B2B E-MARKETPLACES
A STUDY OF THE CURRENT INDUSTRY

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This dissertation was submitted in part fulfillment of the degree of
MSc Information Management

DEPARTMENT OF INFORMATION SCIENCE
UNIVERSITY OF STRATHCLYDE

SEPTEMBER 2000

Declaration

This dissertation is submitted in partial fulfillment of the requirements for the degree of MSc in the Strathclyde Business School.

I declare that, in accordance with University Regulation 20.1.20, this dissertation embodies the results of my own work and that is has been composed by myself. Following normal academic conventions, I have made due acknowledgement to the work of others.

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ABSTRACT

The subsequent work is a study of B2B e-marketplaces. These trading platforms are a relatively new creation, having their birth in the ever more widespread adoption of Internet technology throughout business. The implementation of electronic transactions in place of the traditional paper-based order process offers substantial cost reductions to companies. Once a company has decided on changing the procurement process to the electronic medium however it is presented with a multitude of technical incompatible problems to reach all of its trading partners, as there currently exists no technical standard for business transactions. Thus there is an opportunity for an intermediary, a platform where a myriad of companies can 'virtually' congregate to trade, this marketplace being accessed through an easy to use Web site.

The e-marketplace may generate revenue in part by extracting a fee for each transaction conducted across its platform. This creates a dilemma, the creation of a trading platform is not such a feat that it is beyond large companies. Indeed the transaction fees charged by e-marketplaces compound the desire of companies to create their own platforms. Such private e-marketplaces are appearing, built on proprietary technologies and inciting concerns of fair-trading law infringements.

The independent e-marketplace built to service an entire industry must offer more to potential users than a company could provide for itself. It achieves this through being neutral and open to all industry members, highly transparent in operation and explicit in its integrity. Impossible for company-created and therefore biased platforms, the independent platform can create a Virtual Community, supporting networking throughout an industry. Rather than monetary profits for the owners of the platform, the true value of the e-marketplace lies in the use of information to manage inventory, saving large amounts of money usually trapped in stock and in striking redesigns of workflow.

ACKNOWLEDGEMENTS

I would like to offer my sincere thanks to Mr. D. Pendlebury and Mr. K. Oswin both of BPI plc, who in interviews were so generous with their time and tolerant of my many questions. I would also like to thank Mr. Forbes Gibb, my supervisor for providing an expert guiding hand throughout.

On a more personal note, I wish to gratefully acknowledge the support, guidance and love always so freely given by my Mom and Dad, without which the completion of this work and indeed all that I accomplish in life would not be possible.

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1. INTRODUCTION

In the arena of world commerce, it is trade conducted between businesses rather than directly to individual consumers that dominates. Indeed "trade between businesses makes up more than 70% of the regular economy".[1] When conducted electronically, it is described in Internet parlance as business-to-business or B2B e-commerce, and it already dwarfs the business-to-consumer [B2C] variety. E-commerce B2B sales in 1999 were put at $157 billion, while B2C online sales garnered only $22 billion in comparison (according to Merrill Lynch) and the gap between the two is expected to continue widening. By 2003 the B2B market should be 10 times the size of the consumer market.[2] Estimates vary but all reports put the figures for B2B e-commerce at over the trillion-dollar mark within the next three years. "The B2B number is expected to mushroom to $2.3 trillion by 2003. That should be about 5% of the global GNP."[3] Forrester Research puts the figure at a more conservative $1.8 trillion (in 2003), but agrees that in comparison to B2C performance "b2b is expected to involve 10 times more cash - and that's a multiple that demands attention."[4]

The reason for such astronomical forecasts lies in a simple piece of common sense. Traditionally business has conducted its purchasing via paper-based orders, the production of which has entailed a mass of phone and fax activity. It is estimated by Zona Research that for any industry, the raising of a paper order creates a processing cost of between $50 and $250. Whereas the same order processed through Web-based procurement would slash the costs down to between $5 and $20.[5] Thus by adopting electronic purchasing in place of the old paper system, the immediate opportunity for cost savings is substantial. This can be seen as the decisive step towards full online transacting of trade. Finally on offer is an escape from the ludicrous situation of manually tapping in orders, sales and payment data into computerized systems. No industry is totally efficient regardless of their claims, and thus huge opportunities to save costs are possible without the negative ripple effects of the job losses associated with the previous

[1] Schonfeld, E. Corporations of the world unite! You have nothing to lose but your supply chains! *eCompany Now* Vol.1 No.1 June 2000 p124.
[2] Ibid.
[3] Ibid.
[4] McGarvey, R. from: business To: Business *Entrepreneur* June 2000 p98.
[5] Kalis, L. Electronic Energy Exchanges Blossom *Red Herring* July 2000 p256.

efficiency drives of Business Process Reengineering and the like. As the following table demonstrates, the savings to be reaped are applicable to the entire range of industries.

ESTIMATED B2B COST SAVINGS BY INDUSTRY	
Aerospace machining	11%
Chemicals	10%
Coal	2%
Communications	5-15%
Computing	11-20%
Electronic components	29-39%
Food ingredients	3-5%
Forest products	15-25%
Freight transport	15-20%
Healthcare	5%
Life science	12-19%
Machining (metals)	22%
Media & Advertising	10-15%
Oil & Gas	5-15%
Paper	10%
Steel	11%

Source: Goldman Sachs [6]

However deciding to adopt e-procurement is only half the story, a myriad of proprietary technologies and legacy systems lie between a company and all of its trading partners. Thus there appears an opening for an intermediary, 'enter the E-marketplace'. A new business model offering the convenience of one-stop shopping (reaching all existing and indeed additional trading partners) and one that integrates the company's back-office systems with an easy to use, Web-based site. This is a newly developing realm, in which it is believed there are currently "about 600 B2B marketplaces … under way or in the planning stage" with some 4,000 estimated to be in operation within the next four years.[7] The new e-marketplaces exist in a variety of forms but their initial value proposition is the same; the slashing of procurement costs, the streamlining of market efficiency and the

[6] Taken from; Smith, D. We Have Lift-off *Internet Business* August 2000 p41.

improving of inventory management. Of the estimated trillions of dollars constituting B2B e-commerce, it is predicted that "by 2003, some $500 billion is likely to pass through Web marketplaces, to create a new industry with earnings in the range of $25 billion per year."[8] Forrester Research concurs with predictions of a large, in fact the dominant portion of all B2B e-commerce transactions being conducted across the new trading platforms, believing that it will amount to just over 50% of the trade.[9] Yet some "analysts are now guessing that between 50 and 80 percent of those trillions of dollars in expected B2B e-commerce will funnel through procurement hubs or direct-sale Websites."[10] This new industry of e-marketplaces with its compelling forecasts, as noted, certainly 'demands attention'.

1.1 AIMS

The aim of this work has been to investigate the emerging arena of business to business (B2B) e-commerce as conducted across the new trading platform of e-marketplaces. The issues of the potential and the problems presented by such new forms have been addressed through the examination of the various, distinct platforms that have manifested and the conditions that appear to dictate a model's success. The purpose of the study has been in part to examine the impact of e-marketplaces, a phenomenon of the New Digital era, upon the traditional industries of the Old Economy.

1.2 METHODOLOGY

The following work is essentially a library-based study of B2B e-marketplaces. There is a small supplementary section of evidence gathered from interviews with members of the plastics industry in the UK. These interviews are intended to gauge the actual situation faced by the Old Economy industries. To garner personal reactions to the issues of e-marketplaces from people who will have their business processes altered by the opportunities and challenges brought by the new trading platforms.

Examples have been selected where possible from industries producing and trading in physical products, rather than in the information-products typical of sectors such as Financial Services. Although Exchange trading in stocks and shares has been cited this

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[7] Schonfeld, E. op cit. p125.
[8] Ibid. p124.
[9] Anon. Seller Beware *The Economist* 4th March 2000 p86.
[10] Schonfeld, E. op cit p125.

is due to the market's maturity, for the example aptly demonstrates the point being made. Further, due to the focus of the piece there is a predominance of industry–specific models known as 'vertical' markets, rather than models that are horizontal and non-specific.

Finally, a note on the vocabulary used throughout the work. Care has been taken in an attempt to apply an accurate and constant description to the various models presented in the text. The expression 'e-marketplace' has been used as a blanket term to refer to all the various models. While it appears common practice among writers in the area to use 'exchange' as the blanket term, in this piece the term exchange has been solely reserved for the description of a very distinct form of e-marketplace. To add confusion however many models refer to themselves as 'exchanges', no doubt in an attempt to lend themselves kudos by naming their own site after the most sophisticated model. Thus unfortunately many sites are called 'exchanges' that are in fact not so. Particularly of note as it is examined at length in the study, is Newco the so-called, tripartite exchange of the Big Three American automakers.

CHAPTER TWO
LITERATURE REVIEW

The voracious media interest in B2B has not been sparked by a sudden move online of business. Large companies with the resources moved online for their procurement processes, via the relatively expensive technology of Electronic Data Interchange (EDI) during the 1980s. So what has captured the imagination this time around? Following in the dogma of 'Make it New', the old has been updated and transformed. The all but abandoned form of marketplace trading, that survives in the developed world largely only through the Stock Exchanges and the rarefied halls of the great art auction houses, has been resurrected. The modern twist is that the marketplace is no longer a physical location, the mercat cross of the village green, but now exists only in cyberspace. The numerous terms being applied to these new E-marketplaces are indicative of their origins in a physical past; E-bazaars, E-Hubs, online auctions and of course the predominant Exchange. The metaphor of the bazaar or exchange is a useful one in understanding the intention of an E-marketplace, simply that of bringing together buyers and sellers to trade, much as our ancestors have done for thousands of years. The obvious advantages of the online species are that companies trade without geographical limitations via a low cost medium capable of dynamic pricing, real-time data exchange and thus substantial reductions to transaction costs. Offline exists the muddled wash of Request for Quotation (RFQs), fax and phone enquiries that constitute (for most companies) the execution of paper purchase orders. An Internet purchasing-solution company in Florida for the hotel, restaurant and health-care business estimated that a typical costing for a "paper purchase order is $115"[11], GoCo-op's system has brought that figure down to $10. The efficient streamlining of the procurement procedure is the most immediate advantage of web-enabled B2B commerce transacted through aggregating and matching systems however once beyond their baby steps the exchanges and e-marketplaces' development is going to revolutionize the entire spectrum of business relationships, their impact will be seismic.

2.1 Aggregation Hubs and Matching Markets

While observers of the developing e-marketplace diverge in their classification as to the number of distinct variations, three models emerge clearly: the Exchange, the Trading Hub and the Auction Market. The selection of a suitable model is dependant on the nature of the physical market, whether the e-marketplace serves an industry specific space known as a 'Vertical' or if it addresses numerous unconnected industries referred to as a 'Horizontal' market. Secondly the nature of the goods being traded is also key to the model, companies buy both "manufacturing inputs…raw materials and components that go directly into a product or a process" as well as "operating inputs…often called maintenance, repair and operating (MRO) goods…[such as] office supplies, spare parts …computers and cleaning services" [12] that are not industry specific. The choice is further influenced by the type of purchase being made, either the systematic sourcing of goods usually through "negotiated contracts with qualified suppliers" or spot sourcing where the "buyer's goal is to fulfill an immediate need at the lowest possible cost".[13]

The Exchange

Can be defined as a "centralized market for standardized (or commodity-like) products"[14] and allows the purchasers "to smooth out of the peaks and valleys in demand and supply…to conduct business without negotiating contracts or otherwise hashing out the terms of relationships".[15]

The Trading Hub

Comprising of both industry specific: Catalog Hubs and horizontal market: MRO Hubs, they are a source of vast amounts of information to buyers. The hub often operates as a super-catalogue, an easy to use single interface to a collection of numerous supplier catalogues, detailing product specification, prices, delivery schedules and availability.

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[11] McGarvey, R. from: business To: Business. *Entrepreneur* June 2000 p98.
[12] Kaplan, S. and Sawhney, M. E-Hubs: The New B2B Marketplaces. *Harvard Business Review.* May-June 2000 p 98.
[13] Ibid. p 98.
[14] Sculley, A. and Woods, W. B2B Exchanges. The Killer Application in the Business-to-Business Internet Revolution. ISIpublications USA 1999 p35.
[15] Kaplan, S. and Sawhney, M. op. cit. p99

The Auction Market

While exchanges operate within verticals, the auction market is not necessarily industry specific, it is a model for "liquidating surplus at best possible prices."[16] One version is the Yield Manager, used to "create spot markets for common operating resources like manufacturing capacity, labor and advertising … adds most value in situations with a high degree of price and demand volatility, such as the electricity and utilities markets".[17]

There are many variations on the theme of e-marketplaces however they "create value by two fundamentally different mechanisms: aggregation and matching."[18] The work of the aggregation model is to bring together a critical mass of buyers and suppliers to produce a liquid market. It achieves a reduction in "transaction costs by providing one-stop shopping. PlasticsNet.com, for example, allows plastics processors to issue a single purchase order for hundreds of plastic products sourced from a diverse set of suppliers."[19] The aggregation mechanism is successfully applied where the cost of an item is relatively low in comparison to the transaction cost. Working either in an industry specific vertical as a Catalog Hub where it operates as a 'virtual distributor' or in a horizontal market as a MRO Hub, the value-added service is one of streamlining the e-procurement procedure.

By contrast the matching model seeks to unite buyers and suppliers without pre-negotiation, as they strive to reach a price "on a dynamic and real-time basis"[20]. Working to greatest advantage on the dealing of "commodities or near-commodities and can be traded sight unseen". It is not the relation of low unit cost to high transaction cost that dominates here but the huge volume of goods being traded in comparison to the cost of the deal. The matching model is implemented in Exchanges and Auction markets, while it is a more powerful proposition than the aggregation mechanism it poses problems for scaling up to market demands.

Behind the powerful model of the e-marketplace with its streamlining of the procurement process lies a key dilemma, what becomes of the relationship between buyer and

[16] Sculley, A. and Woods, W. op. cit. p35.
[17] Kaplan, S. and Sawhney, M. op. cit. p99.
[18] Ibid. p 100.
[19] Ibid. p100-102.
[20] Ibid. p100-102.

supplier. The one forged over years of business lunches and golf games, the complexity and value of which cannot be summed up in the price of a contract. In an online arena that teaches the B2C community that 'your competitor is only ever one click away' the threat to the long-term relationships characteristic of B2B trade is not being given the consideration it deserves. In an era where companies are spending hundreds of thousands on CRM solutions the new model of trade creates a situation where companies previously unknown to each other, by the winning bid in an online auction are suddenly committed to a long-term contract. Owens Corning's VP of global sourcing "says he is aware that some suppliers feel his company is devaluing its traditional supplier relationship …[new companies] would be wise to learn the details of the company's business when they come on board".[21]

A good example of the service that keeps a customer happy but does not get formally articulated in a contract is that of the Texas Pallet Company, "60% of shipments are same day orders … [they] make it a practice to provide forgetful customers with the home telephone number of the plant manager. He often gets frantic late-night calls from customers who need a truckload of pallets at their plant gate by dawn" and while the company may try to detail a three year relationship to the specification of Freemarkets.com to allow them to bid online for the contract they have previously fulfilled, "nobody can cover all the details … there's a little perk called trailer parking: Over the years, Texas Pallet drivers have built a system of leaving trailers loaded with extra pallets at customers' yards for emergencies. The guy at Freemarkets doesn't know about that, the customer's purchasing manager doesn't know it – the only person who does know it is the loading-dock foreman."[22] While an electronic transaction may strip down a muddled process of unnecessary time and money, in business it had better not denude it of the human interaction and the value creation born of it.

