Electronic Commerce and the Implications for Market Structure:

The Example of the Art and Antiques Trade

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Abstract

In recent years, it has been widely stated that electronic commerce will signify the dawn of a friction-free market (Gates, 1995).
Structural changes in markets, such as disintermediation, would occur due to the impact of electronic trade and electronic information exchange. As argued by Sarkar, Butler and Steinfield (1995), these statements are oversimplified and exaggerated, because different outcomes are possible, such as cybermediation and re-intermediation. In order to clarify the issues concerning the implications of e-commerce for market structure, this paper attempts to validate the model developed by Sarkar et al., by applying the model to the art and antiques market. The implications of e-commerce depend on the choice to internalize electronic inter-organizational activities or outsource these activities to so-called cybermediaries. The emergence of new intermediary roles and actors is not always based on pure economic arguments. Of equal importance are the constraints imposed by the social and cultural embedding of intermediary roles. However, the precise impact on market structure cannot be explained exclusively by e-commerce. In this paper, it is argued that a better understanding of the evolutionary impact of e-commerce on existing market structures and intermediary roles is reached by taken into account both historical and regional perspectives.

Introduction

The rise of the Internet accelerates the decrease in costs of information. Also, it provides a universal availability and higher quality of information (Castells, 1996). E-commerce provides the environment for new forms of markets, such as electronic matching of sellers and buyers, or enabling a direct exchange between sellers and buyers (Buxmann & Gebauer, 1998). This allows for changes of management practice and philosophy. Firms adopt an inter-organizational perspective to redesign interlinked processes to exploit these possibilities more thoroughly. E-commerce can lower the transaction costs, which offers firms an increase in market opportunities. Still, it is unclear what the implications are for the value system roles, business relationships and the market structure.

The purpose of this paper is to examine the influence of e-commerce on market structure, in particular the role of intermediaries and the channel decision. The channel decision refers to the explicit trade-off between purchasing goods and services through an intermediary or buying them directly from producers. The analysis is based on research carried out by Sarkar, Butler and Steinfield (1995). In this research it is assumed that there are classes of transactions, which are affected in different ways, so that e-commerce will not reduce all transaction costs to zero. The coordination role played by intermediaries in the exchange process is not atomic, but in fact a multifaceted set of functions, which are likely to be quite differentially impacted by e-commerce. These assumptions are the basis for the Sarkar et al. model, which is very useful to describe the differentiated impact of a transition towards an e-commerce environment. Although the social embeddedness is discussed, more insights are necessary to understand changes of
the market structure. The 'Sarkar et al. model' is described and validated through the sector-specific context of the art and antiques market. The research questions are: What are the effects of e-commerce on an existing market structure and the roles of intermediaries? Does e-commerce cause disintermediation, re-intermediation or does it create new intermediary roles? Does the historical and regional perspective on intermediaries add to the model of Sarkar et al.?

**Dynamics of Markets and Intermediation**

In this paper, e-commerce is defined as 'those commercial transactions performed on open networks' (OECD/GD, 1997). Transaction costs theory is often applied when studying the impact of emerging electronic markets. A definition of transactions is "the exchange of goods and services between seller and buyers" (Williamson, 1975). Firms try to achieve a minimization of transaction costs to reduce the costs of coordination. This is the basis for the trade-off between the two stereotypes of organizing economic activity: through a market-like relationship with external firms, or through hierarchical organizations. This theory is the basis of the Sarkar et al. model, 1995. It is assumed that the Internet will put hierarchies under pressure and stimulate the emergence of market-like situations. This is especially true for the case of intermediaries. Several studies concerning the effects of emerging electronic markets discuss the issue of the reduction of transaction costs (Malone, Yates and Benjamin, 1987). A simplified model of roles and transaction costs (Figure 1) can explain this. In a market situation with an intermediary \( T_{p-c} > T_{p-i} + T_{i-c} \). If e-commerce reduces transaction costs to zero, the situation changes when \( T_{p-c} < T_{p-i} + T_{i-c} \). This will allow producers to cut out intermediaries. However, these implications are based on two theoretical assumptions, namely that the availability of the Internet will reduce transaction costs to zero and that transactions are atomic. Sarkar et al., who modified the assumptions of the transaction costs theory, provide the theoretical basis for differential impact on intermediaries. Firstly, there are classes of transactions, making more forms of intermediation possible. Secondly, the coordination role of an intermediary' transaction consists of a multifaceted set of functions.

