State and Prospects of Electronic Marketplaces

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To Nicole - ma chérie pour toujours. Je t'aime**!**

Contents

1 Introduction

The present paper deals with the issue of electronic marketplaces, institutions that have only of late developed into formidable tools of doing business, particularly in the B2B arena.

In fact, substantial value stems from the operations e-markets that not only benefit its participants but ultimately disseminates into the wider economic context. They facilitate transactions and create markets in areas where there simply was no market prior to the enabling via e-business technology.

First, we shall draw a broader frame in which to position the subject matter, by looking at the economic foundations of the market notion. Also, information costs will briefly be dealt with. After these digressions we shall tackle the issue of intermediaries in general before turning to e-markets.

After a brief description of their development the main problems of e-markets are detailed. Then a framework as to how to most usefully classify them is being drawn before we look at the main value drivers of e-markets. Last, B2C e-markets will receive a short but due treatment.

2 The Notion of the Market

To understand some of the current issues surrounding electronic marketplaces that have emerged and developed on the Internet over the last few years, it shall be useful to briefly outline some of the basic features of the conception of the market.

The *market* is generally defined in very broad terms that allow for an almost universal applicability. A recent definition by Pearce (1986) reads:

> [G]enerally, any context in which the sale or purchase of goods or services take place. There need be no physical entity corresponding to a market. (p. 263)

A more narrow and tangible definition is being offered by Hardwick et al (1999):

> The market for a good can be thought of as the area in which buyers and sellers of the good come in to contact with each other to transact their business. (p. 51)

The current understanding of what constitutes a market is still largely influenced by the neoclassical model which maintains that in an economic exchange system without government intervention there will be *free competition* and *perfect liberty* of economic agents, resulting in maximised social welfare. Information is assumed to be perfect, and choices to be rational. The only clearing mechanism is the price of goods that adjust so as to equate supply and demand. Prices are also taken to be the only signals about goods that

agents are supposed to have perfect information about. All transactions are costless, that is, the transaction costs are zero.[1]

It is obvious that such an understanding may allow for easy modelling of economic processes but in turn does not capture the host of features of real world markets. The neoclassical abstraction of a general market may generally be justified but is almost useless in practical analysis. Lie (1997) rightly remarks:

> [T]he neoclassical market is shorn of social relations, institutions, or technology and is devoid of elementary sociological concerns such as power, norms, and networks. (p. 342)

It is understood today that real world markets rarely work according to the simple standard competitive model (Carlton and Perloff 2000, ch. 17). In fact, already the great 18th century economist and philosopher Adam Smith (1910), whom the introduction of the notion of the market as a welfare optimising mechanism is typically attributed to, was aware „that from the point of view of the individual producer or group of producers it was most beneficial to circumvent the competitive market with its attendant risks, and use all available means to prevent competition, in order to obtain the highest possible price for their wares", as Muller (1993, p. 77) points out.

Free competition in the absence of state intervention appears to be an illusion, as is the notion of the free individual that makes informed and rational choices. The existence of monopolies and market power, entailing coercion, fiat, and lowered social welfare, have undisputedly always been a matter of fact (Posner 1975) and manifest themselves in due antitrust and competition policy. Priddat (2002, pp. 199-200) reminds us that the model of a truly free individual has only become relatively practical towards the end of the 20th century in the north-western hemisphere, and only in respect to his choices as a consumer, not so much to his choice of work.

Empirical evidence strongly shows that information is typically anything but perfect, and prices are more rigid than most simple theories suggest (Carlton and Perloff 2000, ch. 17). That is, agents do not have sufficient information to make fully informed rational

[1] Transaction cost economics (TCE) have been a very widely used tool in economics and enjoy an almost universal acceptance by economists. Ronald Coase (1937, 1960) has written the seminal papers, introducing this powerful idea to economics.

choices (sometimes consumers do not even find what they are looking for), and prices do not vary in perfect correlation with fluctuations in costs and demand. Information is asymmetrically distributed and market power plays an important role.

Moreover, there are substantial costs in creating markets that clear via the price system. That is, making markets may well be regarded an industry in its own right where there is competition to produce better and more efficient markets as can be seen in the cases of financial markets (Carlton 1984). Also, it is important to recognise that heterogeneity of products is perhaps the most critical characteristic that typically inhibits the organisation of efficient markets that clears by price alone, for operating such a market may not be feasible due to the low transaction volumes (Carlton and Perloff 2000, pp. 559-560)

In short, real markets are imperfect, and there is a cost of running them that may, in fact, outweigh its benefits and hence prevent it from sustaining. Product heterogeneity renders futile the idea that prices can be the exclusive clearing mechanism, for there will have to be other signals about products that have to be communicated in the market.[2] Further, transaction costs are an unavoidable reality in the transfer of property rights and here to stay, be it in the mere safeguarding of transactions and the transfer of physical goods. All these points are worth bearing in mind when endeavouring to analyse „electronic markets“.