[21] Richards, B. Dear Supplier: This is going to hurt you more than it hurts me… *eCompany Now* Vol. 1 No.1 June 2000 p142.

2.2 Death of a Middleman

The side effect of placing the buyer in direct real-time connection with the supplier is to cut out the middleman. Long the go-between of the buyer/supplier relationship taking a cut from both parties, the very existence of the broker, the local distributor, the feed-lot, or wholesale aggregator of produce is threatened. Unless these intermediaries can prove a value added service to the trading partners that validates the commission they charge, their future looks very bleak.

The advantage that middlemen have had in the past has been access to timely information as to the state of the market. They have encouraged a lack of market transparency by restricting information, about demand, price and the identity of buyers and sellers, from being widely disseminated. For example the reinsurance market, as it has traditionally contained relatively few brokers, they have been able to control the flow of information between insurers and underwriters charging up to 10% of the premium for making a deal.[23]

Often in highly fragmented markets, as the exchange itself carries out the process of aggregation, small businesses once locked into a necessity of dealing through middlemen are free to interact, to their own benefit, directly with the marketplace. For example the CEO Chuck Abraham of eMerge Interactive exchange "claims he can rescue the struggling cattle industry by eliminating the middlemen between the ranchers and the feedlots, where cows are fattened up before the trip to the slaughterhouse."[24] The middlemen aggregated cattle from small ranching concerns into 'order-barns', before shipping them to feedlots. The process has been traditionally restricted in geographical terms but through an online auction of ranchers (sellers) and feedlots (buyers) a rancher can receive bids directly from feedlots across the country. The feedlots are satisfied as to the quality of the beef via videos viewed online and eMerge's procedure of "prequalifying the cattle by getting ranchers to agree to follow a list of best practices for raising the cows"[25] Ranchers using the exchange are benefiting from higher prices, and "the exchange profits by taking part of what the order barns once received…

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[22] Ibid. p 138.
[23] Sculley, A. and Woods, W. op. cit. p26-27.
[24] Richards, B. op. cit. p 140.
[25] Ibid.

Tim Turner who sold 137 calves over the eMerge site …netted an extra $40 an animal."[26]

In truth the B2B e-marketplace is in its infancy, yet lacking any proven track record the venture capitalists (VCs) are pursuing the startups that can, in any sense attach the term B2B onto their business plan. The VCs are looking for the next Amazon.com of the business world, determined to be in on the ground floor of the next wave, many having missed the first tide of B2C startups. The scope this time is much larger, the Gartner group estimates "by 2004, the business-to-business e-commerce market will be worth £4.8 trillion, representing 6.9% of the global economy". The media hyperbole regarding B2B e-marketplaces, their search for the next wave of Internet millionaires blurs the issue of the true revolution that is taking place. It will be the power of information that will drive this new world not money. Companies will be exposed to a level of transparency that many will fear and indeed resist. Yet the exchange will be a source of information even more than a source of savings, driving a redesign of work flow, supporting full project and supply chain management, emerging now in the construction exchanges of the American Buildnet.com and the UK's Buildonline.com.

The final issue of importance to be raised in this overview is that of the need for government regulation. Is it necessary or indeed desirable to have a monitoring body overseeing these new marketplaces or can free market forces alone ensure fair trade and open competition? It is such issues of the commercial neutrality of the marketplace to ensure fair-trade that incorporates a secondary obstacle to the operation of e-markets. The dilemma presented to many large companies on the subject of a possible e-marketplace in their industry vertical, is whether to: Build it, Buy it or simply Pay to use it. Building a trading platform is certainly feasible but its operation may well infringe fair-trading laws. Buying into an existing e-marketplace may create a perception of bias and thus again incite concerns of fair-trading. The final option of merely paying to use an independent and thus commercially neutral site, may well appear to be a bitter pill for some companies to swallow. GE Plastics are certainly not prepared to pay for the privilege of doing business with their own customers, "We have no intention of turning over our connection to our customers to a third party, which is how we would view any

[26] Ibid.

exchange."[27] GE have set up their own marketplace GE Polymerland, but not without inciting a reaction from its competitors who are now in discussions to set up a rival marketplace.[28]

[27] King, J. B-to-B Exchanges: Lots of Wheeling, Little Dealing *The Standard* 1st May 2000 Available at http://www.thestandard.com/article/1,1153,14651,00.html

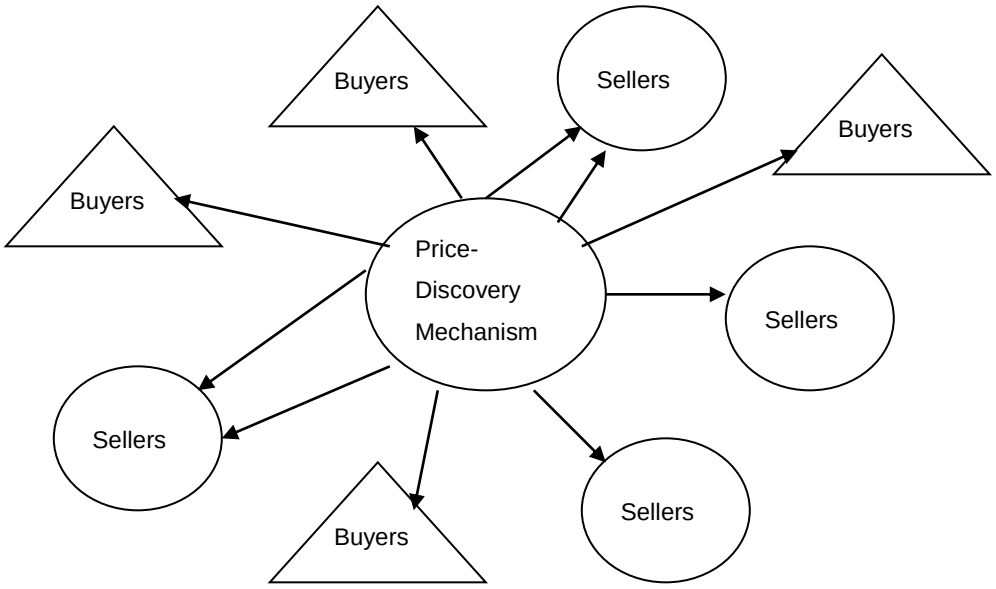
[28]Schonfeld, E. Corporations of the World, Unite! You have Nothing to Lose but Your Supply Chains! *eCompany Now* Vol.1 No.1 June 2000 p126

CHAPTER THREE:
E-MARKETPLACE MODELS

As briefly mentioned in the literature review E-marketplaces exist in diverse and evolving forms. The following chapter will attempt to provide a classification of models; in turn illustrating the form of the e-marketplace, the area of its most successful application, the products suited for trade and examples currently in operation. Implicit to the nature of the e-marketplace is fluidity, an evolutionary process that is constantly developing one form into a more sophisticated model and blurring the boundaries such a classification can impose upon them. Broadly the arena of B2B e-marketplaces can be divided into two categories: Agoras and Aggregations, into which the eight individual forms; Open Market or Post and Browse, Sell-side Auction, Yield Manager, Buy-side Auction, Exchange, Catalog Hub, MRO Hub and Reverse Aggregator will be assigned.

3.1 AGORA

Taking its name from ancient Greece, the agora was “the city’s center for public and especially commercial intercourse. [Tapscott, Ticoll and Lowy] apply the term to markets where buyers and sellers meet to freely negotiate and assign value to goods.



Source: Tapscott et al
Fig: 3.1

An Agora facilitates exchange between buyers and sellers, who jointly "discover" a price through on-the-spot negotiations. Price discovery mechanisms … include one-to-one haggling, multiparty auctions, and exchanges." [29]

3.2 OPEN MARKET OR POST AND BROWSE

The simplest of the agoras, the post and browse model is in essence a bulletin board. It is a place for buyers and sellers to express interest in conducting a particular trade, the nature of which requires one-to-one negotiation, often involving a degree of haggling. "After "meeting"… the parties negotiate a deal between themselves."[30] Such an open forum is most appropriately applied to trades of "unique goods ….of interest to a limited market". [31] The global reach of the Internet allows for actors in highly fragmented markets to connect far more efficiently, to deal such non-standard products.

An example of this model is the Catastrophe Risk Exchange (Catex), "the Internet-based trading system for the reinsurance and risk-bearing industry … Catex brings insurers, reinsurers, brokers, self-insureds, and others together … [to enable] primary insurers and reinsurers to more widely distribute their risks." [32] Similarly, CreditTrade serves the needs of "financial institutions to trade and manage credit risk." [33] Interestingly both Catex and CreditTrade are evolving their models towards full exchanges, however this will only be made possible if the products can be standardized. Currently the industries are hampered by a lack of transparency and the contracts being traded have no form of standardized documentation, making comparison for trading in an automated manner as yet impossible.

[29] Tapscott, D. Ticoll, D. and Lowy, A. Digital Capital Harnessing the Power of Business Webs. Nicholas Brealey Publishing London 2000 p31.
[30] Sculley, A. and Woods, W. B2B Exchanges. The Killer Application in the Business-to-Business Internet Revolution. ISI publications USA 1999 p35.
[31] Tapscott, D. et al op. cit. p44.
[32] Sculley, A. and Woods, W. op cit p196.
[33] Ibid. p206.

3.3 AUCTIONS

Far more sophisticated agoras are the auctions or market makers, operating from both buy and sell sides.

3.3.1 SELL – SIDE AUCTIONS

Developing from the traditional auction format of one seller to many buyers, the online version of the sell-side auction retains the key elements of allowing the seller to set a reserve price, minimum bid and specifying the time frame. There are three modes of practice: the English (or Yankee), the Dutch and the Vickery (second price) auction. Firstly the English auction (with its several variations), basically works on the premise of bidders competing openly with the highest bid winning. In a 'sealed' variation, a single 'best' bid is submitted that remains anonymous to competitors. A Dutch auction offers goods at a high starting price that is incrementally lowered until a buyer is found. Finally the Vickery, (in a more radical variation of an English auction), accepts sealed bids with the highest bidder winning but paying only the price of the second highest bid. In the electronic version all bids entered into the system remain undisclosed to competitors.

Many such industry e-marketplace sites "began as liquidation channels, mostly for manufacturer surplus and secondary products, in high-volume, fragmented markets ranging from paper goods to industrial equipment … the seller could be an overstocked plant dumping surplus goods or a well-heeled distributor selling from a catalog". [34] Many sites have been private, with large companies auctioning off surplus to registered dealers or resellers. For example Ingram Micro, a "$30-billion-plus electronics distributor…[has operated] since 1996… its AuctionBlock". While the company loses money on selling off the old, superceded model goods, in the past it "realized only fifteen to twenty cents to the dollar … now gets three times as much".[35] Indeed in keeping with the evolutionary trend of e-marketplaces Ingram's have developed the model to bring in commissions from selling off the surplus of other companies via their platform, which is now contributing to a "positive cash flow" from the auction.

Where an auction is not private but being run by a third party and is open to a more competitive selection of buyers, anonymity for both parties is of vital importance.

[34] Tapscott, D. et al op. cit. p57.
[35] Ibid. p58.

"Anonymity protects sellers from buyers who might try to turn a one-time deal into an everyday low price. Similarly, the seller can only guess the buyer's identity and strategy."[36] Anonymity allows companies to trade goods without adversely affecting their negotiating position for future deals and indeed "wholesalers …prefer to keep end-customers ignorant about price cuts in the channel."[37] The third party auction company must become a trusted context provider. For example FastParts.com, a semiconductor commodity exchange, ensures anonymity and an infrastructure of "fulfillment [logistics], escrow and payment" [38] facilities.

3.3.2 YIELD MANAGERS

A variation on the theme of sell-side auctions are yield managers, used for the spot sourcing of operating inputs such as "manufacturing capacity, labor, and advertising, which allow companies to expand or contract their operations on short notice… adds the most value in situations with a high degree of price and demand volatility" or particularly offers increased flexibility to business where huge fixed-cost assets e.g. manpower cannot be liquidated or to the contrary, acquired rapidly.[39]

Examples include: Youtilities (for utilities), Employease and eLance (for human resources), CapacityWeb.com (for manufacturing capacity) and Adauction.com (for advertising).

3.3.3 BUY – SIDE OR REVERSE AUCTIONS

Such auctions operate to allow a buyer to receive bids from many sellers. Traditionally conducted through sealed bids in a 'request for quotation' (RFQ) system, a buyer expressed a set of requirements, hopeful suppliers replied with their best price and a choice was made from the returned bids. This is often not a fair or efficient way of contracting a supplier, as a buyer may have extensive details that it finds difficult to articulate as requirements. This can lead suppliers into confusion and RFQs that are open to interpretation give rise to bids that are not readily comparable, and further a company intent on gaining a foothold in or a long-term lucrative relationship with a business, may purposefully bid below their costs to win. The online model of the buy-

[36] Ibid. p57.
[37] Ibid.
[38] Ibid.
[39] Kaplan, S. and Sawhney, M. E-Hubs: The New B2B Marketplaces. *Harvard Business Review* May-June 2000 p99.

side auction may be little more than a straight transfer of the offline procedure; government sites often publish RFQs on the Web, still inviting the sealed bid response for the old manner of selection.

More interesting is the innovative Net model of real-time negotiating that Freemarkets.com has developed. The market makers, based in Pittsburgh concentrate on the procurement of "commodities and components for heavy industrial manufacturing… the company advises that its offerings work best for big-ticket purchases for which the supplier market is highly competitive." [40] The auctions usually last 20 to 30 minutes and resemble a typical English auction in open bidding. However identities are protected during the process, the buyer knows the identity of the competing sellers while they remain anonymous to each other, this allows a buyer to chose the bid best suited to its needs, not necessarily the lowest but perhaps the second lowest as it comes from a trusted supplier and thereby may save costs in transferring business. Even staying with an incumbent supplier, using the e-marketplace generally ensures the production of a winning bid that is lower than the price of the old offline contract. Contrarily, the winning bid is the lowest rather than the highest, as the buyer and seller positions are reversed. In this e-marketplace, sellers/suppliers compete in real-time with each other to win the buyer's business. This works much to the benefit of the buyer, "General Motors, United Technologies, Raytheon, Quaker Oats – big, shrewd buyers … have saved more than 15%, on average, buying parts, materials, and even services at Freemarkets."[41] The process can only succeed if the bids are comparable, thus Freemarkets are rigourous on the exact detailing of buyer requirements and in the online bid construction for the sellers. Indeed "Freemarkets makes most of its money from its consulting services to help buyers and sellers in constructing comparable bids."[42] It does a great deal of work in vetting prospective sellers, [it] is also expert at finding and screening suppliers that clients don't have the time or the information to track on their own … surveying its finances, its ISO or other quality ratings, and the condition of its equipment".[43]

[40] Ibid. p59-60.
[41] Tully, S. Going, Going, Gone! *Fortune* Vol. 141 No.6 p132+ Available at http://library.northernlight.com/LH20000314020000576.html Checked 26/06/00.
[42] Tapscott et al. op. cit. p59.
[43] Tully, S. op. cit

Examples of auction e-marketplaces for both buy- or sell-sides include; Freemarkets, TradeOut.com, eMerge (for cattle), Gofish.com (for fish) and Farmbid.com (for agricultural produce).