![Figure 1: Transaction costs and the interactions between producer, consumer and intermediary. Source: Sarkar et al., 1995](http://www.ascusc.org/jcmc/vol5/issue3/adelaar.htm)
Classes of transactions

If we assume that there are different classes of transactions (Figure 2), it is plausible that not all transactions will be affected evenly, if at all by e-commerce. Therefore, modifications of assumption 1 lead to the revised assumption 1': Not all transactions will approach the same minimum.

Figure 2: Differential Minimization of transaction costs. Source: Adaptation from Sarkar et al.

If transaction costs can approach a non-zero minimum, or in other words a different minimum, four generic outcomes are possible (Figure 3). The first possibility is the process of disintermediation. However, this process is limited, because of the economies of scale and scope, and knowledge as well as the social and cultural function of intermediaries. Secondly, re-intermediation occurs because existing roles are mirrored and redefined to the Web. Although the roles stay the same, other actors can perform it. Thirdly, the Web enables the rise of cybermediaries, who perform new roles in the virtual value chain, described as extra-intermediation. Finally, we see that the Internet supplements direct markets: within existing direct markets, producers and consumers are empowered by the Internet, for example Dell.com has shifted their focus from call-centres towards web-based purchasing.

Figure 3: Four possible effects of the Internet with differential impacts on the costs of transaction. Source: Adapted from Sarkar, et al., 1995.
Roles of Intermediaries

Sarkar et al. argue that the coordination role played by intermediaries in the exchange process is, in fact, a multifaceted set of functions (Figure 4). These functions are likely to be impacted differentially, and some will not be affected at all by any electronic service provided by the Internet. For example, the set of functions may be subject to a partial or full decoupling of physical and information flows. To understand the channel decision, a broader view is needed on transaction costs, incorporating the importance of the institutional, social and subjective factors (Sarkar et al., 1995). The perceived change of market paradigm (Bailey & Bakos, 1997) indicates that consumers base their use of market channels not only on the height of transaction costs. Other reasons may include the improved quality and reduced time to market. This makes the analysis and quantification of transaction costs less relevant.

\[ T_{p-i} = \quad T_{p-i}' = \]

Figure 4: From atomic transactions towards a multifaceted set of functions. Source: Adapted from Sarkar et al., 1995.

Traditional intermediaries offer a range of services and functions. They add value, because of the existence of information asymmetries between market participants. The value of electronic intermediaries is that they improve or facilitate electronic markets, as more and more actors join the market and intermediation generates network effects (Beam, 1999; Buxmann & Gebauer, 1998). Below is a summary of the main intermediary roles (Sarkar et al., 1995; Baily & Bakos, 1997; Beam, 1999).

• Aggregation of demand and supply. Intermediaries reduce the number of interactions between buyers and sellers necessary to gather all possible information. The advantages are reduced transaction costs, economies of scale and reduced asymmetries in bargaining power.

• Providing trust. Trust ensures completed market transactions and commits parties. Because intermediaries enjoy economies of scale in investment in monitoring technology, they run a lower risk of certain transaction failures.

• Facilitating the market. Intermediaries facilitate the exchange of information, coordinate the transaction process between market players and lower the operation costs for a market.
• **Searching, matching buyers and sellers and negotiation.** Intermediaries provide mechanisms by which market participants can close a deal (Beam, 1999).

• **Acting as an infomediary.** An infomediary sells information about the product, rather than price information (Beam, 1999).

• **Other intermediation functions.** Several functions are identified as well, such as portals, malls, auditors, financial intermediaries and spot markets (Sarkar et al., 1995).

However, it remains to be seen if the explanation of the new and redefined roles can be linked separately to the consequences of the revised assumption 1’ or 2’. The indication is that the variables are: generic, sector-specific, actors, region and time. For example, market actors can be disintermediated, but this does not necessarily mean a disintermediation of roles. At a regional level it is possible that some roles may be centralized or decentralized, through geographical centralization of roles. It can also be argued that semi-disintermediation can occur when only a limited number of roles are cut out in a chain of intermediary roles. Generally, questions concerning mediation are closely related to the decision to outsource or to internalize functions (Clemons, Reddi and Row, 1993).

