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Despite its advantages, the industry has been slow to take-up the e-commerce challenge

The paper industry needs an online embrace

by **GRAHAM MOORE**

In the world of business-to-business commerce, traditional channels of communication, negotiation and distribution are being rapidly replaced by the automated, streamlined procedures of the electronic marketplace. In the near term it has been predicted that total business-to-business (B2B) e- commerce will reach $2.7 trillion in 2004, of which $1.4 trillion will flow through e-marketplaces. In the case of forest products, it has been suggested that e-commerce will reduce total costs by 5% and that on-line transactions will account for 30% of sales by 2003.

With $500 billion of sales globally, adoption of such technology by the pulp, paper and packaging industry will bring increased changes and challenges in product price and demand, globalization and competition. It will also increasingly lead to a streamlining of the supply chain and far greater integration of the paper/board manufacturer with those parties further down the supply chain.

What is e-commerce?

E-commerce has been defined as the exchange of information across electronic networks, at any stage in the supply chain, whether within an organization, between businesses, between businesses and consumers, or between the public and private sectors, whether paid or unpaid. It is the buying and selling of goods and services by means of electronic networks. The first generation of e-commerce was electronic data interchange (EDI). This uses a dedicated communications link and pre-assigned messaging definitions to send orders, confirm receipt and make payments. The development of second generation e-commerce approaches is based on the low cost, flexibility and reach of Web-based interfaces for buying and selling. Applications include the electronic marketplace, e-procurement, catalogues, tailored services, fulfillment and information.

A consequence of the increased use of e-commerce is that many of the materials and products of the pulp and paper industry that are not currently standardized will become so through access to the broader market and the cost reductions that can be obtained.

E-commerce and this industry

Industries with highly standardized products, which are easily compared by suppliers or frequently traded low-cost wares that benefit greatly from transaction efficiency are the best fit for e-commerce. E- marketplaces will permeate most deeply into those industries that have:
• A high degree of fragmentation;
• Highly cyclical or unpredictable supply and demand;
• Multiple distribution steps.

Such characteristics are typical of the pulp and paper sector, making it very appropriate for e-commerce.

For its supporters, a move to e-commerce can benefit both buyers and sellers by sharing the savings gained from eliminating excess costs in the value chain. Some see the potential to cut up to 10% from the industry's global transaction costs of around $600 billion a year. However, establishing e-commerce requires considerable financial investment. Buyers

appear to have the most to gain from e-commerce. Many of them will be able to drastically cut their order-related costs. It has been claimed that 15-20% savings of purchase costs are not atypical.

Slow to adopt

However, a recent global survey has shown that the pulp and paper industry has been slow to embrace e-commerce. Whilst there have been a few companies that have progressed very far down the route to adopting it into their organizations, the majority of companies have not yet progressed beyond the initial channel enhancement or "brochureware" stage of e-commerce.

Such findings have been reinforced by a study undertaken for the UK government by PriceWaterhouseCoopers to evaluate the current state of play of e-commerce and its potential implications for the paper and board industry in the UK. This study is part of a wider UK government initiative to make the UK "the world's best place to trade electronically by 2002, based on demanding consumers, excellent suppliers and Government/industry partnership".

The study focused on the printing and writing sector, which is the largest within the UK paper and board industry in terms of value and volume. The key findings were:
• The use of e-commerce technologies by printings and writings companies is relatively widespread. The majority of companies have websites and almost all use external e-mail. A significant proportion of companies also use EDI with customers and suppliers, but few have extranets although 25% plan to have them.
• E-commerce technologies have been used almost exclusively for messaging and marketing.
• The opportunities presented by e-commerce, therefore, are not being exploited in full. For example, very few websites have been developed to allow transactions to take place on-line (less than 10%) or to analyze customer information. The use of EDI is limited mainly to ordering products and has not yet been used to streamline the whole transaction process.
• Responsibility for e-commerce largely falls to senior management although a few larger companies have appointed e-commerce directors. Relatively few companies have developed and implemented formal e-commerce strategies and plans.

The study also highlighted the motivations and expectations of e-commerce for the individual UK businesses. Although the main motivators varied among the companies surveyed, the most significant were competitive pressures and changing customer demands.

Positives and negatives expected

The paper mills and merchants expected their use of e-commerce to have the greatest positive effect on the provision of information about their products to their customers and on their advertising. A few firms were concerned that e-commerce would have a negative effect on sales and purchases, reflecting worries about the possible effect of e-markets.