3.4 EXCHANGES

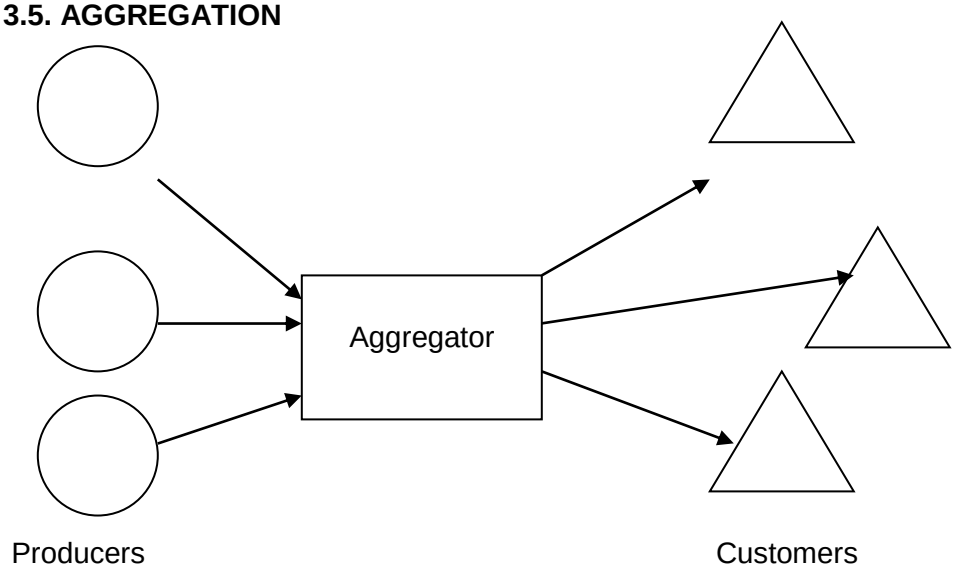
The most advanced and complex of the agoras is the Exchange, used for trading stock, commodities or commodity-like products that are in high, constant, supply and demand flux. “Arguably, exchanges are the most sophisticated and powerful market mechanism of all. Open markets and auctions usually price unique transactions, but a robust exchange defines the universal spot price for a good. Exchanges work best for commodity-like goods: those in high demand, available in volume from a variety of producers, and relatively undifferentiated.”[44]

Exchanges “work as a series of multiple auctions, in which many players simultaneously trade various goods in different volumes using fast-paced bid-and-ask mechanisms. Sellers and buyers frequently switch roles. The same items may be sold and resold day in and day out, with continually fluctuating spot markets that make the price … from one moment to the next.”[45]

Examples of B2B exchanges include; eSteel, PaperExchange.com, IMX Exchange (for the home mortgage industry), Altra Energy, ChemConnect and California Power Exchange.

[44] Tapscott et al op. cit. p. 46.
[45] Ibid. p45.

3.5. AGGREGATION



Source: Tapscott, Ticoll and Lowy

Fig: 3.2

"An Aggregation's value proposition depends on six complementary variables: selection, organization, price, convenience, matching, and fulfillment."[46] 'Selection' refers to the array of vendors represented in the hub, a wide reaching choice of sellers is essential to attracting buyers and realizing the cost savings of an aggregation's proposition. 'Organisation' of goods is far more flexible online and hubs can list hundreds of thousands of products. However the traditional placement of products seen from the viewpoint of offline Marketing is unusable, where "sellers pay for spots on eye-level shelves or high-exposure end displays."[47] While e-hubs lose out on the supermarket trick of placing fruit and vegetables at the opposite end of the store to, the also basic purchases of, dairy products and thereby "maximizing shopping time, not convenience", they do have some advantages. "Digitally organized content can have unlimited depth. Behind every item on the shelf of a physical retail store lurks another just like it or an empty shelf"[48], yet for the e-hub the click selection of an item can activate a new screen array of other options, thus reaping the benefits of product affinity. E-hubs track

[46] Ibid. p67.
[47] Ibid. p81.
[48] Ibid. p83.

customer visits, the browsing and buying patterns and use that critical information to reorganize the hub, based on "frequency of purchase and vendor preference." [49]

'Price' is trumpeted as the great value of the aggregation, the philosophy of one-stop shopping for business procurement. The efficiency of the new online markets are certainly cutting costs both through saving time and slashing transaction costs. The hubs currently operate on a fixed price catalogue listing system however, "in the long term, these cost advantages will erode, [hubs] will compete by differentiating their offerings".[50] Ultimately, many hubs will evolve into more dynamic price-setting mechanisms, through their ability to aggregate buyer power, this will have huge appeal to the vast market of small business buyers.

"The epitome of Convenience is doing nothing at all – having your needs met without exertion or effort …met before you're even aware that you need anything."[51] The 'open all hours', easy use and single interface access that are the expectations raised by the Web, can be compounded by just-in-time supply. In the embryonic stages as yet, aggregations are moving into the realm of workflow redesign, integrating control of the entire supply chain. (Further examined in Chapter 6).

'Matching' is the attempted solution to the problem of the disruption of the buyer's experience when purchasing on the Net, where the selection of goods is disconnected from their physical form. While this creates important problems in the consumer world, for many shoppers enjoy the physical experience of selecting clothing or groceries, in the B2B world the solution is generally the provision of pertinent information. In addition to the product information contained in seller catalogues, E-hubs are providing technical dictionaries, expert reports, database access and even career opportunities. For example Chemdex, a hub for the life sciences industry "combines the catalogs of more than one hundred suppliers representing 120,000 products … augmented by information resources … the Dictionary of Cell Biology and GenBank, a database of gene sequences".[52]

[49] Ibid. p81.
[50] Ibid. p84.
[51] Ibid. p86.
[52] Ibid. p75.

Finally ‘Fulfillment’ addresses the challenge of delivering goods to the buyer, a vital element of success for hubs operating in a business world dominated by trade in physical goods.

3.5.1 CATALOG HUBS

Catalog hubs operate in industry specific verticals, compiling supplier product information from across the industry into one format, and are used for the systematic sourcing of manufacturing goods. An E-hub can be either seller or buyer focused. Working as ‘virtual distributors’ for sellers, by for example providing global reach to small, highly specialized companies or on the buyers’ behalf as an aggregator of buyer power to enhance their position when dealing with suppliers. Success is dependant on the fullest range of participation by the industry’s suppliers and as verticals have specific products the hub is usually fully integrated into the logistics of goods delivery. For example, Chemdex is expert in arranging fulfillment of chemical orders. Other catalog hubs include; PlasticsNet.com and SciQuest.com (for life sciences) and TheSauce.com (for the restaurant trade).

Often once established, catalog hubs begin evolving into agora marketplaces. For example Rooster.com, an agricultural site, initially operating as an aggregation for farmers’ purchases of pesticides and fertilizers, it is now buying the farmers produce and selling that in real-time auctions.

3.5.2 MRO HUBS

In contrast to Catalog hubs, MRO Hubs are not industry specific but address horizontal markets. The goods traded on a MRO hub (standing for Maintenance, Repair and Operating) are the general products needed for any business’s operation, such as office supplies, industrial clothing, computer systems and travel tickets. The MRO hub is most effectively applied to the purchase of “operating inputs … low–value goods with relatively high transaction costs … [providing] value largely by increasing efficiencies in …procurement”.[53] Alike to their sister Catalog Hubs, MRO e-marketplaces carry out the legwork of gathering suppliers’ product information, vetting and rating sellers, with direct electronic routing of orders slashing paper generation and transaction costs. One of the best examples of the MRO hub is Ariba, with over 20,000 suppliers the emphasis is on

one-stop shopping with unprecedented choice for buyers. Further examples of hubs gaining widespread recognition are, CommerceOne and W.W.Grainger.

3.5.3 REVERSE AGGREGATORS

As previously noted one function of an aggregation can be the accumulation of buyer power. Unlike the Catalog and MRO hubs detailed above, Reverse Aggregations are buyer biased rather than neutral and can operate in both vertical and horizontal markets. By aggregating the purchasing power of buyers looking for manufacturing inputs, this model can profoundly impact negotiations with suppliers. Working most effectively in markets where there is a high fragmentation on the buyer side, or where the market is dominated by a few large buyers but has many small and mid-sized buyers. The reverse aggregation can produce a significant discount on purchases by negotiating with suppliers on the terms of volume buys. Previously only enjoyed by large buyers, volume discounts can approach 20%. Where agora models characteristic of negotiated pricing, are closely tied to spot sourcing of goods, the Reverse Aggregator can address both spot and systematic purchasing, also assisting buyers in long-term negotiations. An example of such an e-marketplace is Fob.com, it serves small buyers in various verticals such as the chemicals market. Other examples include: BizBuyer.com and PurchasingCenter.com.

[53] Kaplan, S. and Sawhney, M. op cit. p98

CHAPTER FOUR
GENERATION OF REVENUE: PRICING MODELS

E-marketplaces came into existence for the primary purpose of making a profit. While losing money in the short term seems at times a given for an Internet company, the sites in operation are inching towards the holy grail of 'critical mass'; the vital accumulation of buyers and sellers needed to ensure the realization of the site's value proposition. In fact the range of models for creating an e-marketplace mirrors the variety of ways by which it may generate revenue. However many sites suspend charges or offer greatly reduced rates as 'introductory offers' and specials to encourage users to change their existing mode of business in favour of the new on-line efficiency. The rate of take-up, as it is known, is critical to the success and indeed survival of the e-marketplace. Thus the cost of participating in a site may be levied at only the sellers, split between the trading parties at their discretion or temporarily absorbed by the site itself. While obviously certain e-marketplaces appear suited to particular pricing models, in practice revenue is generated using a combination of these and is determined by a complex interplay of market (vertical or horizontal), profit margins within an industry, guarantees on clearing procedures and the nature of the goods being traded.

The following lists the distinct approaches that can be taken to pricing:

- Posting Fee
- Membership or Subscription Fees
- Listing / Hosting Fees
- Transaction Fees
- Software Licensing and Consulting Fees
- Advertising and Permission Marketing
- Information Selling
- Information Licensing

4.1 POSTING FEE

Simply, it is the charging of a set fee from each 'posting' (- the listing of a trade's details) or order that utilizes (- commences negotiations or completes a transaction), over the site. The posting fee may be used in conjunction with transaction charges, as evidenced in the Nasdaq stock exchange. However implementing such a flat rate charge may

create a problem. The need for the e-marketplace to attain critical mass and sustain the volume of trade needed to prosper, can be adversely affected by a revenue system dependant on earning a slice of every deal, particularly with regard to expecting users to pay for non-completed or failed deals. The first solution is thus to charge a fee only on successful postings. Or more creatively, a solution which encourages high volumes in trade, while still reaping a posting fee reward, is "to charge … but to provide volume discounts that move rapidly towards a zero cost if a player makes a lot of postings".[54] Having such a sliding scale for fees helps add to the value of the site by enhancing its liquidity.

4.2 MEMBERSHIP OR SUBSCRIPTION FEE

A standard pricing model is the charging of a one off, join-up fee. This can take the form of an initial sum paid on becoming a member of an e-marketplace, and can be supplemented by maintenance fees from retaining membership. As an 'introductory offer' to encourage take-up of the site, this fee is waived by many sites.

4.3 LISTING / HOSTING FEES

An e-marketplace can generate revenue from companies whose products the site lists. Particularly applicable to the Catalog and MRO hubs, where a site can demand a "hosting charge [from] suppliers for them to set up their virtual storefront".[55] The e-hub offers the complete infrastructure to enable e-commerce, with all the support facilities of search mechanisms and information resources. To supplement this revenue stream, often premium prices are charged "in order to enlarge or enhance [a supplier's] listing with graphics, hypertext links to their own web sites, etc." [56]

4.4 TRANSACTION FEES

Seen as the fundamental pricing model for generating revenue in the e-marketplace, transaction fees are of themselves varied, and their manner and form depend on the particular site. Most frequently the transaction fee is a percentage of the value of the successful trade. The size of the percentage is determined in part by the profit margin

[54] Sculley, A. and Woods, W. B2B Exchanges. The Killer Application in the Business-to-Business Internet Revolution. ISIpublications USA 1999 p100.
[55] Ibid. p103.
[56] Ibid. p 105.

within a vertical or by the volume of individual trades. For example in the financial world a single trade may be worth hundreds of millions of dollars, but the industry is driven by keeping transaction costs to a minimum and would only be prepared to pay a tiny part of the deal's worth to the site that had facilitated the parties meeting. Other verticals can withstand far higher percentage charges, "PaperExchange charges the seller a transaction fee of 3% of the value … for paper-related and equipment listings"[57], while the e-Steel site charges 7/8 of 1%, again only to sellers.

Many of the pricing models of course exist in the offline world, but a new model for transaction fees is the earning of a percentage of the cost savings made. Excitingly, the revenue for the site is generated out of its own efficiency. Unfortunately the "fee can only be charged in the year in which the savings actually occur and will decline over time as the size of the savings decline."[58] However for a site such as Freemarkets, this form of transaction fee can certainly aid first-time user experience and the company's own bottom line while it offers concessions in other areas to assist take-up. Freemarkets saved United Technologies $32 million on a purchase of circuit boards, a 43% reduction on their expected cost.[59] An extreme example perhaps but with buyers (at Freemarkets) saving on average 15% against expected outlays, at least initially a site can view this type of fee as substantial.

4.5 SOFTWARE AND CONSULTING FEES

In constructing an e-marketplace, a site may develop a "sophisticated trading platform with integrated logistics and back-office functionality, it is possible to license this software to other[s]".[60] The licensing would only apply to sites not in direct competition, for example different verticals. Although sites do not charge for 'set-up', the connection to the web-based system, they may make additional revenue from providing "desktop procurement solutions that deliver enhanced functionality [within the site] and link partners' systems… for back-office services such as tracking, invoicing and handling receivables."[61]

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[57] Ibid. p100.
[58] Ibid. p101.
[59] Tully, S. Going, Going, Gone! *Fortune.* Vol. 141 No. 6 20th March 2000 p132+
[60] Sculley, A. and Woods, W. op cit. p107.
[61] Ibid. p 241.