[2] Priddat (2002, p. 216 ff) introduces the notion of *complex goods* whose prices are determined not merely by supply and demand forces but via communication on a second governance level. Hence it follows that economic analysis must not be detached from the analysis of communication processes. Stiglitz (2000, p. 1449) sharply notes that „market prices are not the only signals which convey information about scarcity, and prices do convey information other than that about scarcity“.

3 The Problem of Informational Efficiency

We shall very briefly digress here to address the issue of informational efficiency in economic exchange systems, for information costs are the principal cause of transaction costs (Barzel 1977) and play a significant - albeit often underestimated - role in economic exchange contexts.

With the sudden rise of the Internet in the 1990s to a truly global communication medium that facilitated information exchange to a hitherto unheard of degree, some observers believed that the Internet could finally provide for near perfect markets as it „globally disseminates […] facts about products, manufacturers, distibuters, service providers, and buyers“ (Taylor and Terhune 2001, p. 151). This, of course, is strongly disputable upon the three following grounds that the author identifies.

Informationally efficient markets are *impossible*, as Grossman and Stiglitz (1980) have shown, due to the fundamental conflict between the incentives to produce costly information and the efficiency with which it is disseminated. Boyle (2000, p. 2013) notes that „the idea of a perfect market in information is internally contradictory even in theory“. That is, more knowledgeable agents will want to keep valuable information to themselves and maintain asymmetric information levels. Worse still, economic actors may have an incentive to create noise or take actions to increase the level of asymmetries of information (Edlin and Stiglitz 1995; Stiglitz 2000).[3]

Even if this were not the case, the transfer of information is costly even on the Internet and hence cannot be efficient. That is in particular due to a lack of universally accepted communication and data standards. Despite all the talk of semantic web and

[3] A well documented case is that of Microsoft who in 2001, upon realising the substantial threat from the Linux operating system to their virtual monopoly in the operating systems market, in a number of press releases were disseminating false and utterly misleading accusations against the open source community and strongly condemned the purported adverse effects of GPL licensed software upon the software industry and the welfare of the American people.

XML, true *communication* still takes a lot of human involvement and translation efforts when connecting heterogeneous information systems.

Second, things are even exacerbated when one considers the far more realistic setting of a dynamic creation and resolution of different information preference levels of actors in an economic system. There can be no equilibrium of information when the possession of information *changes* the choices of an actor, and thereby the relevant information about this agent, for different sets of information will impact upon the needs, want, and desires of an individual in an economic system.[4] All that obviously happens with an unavoidable time lag that renders impossible any stable equilibrium of information.

A third, and probably most essential point, comes from a communication studies perspective. According to one of the leading practitioners in this field mere information does seldom amount to *knowledge* (pers. comm. Dieter Herbst). For information to fit into a person's body of knowledge it takes more than passive consumption. It takes active experience and emotional involvement. Casual observation indicates that some *offline experience* seems vital in assimilating information and trusting it so as to act upon it.[5] However, more formal research will be needed to arrive at conclusive empirical evidence regarding this point.

[4] See *supra* note 2.

[5] One observer the author talked to remarked: „No one in their right minds will conduct a multi-million dollar transaction with an unknown partner over the internet. He will certainly want to ‚kick the tires offline' before committing himself".

4 The Need for Intermediaries

It shall be obvious from the above that the *market* in the real world is imperfect enough to allow for exploitation of inefficiencies through entrepreneurial effort, that is, by risk and initiative, which has been the case for businesses that facilitate transactions between economic agents, or make them possible in the first place.[6]

In that respect, the crucial point about the emergence of electronic business along with sophisticated information technology as the principal enabler is that it has allowed for more inefficiencies to be feasibly exploited. Even though some previous intermediary tasks have been changing or even become obsolete, the rise of e-business has *not* brought about disintermediation at massive scale as predicted by some observers in the 1990s:

> During the early stages of e-commerce […] middlemen […] were perceived *as* an artificial layer between buyer and manufacturer that did little except add cost to the product and drive down margins. […] Like relics from the ice age, middlemen were expected to go the way of dinosaurs, with the Internet triggering a mass extinction. Instead, many middlemen have fashioned the Internet into a formidable competitive weapon. They understand that customer information is the key to value and they have been able to leverage an enviable position in the middle of the value chain. If you already know, through years of service, what customers want, when they want it, what they

[6] Liebowitz and Margolis (1999) capture the point neatly:

> An inefficiency is a profit opportunity. By definition, an inefficiency means that there is some feasible change for which the benefits outweigh the costs. That is to say, there exists a possible surplus. The person who can figure out a way to bring about the necessary reallocation and capture some of the net benefit will enjoy a profit. (p. 239)

> are willing to pay for it, and what they perceive as intrinsic value, you hold the key to consumer relationships. (Taylor and Terhune 2001, pp. 181-2)

Not only has e-business technology created new profit opportunities for existing intermediaries, but it has accordingly also provided for efficiency enhancements on the part of buyers and sellers. It has in many instances lowered the costs of transactions in the market, in particular with regard to internal operating costs. Moreover, new opportunities in the *area* between buyers and sellers that drive the market towards being more efficient have been created by e-business technology.

The idea of creating a virtually universal marketplace is, of course, both intriguing and has of late become practical by modern communication and information technology. In particular, the Internet provides new profit opportunities for what have been dubbed „cybermediaries“ that extend well beyond the mere matching of buyers and sellers in fragmented markets.

Additional services are understood to be essential in a truly virtual marketplace to add tangible value to transactions, and capture sufficient benefits for the participants and operators of the developing *electronic markets*. Such services may spread from simple, rather undifferentiated services like buyer/seller matching, catalogues, order status tracking, and transaction management to sophisticated services like dispute arbitration, funds transfer, financial services, credit rating, fraud protection, warranty management, authentication and secure online environments (Taylor and Terhune 2001, p. 210).

E-markets are a relatively recent phenomenon and may be regarded institutions that facilitate market transactions via the Internet, and offer some auxiliary services. In the late 1990s expectations as to their potential impact upon businesses were huge. Only four years ago most analysts had exponential growth projections for the developing e-markets and predicted a massive earnings potential.[7] While with the demise of the *new economy* those expectations were largely proven wrong, e-markets still have their justification and are developing into sustainable and viable means of doing e-business (PriceWaterhouseCoopers 2001). The remainder of this paper shall deal with the history, the development, the problems, and the value of e-markets.

[7] See for example Deloitte Research (1999).

5 The Evolution of E-Markets

Some cynics will say that it was just the then hugely popular *e* put in front of *market* that made analysts, entrepreneurs, and venture capitalists in the late 1990s dispend with all due business knowledge and diligence to rush into losing money and goodwill at massive scale with e-markets, a still rather shaky business model. However, with hindsight it is always easy to say that one ought to have been aware of the problems and pitfalls. Indeed, e-markets, and supporting e-business ventures, may still prove to be the soundest of online business models around, and in the end make everyone, not least the customer, better off.

The following sections detail some of the issues surrounding the relatively recent emergence and the development of electronic marketplaces on the Internet and are largely based upon the picture about e-markets that has emerged from studying a number of research reports, mostly by large consulting firms. The focus lies decisively on B2B for the importance and the impact of e-business on B2B relationships has been much more profound than on B2C. However, B2C e-markets will receive some consideration, too.

5.1 A Brief History

The first e-markets were created by Internet start-ups that tried to create independent marketplaces that would attract buyers and sellers either in an industry or in a certain product or value chain segment. The focus of commercial efforts was decisively on B2B rather than B2C marketplaces, for the B2B area was considered to provide for larger trading volumes and more scope for efficiency enhancement. However, with the collapse of stock markets in 2000 those early players had considerable difficulties gaining a

sustainable hold in the market. Deloitte Research (2000a) captured the consolidation trend:

> [Until spring 2000] many expected the independent e-Market to be the successful model. However, despite the perceived benefits of independence, such e-Markets have not been able to attract the volume of business and liquidity needed to maximize their cost-based, network effect economies of scale. Industry-backed consortia - especially in oligopoly industries - have regained a decisive advantage even though they were slower to get off the ground than Internet pure-play e-Markets.

