addition to price, time, and quantity, negotiated e-commerce allows buyers and sellers to negotiate other factors synchronously or asynchronously. These other factors include warranty, shipping terms, or condition of goods that can be weighted and negotiated in a dynamic environment. The decision to purchase a new home, for example, requires consideration of a wide range of variables in which price is one factor among many. Other negotiable variables might include condition of the property, move-in dates, mortgage terms and conditions, or inspections. Complicating the process is the fact that many of these variables are negotiable, and vary depending on how they are packaged in the final offer. By providing a centralized mechanism to negotiate each of these variables, negotiated e-commerce improves the ease and efficiency of the entire transaction.

Market Aggregation and Community Cohesiveness

Dynamic commerce environments foster a

² A Dutch auction is a basic descending price auction, which means that bidding starts at a high price and is progressively lowered until a buyer claims an item.

³ A reverse auction allows buyers to post items that they want to buy and sellers to compete for the best price at which the buyer will accept the items. This auction format is ideal for procurement.

greater level of buyer loyalty and community cohesiveness by combining the global reach of the Internet with the flexibility to adapt to the changing nature of specific market needs. Because the interactivity of dynamic commerce gives buyers and sellers a greater sense of immediacy and influence over the pricing of transactions, participants become more involved and, consequently, develop an ongoing attachment to both the process and the hosting site. Additionally, relationships may develop, both competitive and cooperative, between market participants that foster a sense of community. The Internet's additional dimension of eliminating geographic constraints allows previously excluded buyers and sellers to participate from anywhere around the world.

Competitive Advantages through Improved Operational Efficiency

The flexible responsiveness of dynamic commerce enables pricing to track changes in market conditions as they occur. This not only spurs buying activity but also improves the efficiency of distribution and inventory management. In b2b markets, this elimination of latency in supply chains will help raise the efficiency of all participants, whether vendors or customers. In addition, the immediate feedback mechanisms that are intrinsic in this environment enable companies to adjust their overall product strategies quickly to meet actual market demands.

Multiple Stage Negotiations for Complex Transactions

The evolution of dynamic commerce to negotiated e-commerce has given rise to new, powerful solutions that enable corporations and independent market makers to create multi-stage, online negotiations in which complex terms can be settled upon at different points in the negotiation process.

A direct benefit of negotiated e-commerce is the simplification of the process to screen and select vendors. For example, a computer manufacturer needs to purchase 5,000 power supplies for

delivery within two days. A quick search identifies 25 potential suppliers. Since the company does not have time to call each supplier individually to obtain quotes and does not want to award the contract to the lowest bidder automatically, an online, multi-stage, and multi-parameter negotiation format is used for the selection process.

The 25 suppliers are notified of the request by email and directed to the company's e-commerce Web site where the negotiation is being conducted. The first stage of the negotiation involves delivery time and the second stage of the negotiation is price and delivery package. In an environment similar to an online threaded discussion, the buyer determines that only five suppliers can provide the power supplies in the requested time frame.

In the next stage, the five suppliers are asked to provide their price and, as expected, there is wide variation. As a result, the buyer has the option to begin negotiating with each supplier individually on a price-delivery package. The buyer will determine, through negotiations, which provides the greatest value. These negotiations are dynamically communicated online simultaneously and, typically, the suppliers are unaware of the details of the other suppliers' negotiations.

These negotiations can also support third and fourth stages of negotiation depending on a buyer or seller's business needs. At any point, the purchaser or seller can accept, reject, or counter an offer. In the end, the multi-stage negotiation process allows companies to transfer more sophisticated business transactions to the Internet.