Another valuable addition to revenue, particularly for the auctions or market-makers is consulting fees. Providing guidance can be lucrative in this new on-line world, assisting buyers and sellers on how best to detail the requirements of the posting and the effective production of comparable bids is a major stream of income. Freemarkets, as previously noted, currently makes the majority of its revenue in this way.

4.6 ADVERTISING AND PERMISSION MARKETING FEES

Of particular importance for industry verticals, e-marketplaces are in a position to extract revenue from advertising on the site, for example the ubiquitous banner advert. Many sites operate, in one sense, as a comprehensive directory of a vertical's key players and in highly fragmented markets as an on-line 'Yellow Pages' to a myriad of small and mid-sized participants. This often financial and quality rated selection of, and access to an industry is extremely valuable in terms of being able to accurately target advertising. However where in the recent past banner advertising has been poorly received, the new on-line variants are proving effective and far less irritating. The so-called 'Permission Marketing' is an approach whereby site users agree to receive commercial e-mails that are relevant to their interests. During the membership procedure, new users note their 'specific areas of interests' and thereby 'opt-in' to receiving the e-mails. Users of the site can be encouraged to give permission for such e-mails through receiving a reduced membership fee [62] and thus make the site very attractive to advertisers. This method of advertising is "generating click through rates as high as 20% and helping publishers, catalogers, and E-commerce companies to reach their target market quickly, cheaply and responsibly."[63]

4.7 INFORMATION SELLING

A revenue stream that becomes possible once an e-marketplace has matured and gained a powerful market space, is the selling of information generated by its operations. Applying to the dynamic agora of exchanges where the universal spot price of a product is defined, the information may be unique and thus highly valuable, producing both "trading information for each day and historical trading data".[64] Traditional stock exchanges have long sold their 'trading information and pricing data' to information

[62] Ibid. p106.
[63] Ibid. p106.
[64] Ibid. p104

vendors such as Reuters who “pay a fee …in order to receive a real-time feed”. [65] The fee is paid for information that approaches ‘the definitive’ available, smaller exchanges also produce trading information but their lack of market dominance decreases its value. Although vendors are “usually willing to carry the data on their systems (without paying for it) in order to be able to claim that their screens are the most comprehensive information source.”[66] Rather than selling trading information to external parties, many exchanges allow only members to purchase the data. Auctions also are in a position to sell information, an example is Manheim Online, a site for daily used car auctions. Manheim “charge a fee for car dealers to buy the list of all the sale prices from the on-line auctions…Clearly the current fair market value of used cars … is very valuable information to the dealers.”[67]

4.8 INFORMATION LICENSING

Again with reference to mature exchanges a whole new ‘product’ can emerge. The pricing information that compiles from the peaks and troughs of demand, can “be used to create products such as futures or options contracts that are “derived” from cash prices.”[68] Known as derivatives, an exchange can generate revenue from the sale of the pricing data that is used in the formation of these contracts. A classic example comes from the mature financial markets, and is that of the London Stock Exchange and its partnership with the Financial Times, which “creates and publishes the leading equity and bond indices in the UK and Europe. The FTSE 100 index is based on the pricing data” [69] published by the exchange. Once the new exchanges trading energy/fuels, chemicals, resins and so forth gain dominance within their market space, more derivatives will become widely available for trade. Offering perhaps previously, unrealised opportunities for manufacturing companies that are members of these sites and privy to this new source of information, to generate revenue.

As noted at the outset of the chapter, e-marketplaces use a combination of the above pricing models to earn their living. The following attempts to match an e-marketplace model to the suited revenue streams. The first example is that of an Open Market or

[65] Ibid. p104.
[66] Ibid. p104.
[67] Ibid. p104.
[68] Ibid. p105.
[69] Ibid. p105.

Post and Browse model, Catex, the reinsurance and risk-bearing vertical, trades unique products that require one-to-one negotiation. Its primary source of revenue is membership fees, paid on an annual basis for use of the system. In addition Catex charges a transaction fee, in the form of a commission of one-tenth of 1% on the premium of a reinsurance sale. Such a charge is agreeable to the trading parties for although the trades are individually worth millions intermediaries within the industry typically would charge between 5 and 15%. [70]

A true business to business exchange exists in the form of e-Steel, a global market trading in all prime steel products. Its revenue is generated through transaction fees, it charges sellers less than 1% of all trades concluded on the site. As e-Steel "wants to provide a "frictionless" marketplace … there are no membership, subscription, or posting fees."[71] However it anticipates a charge being levied at sellers who wish to list "exclusive supplier information" on the site.[72]

The aggregation PlasticsNet displays the mixture of revenue streams that are pursuable by an e-marketplace. While it charges no membership fees for use of the system, to encourage take-up, it does charge transaction (which vary based on product line) and posting fees (for example on career opportunities). From its more than 200 suppliers PlasticsNet reaps advertising and marketing revenue, even allowing market researchers access to their on-line membership list for a fee. There is no connection charge made for allowing new members to begin trading but the company does sell desktop procurement solutions that enhance functionality of the site and deliver back-office services (tracking, invoicing, etc.).[73]

[70] Ibid. p199.
[71] Ibid. p223.
[72] Ibid. p223.
[73] Ibid. p241.

CHAPTER FIVE
CONDITIONS FOR SUCCESS

Success in the B2B e-marketplace is dependant on a complex interplay of many factors, even though the value proposition of agora or aggregation remains the same streamlining of procurement and slashing of transaction costs. The incorrect selection of marketplace model, revenue stream or failure to inspire trust in potential users, will spell disaster. The following list attempts to encapsulate the key issues that must be addressed in the creation of a viable e-marketplace:

- Market Shape
- Deep Domain Knowledge
- Critical Mass and Liquidity
- Neutrality
- Transparency and Integrity
- Technological standards
- Building a Virtual Community

5.1 MARKET SHAPE

The shape of the existing market proves fundamental to the selection of the appropriate e-marketplace model. As the foundation upon which all else is built, it is market shape that dictates the application of agora or aggregation, horizontal or vertical, demands neutrality or allows bias. Simply speaking, a market can have two possible shapes: the Pyramid or the Butterfly (figures 5.1 and 5.2 respectively). All markets have two sides, constituting buyers on one side and sellers on the other. Further a market can be said to demonstrate a degree of fragmentation, this refers to the volume of individual companies that occupy either side. If many companies operate on one side, this denotes a high degree of fragmentation. Markets can be fragmented on one or both sides. The pyramid shape describes a market fragmented on only one side, with the shape being easily inverted to mirror the imbalance of a market highly fragmented on the buyers' side, such as the market for semiconductors where Intel and IBM almost completely dominate on the seller side. Conversely, the automobile manufacturers comprise a buy side of very small numbers, yet have a highly fragmented supply side of thousands.

The Butterfly however is known as a balanced or 'neutral' market, with a high degree of fragmentation on both sides.

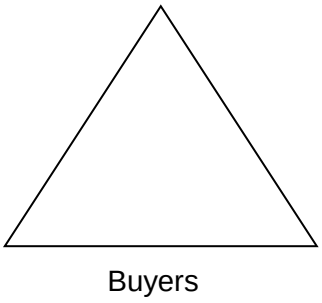

Fig:5.1

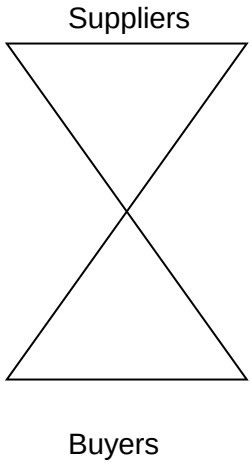

Fig:5.2

Only in the neutral or butterfly market can the sophisticated Exchange truly operate. A neutral marketplace favours neither buyer nor seller over the other, and is therefore of equal attraction to both sides. Its value proposition is derived from its ability to lower prices through a high degree of open competition and to improve the probability of matching buyers to sellers (known as a market's 'liquidity'). Having many players in a market means of course that while deals are numerous, they do not consist of the individual volumes displayed by the apex of a pyramid market. Thus "Fragmentation means huge processing costs for buyers and sellers … That's a great place for an intermediary."[74]

If a market is fragmented on one side only, "the benefits are greatly reduced for the nonfragmented side".[75] Where only a small number of buyers or suppliers constitute one side of the market, these companies are able to operate as a 'cartel', setting the price for their product and holding the 'power position' in future negotiations. For an exchange, the result of involvement in such a market may be an artificially manipulated exchange price, thereby negating the model's value proposition. Or of course the companies of the non-fragmented side could simply refuse to concede the power position, and by refusing to take part, starve the exchange of trade and fodder for the constant negotiations on price that form the basis of its function. Thus while it is wise for the Exchange model to

[74] Anon. Seller Beware. *The Economist* March 4th 2000 p86.
[75] Kaplan, S. and Sawhney, M. E-Hubs: The New B2B Marketplaces. *Harvard Business Review* May-June 2000 p103.

avoid pyramid markets, other models excel in such areas. Rather than a balanced, 'neutral' e-marketplace, the models that operate best in an asymmetrical market are in essence 'biased'. The bias means that the market favours one side of the deal flow over the other. Biased e-marketplaces cross the agora/aggregation divide operating in any market displaying fragmentation on one side; they "exist as aggregators in systematic markets or as matchers in spot markets."[76]

"When they favor sellers, biased e-hubs act as forward aggregators that amass supply and operate downstream in a supply chain or as forward auctioneers."[77] Favouring of buyers occurs in reverse aggregations and reverse auctions. A reverse aggregator such as FOB.com "attracts a large number of buyers and then bargains with suppliers on their behalf."[78] Or the reverse auctioneer Freemarkets, which favours the single buyer in an auction with many sellers.

5.2 DEEP DOMAIN KNOWLEDGE

Of critical importance to the creation of an e-marketplace for operation within a vertical, is a considerable depth of knowledge of the relevant industry. It is essential that the model is appropriate to the market shape of the vertical but further that the creators of the e-marketplace can tailor their model to the industry. Only from experience and expertise can this be accomplished, through understanding the driving forces, legislation and concerns of an industry, can a model hope to attract the necessary number of buyers and sellers to ensure success. Questions of profit margins within an industry will in part dictate the primary revenue stream selected, complex logistics may be vital if physical goods are being traded and all-important issues of building trust between e-marketplace and users still heavily relies on personal reputations. Gaining the initial entrance to meet with and recruit for membership the key players within an industry is still largely done through personal contacts. This is vital to the take-up of an e-marketplace and its viability in the early days of its operation.

Understanding the value that can be extracted from the information collected and indeed produced by a model again depends on deep knowledge of the industry's domain. Success comes from a model focused on its customers, on a customer-orientation that spots openings in the manner of trade and seeks to explore, exploit or improve them for

[76] Ibid. p102.
[77] Ibid. p102.

the benefit of its users. This can be witnessed for example in workflow redesign or in the additional revenue that can be produced through derivative trading.

5.3 CRITICAL MASS AND LIQUIDITY

Common to all e-marketplaces is the necessity of establishing 'critical mass' – referring to the number of users on a system and 'liquidity' – the volume of transactions being processed through a model. As mentioned in Chapter 2 the membership and subscription fees are often waived to encourage take-up and thus assist this building of critical mass. The primary objective of the new e-marketplace must be to achieve dominance within its market as quickly as possible. For any industry vertical will only be capable of sustaining two, or at the most, three e-marketplaces. There are therefore strong benefits to being the first entrant into a vertical – known as the 'first mover advantage'.

To ensure growth of the e-marketplace the key players of an industry must be recruited, once the big names are on board the smaller companies will follow. This sets off what is known as "viral growth …the site with the most or the best buyers will attract the most or the best suppliers, which will generate transaction liquidity and that in turn will attract more buyers."[79] Utilising personal contacts and solid reputations can assist in the building of a credible e-marketplace where key players can be approached and signed up. Further once critical mass is achieved and liquidity is building an e-marketplace has created a 'positive polarity'. In others words once companies have signed up to an e-marketplace, begun to trade and indeed alter its method of doing business, it becomes most reluctant to cause any additional disturbance by moving to another model. This inertia operates much to the advantage of the early entrants into a vertical, creating high barriers to entry for any late competitors.

The issues of ensuring take-up and thus developing critical mass vary between market shapes. The challenge facing neutral markets is best described as the 'chicken and egg' problem. How are sellers to be encouraged to join an e-marketplace when initially buyers are limited in numbers, and vice versa. One solution to this problem is the path Chemdex chose, the e-marketplace "partnered with a large existing cataloguer –

[78] Ibid. p102.

VWR…send[s] all its business through Chemdex in exchange for an equity stake …and [no charging of] transaction fee[s] to VWR's largest buyers."[80] While this went far to ensure the necessary number of users and also to guarantee Chemdex's liquidity and thereby its viability, this choice would raise concerns if applied in a wider scope. Offering equity stakes in the new e-marketplaces, primarily to key buyers or sellers to gain their support and trade, can also have the unfavourable side-effect of alienating other industry players by creating a "perception of bias."[81] Further the application of models to the neutral, butterfly market must "overcome the sellers' channel conflict. After all, sellers usually participate in these markets at the expense of their normal distribution channels."[82] Many companies are reluctant to risk long-term relationships with their traditional distributors (often their main path to market) until an e-marketplace has proved the volume of its trade is worth angering the old avenues.

Conversely, biased e-marketplaces are not faced with the 'chicken and egg' problem; they need only pursue one side of the market as their value comes from aggregating the power for demand or supply. Those models "that are biased toward buyers typically don't have to overcome channel conflict."[83] However for the reverse aggregator, who consolidates buying power to achieve supplier discounts for volume purchases, the key players of an industry already enjoy such economies of scale. Thus the e-marketplace must focus its recruitment of users from the small and mid-sized company arena. This can pose "challenges for cost-effective customer acquisition"[84] and limits the application of revenue streams, for example from software licensing where high fees would prove prohibitive to take-up for small firms.