As of late 2000 it was becoming clear that a shakeout had begun and, as a BCG report (2000a) pointed out. Out of the several hundred hitherto existing e-markets practically only a handful of large industry consortia sponsored players serving the different industries were to be surviving. In most cases the independent marketplaces had not been able to generate the transaction volumes needed to drive revenues. Without the backing of major industry players their only option was to become a specialised niche player. That is, each distinct vertical sector of an industry will cater for one or two focused e-markets that serve its needs, and there will be a tendency for smaller players to occupy profitable niches like matchmaking in highly fragmented industries or providing specialist services. Most of the larger players are now „at arm's length" operated by industry consortia who are able to exert more pressure upon their suppliers to join such an exchange,[8] and, more importantly, have the relevant industry specific knowledge, financial resources, and contacts.

Since 2001 many of the once independent e-markets have become solution vendors of specific e-commerce applications for large companies that want to build their own private e-market. Private e-markets are becoming an increasingly important class of markets, in particular for companies that want to fully control access and rules of *their* e-market (Emarketservices 2002). Such an exchange is typically used to integrate a company's

[8] The issues of possible collusion and monopsonies in e-markets (buyer side monopolies in the case of consortia driven e-markets with the focus on collective purchasing) have received some attention by antitrust authorities, both in the US and in Europe (Deloitte Research 2000a). However, thus far no actions have been taken. An investigation by the Federal Trade Commission (FTC) into Covisint, the vertical e-market by the largest global players in the automotive industry, was closed at least for the time being.

internal systems with its known suppliers.[9] Major companies with sufficient leverage power like Wal-Mart, Boeing, Cisco, Ford, and GE have implemented private e-markets to deal with their suppliers. Today most procurement e-markets are either private one-to-many exchanges that integrate a firm's suppliers tightly with internal processes, or are consortia sponsored.[10] In both cases they are predominantly about shifting value from suppliers to more dominant buyers, but also, and profoundly, about creating value by lowering the costs of transactions.[11]

Aside from categorisation by ownership structure it is common to divide e-markets into *vertical* and *horizontal* ones. While the former is suited to specific industries the latter type of e-market, which is typically region-, functional-, or process-oriented, offers indirect goods to buyers across different industries.

Indirect goods are those non-essential goods that are needed to keep a business running, as opposed to direct goods that form direct inputs to the production of a firm. MRO (maintenance, repair and operating goods) purchases are typically non-formal and seldom inventoried or tracked through automated procurement software. Companies have managed to realise substantial efficiency gains in their procurement processes through the automatisation of processes (Taylor and Terhune 2001, p. 212; Emarketservices 2002, p. 14). One current example for a horizontal marketplace that trades in indirect goods is *Grainger.com*, a wholesaler who has, building upon his existing infrastructure and business contacts, managed to become the leading horizontal e-market for MRO goods in America and also offers ERP integration of order processes for buyers and sellers.

Vertical e-markets, on the other hand, play an increasingly important role for businesses in their procurement of direct materials. While until now e-markets were being used primarily for the procurement of the strategically rather less important MRO goods, companies now increasingly turn to buying direct materials that naturally have a higher strategic importance to their operations, via e-markets. The latest release of the

[9] Private e-markets do, of course, bear little in common with the conventional notion of a market, and may rather be regarded extranets than e-markets.

[10] See **Fehler! Verweisquelle konnte nicht gefunden werden.** at page **Fehler! Textmarke nicht definiert.**.

[11] Taylor and Terhune (2001, p. 178) name this the *channel master model*, where „a dominant member of the supply chain can essentially force others to do business in a certain way".

ISM/Forrester Research *Report On eBusiness* (2003) indicates that the percentage of direct materials purchased online now surpassed the percentage of indirect materials purchased using the Internet for the first time. Respondents to the survey spent an average of 11.7 percent of their total direct materials spend and 11.0 percent of their total indirect material spend using the Internet in the second quarter of 2003.

Despite the shakeout and the ongoing consolidation since 2000 today there are some 1000 e-markets worldwide, the bulk operating in Europe and North America (Emarketservices 2003a). A number of significant Asian e-markets have developed of late. However, only a precious few are significant players in their targeted markets, the most important of which have been listed by Emarketservices (2003a). Most still have a largely domestic market focus, albeit some envisage gradual internationalisation. The consolidation trend in the *e-market industry* continues with more alliances and mergers being forged (Emarketservices 2003b). A recent example is that of the e-market alliance *Open Network for Commerce Exchange* (ONCE) that links several domestically focused horizontal e-markets (Emarketservices 2003a).