DYNAMIC COMMERCE AND EMERGING NEGOTIATED e-COMMERCE IMPLEMENTATION MODELS

The underlying mechanisms of dynamic commerce are beginning to appear in a wide range of specific implementations. All of these implementation models can include elements of negotiated e-commerce as described in the previous section, but here they are discussed primarily in terms of dynamic commerce. The four prevalent types of market implementation models emerging, include

- Enterprise-Driven Markets
- Procurement-Focused Applications
- Marketplace-Focused Exchange Environments
- e-Commerce Portal and Service Provider Marketplaces

Enterprise-Driven Markets

Businesses have learned a difficult and, in some cases, expensive lesson about the cost of carrying excess inventory. Aggressive international competition and faster product life cycles have forced companies to rethink manufacturing processes, inventory management, and supply chain activities in an effort to adopt continuously leaner practices. Despite their successes, it still remains impossible, if not economically impractical, to reduce surplus inventory levels to zero. The significance of this issue is easily underestimated. On average, businesses in the United States carry approximately \$18 billion in surplus inventory annually, an amount equivalent to about one-tenth of all finished goods.⁴

The current process for selling surplus inventory is inefficient. Many companies still trade orders by phone and fax, a slow and labor-intensive process. In addition, when companies yield control of inventory to third-party intermediaries, they lose their influence over where and at what price the merchandise is sold. Although some businesses need inventory to protect against variability in demand effectively,

a more efficient way to manage excess inventory exists.

Dynamic commerce offers a more effective solution to this problem. Rather than selling off surplus inventory to third-party intermediaries, companies are now using the Internet to auction surplus goods to vendors. By leveraging the flexibility of the Internet to target a select group of highly motivated buyers or extend the reach of businesses across a maximum number of participants, dynamic commerce has a distinct advantage in generating competition and market liquidity. In addition to realizing improved returns and more efficient processes, companies are retaining greater control over their brand, extending a valuable service to their customers, gaining more valuable market insight, and reducing costs.

Procurement-Focused Applications

Another significant application of dynamic commerce lies in the field of sourcing and procurement, and applies to both long-term supplier contracts and unpredictable “spot buys.” Several businesses have used dynamic commerce in common procurement activities such as supplier consolidation, annual negotiations, and corporate-wide projects to gain savings through purchasing activities. These solutions can be applied to both strategic (or direct) goods and services related to a buyer’s manufacturing operations, as well as to indirect purchases (commonly called Maintenance Repair and Operating resources, or “MRO”). Although there are clear differences concerning financial details and procurement methods, the fundamental value proposition is identical for all of these purchasing methods.

Many companies already use simple forms of competitive pricing for sourcing or supplying goods. Typically, the process requires sealed bids from prospective suppliers, which are evaluated by the buyer. The buyer then selects one or more suppliers and negotiates detailed

⁴ BusinessWeek, “Goodbye to Fixed Pricing?” May 4, 1998.

terms for specific contracts. This process can be labor intensive for both parties and may result in contract terms that vary from supplier to supplier based on the market position of the supplier and the negotiating skills of both the trading partners.

By using negotiated e-commerce mechanisms, a buyer can automate the RFQ tender and bid processes. The Internet gives buyers the ability to eliminate geographic and cost barriers to potential suppliers, and to include additional suppliers into the bidding process at very low cost. A reverse auction greatly increases competition in the marketplace by giving suppliers instant feedback on where they stand along with the opportunity to submit new bids and win the contract.

Marketplace-Focused Exchange Environments

Dynamic commerce implementations are also gaining rapid acceptance as forums for creating industry-specific or marketplace-focused exchanges. These exchanges are “many-to-many” markets with multiple buyers and sellers. Using structured bid mechanisms, online exchanges can provide stable environments for fostering highly vibrant trading activity in commodities or other industry-specific products. By bringing together multiple sellers and a highly aggregated group of buyers around well-

e-Market makers will capture \$2.7 trillion in business-to-business e-commerce transactions in 2004.

GartnerGroup

defined sets of products or service offerings, online exchanges leverage dynamic bidding on the Internet into an unprecedented opportunity for all parties to achieve maximum value.