E-commerce will drive towards the reduction of transaction costs (Malone, Yates and Benjamin, 1987). This allows producers to unbundle their services and outsource the functions. The increase in possibilities of outsourcing of functions to digital actors increases the number of market players (Buxmann & Gebauer, 1998). Further, the Internet allows a greater market reach, which increases competition and is a drive towards global (new) specialization of functions. An increase in business collaboration arises from unbundling and outsourcing. However, by integrating the electronic services with complementary products and services, it helps to create a non-stop transaction network serving the targeted user community (Buxmann & Gebauer, 1998).

To understand the continuing role of intermediaries in an e-commerce environment, a broader view on transaction costs is adopted, incorporating the importance of the institutional, social, regional and subjective factors.

**Methodology**

The research is descriptive and qualitative by nature, but provides useful insights into the current situation and the influence of e-commerce on the channel decision. Although our informal data gathering cannot be used for formal hypothesis testing, the insights gained may be helpful to other researchers in this area. To validate the Sarkar et al. model a sectoral analysis was made, since in order
to analyze the impact of the Internet on the market structure, it is
necessary to look closely at situations in specific markets (Buxmann
& Gebauer, 1998,). Twenty-eight case studies were done in 1997
and 1998, and this paper makes use of aggregated interview
material. The selection criteria and procedure for the art and
antiques trade were the following:

The research focused predominantly on antiques and
established art and collectibles before 1940. Contemporary art
and household sales are not dealt with, because of the
different market characteristics. E-commerce will have a great
impact on the services economy (Cornford, Gillespie &
Richardson, 1996), but studies on commercial electronic
activities have predominantly focused on trade aspects
strongly related to production issues. Fixed supply and
minimal production in the art and antiques trade, since the
artists and producers are today, by definition, non-existent.
Therefore, it is not necessary to distinguish between
production and coordination costs in the analysis of the impact
e-commerce on the market structure. Further, there is a
history of distance transactions, over the telephone. Art and
antiques are high order goods, with a relatively high price and
a high information content. This coincides with the focus of e-
commerce on specialized markets and the characteristics of
online buyers (Graham & Marvin, 1996,p.156).

Data collection, selection criteria and procedure

The indicative and exploratory nature of the study, the unfamiliarity
with e-commerce and the lack of consistent data led to the initiation
of a field research to explore the implications of e-commerce
(OECD, 1997). The research strategy was that of a case study, in
which the Sarkar et al. model was tested in the field. The personal
interviews conducted consisted of structured questions on topics
concerning e-commerce, such as usage, internal processes, inter-
firm relationships and strategic implications, specifically for auction
houses. The interviews were held in combination with an extensive
examination of the relevant Web sites.

A total of 116 firms and individuals were asked to participate in the
survey. However, only twenty-eight responded positively. Twenty-
eight case studies were performed (Table 1), through semi-
structured personal interviews and document searches. The sources
used were interviews, search engines, portals, newspapers, yellow
pages and mailing lists.

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<tr>
<th>Market actors:</th>
<th>Number of interviews:</th>
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<td>Auction houses:</td>
<td>14</td>
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<td>• 1 'Big Four' auction house</td>
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Table 1: Case studies. The selection of auction houses was based on membership in the professional societies of valuation and auctioning services, because of their:

- high standards of practice and strict rules of conduct,
- relatively high expenditure on information and communication technologies,
- international market focus, and
- greater ability to produce catalogs and sale results.

An exploratory Web study of five Web-based auctions in the USA was carried out. The reason for choosing the USA was because Web-based auctions on collectibles, art and antiques in England were very rare.

Cybermediaries in England were selected on the grounds of interviews, literature and queries at search engines on the Internet. The market focus of these firms was on the middle segment and top end of the market. Therefore, they are a reasonable indication of new electronic intermediaries in the art and antiques sector. Interviews with dealers and collectors are used to apply a cross-validation for the buyers' perspective. Dealers were interviewed at the 1998 European Fine Art Fair in Maastricht, the Netherlands. British dealers were selected at random, and two Dutch dealers were interviewed, because of their British business focus. Interviews were also conducted with two art and antiques experts, a regional museum employee, and a collector of glass and a collector of 19th century paintings.

In most cases, the auctioneer or the general manager was interviewed. This provided insight into the overall strategic issues and the changing market dynamics enabled by e-commerce. The response of the managers and auctioneers to our survey request may have caused a bias in the results, due to the small sample size.