A growing number of business transactions are done via e-markets, and despite serious integration issues the collaboration between buyers and their suppliers is increasing. ISM/Forrester (2003) states that nearly two third of the companies surveyed collaborated online with their suppliers. By far the most widely used clearing mechanism in e-markets is that of request for proposal (RFP), whereby a seller is being invited to provide an offer on supplying a complex product or service (ISM/Forrester 2003; Emarketservices 2003b). Also, requests for quotation (RFQ) and requests for bid (RFB), whereby offers for the sale or purchase of fully specified goods are invited, are common trading functions (Emarketservices 2003b). Other important trading mechanisms are catalogues and reverse auctions.[12] Most significant e-markets offer some degree of integration, and provide at least some industry news and basic collaboration features.

[12] Catalogues list products and services with prices that are generally fixed and not negotiable. Reverse auctions are a trading mechanism where a buyer names a product or service he would like to buy and seller submit offers lowering the selling price for each submitted bid.

5.2 The Basic Problems

An initial problem for all e-markets, that has proven to be more profound than most analysts had predicted in the early days of e-markets, is that of getting enough suppliers or sellers to join the market. This not only applies to independent but also to consortia led and private e-markets. Clearly, a market without a critical mass of suppliers will not attract enough buyers to generate sufficient transaction volume or value for the participants from which operating expenses and profits for the owner of the market may be derived from. But also, vice versa, without a sufficient number of buyers few sellers will want to join the market. Further, and significantly, there are strategic reasons for firms to avoid competitive marketplaces with transparency of prices and volumes.

Not least, a recurrent and severe problem for all e-markets is that of technically integrating suppliers and buyers in an e-market which has proven a prohibitively costly issue in many cases (PriceWaterhouseCoopers 2001). Especially smaller suppliers have proven to be costly to be integrated in an e-market. ISM/Forrester (2003) states, that as of 2003 a staggering 99 percent of the surveyed companies' suppliers still lacked the necessary B2B capabilities that would enable them to transact via the e-markets.

Independent players had the problems of attracting sellers and buyers for a number of profound reasons. First and foremost, merely matching buyers and sellers and then leaving them to themselves have proven an unsustainable business model in most cases. Transaction fees had by 2000 already declined drastically to around 1 percent. Few independent players, however, had the knowledge and resources to develop *killer apps* or benefit substantially from the integration of non-core services like finance and logistics through competent partners with the relevant skills and reputation (BCG 2000a, p. 16). Also, it has proven a significant problem that few suppliers wanted to join markets where they would compete exclusively on the *price* and not on other product characteristics with a whole host of other suppliers. In the presence of price transparency for comparable goods margins for suppliers inevitably shrink and are shifted to buyers.

Moreover, attracting significant transaction volumes from large companies in the industries targeted that would attract a critical mass of sellers has proven challenging for three main reasons: lack of *competence*, lack of *contacts*, and lack of *trust*. Few independent players have had the requisite knowledge and understanding of the processes

and problems of the industries they were targeting. Trade relationships in most industries typically develop with longstanding relationships between buyers and sellers, hence for most firms they form a strategic asset that they will not like to share with anyone and that is hard to substitute by independent e-markets. Third, due to the strategic relevance of direct materials for the operation of most businesses firms wish to have a degree of control over the trade relationships that they cannot command in independent marketplaces. For such an e-market it next to impossible to develop the level of trust and liquidity needed to persuade buyers to shift their strategically relevant trade volumes to them. Private and consortia sponsored marketplaces have become the choice for most large players in the industries (Roland Berger 2001). Significantly, they possess the relevant and necessary legacy assets to secure the success of an e-market (BCG 2000c).

However, these marketplaces face a different set of problems that have not proven necessarily easier to overcome, despite their founders' possession of industry specific knowledge and a certain weight in the market that would facilitate bargain processes with suppliers that involve structural change. The implementation of a private marketplace and its integration with a firm's legacy IT infrastructure has proven a major obstacle to its feasibility (ISM/Forrester Research 2003). Further, markets aligned at shifting costs to suppliers and value to buyers have understandably provoked resistance with suppliers, especially when firms overestimate their market power (Roland Berger 2001). The same holds for industry consortia dominated marketplaces (PriceWaterhouseCoopers 2001).

Aside from the development costs, industry consortia marketplaces typically suffer from an insufficient commitment and complacency of their founders, especially regarding the sharing of critical information (PriceWaterhouseCoopers 2001). That often leads to collaboration functionalities that are relatively pale in comparison to what a full commitment of all parties could provide for (Roland Berger 2001). Collaboration, it has to be noted, is something of a paradox in a competitive marketplace for it runs counter to our culture. Taylor and Terhune (2001) remark:

> The notion that it is good for a company to share critical business information such as pricing, production schedules, inventory levels, and design specifications with its customers and suppliers causes many executives to worry that collaboration could cost them competitive advantage. […] There is

> precious little information that is mutually beneficial in a competitive environment, and there is very little interest on the part of the management in helping support weak suppliers or non-paying customers or any company that could be a potential competitor. (221-5)

Hence it follows that collaboration will in most cases first and foremost be driven by strategic considerations of self-interest.