5.4 NEUTRALITY

In contrast to descriptions of markets being biased or neutral, the question of the e-marketplace being neutral in commercial terms is of vital importance. As touched on previously, e-marketplaces must be cautious about which parties own stakes in the company. Parties with vested interests will attempt to control the development and

[79] Sculley, A. and Woods, W. B2B Exchanges The Killer Application in the Business-to-Business Internet Revolution. ISIpublications USA1999
[80] Kaplan and Sawhney op.cit. p102.
[81] Ibid. p102.
[82] Ibid. p102.
[83] Ibid.p102.
[84] Ibid. p103.

direction of the marketplace, often to its detriment. The power derived from holding equity stakes for key players (buyers or sellers), may well interfere with the creation or future innovation of an efficient trading mechanism while they attempt to protect their existing business. This situation has arisen for some of the world's stock exchanges. The London, New York (NYSE) exchanges and Nasdaq have traditionally been owned by their broker members. These parties have placed restrictions on the updating of trading mechanisms, such as the introduction of the effective "central limit order book with automated execution"[85]. Intending to protect their business the result has been a quite striking failure, to the extent that the new Electronic Communication Networks (ECNs) have been able to acquire more than 25% of daily trading (its liquidity) from Nasdaq and 5% from the NYSE.[86] Further Nasdaq has been rocked by the scandal of spread fixing – the brokers have colluded to keep the 'spread', the difference between the bid and ask prices that represents their profit, artificially high. The ultimate outcome of this situation for the world stock exchanges has been the wide spread decision to 'de-mutualise', to turn into a "neutral, for-profit company with a wide ownership structure and the flexibility to innovate and change its business model."[87]

To succeed the e-marketplace must be representative of the interests of all the users, be they buyers, sellers, broker intermediaries or information vendors. To ensure that users have trust in the neutrality and fair dealing of the e-marketplace, there must exist an independent process to handle the opinions, views and influence of all user groups. The easiest way to achieve this is the creation of an Advisory Board. The board provides a forum for users to have input into the future direction of the e-marketplace, its trading methods, settlement rules and regulations. As its prime purpose, the "advisory board acts as a counterweight to the purely commercial interests of the shareholders."[88] The members of the board should be from both key and smaller players and of "highest-level industry representatives and highly credible thought leaders."[89]

Fundamental to instilling trust in users and maintaining the credible operation of an e-marketplace, is the appropriate and consistent treatment of confidential data. The users

[85] Sculley, A. and Woods, W. op cit. p134.
[86] Ibid. p10.
[87] Ibid. p135.
[88] Ibid. p139.
[89] Ibid. p139.

of the system must be totally convinced that information regarding their trading practice, price tolerance and financial records are secure and not available to their competitors. This is very important, as the competitors are of course co-users of the system. The data, particularly that which is accumulated over time through the operation of the e-marketplace, often records of price fluctuation and trading volumes not previously available, have already been identified as a possible revenue stream. It is the wise dissemination of this information that derives value for the users and the e-marketplace itself.

Predictions of B2B e-marketplaces becoming such high, profit-making propositions have caused the issue of neutrality to become even more pressing. Large companies having seen their markets to individual consumers eroded by the likes of Amazon.com in the arena of B2C trade, are naturally unwilling to lose out again on the latest wave of e-commerce. Thus many corporations are creating their own B2B e-marketplaces, seeing their expertise and dominance within a vertical as a winning hand in the new game. The new trading platforms created, certainly lack neutrality and should thus fail to attract users. In balanced markets this is proving fairly true, as several CEOs mention, why should they use a competitor-owned system, paying them transaction fees when they could roll out their own platform.

However within pyramid markets, these bolt-on e-marketplaces are being rolled out by companies that dominate the industry's landscape. Due to their buyer power such companies can force suppliers in a 'comply or die' situation, unable to risk losing the business small suppliers have little choice but to join up. The value proposition of these models is often interpreted as one of driving down suppliers' prices through heightened real-time competition, added to charges for transaction or membership fees, the supplier is in a no-win situation. General Motors (GM) it could be argued, are pursuing this line, having witnessed and enjoyed cost-savings as a member of Freemarkets' buyer auctions, the company decided to set up its own marketplace. While Glen Meakem of Freemarkets points out "suppliers wouldn't trust GM or any other big company to run a fair, neutral auction house…It's a case of the fox running the henhouse!"[90] In truth GM are in a position to force their suppliers to join the marketplace.

This highlights an additional problem facing suppliers, for obviously most companies supply more than one firm. If the key players of an industry create their own individual platforms (using proprietary technologies), then the suppliers are further burdened by high infrastructure costs to acquire the technology necessary to use the systems. Instead of supporting an e-marketplace's value in offering a huge choice of suppliers the model regresses to the problems of EDI – high expenditure on technology and a trend of exclusivity rather than the e-marketplace's aim of inclusion.

In the above example of the automobile industry, many thousands of the industry's suppliers carry out work for several of the dominant firms. Known as the Big Three – GM, Ford and DaimlerChrysler were proposing to create individual and competing marketplaces. The promises of empowering their suppliers, by aggregating the buying power of their marketplace to slash the suppliers' raw material costs, were seen as pipedreams by many of those very suppliers. The economies of scale and thus the cost savings may have been real enough but the cost to suppliers of implementing three or more infrastructures would have been far more. "Why [the suppliers] asked, were [the Big Three] … all building proprietary exchanges on the largest open network in the world? How would a supplier save any money by having to build three separate versions of the same commerce technology…How indeed."[91] Thus in an unprecedented move the Big Three have decided to lay down their weapons and collaborate on a tripartite e-marketplace, "if we're telling the supply chain that this is good for them, we can't give them a model that drives inefficiencies."[92] However the benefits to the suppliers remain vague and unproven, "suppliers still worry that the new e-marketplaces will turn out to be just a fancy new way to beat them up on price…the site… has the potential to give the automakers greater insight than ever into supplier cost structures."[93] Thus giving the Big Three and the other carmakers lining up to sign-on to the site, the information necessary to apply huge pressure in demanding price cuts. The trading platform's lack of neutrality raises important issues of 'anti-trust', infringement of the fair trading laws. For it is easy to see where such a new manner of collaboration between competitors (within the apex of a pyramid market) could easily be seduced into the unlawful behaviour of a cartel.

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[90] Tully, S. Going, Going, Gone! *Fortune.*Vol.141 No.6 20th March 2000 p132+
[91] Gibbons Paul, L. the Biggest Gamble yet. *CIO Magazine* 15th April 2000 p2 Available http://www2.cio.com/archive/041500_gamble_content.html
[92] Ibid. p8.
[93] Ibid. p9.

The intended trading platform of the Big Three will be further examined in Chapter Six.

5.5 TRANSPARENCY AND INTEGRITY

"A fair market is one that is transparent and built on integrity"[94]these twin issues are vital in building trust among users and thus ensuring users will continue trading in the e-marketplace. Transparency refers to the degree of information the model discloses concerning the details of its trade, details such as full product specifications, prices, completed trades (although the parties may remain anonymous) and trading volumes. "At a minimum, all transactions made on the exchange should be reported promptly … with full details on price and volumes"[95] with modern automated execution the site's systems should capture this data automatically in real-time. For Open Market models or Post and Browse, the site must write rules that demand full disclosure of completed trades into its regulations and code of practice.

On the issue of integrity much can be 'hard-wired' into the technical infrastructure of the model. Rules of fair play can be translated into physical systems that ensure fair dealing, such as equal access (irrespective of the size or duration of membership), order with the best price has highest priority, first in/first out (orders of equal price will be filled on a priority system derived from the time of the order's entry). As on a cautionary note, such areas can be exploited as demonstrated by American Airlines. During the early 1960s the company commissioned IBM to build "Sabre, the first electronic-booking network for the travel industry. Ostensibly open to all, Sabre was widely thought to favour American… ranking flights alphabetically by carrier."[96] The results of Sabre were that 35% of bookings went to its owner (American Airlines) and that an anti-trust suit was filed by its fellow carriers.

For the rules that cannot be detailed in algorithms there must be formal written expression, covering areas such as the procedures for the dealing with of complaints and the resolution of disputes. An e-marketplace must ensure that its rules and regulations are explicit, agreed to by members when they sign –on and importantly enforced. As the innovation and development of the Internet powers ahead of

[94] Sculley, A. and Woods, W. op cit. p 143.
[95] Ibid. p144.

governments' ability to legislate control for it, self-regulation of these new marketplaces is essential. As touched on previously, issues of anti-trust and fair dealing become preeminent. In the interests of avoiding governmental intervention which can be restrictive to growth and has proved costly to stock exchanges – Nasdaq brokers have rightly been forced to pay over $1 billion dollars in restitution for unfairly fixing 'spreads'.[97] A wise e-marketplace will institute its own regulatory procedures, for "Self-regulation is in actuality enlightened self-interest"[98], to build trust among users a marketplace must operate fairly and be seen to do so.

5.6 TECHNOLOGICAL STANDARDS

B2B e-marketplaces have come into existence only because of the Internet, its prime importance, as the auto-suppliers of the Big Three pointed out, is because it is "the largest open network in the world". It is through an embracing of open standards, not proprietary technologies operating as private clubs, which have revolutionised commerce. The advantages that were derived from technologies such as EDI were lost to some industries those such as "the construction sector…dominated by small and medium-sized enterprises that couldn't afford it."[99] Yet it is in these highly fragmented markets that e-marketplace models can offer the greatest value, through either agora or aggregation, but only if the system relies on an open and therefore relatively cheaper technology. The solution presently appears to be the utilization of Extensible mark-up language – XML. Use of XML circumvents problems of system incompatibility and ensures participants receive data of equal quality. Thus "construction companies could now fast forward to ...XML…at a fraction of the cost."[100]

Certainly one of the new trends within the B2B world is a focusing upon the small and mid-sized arena. While at first, the concentration of models has been on achieving take-up by the industry key players, "getting big corporations up and running …has been slow going; there's a huge amount of technical integration work …to get their systems

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[96] Anon. Seller Beware op.cit. p85.
[97] Woods, W. Premature Regulation. *The Standard* 1st May 2000 Available at http://www.thestandard.com/article/article_print/1,1153,14502,00.html
[98] Ibid.
[99] Burgess, L. Building Better Foundations. *Business2.0* June 2000. p72.
[100] Ibid.

online."[101] Conversely with small firms there is naturally less technology in place, the absence of hulking legacy systems, means that connection to the e-marketplace can be readily achieved, as "you need little more than a browser and a Web connection."[102] This provides an e-marketplace with rapid way to build critical mass and liquidity. Smart models include strong customer support and guidance in relation to the technology required to use its site and in conveying the 'know-how'. New e-marketplace for the construction industry, Build-online.com is "investing time in helping customers to implement the new system… one supplier, said, 'Yes, but I don't have a computer,' so he went out and brought one the next day and one of our guys went round and set it up for him."[103]

Simple solutions are not so applicable for the Big Three automakers, when planning their individual 'exchanges' each company had chosen a separate technology partner. GM has an investment in Commerce One, while Ford had decided to go with Oracle, so when the giants decided to merge their ideas to form a single e-marketplace (provisionally known as Newco) a major problem reared its head - and DaimlerChrysler and its partner SAP were not even involved yet. "The tech companies had each developed proprietary exchange software, and if one were chosen as [Newco's] primary engine, the other stood to lose a great deal."[104] The situation was further exacerbated by the history shared by the CEOs of Oracle and Commerce One who "had been hurling colorful insults at one another for years."[105] In the end it took the intercession of Diamond Technology to "broker a compromise … [outlining] a technological bridge between the proprietary exchange engines."[106] However the technological situation remains the greatest challenge to the future of the so-called exchange, "the greatest hurdle will be knitting together … the disparate technology solutions …hooking [in] suppliers' back-end systems …will be far from plug-and-play."[107] Indeed industry watchers predict, "delays, technology snafus and data incompatibility problems await all involved."[108]

[101] Bousquin, J. Marco to Micro: B2B Shifts Focus. *The Street.com* 08/08/00 Available http://www.thestreet.com/tech/internet/1031422.html
[102] Ibid.
[103] Burgess, L. op cit.
[104] Smith, T. K. John Sviokla Was Ready *eCompany Now*. Vol.1 No.1 June 2000 p152.
[105] Ibid.
[106] Ibid.
[107] Gibbons Paul, L. op cit.
[108] Ibid.

5.7 BUILDING A VIRTUAL COMMUNITY

An e-marketplace is not just its trading mechanism; it must strive to create an on-line community. Development of this community depends on being able to fulfill "the six Cs that make up a complete on-line service."[109] For e-marketplaces 'the six Cs' are defined as follows:

- Commerce – the centralized market space
- Content – trading data, pricing, product information, industry specific news, etc.
- Context – specialization on a vertical
- Community – value-added services that attract and hold new users
- Communications – the ability for members to meet each other and communicate with each other on-line
- Connectivity – use of open, web-based applications so that members can use the Internet to connect to the exchange.[110]

By offering value-added services the site can crucially build "a sense of ownership and involvement among users."[111] To the advantage of the site, the users themselves produce much of the content. So to build a community services should include; user feedback groups allowing user input into the future development of the site, user address book to aid networking, industry newsletters, discussion forums, calendar of industry events, job search and opportunities, classified adverts, customized news feeds, logistics and supply chain management, escrow services, and financial services. The financial services will develop to address such areas as: credit for buyers, credit analysis, receivables management, credit insurance for sellers, payment processing, warranties, shipping, warehousing and inspection and finally foreign currency services to minimize currency risk.[112]

[109] Sculley, A. and Woods, W. op cit p154.
[110] Ibid. p154.
[111] Ibid. p163

Finally to succeed an e-marketplace must ardently resist the ‘Old Economy’ ideal of being a ‘fortress’ business, it must seek to tear down the walls around its company and those of its partners (user and strategic). Only through transparency, community and flexibility will an e-marketplace be capable of evolving fully to realise its value proposition.

[112] Ibid. p161 and p163.

CHAPTER SIX
OPERATION AND INTENT

The promises of reducing transaction costs and better managing the supply chain that characterize e-marketplaces, were also the rallying calls surrounding the advent of EDI. So to justify the wave of interest, where are the new models of B2B commerce different, indeed better? The operation of e-marketplaces is certainly based on streamlining purchasing procedures, smoothing out fluctuations in supply and demand and making greatly more efficient some traditional markets. The e-marketplace's intent however can be seen as far more radical. As e-marketplaces evolve from the foundation of a trading mechanism, their intent both in terms of the present and the future is often to redesign the workflow of an industry. "Beyond automation … workflow redesigners marry the efficiency gains from workflow automation to the effectiveness gains from the redesign of the processes by which businesses interact."[113]

A simple example is the emergence of the online used-car auction, where traditionally dealers were forced to gather at physical lots to view and ultimately purchase cars that had been shipped there. Now the process has been redesigned. Each car is inspected, described and digitally photographed, the information is uploaded on to a Website for the dealers to peruse and then a real-time auction is executed. This frees the process, not only from the geographical limits (in cost-effective terms) of gathering cars and dealers together but by also eliminating unnecessary transportation, both of cars to the viewing lot and dealers from traveling to the auction. For e-marketplace Autodaq.com "has effectively redesigned the process by which used cars are remarketed: the automobile is transported once, [to the winning dealer's lot] not twice … as a result Autodaq reduces the average time it takes a seller to dispose of a car from 30 days to less than ten… [and] shaves at least 50% off the remarketing costs…- $500 per automobile.[114] It is this alteration in the method of the industry's process that is proving impossible to ignore, Manheim, the dominant player in the US market for reselling used-cars, is well into the operation of its own online auctions.

[113] Kaplan, S and Sawhney, M. E-Hubs: The New B2B Marketplaces. *Harvard Business Review.* May-June 2000 p103.
[114] Ibid.