At least half of the firms surveyed expected e-commerce to have a positive effect on the transaction completion process. Around three quarters of the firms expected e-commerce to have a positive effect on the ordering of their products through the use of websites or EDI. Such developments were expected to positively affect billing and payments. This picture contrasts with the functionality of many of the e-commerce systems in place in paper mills and merchants.

About half of paper mills and merchants surveyed expected e-commerce to have a positive effect on production support. In general, firms expected a positive effect on their ability to capture and process customer information and, to a lesser extent, to undertake market analysis and development.

Around 70% of firms thought that their use of e-commerce was innovative particularly in the field of managing customer and supplier relationships.

A survey of North American mills has also been undertaken to compare the situation in the US and Canada. The results

showed around 90% of companies used the Internet to conduct business, with larger companies being more advanced than smaller ones. US based companies had implemented the Internet earlier.

Marketing was the most prevalent application facilitated by the Internet respondents from the US whilst Canadian companies ranked Internet EDI highest. As also highlighted in the UK survey, concerns related to lack of technical resources were raised amongst all respondents. However, security of sensitive information was the greatest concern. Other concerns included the need to change procedures, costs, speed of access and training of personnel.

Perceived barriers to adoption

The slowness of the sector overall to respond has its routes in a number of perceived and actual barriers. These include:
• Conservatism and lack of e-commerce skills;
• An underdeveloped IT infrastructure, particularly a limited take-up of enterprise resource planning (ERP) systems;
• Concern about the scale of the financial and technical resources needed for a major e-commerce commitment;
• Concern about the risks associated with e-commerce;
• Concern over price reductions brought about by reverse auctions.

Change of attitude needed

The pulp and paper industry has focused on maximizing output rather than optimizing returns from the marketplace. To change requires a cultural shift in the sector's outlook and business practices. E-commerce requires not only technical knowledge, but also a new organizational flexibility that can develop and manage many partnerships and alliances, and juggle multiple distribution channels.

Although the adoption of e-commerce has been limited, there is recognition amongst participants in the sector that e-commerce does offer potential benefits. For the pulp and paper industry, the competitive advantage of e-commerce technologies includes:
• Automating and integrating supply chain systems with trading partners and business processes;
• Lowering transaction costs associated with identifying, negotiating and purchasing from multiple suppliers;
• Cutting the use of low-value added intermediary brokers and dealers to reach customers;
• Expanding the universe of buyers and sellers;
• Consolidating and customizing multiple sources of pricing information, real time news and industry data.

With the clear opportunities and good profile fit, a number of entrepreneurs and paper industry outsiders saw the opportunity to exploit e-commerce in the pulp and paper industry. By the end of 2000, more than 40 e-marketplaces had been announced. However, the reaction from paper producers ranged from caution to outright disgust to such an influx from third party market places. Such skepticism and increasingly tough market conditions has led to a large number of casualties amongst the third party dot.coms. The industry, however, has responded to the arrival of third parties by establishing its own sites. ForestExpress in the US and Expresso in Europe are perhaps two of the leading examples of such industry led partnerships.

In less than five years the commercial use of the Internet has grown more rapidly than any other sector of the economy. To put this into perspective, since 1990 the US economy has grown by an average of 3.3%/yr and the EU had gross domestic product figures averaging 2.2%/yr over that time, growing to 3.9%/yr from 1996 to 1999. The commercial use of the Internet over the period 1997 to 2000 exploded by a rate of 104%/yr with the majority of the activity occurring during 1998 and 1999. Such a wave of technology uptake led to the rise and rise of the dot.com economy. New operations were springing up overnight offering the facilities for B2B transactions and a new way to do business.

Don't be fooled by failure

Now the heady euphoria that once surrounded e-commerce has vanished, leaving in its wake a trail of dead dot.com operations. However, that has not meant an end to the changes that new information and communications technologies are bringing to businesses. Established businesses are now reforming traditional practices through the use of new technology. Research has indicated that the global pulp and paper industry is aware of these developments and in some cases has taken tentative steps to embrace such technologies. However, the industry needs to do more. Non-participation in e-commerce and corporate strategies of not wanting to be the first are no longer an option. End users and other participants in the supply chains are e-capable and they will and do expect all participants in the supply chain to be able to respond in a similar manner.

Graham Moore *is strategic consultancy manager - Pira International. This article is based on aspects of Pira International's on-going Strategic Futures Program of research. This exclusive program aims to assist Pira Members in their strategic planning by providing information and insight on a wide variety of issues across the sectors of paper, packaging and printing. Further details of the Strategic Futures Programme can be obtained by e-mailing:* grahamm@pira.co.uk.