5.3 A Strategic Positioning Framework

Soh and Markus (2002) point out that the literature on e-markets provides a host of differenting characteristics that can be derived from their attributes. These are detailed in Table 1.

Table 1. Differentiating characteristics of e-markets

Characteristic	Attributes
Types of products	commodity vs. differentiated direct vs. indirect standard vs. complex
Type of ownership	intermediaries vs. buyers vs. sellers
Communication activities	price vs. product information
Type of trading activities	systematic sourcing vs. spot sourcing catalogues vs. negotiated prices vs. auctions
Bias	seller-biased vs. buyer-biased vs. neutral
Product cost	low vs. high
Market fragmentation	fragmentation of buyers vs. fragmentation of suppliers
Value proposition	aggregation of buyers and sellers vs. integration competition vs. collaboration

Source: Soh and Markus (2002)

They provide a useful classification framework by mapping those characteristics onto the conceptual categories of Porter's (1985) strategic positioning theory that is based upon the three main concepts value proposition, product-market focus, and value added activities. The theory holds that „superior performance comes from tight linkages among a distinct value proposition, a carefully crafted product-market focus, and a set of unique value activities that cannot be easily imitated by other firms" (Soh and Markus 2002, p. 3). In particular, they identify three distinct value propositions of e-markets:

- *Communication* (ability to transmit and access large amounts of information quickly)
- *Brokerage* (access to a large number of buyers and sellers, ability to search and evaluate many alternatives quickly and at low cost)
- *Integration* (tight coupling of buyers' and suppliers' processes)

They use the product-market focus in terms of the product segments *industry served*, *nature of products traded*; and market segments *bias*, *size of firms*, *geographic focus*. Further, six broad categories of value activities are identified:

- *Content provision* (industry news and discussion forums)
- *Matchmaking* (catalogues, requests for bid/quote/proposal, auctions, negotiation)
- *Post-sale transaction automation* (online purchase order, invoices, payment)
- *Logistics facilitation* (warehousing, transportation)
- *Collaboration support* (supply chain management, sharing of inventory information, collaborative design)
- *Other* (software implementation services, consulting, training)

Soh and Markus maintain that marketplaces that match either the *brokerage* or the *integration* archetype will perform better than those with a weaker fit. The former focuses matching buyers and sellers in fragmented markets with products that are low cost, commodity, or standardised. Supporting value activities are catalogues and auctions. The latter „focuses on improving the efficiency of buyer-supplier interactions through tighter

coupling of their processes. […] It best fits with high price differentiated products“ (p. 7), and the requisite value activities include post-transaction automatisation, logistics facilitation and collaboration support.

Their model seems to provide a useful, albeit empirically largely untested, framework for the analysis of electronic marketplaces. The crucial point is that offering a distinct and recognisable value to customers is essential for a marketplace as an *e-intermediary* as it is for conventional *old economy* companies.

5.4 The Value Drivers

For operating e-markets entails significant costs and efforts, both on the part of buyers and sellers as well as on the part of the intermediaries, real value other than from shifting margins from sellers to buyers has to be generated by the operations of an e-market. BCG (2000a) captures the basics of how value will be created in an e-market:

> E-marketplaces make it dramatically easier and less expensive for companies to find and conduct business with one another. By lowering the cost of existing interactions and making possible all sorts of new ones, e-marketplaces allow companies lower transaction costs, production costs, and inventory-carrying costs; reduce cycle times and total cost in use (the total cost of utilizing a product); and improve asset utilization. (p. 9)

They distinguish between the value shift and value creation activities that are depicted in Table 2. BCG regards procurement transactions and collaboration activities to account for most of the value created by marketplaces. As mentioned above, collaboration will, however, only be feasible to a certain extend, and still suffers from insufficient commitment of the parties involved. Still, basic online collaboration between companies and their suppliers is on the rise (ISM/Forrester 2003). Also, the marketplace Covisint, for example, has collaboration tools for its members that foster shared design, collaborative work flows, and web conferencing (Emarketservices 2002, p. 34)