The intentions of the construction and building vertical e-marketplaces are perhaps more radical. The UK model Build Online envisions a platform for sharing information, posting project details – including plans, spreadsheets, costings and schedules, the management of every stage of the construction process from design and tender to building and maintenance. The e-marketplace could thereby cut process time dramatically and create a safe environment for tracking all elements of a project.[115] In doing so Build Online has a mission to reduce overall costs by 23% "and a time saving of 15% - time being a critical factor in commercial construction, where 40 percent of costs are tied up in labour."[116] It is this last point that highlights the manner in which the e-marketplace can fundamentally alter the industry. Most builders subcontract independent workers such as carpenters, electricians and plumbers, to complete various areas of a project. The worse scenarios are to have these workers standing idle while they await deliveries or to be paying for goods not yet required due to schedules that have gone awry.

In America the e-marketplace BuildNet, is focusing particularly on the construction of houses. The current process for building a new house is grossly inefficient with 'no-one really knowing how much a house will cost to build until it is finished', thus builders produce estimates and often operate on very slim profit-margins, it is easy for the builder's calculations to be disrupted by delays. The intent therefore is that BuildNet "will streamline the way houses are built … [tying] in builders with suppliers for every component they need…if a carpenter is running late on his end of the project, BuildNet automatically notifies the suppliers of wood and insulation to hold back on deliveries for a specified amount of time. That cuts costs for everyone."[117] The founder of BuildNet is envisaging being able to "convert everything into one language, the BuildNet language."[118] Thus when a builder moves a wall in the site's CAD programme and thereby changes the number of 2-by-4s needed, an automatically revised order to the supplier is dispatched. A key operation of the site is "to pare back the $20 billion of idle inventory …dragging down the overall industry."[119]

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[115] Burgess, L. Building Better Foundations. *Business 2.0* June 2000 p71.
[116] Ibid.
[117] Lashinsky, A. BuildNet: The Next Hot B2B Internet IPO? *Fortune* 22nd Nov 1999 Available at http://library.northernlight.com
[118]Schonfeld, E. Corporations of the World Unite! You have Nothing to Lose but Your Supply Chains! *eCompany Now* June 2000 p130.
[119] Ibid.

Returning once again to the example of the automobile industry, due to it being so expressive of the positive and not so positive issues that the new trading platforms encapsulate. The Big Three's "two-pronged goal … is to cut costs by streamlining the purchase process while letting suppliers pocket savings by leveraging the automakers' buying power for additional discounts."[120] Certainly the carmakers will be in a position to realize cost savings from the efficiency of e-procurement, not through EDI but via a Web-based technology whose less costly infrastructure is far more appealing to small suppliers. This is a small but important step, and finally frees the supply chain of the 'rip and read' model of faxed orders. Indeed back in the initial development days when the Three were planning their own paths, all that GM envisaged was electronic purchasing, perhaps thereby demonstrating the 'dinosaur' tendencies of which it has been often accused. Ford on the other hand were far more visionary, with a strategy that was "going beyond procurement to boarder initiatives such as advanced planning and scheduling, demand forecasting and design collaboration."[121] GM played 'catch-up' for a while until finally the strategies of both companies had become so alike that merging the final product became obvious.

The real advantage of the new trading platform will be to facilitate the automakers getting "into an environment of sensing [their] requirements versus ordering and stockpiling".[122] One aim is to reduce the current 45-day period between the online ordering of a vehicle and its delivery, down to 10 days. Also allowing customers to have far more customizing options open to them. The Big Three "want – and need – to get closer to consumers, sending information about their preferences (such as color and options) to everyone in the supply chain in real-time"[123].

Rather than 'beat up suppliers on price', the "most important objective for the common exchange is to reduce work-in-progress (WIP) inventory."[124] WIP comprises of all the production materials that are stock piled until used in the supply chain. These goods, which trap capital and have storage costs associated with them, are slowly absorbed

[120] Gibbons Paul, L. the Biggest Gamble yet. *CIO Magazine.* 15th April 2000.
Available at http://www.2.cio.com/archive/041500_gamble_content.html
[121] Ibid.
[122] Ibid.
[123] Ibid.

into production but are kept in high volumes to guard against peaks and troughs in demand. “WIP costs the North American automotive supply chain $49 billion annually, which translates to an inventory carrying cost to the consumer of about $310 on every new vehicle sold.”[125] If the supply chain can be made more efficient, by the substituting of real-time information in place of stockpiled inventory, the savings could be substantial, “the theory says…automakers and suppliers can reap a potential back-end cost reduction of $1,065 per vehicle, or 6% of the manufactured car cost”[126]. This is not a theory in the mind of Harold Kutner, GM’s chief of procurement as he pledges, “I will consider myself a failure, if I don’t reduce by at least 50 percent the billions of dollars of inventory held by ourselves, our suppliers and our dealers that generates nothing but waste.”

For “Right now, the auto industry production and delivery system is one of the most inefficient on earth. Surveys indicate that nearly half of new-car buyers can’t find the model they want”[127], while dealers’ lots remain burdened with high volumes of unsold vehicles. This issue clearly points the way to the future, instead of dealers’ lots carrying unwanted stock that has to be discounted to finally sell, the obvious answer is to increase focus on building vehicles with confirmed orders, where requirement is known. By utilizing the Internet, it is possible to link “customers and suppliers to the factories, [thus] GM hopes that in a few years at least half of its vehicles will be built to order, compared with about 20% now.”[128]

The initiative of using their newly-emerging trading platform, not primarily for price cuts but to redesign the way the business of making, selling and delivering cars is done, demonstrates the power and the application of fundamental common-sense that the new e-marketplace enables.

“Here’s how car buying should work in the future: The customer goes to the website, configures the car of her dreams from hundreds of options, compares it online with similar models, and, with a click of a mouse, orders the car, the financing, and the

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[124] Ibid.
[125] Ibid.
[126] Ibid.
[127] Taylor III, A. Ralph’s Agenda. *eCompany now* Vol.1 No.2 July 2000 p.100
[128] Ibid. p101

insurance. That click sets off a series of lightning-quick automated responses. The order goes to another site, where it is inserted in the appropriate production-line schedule at a factory. Procurement orders are aggregated and placed over a trading exchange to provide the needed parts. Space is reserved on the next train or truck out of the plant. And the accounting and forecasting systems at GM's headquarters are updated. The entire flow of information occurs almost instantly, without human intervention. Ten days later, the car arrives at the dealer closest to the customer."[129]

The Big Three's e-marketplace will combine purchasing power amounting to a dominant 46%[130] of the world automotive market. Further should Toyota and Renault-Nissan, presently both in discussions with 'Newco' also join, the platform would funnel almost 70% of all automotive purchasing. Interestingly the figures noted below support the automakers' premise that their suppliers will benefit from trading through the e-marketplace, with cost reductions per vehicle nearing twice that of the savings made by the Big Three. The automakers expect finally to gain most in developing elements of flexibility in production, sensitivity to market and rapid response to demand that as yet do not exist within the industry.

The financial gains believed to be made possible, (estimated at 6% of the manufactured car cost) for both the Big Three's suppliers and the automakers themselves, via use of the new trading mechanism, are illustrated as follows:

AUTO SUPPLIERS CAN CUT THEIR COSTS BY GOING ONLINE

Total savings per vehicle:	**$695**
Finding lower-cost vendors	$94
Volume discounts on purchases	$70
Streamlined purchase process	$84
Less scrap and rework	$147
Improved productivity	$84
More detailed part specifications	$47
Reduced inventory cost	$67

[129] Ibid. p100-101
[130] Gibbons Paul, L. op cit

AUTO MANUFACTURERS SAVE LESS ONLINE THAN SUPPLIERS, BUT GAIN MORE POWER

Total savings per vehicle:	**$368**
Reduced scrap and rework	$91
Streamlined purchasing process	$76
Improved productivity	$115
Fewer warranty repairs on cars	$50
Reduced inventory cost	$36

Source: Gary Lapidus' E-Automotive Report, Goldman Sachs Investment Research[131]

On a final note, the Newco so-called exchange is also expected to facilitate the expansion of the Big Three's interests into a wider spectrum of commodity dealing, than just those that pertain to the automotive industry. It hopes "to take advantage of the liquidity that comes with their huge supply chains to create markets in adjacent industries."[132] This would operate due to the fact carmakers are "some of the largest consumers of steel, glass and rubber"[133], and by signing-on the suppliers of these commodities, it would be possible to attract alternative buyers of such goods that were unconnected to the auto industry. Thus "what started as a car-industry [platform] could become a market for trading all sorts of commodities online."[134]

[131] Taken from: Gibbons Paul, L. op cit.
[132] Anon. Seller Beware. *The Economist.* 4th March 2000. p86.
[133] Ibid.
[134] Ibid.

CHAPTER SEVEN
THE REAL WORLD

The proceeding chapters of this work have dealt with the theoretical functioning of e-marketplaces, the savings and benefits that can be reaped when the successful operation of the trading platforms is achieved. The following chapter however, will attempt to address the 'actual' situation of e-marketplaces in this, their embryonic stage of development. It is necessary to balance the protestations of the e-marketplace owners and the enthusiasm of the venture capitalists, in the 'glorious' future of B2B e-commerce. The key issues that cause concern for potential users of these new ventures are: questions of inclusion, the possibility of infringements upon fair-trading laws and subsequent government intervention and regulation, the threat to long-standing relationships and for participating companies, greatly increased transparency.

Firstly for ease, the examination of the current situation of e-marketplaces will be divided into areas of Use, concerning issues of the manner in which the sites are being utilized; Technical, concerning the functioning of the sites; and finally the evidence taken from Interviews - concerns and personal opinions.

7.1 ASPECTS OF USE

As stated previously, one of the most fundamental advantages offered by the e-marketplace is access to information. It is information that truly enables the redesign of the way business is conducted and empowers the negotiations that derive cost savings. However, perhaps resulting from more general suspicions of trading online, some buyers are using the sites to access pricing information but are then making the deal offline. For example the agricultural sites display lower prices for pesticides and fertilizers than are being offered to farmers by their local wholesaler. Yet instead of conducting a purchase across the electronic platform, "farmers …routinely use the Web to research the best prices on supplies they need… and then take that quote to their trusted local supplier as a bargaining chip."[135] Business models of e-marketplaces, whose only service is the provision of aggregated pricing information, are obviously backing a losing proposition. It is only through the additional value-added services discussed in earlier chapters that an

[135] Bousquin, J. Customers Are Using B2B Exchanges to Get Prices – And Buy Offline. *The Street.* 31st May 2000. Available at http://www.thestreet.com/pf/markets/marketfeatures/949581.html

e-marketplace can actually create revenue and not become an information source whose use people expect for free.

Initially it must be expected that potential users of sites will peruse the information provided and then retreat to old and comfortable channels. Certainly, as slowly the new e-marketplaces succeed in gaining the full trading activity of farmers and the like, the classic middlemen are reacting. Indeed "the dealers and distributors aren't expected to quietly let Internet startups put them out of business."[136] Where in the past "agricultural dealers and distributors [were] often local monopolies or duopolies that [gave] farmers little voice in the marketplace"[137] things are definitely changing. The alternative purchasing and selling channel that is offered by the e-marketplace is empowering farmers, and so whether they can be permanently wooed back to traditional options is highly unsure. "One farmer … says a local dealer – whose sales people had never paid personal visits … sent three representatives out to his farm with offers of discounts and free supplies if he would stop ordering off the Internet. 'I took them up on it … for now'."[138] The dilemma for either channel, e-marketplace or distributor, is clear, can either remain in business for long under such conditions. For the e-marketplace - liquidity is vital; the model must process trades in order to be viable. For the distributor, the question arises for how long offers of discounts and free supplies can be supported, before the investment in keeping a customer becomes a losing proposition.

B2B e-marketplaces are challenged by the very nature of the goods in which they trade. While in the B2C arena, sale values are predicted to be a fraction of those in B2B; they demonstrate the advantage of being 'short' in terms of the selling cycle. It does not require much negotiation or commitment on the part of buyer or seller, to purchase a book worth five pounds from Amazon.com. However in the realm of B2B e-commerce, a single purchase may involve hundreds of thousands of pounds and the selling cycle is 'long'. Large deals are traditionally conducted through long negotiations, usually done in a face-to-face scenario. It is believed that "a Web site won't close deals for you… you can't rely on a Web site. To make B2B deals, often, you've still got to put feet on the street."[139] While sites attempt to provide as much detail pertaining to trading

[136] Grebb, M. Milking the Net …for all it's worth. *Business 2.0 July* 2000 p128.
[137] Ibid. p124.
[138] Ibid.
[139] McGarvey, R. from: business To: Business *Entrepreneur.* June 2000 p103.

requirements as possible, the entire value derived from business conducted through personal contact, cannot as yet, nor may ever be fully replicated. Parties meeting through a Post and Browse model conduct most of the negotiating and trading offline, using the e-marketplace simply to locate potential trading partners. Auction models often, on a winning bid put 'new' partners into business together. After winning a new contract on a combination of price and conformity to the buyer's stated schedules, the advice given by trading parties remains that it is imperative to get to know the buying company, their manner of business and in deeper detail than can be articulated by a site, their individual requirements. Sites can assist this process by supporting communication and aiding networking throughout the wider context of their vertical.

Another issue inherent to the e-marketplace is the possible conflict of focus arising between a model designed to operate within a National industry vertical and the nature of the global reach of the Internet. As has been highlighted, essential to the successful creation of an e-marketplace is deep domain knowledge, as "to successfully peddle peaches to consumers, you don't have to know much about farming, but to build an exchange for farmers, you've got to grasp the fundamental drivers in the industry."[140] However the knowledge critical to succeeding in the agricultural arena of North America is not necessarily readily applicable to Australasia. This problem is of immediate concern to European e-marketplaces, where geography is perhaps less of a limitation to trade. The example cited earlier, that of the building industry, encapsulates this dilemma. E-marketplaces are well positioned for successful operation in this highly fragmented market. However, where the founders of Build Online know the intricacies of the UK construction industry, they may well be ignorant of; for example the Italian market, riddled as it is with the bureaucratic red-tape of Government regulation. Despite the European Union, the Continent remains diverse in its legislation, with the laws governing construction merely one instance of the current disparities. A successful site offering cost savings, sophisticated planning tools and supporting project collaboration, is bound to attract interest from outside of the UK market. Build Online are clearly aware of both the possibilities and problems that such a global reach poses for their business. Expansion into Europe for the revenue generating opportunities is, of course, a primary lure. However, the e-marketplace must then address issues of language, cultural differences in business procedure as well as disparities in web-culture. The site will have

to involve itself with issues of compliance with government legislation on building materials, variations in trading standards, certification and even the planning/scheduling tools will have to accommodate variance in working conditions.