Exchanges solve fundamental and pervasive inefficiencies that hinder trade, such as the

fragmentation of buyers and sellers, high search and transaction costs, and limited market information or highly variable demand. Traditional exchanges (e.g. stock or commodity exchanges) also provide liquidity and a standardized process for trading commodity-type goods where long term, highly integrated relationships are not necessary.

An exchange environment can also offer discrete auctions that may or may not incorporate online, threaded negotiations. These online exchange marketplaces, often hosted by vertical market makers, bring together buyers and sellers. Rather than selling their own products, these companies are focused on developing a marketplace and community by providing and distributing a range of information, products, and services. These businesses are often new venture-funded entities, or in some cases they develop as part of the Internet arm of an existing company. For companies entering or establishing new marketplaces, time to market is crucial. They need to get up and running quickly to compete in the marketplace. According to The GartnerGroup’s projections, there will be more than 100,000 market makers creating specialized markets by 2001.

e-Commerce Portals and Application Service Providers

The fourth major trend of dynamic commerce is the evolution of broad-based portals and service providers supporting a full range of turnkey e-commerce capabilities, including dynamic commerce solutions. These companies provide dynamic commerce capabilities to small and medium enterprises (SME), as well as offer larger companies a chance to “test the waters” before making a full or on-going commitment. Companies provide access to a wide range of products or markets and often are the hosting provider for smaller organizations that do not have internal resources to support their own dynamic commerce infrastructure.

These portals and service providers provide a

mix of the enterprise-driven and marketplace-focused exchanges as they aggregate these multiple sites into a single mall or catalog. Within this structure, individual businesses can operate their own dynamic commerce sites. The aggregation of multiple markets means that handling a high volume of traffic is a crucial factor for success.

CONCLUSION

Initial e-commerce applications provided an opportunity for many companies to move some of their business practices to the Internet. Companies experienced good results and whole new entities focused solely on the Internet grew out of such successes. However, these successes have been limited by the dependence on existing business practices and static pricing models.

The current phase of e-commerce, driven by dynamic commerce and evolving to include negotiated e-commerce, breaks out of this mold and utilizes interactive, market-driven pricing. Large, small, and yet-to-be created businesses that utilize these interactive markets effectively have unprecedented opportunities to increase revenues and reduce costs. According to industry analysts, dynamic commerce will be a significant percentage of total e-commerce activity in the future.

The future of e-commerce could bring a rise in the number of digital marketplaces in conjunction with new technologies that could further leverage dynamic commerce. Electronic agents may first scour the Web for buyers and suppliers, searching for goods on sale, or purchasing demand. Eventually, more sophisticated agents may compete in dynamic commerce markets on behalf of companies or

individuals. Nevertheless, as prices approach their “true” market value, trade partners could increasingly compete on factors such as reliability, quality, and value added services, not only price.

Once the decision is made to take advantage of these opportunities, the next step is deciding how to implement a solution. The very nature of dynamic commerce requires thinking “beyond the bounds” of traditional business practice and necessitates more than just buying a new software package and installing it. The effective creation of dynamic commerce to meet the demands of e-commerce will require a strong combination of robust software, hosting options, in-depth services and expertise to support rapid and optimal deployments and innovative business processes.

Enterprises and market makers will require dynamic commerce partners that can provide a full range of professional services, domain expertise, and hosting alternatives along with their software offerings. In addition, the implementers of negotiated e-commerce sites will need highly adaptable software architectures that can provide the flexibility to tailor their applications to market specific requirements.







ABOUT MOAI

Moai is a leading provider of dynamic commerce solutions for online exchanges, auctions, and procurement. Dynamic commerce involves the buying and selling of goods and services online through flexible transaction models that change over time based on multiple terms such as price, condition of goods, warranty and shipping costs. Moai's solutions address the unique challenges faced by companies looking to initiate or expand their e-commerce initiatives in the technologically complex and rapidly changing Internet business climate. While Moai's primary focus is on customers in the business-to-business market, the company also has customers in the business-to-consumer and consumer-to-consumer markets.

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