Table 2. Sources of value creation

	Source of value	Driver
Value shift activities	Aggregation	Achieved discounts by consolidating volume
	Process automation	Decreased maverick buying
	Transparency / Auction	Increased competition among suppliers
Value creation activities	Lower marketing and sales costs	Lower costs to reach and serve customers
	Lower transaction cost	Fewer ordering errors
		Streamlined approval process
		Lower supplier evaluation costs
		Streamlined accounts-payable-and-received process
	Lower cost in use	Access to superior products
		Customization of inputs and after-sale service raise quality and yield of output
	Lower inventory costs	More efficient supply chain reduces need for inventory
		Less obsolescence, less rework
	Lower cycle time	Collaboration design and project management improve products, reduce redesign, and speeds time to market
	Improved asset utilization	Increase scale by reorganizing the value chain
		Higher labor productivity
		Better capacity planning and utilization

Source: BCG (2000a)

Particularly the value shift activities and some of those more obvious and tangible value creation activities like lowering transaction costs have already shown to work quite well while some still have to prove their potential. It appears that, by and large, buyers

benefit more extensively from e-markets than sellers which is mirrored by the fact that most e-markets are buyer driven (Emarketservices 2003a).[13]

Generally speaking, e-markets capture only little of the benefits they create, for transaction fees, in a competitive environment, need inevitably to be low, and few manage to provide distinctly superior services that cannot easily be copied. Non-core auxiliary services like finance and logistics also create but little new value that e-markets can generate substantial revenues from. Those e-markets, however, that have a large number and volume of transactions generate revenues very much in line with that of other market making institutions like stock exchanges.[14] Others may generate sufficient revenues by occupy a profitable niche.

The full impact of e-markets on corporate performance and profits is not yet fully understood but in the very near future and with the proliferation of empirical data it will be possible to conduct the due econometric studies. However, common sense and anecdotal evidence of the case studies available to date[15] indicate that companies will benefit from a sober and business like approach to their participating in e-markets.

Not only should buyers benefit from e-markets but sellers may benefit, too. Despite the price pressure created by transparency and competition in many e-markets sellers have a potential of benefiting from participating in e-markets. BCG (2000b) identifies four basic strategies that enable sellers to capitalise on the use of e-markets:

- *Exploit dynamic pricing* (develop aggressive techniques for yield management and dynamic pricing like airlines)
- *Shape standards beyond price* (get marketplaces to display categories other than price, e.g. total cost of ownership, in which you excel; that is, avoid having to compete on price)
- *Enhance collaboration* (make it easier for buyers to collaborate with you)
- *„Build to e-order“* (increase customisation and differentiation)

[13] See ***Fehler! Verweisquelle konnte nicht gefunden werden.*** at page **Fehler! Textmarke nicht definiert.**.
[14] See ***Fehler! Verweisquelle konnte nicht gefunden werden.*** at page **Fehler! Textmarke nicht definiert.**.
[15] Some case studies can be found on *http://www.emarketservices.com*.

These points bear note for they illustrate the fact that e-markets may *not* only be about lowering costs, but may create new rules for competition and the way business is being done. Moreover, it highlights one fundamental conflict between *efficiency* as understood by conventional economics in simple market clearing models, and *value* as it can be created in an e-market by means of competition on product attributes other than price and features of collaboration between agents. While commoditisation may enhance efficiency as traditionally perceived, differentiation and collaboration will increasingly add real value to businesses in the 21st century. E-markets will precisely provide for that: a market where supply and demand are not static and taken for granted but products and services are highly customised and prices highly dynamic. Moreover, collaboration with crucial supply chain partners will be vastly facilitated.[16]

The author sees the two strategic basic archetypes of *brokerage* and *integration* laid out in section 5.3 fit with those distinct value propositions: *(1)* efficiency enhancement via the creation of transparency and increased price elasticity through highly dynamic pricing, and *(2)* the creation of value by collaboration and integration of processes.

Some observers expect that, despite the tighter integration of supply chain processes, traditional relationships between buyers and sellers will substantially weaken and even strategically important static relationships will gradually give way to highly dynamic supply chain relationships. That is to say, the best of both worlds may ultimately be possible: efficiency in the conventional economic sense, and new sources of value through collaboration and process integration.

E-markets are ultimately not about tricking one another, for such approaches will prove unsustainable, but about adding real value to all participants. Coercion my have been an unavoidable fact of business life, but will not be greatly exacerbated by e-markets, for they add equal power to both buyers and suppliers that may utilize them to add unique value to their businesses. E-markets are more than just places where buyers and sellers meet to sell or purchase goods or services, and, in the end, everyone will be better off, suppliers, buyers, and, not least, consumers.