Further, in the wider context of compliance with laws, the way is pointed to another problem. Particularly applicable in pyramid markets, the side that lacks fragmentation - via its ownership of an e-marketplace or through its trading strategies in using such sites, could behave as a cartel, artificially manipulating the trading price of goods. This type of behaviour would of course constitute infringements of the law. Known in the US as Anti-trust laws and in the UK as those rules concerning Fair Trading, the laws are in place to preserve and ensure fair and open competition in business. Should such national legislation be violated, governments would be forced to intercede on behalf of the users of a site, the industry as a whole and the e-marketplace investors. Such government intervention would certainly result in heavy fines being payable in compensation and in the introduction of regulation for the future operation of e-marketplaces. It is governmental regulation that may cause yet more problems for the models, in terms of restricting future growth, development and innovation.

On a note that overlaps into the Technical section, e-marketplaces may well become the prime targets of malicious intrusion. The sites, operating as concentrated centres of commerce, are likely to be highly attractive to 'hackers' who wish to cause as much disruption as possible. In addition there is also scope for sites being attacked for purposes of industrial espionage.[141] Security is thus a prime concern of e-marketplace operators, as it is for the users of the sites who reveal much sensitive company data during trading activity.

7.2 TECHNICAL ISSUES

Rather than aspects of the way e-marketplaces can be used, the strategies users can pursue, the following section notes some of the issues referring more to the technical infrastructure. There may be a fundamental problem with the technical operations of e-marketplaces. In a recent research report from Forrester, twenty B2B services were

[140] Ibid.
[141] Exchange – B2B ecommerce venues. *Webspace*. June 2000. p23.

evaluated on the wide criteria covering "functionality and content"[142]. The outcome was the failure of all 20, failing on the grounds of "robustness and effectiveness".[143] This is certainly not a heartening finding and may in part reflect both the problems facing agora models and the present lack of any "widely adopted standard for ebusiness-to-ebusiness interactions."[144] The agora models with the matching mechanisms to support dynamic, real-time pricing activity on goods are the most sophisticated of e-marketplaces. However, the advantage of being a "more powerful business model than aggregation. At the same time [means] the matching mechanism is far more complex and far more difficult to scale."[145] Where trade is increasing on such trading models, there results increasing pressure on the technical infrastructure to scale efficiently, that is to distribute the workload (of trades) evenly over the server machines of the trading platform.

Yet the most challenging problem facing the effective operation of sites is the ability to integrate with users' systems. Without an open standard being universally taken up for e-business, often the situation degenerates to where currently "each company demands adherence to its own set of ebusiness methods and technologies. It is agony for the supplier that has to deal with …different integration processes, some requiring changes in internal practices or costly human intervention."[146] When instead of a traditional relationship between supplier and buyer, the interaction is occurring across a third party trading platform between a myriad of buyers and sellers, the problems of technological incompatibility expand exponentially. The result of this has been described as the 'dirty little secret' of e-marketplaces, that behind the high tech façade of the trading platform is concealed a flurry of personnel manually faxing orders onto the small and mid-sized suppliers who are as yet not connected to the system. Such behaviour is making a mockery of the basic value proposition of the e-marketplace – the cost slashing, efficiency of online procurement. "Despite the hype, less than 15% of exchanges are actually delivering …end-to-end electronic transactions [from] a study of 85 exchanges serving 10 industries."[147]

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[142] Ibid.
[143] Ibid.
[144] Mougayar, W. The Open Market Misnomer *Business2.0* 1st January 2000. Available at http://www.business2.com/content/magazine/ebusiness
[145] Kaplan, S. and Sawhney, M. E-Hubs: The New B2B Marketplaces. *Harvard Business Review.* May-June 2000 p102.
[146] Mougayar, W. op cit.
[147] King, J. B-to-B Exchanges: Lots of Wheeling, Little Dealing. *The Standard.* 1st May 2000. Available at http://www.thestandard.com/article

Without a de facto standard for e-marketplace trading, the result may well be a sea populated by 'proprietary islands' of technology. As platforms are being built by companies with a vested interest, or third party models are striving to achieve critical mass through firstly recruiting the key players in an industry, the outcome may resemble little more than an old-fashioned Gentlemen's Club. The operation benefits only those companies with budgets to afford the implementation costs, in essence the very ones who already are in the position of enjoying some of the value propositions, such as electronic ordering and economies of scale. E-marketplaces' "rigid rules of participation and operation…that …make them efficient…[are] detrimental to the evolution of healthy marketplaces."[148] "The exclusive approach squeezes small and midsize businesses out of the game".[149] The question thus arises, echoing the issues of Fair Trading, of the extent of 'inclusion' for all companies, in the new cost saving and efficient marketplaces.

7.3 EVIDENCE FROM INTERVIEWS

This work has attempted to view e-marketplaces in the context of the Old Economy physical-product industries, rather than those based on information-products such as financial services. Accordingly the company selected for study is an industrial, manufacturing firm. British Polythene Industries PLC (BPI) is the largest producer of polythene products in Europe. The company has emerged as the dominant player in the market through a campaign of acquisition, which has brought most of its competitors into the BPI fold over the last ten years. Consequently, the factories comprising the group scattered around the country, produce a wide variety of products, everything from refuse sacks, agricultural silage film, packaging, plastic bags for companies such as Boots the Chemist and Tesco's, through to builders' film and damp-proof course used in the construction of housing. BPI has approximately 4,000 employees, an annual turnover of £430 million and a "return on sales – 7 or 8 percent, this is not high margin business."

Interviews[150] were conducted with the Chief Procurement Officer, who also holds the position of Director for E-Commerce at BPI and a further interview was carried out with a Managing Director - in charge of two of the factories within the group. To provide a context for the opinions and issues raised in the interviews, the current purchasing

[148] Mougayar, W. op cit.
[149] Ibid.

method of BPI is as follows. Resin, a by-product of the refinement of oil is the raw material of the factories, and constitutes 70% of purchasing. The market for resin is a pyramid with very little fragmentation on the resin supplier side. BPI buy from companies such as Dow Chemical, Exxon, Montel, StatOil, Atochem and Polimeri, with buying conducted through annual negotiations of volumes and discounts. The suppliers have great control over the market price and "the price difference between five suppliers in Europe is never more than £5 a tonne and if it goes up £50 a tonne, then it all goes up on the same Monday morning."

The remaining 30% of purchases comprise operating inputs – "engineering spare parts through to stationary, clothing." The purchasing of the resin requires only 15-20% of time spent on buying, "where the buyers in this company spend all their time is on the hundreds of little things". From the evidence of previous chapters it would appear that as the resin market is a pyramid in shape, it is thus unsuited for the operation of an exchange and as there is little in the way of other manufacturing inputs, a Catalog Hub (vertical specific) would be unable to offer any value.

However, it might appear that there is a good opportunity for a MRO Hub (a horizontal aggregation). Where a mature MRO Hub could save time on the part of the purchasing team (even to the point of their disbandment), is by allowing the submission of a single order for all operating inputs: stationary, computers, cleaning services etc. Yet the full value proposition of the hub may not be realized, as a company the size of BPI already enjoys volume discounts. "We can do a deal say on Viking Direct for stationery… we negotiate a 50% discount on everything we buy". This method, of course ties BPI into one distributor and a single range of products, and would not include such items as cleaning services that a mature hub would be able to provide. BPI would be in the traditional, time-consuming position of having to maintain relationships with various companies, instead of being able to streamline the purchasing of all operating inputs through a single channel.

On the customer facing side of BPI's market there is much higher fragmentation: some 4,000 customers. Here there appears an opportunity for a vertical hub - aggregating the power of many small buyers, yet BPI predominantly meets this market through the

[150] All quotes in the section were taken from Private Communication with Mr. D Pendlebury

invention of a distributor due to the demands of logistic efficiency. The challenge of a vertical hub in this position would be twofold. Firstly it would be necessary to convince suppliers such as BPI, to negotiate and consequently lower their price (the value proposition of the hub partly being a lower price than distributors'). Secondly, to achieve the degree of market penetration - the massive reach towards small buyers, that would generate the consistent volume in trade offered by distributors such as Jewsons, McArthurs or Welsh Farm Supplies, before suppliers would be willing to disrupt existing relationships.

Overall the interviewees' immediate concerns could be addressed under the three areas of Threats, Trust and Transparency. While ultimately BPI wish trading transactions to become end-to-end, fully electronic, slashing procurement costs of raising a paper invoice from its current £60-£70, they are presented with several problems. In an echo of concerns raised earlier in this chapter, BPI is having to comply with the varied methods of e-business demanded by their suppliers and buyers. Rather than e-commerce in any true sense, large companies are implementing rigid schedules dictated by their existing technology. "If you want to be a supplier they want you to automatically import into the MRP system, so they send out the CD ROM … and every Tuesday morning you click on it". The system places a request with BPI for a pre-ordained product negotiated on an annual contract, to be delivered in variable particulars of volume, time and location. BPI has until 4pm on that day to reply, "then they send you a purchase order through the post." "Now for them …they believe this is efficient. I've got 4,000 customers, if they all do this I end up with 4,000 CD ROMS and 4,000 little icons to click on at certain times. It's crazy." The key problem or threat is that adherence to such elaborate rules is pushing up the cost of servicing customers, in an Internetworked environment that should be driving them down.

The Internet's use as a low-cost channel to customers, also offers new entrants into the market a huge opportunity. By advertising in the media, selling over the Web and a deal with a logistics company it is easy to cut out the middleman - the distributor, thus a new seller can enter the market at highly competitive prices. This situation places BPI in a highly vulnerable position. Thus while disruption of the valued relationship to the distributor is hoped to be avoided, if the market were attacked by a new entrant distributors would have to be abandoned and the company would need to be able to

switch selling instantly to the Internet. Thus current plans and activities are designed to gain BPI experience in the field of e-commerce, for a scenario of, when, not if the market is attacked. This is through the operation of a fully electronic trading system 'Narvision' and an auction site. Both are controlled models, not operating in the wider competitive market, but with pre-existing and thus pre-qualified trading partners. The auction site is open to 5 or 6 Chinese buyers, who purchase back-of-store waste and will not contravene acceptable procedures for processing it; such as having it "washed in rivers by children."

An additional advantage of the auction site is that it cost somewhere in the region of "£6,000 -15,000" and can in the future be utilized as a platform open to the entire market. It is a justifiable investment to shareholders, where an e-marketplace requiring 2-3% commission on each transaction would not be. "You can't let them take 2,3 or 4% commission from an industry that's making 8% return of sale … my profit margin is going to disappear … You must be joking! What's he [the e-marketplace] doing, he's only giving me a platform. I can do it myself for six grand."

Issues of Trust and Transparency appear to go hand in hand, for where trust is non-existent transparency is feared. For BPI the relationship with resin suppliers is combative and few use electronic systems to communicate with customers, none allow them access to stock information. Dow Chemical is trying out an experiment in electronic purchasing, by the setting up of personalized web pages for select customers – 'My Account at Dow'. It displays only order histories, status, delivery dates; "it's almost like looking at your bank statement." It does not, however allow ordering over the system, that is still completed through phone and fax. One of the reasons is that "Dow will not let us look at their stock because … if they've got a lot it puts us in a very strong position on price negotiation." "Dow will never, ever, ever, not this generation of Dow management, let me know what stocks they've got in…We've already been told by Dow and Exxon and everybody – no way it would ever be, because they lose control."

While the threat of new entrants is bring greeted with the activity of preparation, the issues of trust and transparency are being resisted as strongly as possible, a pyramid market is not receptive to activities that appear to concede the power position in negotiations. Further in terms of transparency while the industry lacks a standardized

method of defining products (- a coding system), meaningful comparison of products is virtually impossible. Even the same products made within BPI, but at different factories are not described in the same way. This creates many problems for the e-marketplaces that would offer aggregating services, and for the buyers attempting their use.

Finally the issue of credibility plays an important factor, a good business reputation is a valuable commodity in generating trust. To propose intervening between a supplier and a buyer the e-marketplace must have a certain level of credibility. It concerns BPI that if there were a problem, of quality for example, the question would be with whom the trade had been made; the platform or the trading partner. One proposal put forward would place a model between Coca Cola and BPI, using a material requirements programme to examine Coca Cola's purchasing profile and electronically ordering from BPI. "I deliver to Coca Cola and invoice him…not a chance! We do millions of pounds worth of business with Coca Cola – he's got a computer in an office somewhere, he goes bust, my transaction is with him, not with Coca Cola…the whole… scenario is madness." Presently, details of a new e-marketplace to trade resin, (backed by £30 million of venture capital), are appearing in the trade press. Yet it is run by an individual perceived to lack a 'good name' within the industry and compounded with the resin suppliers' outright refusal to trade via such methods, the 'potential' users of the site are highly suspicious, which does not bode well for the model's success.

CHAPTER EIGHT
SOLUTIONS AND RECOMMENDATIONS

Back in Chapter Five the prevailing Conditions for Success were laid out and now seen through the perspective of the issues raised in Chapter Seven, it appears that for e-marketplaces (once a feasible market has been selected), the fundamental challenges that remain can be distilled into two distinct areas. To make a site function successfully, the key challenge is back-office integration. However to make it prosper, the issue is one of creating trust, building a Virtual Community. Back-office integration here refers to the fullest expression of what is entailed by e-procurement, being end-to-end electronic transactions for all those within the supply chain, not only those with sufficient capital to implement high cost, proprietary technologies. While such action will provide an open and neutral trading platform it will not ensure prosperity. The e-marketplace must offer more than a trading mechanism that a large company could develop and operate itself. The site must build a virtual community, one that would be beyond the scope of any single corporation. Again the issue of neutrality manifests, as only a neutral e-marketplace can build a community within an industry vertical, bringing together competitors while supporting networking and collaboration along the supply chain.

Unlike many of its industrial cousins in other verticals, Boeing the aerospace giant, has demonstrated its understanding of these principles by foregoing a "solo Internet land grab. Boeing opted to seize a greater opportunity, spearheading a Web initiative with [competitors]…Lockheed Martin, BAE Systems and Raytheon."[151] However the resulting model will not be exclusive in membership, "the exchange's members represent the industry from a worldwide perspective…we realized that if we were really trying to create industry-wide benefits… this couldn't be… just a means for any individual partner to streamline their procurement systems and improve costs."[152] Indeed to reach the global marketplace of commercial and military customers the platform has to be 'open and neutral'.

[151] Bennett, S. Share and Share alike. *Business 2.0* June 2000 p100.
[152] Ibid.

Again somewhat inaccurately termed an ‘exchange’, the e-marketplace will be modular in build, with all the competitors providing part of the final trading platform. For example Boeing are offering their spare parts system: SONIC (Spares Ordering Non Stop Inventory Control) “containing more than 4 million part numbers and 500,000 items inventoried in distribution centres. Manufacturers, airlines, service providers… access Sonic”[153]. Raytheon are contributing their EverthingAircraft.com a site for general aviation requirements. While this piece-by-piece building may appear to incite technical incompatibility problems, these modules have been ‘tried and tested’ in operation. However more importantly, with the trading partners presenting their ‘best’ system for incorporation into the model, a leveraging of their diverse assets, it also fosters in each a sense of ownership and thereby a greater degree of commitment to the success of the resulting e-marketplace. The seeming relinquishing of proprietary technologies and even competitive advantage, would unsettle many companies but in fact the offering of Sonic by Boeing benefits the company. Boeing’s staff is already experienced in using the system and thus there will be little adjustment necessary in the migration to the new ‘exchange’. Also it is generally deemed to be the best parts system in the industry. Thus Boeing’s competitors, perhaps out of pride or the guarding of reputation, will also offer the best they have, potentially systems better than those currently available to Boeing.