[16] Collaboration with suppliers, distributors, and consumers seems to positively impact on performance (Deloitte Research 2000b).

5.5 A Note on B2C E-Markets

The literature provides virtually no formal investigations into B2C e-markets, yet at the height of the e-business hype curve the media coverage on the subject was breathtaking. We were all lead to believe that we would soon be enjoying all those fancy new e-things around us while our fridges would do the work and order new milk or dispose of the old one when gone off.[17] With hindsight investors scratch their heads about the euphoria back then, for but a few e-commerce models have survived and developed into sustainable businesses that generate significant revenues.

Offline commerce still seems to be the choice for most consumers, as long as issues of trust and payment have not been fully satisfactorily resolved. However, manners and behaviours change, albeit slowly, and the Internet enjoys ever wider acceptance with people. With ever more sophisticated tools it becomes more integrated into people's all day lifes, and becomes a channel which they increasingly use as a means of communicating and transacting.

There is little guidance on what characteristics qualify a B2C business as a marketplace. Emarketservices (2002, p. 11) does not regard online distributors as e-markets, for those only sell fixed price products online. Examples include *Dell* and *Amazon*. Also, portals like *Yahoo* and *Netscape* do hardly qualify as marketplaces even though they may facilitate B2C commerce.

However, there are a great number of specialised B2C markets that act as intermediaries between businesses and consumers. Most cover segments of services and products that are easily classifiable and comparable. Examples include travel agencies like *traveloverland.de*, and *flights.com*, or hostel booking agencies like *hrs.de* and *hostels.com*. They all work well in their existing markets where they facilitate the transactions of consumers with businesses, and lower transaction costs, in particular on the part of consumers, significantly by providing transparency of prices and other product attributes. Most sites offer a browsable search interface over a *catalogue* and assist the payment and delivery. It has to be noted that payment and delivery of rather small and

[17] In fact, those refrigerators existed as prototypes and were displayed at EXPO 2000 in Hannover, Germany (pers. comm. Nicole Bräuer).

inexpensive goods as in most B2C transactions is somewhat easier and less challenging than in B2B transactions (Taylor and Terhune 2001, pp 205-8), hence even low volumes can generate sufficient revenues needed to make the business worthwhile.

Some e-markets like *ebay.com* or *zweitehand.de* have a broader focus and largely cater for C2C transactions, but also for B2C transactions. While the former uses the means of *auction* as a trading mechanism, the latter uses the *black board as* a trading mechanism.

In contrast to B2B marketplaces, most B2C e-markets appear to be owned and operated by independent third parties. Since consumers are the buyers in B2C a consortium[18] driven B2C e-market can only be a seller driven e-market, and there is no immediate use for a consortium to build such an e-market when they cannot exert any pressure upon a fragmented consumer base to „join" such an exchange. There have been attempts to organise the demand side and develop buying cooperatives. Those, however, have thus far failed to live up to their expectations.

The development of *shopping agents*, that is, software agents that search the web for a product as specified by its principal, the consumer, have proven inefficient in the absence of standardised interfaces and semantic inambiguity. Trust and adverse selection are proving issues difficult to overcome.[19] Yet, the promise of a *semantic web* may ultimately enable such technologies to develop the Internet from a global network into a truly global marketplace that ultimately make e-marketplaces with respect to finding one another superfluous.

[18] A consortium is an association of companies, not consumers, formed for a particular purpose.

[19] To be sure, there are, of course, communication standards such as OBI (open buying on the internet) that theoretically make e-markets as market clearing institutions redundant. The problem is, as with any standard, it only works when people adopt it and act according to its rules. That is not seen to be happening on a wider scale at the moment.

6 Conclusion

This paper has attempted to provide a current insight into the development and workings of electronic marketplaces while putting the issue into a broader economic perspective.

It has become clear that e-markets will profoundly change the way business is being conducted in the third millennium. Both in the B2B and in the B2C arena e-markets have proven to be useful tools of transacting with one another via the Internet. While some changes have, indeed, already occurred and a number of e-markets already create substantial and tangible value for their participants, some issues, in particular those of interfaces and interoperability of e-markets as well as those of trust and anonymity, will still have to be satisfactorily solved.

E-markets have challenged the conventional notion of the market and enable people to collaborate and integrate their process, hence lowering transaction costs significantly. With the development of technology they will further make further qualitative leaps and the future will in the mid term almost certainly look different from any scenarios we may today think of.

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