The Aerospace and Defense Exchange is intended to be an information resource, with a collection of industry-specific services and with Boeing making its “maintenance and flight operations information available online for exchange customers.” [154] It is through these initiatives, and others that support networking, which will build the essential virtual community. Keeping the e-marketplace open to the entire industry and thereby neutral ensures fair-trading and thus the model may well escape the problems of having attracted government attention. Certainly it would be happier to avoid “the government breathing down [its] back for unfair trade practices, as the auto industry has recently experienced.”[155]

The principal fears of suppliers on trading platforms such as the Big Three’s Newco, are of being forced into a ‘Comply or Die’ scenario. Companies feel compelled by the power of dominant market players to join an e-marketplace, or indeed several to mitigate the

[153] Ibid.
[154] Ibid. p100-101.

risk of being locked out. “It remains to be seen with all these exchanges how much coercion goes into getting trading partners to sign up.”[156] In addition fears are raised concerning the result of the price transparency inherent in e-marketplaces. The highly developed methods of specifying products on a site that facilitate comparison and in turn trade, must not fail to denote the full value of a product. It is imperative to the building of a trusting relationship between traders and e-marketplace that the site conveys a fair and accurate depiction of goods, rather than only supporting competition based solely on price.

On the subject of ‘inclusion’, e-marketplaces face something of a dilemma. As already noted, newly created models are charged with acquiring critical mass, of recruiting sufficient numbers of members to ensure a viable volume of trade. This is usually accomplished by the signing-on of the key players of an industry. However these large companies come to the platform with imbedded legacy systems that present a vast array of problems to back-office integration. They are also the very companies that already enjoy economies of scale, being in a position to negotiate substantial discounts; they do not derive the entire value proposition of an e-marketplace. The alternative to encountering these issues is for an e-marketplace to concentrate recruitment efforts on small and mid-sized businesses rather than industry giants. Indeed companies such as “Freemarkets, Ariba and Commerce One are increasing peddling their wares to small and medium-sized companies.”[157] This presents an encroachment onto the market of models that have specialized in aggregating small buyer demand. However the market, while being difficult to penetrate due to the generally slow adoption of technology by small business, is substantial. In America “roughly 85% of US companies fall into the small to medium-sized market”, a somewhat misleading categorization, being those with revenue of $1 billion or less, more helpfully judged to be “companies with 100 employees or fewer account for 53% of U.S. economic activity”.[158]

Yet it is only finally through the adoption of open standard technologies that such a market can be approached. For “if Ariba licenses its software for $2 million to one

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[155] Ibid. p101.
[156] Ibid.
[157] Bousquin, J. Macro to Micro: B2B Shifts Focus *The Street.com* 8th August 2000 Available at http://www.thestreet.com/tech/internet/1031422.html
[158] Ibid.

customer, it can't just turn around and offer the same product at a lower price to a smaller firm."[159] The solution to this is in part being addressed through the standard method of pricing software – based on how much or by how many a product is used. Also the way forward for companies such as Freemarkets, who previously have focused on Fortune 500 firms, is "to develop hosted applications to be utilized [by] small business customers."[160] Commerce One considers "it is going to be critically important for us to enable small and medium-sized enterprises with our Global Trading Web."[161]

A recent development linked to the current proliferation of e-marketplaces, is the creation of B2B Portals. A portal literally defined as a gateway, means these ventures offer a marketplace service that can be viewed as 'once removed'. They operate to allow users to scan and particularly compare prices available on genuine B2B e-marketplaces. Such portal services are being developed as a new revenue route, by the key Internet search engine companies of Yahoo! and AOL. "Yahoo! is developing the B2B MarketPlace which will let users scan different marketplaces for price and product feature comparison."[162] AOL however appear to be pursuing a more active plan by partnering with PurchasePro.com (a horizontal hub) "deriving and sharing revenues from transactions and advertising."[163] Both companies are making use of their high-profile brands to assist in the building of critical mass so vital to the creation of a new e-marketplace. Certainly the small buyer market is likely to recognize such names and perhaps therefore be inclined to trust them. However while Yahoo! is offering a neutral service utilizing 'Bot' technologies to search for information, AOL's partnering with an existing e-marketplace, at the very least creates a perception of bias in favour of one side of the trading deal.

In a brief aside, Bots are more accurately described as Intelligent Agents, a piece of software that can be delegated to perform a task. In this case the task set the agent would be to search the Internet (or a selection of e-marketplaces) for a price comparison or to retrieve new product information. Having various modes of operation, the bot could be instructed by the user or could learn gradually by recognizing user patterns of

[159] Ibid.
[160] Ibid.
[161] Ibid.
[162] Exchange - B2B ecommerce ventures *Webspace* June 2000 p23.
[163] Ibid.

interest, and be sent out at frequent intervals to regularly update information. Ultimately bots can be programmed to find a buyer or seller for a product, being able to search through independent traders and to visit multiple e-marketplaces to find the best deal. Such ability would add an important dimension to e-marketplace trading and certainly would function to help keep trade fair and competition open, by facilitating easy comparison between models, but only if the bots can circumvent membership regulations.

The searching capabilities of bots are hampered in the B2B world however. While CDs and books have a universal identification number, no such standard coding practice exists in the realm of business trading. As pointed out in the interviews of Chapter Five, even factories within the same company may describe a single product differently. So how for example is a company to trust that they really have received the best price available on brown envelopes from a horizontal MRO Hub, when there exists no standard method of depicting an envelope with its many variable features (depth, width, window, self-sealing etc.)?

Perhaps an unlooked-for benefit of procurement conducted through an e-marketplace is an adherence to corporate policy. Indeed "most of the benefit from e-procurement actually comes from getting the organisation to comply with the organisation's procurement policy." [164] While global compliance levels should be about 95%, in actuality it is closer to 35-40%, as "Local managers usually believe that, with their knowledge of local conditions, they can do better than head office… such local deals end up costing more money."[165]

Many of these issues are echoed in the advice of commentators in the e-market arena. Perhaps more accurately described as warnings, the comments remain primarily concerned with the key factors of: trading relationships and neutrality. Two of the principals of business that still apply even in the new Digital Era are that; "People need a powerful incentive to change their behaviour [and] Trust is the basis of business

[164] Gosling, P. Practise what you preach *Business 2.0* July 2000 p134.
[165] Smith, D. We have lift-off *Internet Business* August 2000 p41.

relationships."[166] The following list recommends actions to promote good practice within e-marketplaces.

RECOMMENDATION LIST

- Build a Virtual Community – it is the only way to offer companies more than a trading platform they can provide for themselves
- Utilize open standard technologies to foster widespread adoption and promote 'inclusion'
- Ensure neutrality to satisfy laws on fair-trading
- Take care not to poison the relationship to buyers and suppliers – do not go down the 'comply or die' route
- Do not force catalogue depiction that makes suppliers compete on price alone – it does not express the full value of a product
- Forced commoditisation will cause push-back from suppliers[167]
- Understand the challenge and possible conflict of the global pull of the Internet when using deep domain knowledge to set up a vertical marketplace

On a more prophetic note with regard to the future of e-marketplaces, they are certainly here to stay. To reiterate e-marketplaces are as yet only struggling with their first steps, they are "primarily a … mechanism to push purchase orders, and that's it for now."[168] Indeed it is predicted that it will require "at least another 18 to 24 months before electronic markets begin to deliver value-added services."[169] Many commentators believe the B2B arena will follow in the footsteps of the earlier B2C market, only different in that the events of B2B will occur far quicker. The main prediction appears to be that the 'shakedown' that shocked the B2C world will soon hit B2B. The shakedown saw stock value in B2C companies plummet, as businesses such as Boo.com failed. A shakedown represents the clearing of 'deadwood' out of the area, the business models that will not succeed and frequently the merging of feasible models to consolidate position in the market. In the B2B arena the same activity is expected, witnessing the

[166] The 10 Essential Net Business Principles. *Business 2.0* June 2000 p96.
[167] Adapted from Bennett, S. Share and Share alike. *Business 2.0* June 2000 p101.
[168] King, J. B-to-B Exchanges: Lots of Wheeling, Little Dealing *The Standard* 1st May 2000. Available at http://www.thestandard.com/article/display/1,1151,14651,00.html
[169] Ibid.

loss of e-marketplaces with models unsuited to their chosen market, and those unable to generate trust with buyers and suppliers. Industry verticals are unable to sustain multiple models and thus only two or three can hope to survive. Thus the next stage will see the merging of models in market position of three and four or indeed a merger between two and three would create a market share to truly compete with the dominant model. Some e-marketplaces may even watch all their competition, who were unable to build critical mass fade away, leaving them in sole control of the vertical.

Once an e-marketplace becomes dominant within a market, the next stage of development may well be to expand into adjacent markets. This long-term plan is on the table at the Big Three automakers' e-marketplace.[170] Yet another avenue for the future development of a successful vertical e-marketplace must surely be the acquisition or partnering with a horizontal hub, to truly offer users of the site 'one-stop shopping' for all their procurement needs.

If an e-marketplace can succeed in winning the trust of companies there may well occur a further disintegration of the old concept of the 'fortress' business. The wave of outsourcing has in a sense, 'removed' some support processes from a business, locating them outside of the company. Should companies come to trust e-marketplaces, specifically in this case aggregation hubs, to conduct the majority of their procurement needs then the procurement department itself may become another support process to be 'outsourced'.

9. CONCLUSION

It bears reiterating that e-marketplaces are still in their initial stages of development and even when operating are, in a sense in a state of flux. Sites are growing from procurement hubs to auction holders, with plans to reach maturity as true exchange mechanisms. This fluidity makes imposing a framework of classification upon the models somewhat difficult. However, this study has chosen to dissect the various e-marketplace models in existence, into eight individual forms under the broad distinction of Agora or Aggregation. Once the model types were established, the work progressed to detail the platforms' raison d'etre: the generation of revenue. Chapter Five has examined the prevailing conditions for success and it is Neutrality and the creation of a Virtual Community, echoed in later sections that emerge as vital to the success of an e-marketplace.

The further study of Chapter Seven has highlighted the importance of building trust and community, to offer companies more than a trading platform they are capable of providing for themselves. While the financial common sense of abandoning the old paper based order system in favour of implementing electronic procurement, is available to any company. It is only through neutrality and thus 'open' competition that the running afoul of fair-trading laws and the resultant costly, government interference can be avoided. The appeal for large companies to build their own trading platforms is all but irresistible. A compound of fear includes; losing the power position in negotiations, transparency and the idea of paying for the privilege of doing business with their own customers, culminates in a desperate scramble to launch sites.

Part of the attitude of large companies in a position to launch their own sites is attributable to the media. The hype that has surrounded the B2B e-marketplace arena has been one of screaming headlines, detailing vast amounts of money available for transacting through the new models. Yet while the volumes of trade in B2B are undoubtedly huge, the potential profits of e-marketplaces are far more modest. It bears keeping in mind that the New York Stock Exchange, a mature example of the most sophisticated model to appear, while having a trading volume totaling $8.9 trillion

[170] Anon. Seller Beware *The Economist* 4th March 2000 p86.

annually…in 1999… took in just $75 million in profits – about half of what IBM makes in a week."[171] There is a money-making opportunity in e-marketplaces but contrary to the media's opinion it will be primarily made by the technology providers, those who can integrate systems to truly manifest full end-to-end electronic transactions, rather than the creators of new models. The true value of e-marketplaces lies in, e-procurement certainly but in the barely yet emerging area of information application. It is information that will redesign workflows, minimize inventory and through connecting buyers and suppliers up and down the supply chain truly revolutionize business.

To summarize the current position of e-marketplaces the following PEST analysis is offered:

POLITICAL

- Possible need for external regulation
- Threat of government intervention for fair-trading law infringements
- Global reach of the market challenges the Nation State
- and Circumvents 'protectionism' attempts

ECONOMIC

- E-procurement slashes costs
- Inventory levels can be greatly reduced
- Trading volumes and values are huge
- Profits initially will go to infrastructure providers
- Small and mid-sized companies have the most to gain by accessing volume discounts previously denied them

SOCIAL

- The death of middlemen
- Information Age new industry drives workflow redesign
- Crumbling walls of the 'fortress' business, greater transparency

[171] Schwartz, N.D. and Watson, N. Playing the Internet's Next Gold Rush *Fortune* 15th May 2000 Available at http://library.northernlight.com/LH20000505020000717.html

TECHNICAL

- Proprietary technology costs are prohibitive to take-up by SMEs
- Inclusion only comes through open standards

With respect to the study solely as a piece of work, a greater number of interviews with members of different industries would have added dimension and greater depth to Chapter Seven. It would have been helpful to consult people in butterfly markets (that demonstrate high fragmentation on both sides), to comprehend the presence of any differing attitudes to the challenge of e-marketplaces. This was attempted but proved fruitless.

While studying an emerging field is simulating, there is a problem with an examination of an area that has yet to prove itself. The interviews marked the lack of experience in the actual operation of e-marketplaces, the models are just not up and running in any real sense. This is partly a problem of geography, the United States remains at the vanguard of e-commerce, thus it has been difficult to find UK and European examples. Yet it is early days even in the development of US sites and thus much remains nebulous although promising.

Due to the limitations imposed by a three-month work slot, there had to be a cut off point for background reading, this has proven somewhat frustrating as new material appears constantly. Given more time the study could be expanded to include far more, certainly technical aspects have barely been touched upon. A case study of the actual impact of joining an e-marketplace on a company would provide fascinating material, drawing perhaps on areas of inclusion and workflow redesign. Possibly it would validate theories that the true value of the e-marketplace will lay in information and community, rather than in the making of the ‘next wave of Internet millionaires’.

APPENDIX

INTERVIEW QUESTIONS

My main aim is to elicit the company's and your own perspectives on the opportunities and threats posed by e-marketplaces, and to determine the model that would be best suited to your marketspace. During the interview I would like to cover 3 fairly broad topic areas:

1. The present situation at BPI
    - Could you describe the purchasing model currently used?
    - How would you describe the market?
    - What type(s) of value-added service do you, or would you like to receive from suppliers?

2. E-marketplaces
    - Can you describe your experience and impressions of e-marketplaces such as hubs, exchanges, or auction sites?
    - What benefits / advantages do you see such sites holding?
    - Conversely, what drawbacks / disadvantages do you see?

3. Personal opinions
    - What, if any, are your concerns regarding involvement in e-marketplaces?
    - "It is in the use of information, not the saving of money that we will see the promised B2B marketplace revolution." What would be your reaction to such a statement?
    - Could or do you foresee exchanges becoming "the price of competitive parity"?

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