Situating interviews in the North-East and the South-East of England enabled some regional comparison of the exploitation of e-commerce between firms in different regions. The South-East here only refers to the postcode areas in the West and South-West of London. The purely administrative distinction was not followed. Instead, the geographical classifications of professional art and
antiques organizations were used. A postcode collection was formed to identify regional clusters of art and antiques auction houses and dealers.

The Art and Antiques Market and E-commerce

The theoretical framework is now applied to the art and antiques market. Can new forms of intermediation and changes of the structure of the art and antiques market be identified, to support the assumption of classes of transactions (Sarkar et al., 1995)? Based on the assumption that the coordination role of intermediaries is in fact a multifaceted set of functions, are there indications of the implications of e-commerce for unbundling and specialization in the art and antiques trade? Attention is paid to the social and regional embeddedness of actors in the art market. An attempt is also made to explain the new roles and actors in the art and antiques trade.

The value system

The British Art Market Federation estimated the turnover of the British market in 1996 at 3.6 billion dollars, employing 40,000 people. This is about 30 per cent of the worldwide art and antiques market. The value of objects depends on aesthetic appeal, quality, conditions, provenance, genre and style. Also, the market very much depends on subjective factors like taste, fashion, rumors, hype, etc, which increases the uncertainty of buyers and sellers. Together with the few market participants and the infrequency of consumer transactions, this is a receptive ground for trusted intermediaries. To increase trust, intermediaries put emphasis on knowledge, experience, tradition, codes of conduct, location and etiquette.

The study focused on the value system consisting of auction houses, dealers, cybermediaries, media and consumers (Figure 5). In a pre-sale stage, sellers offer and consign their objects to an auctioneer, because of death, debt, divorce or discretionary sales. The auctioneer values, catalogs, promotes and markets the art objects. Then the auctioneers organize the sale, including the viewing days, auctioning process and settlement. The auctioneer earns commission through the consignor's commission and the buyer's premium. In other words, the auctioneers side with the consignor. After all, the higher the hammer prices, the higher the auctioneer's commission. After-sale activities include publishing sale results, carrying out deliveries and monitoring buyers' preferences. Most buyers at auctions are dealers, with great expertise and knowledge. For example, the artist resale rights and illicit trade emphasize the importance of the provenance of objects. After an auction, private buyers and collectors normally buy objects, with a fixed price, from dealers based on trust. Buyers are protected by consumer protection legislation, which gives them rights that do not
extend to auction rooms. Through media, such as trade journals and television, art critics and art academies provide help and information to all market participants (Figure 5).

![Diagram of the value system of the art and antiques trade]

**Figure 5: The value system of the art and antiques trade.** Note: Banks, transporters, restorers, fairs, museums, etc. are not shown.

**Auction houses**

The British dominance in auctioneering, in particular that of London, is partly based on the sophisticated home demand and favorable regulatory regime (Porter, 1990, pp. 270-273). The auction houses in London, Sotheby's, Christie's, Phillips and Bonhams dominate national and international trade. These 'Big Four' have great economies of scale and a high liquidity concerning the upper end of the market. The competitive advantage is based on thorough experience, knowledge, superior reputation, trust, huge resources and upper-class contacts. Large auction houses have expanded their internal markets to foster greater specialization and to improve the market allocation of objects. These incentives aimed to build up national and international networks of auction rooms, offices and representatives through the formation of alliances, take-overs and mergers.

There are about 420 regional auction houses in the UK, situated in the middle price segment. They attract fewer international and private buyers, although these regional auction houses offer equal and possible more efficient and effective services than the Big Four (Brooke, 1997). A large majority of buyers and sellers chose the Big Four for non-financial reasons, such as reputation and trust. Auction houses organize specialist sales to enlarge their market reach. However, this is not always a practical strategy, because the amount and quality of incoming stock is decreasing and also because the smaller auction houses may lack resources (interviews, 1997-1998). The last category is local household auctions, which have the highest relative costs per sale. Still, these auctions are needed, because they enable estates to be cleared with even greater efficiency.

**Market dynamics**

Generally, auction houses are confronted with slow growth and stabilization, and it appears that the number of local and regional auction houses is decreasing (interviews, 1997-1998). In the last
two decades, two major developments influenced the traditional market segments and the market structure. These are the scarcity of supply and the empowerment of private buyers. The scarcity of quality objects is an incentive for auction houses to develop new strategies. The main strategy of auction houses to increase sales is to target international markets and new groups of buyers. The focus is on new specialized collectors' areas for all price segments, regional art and antiques, and upgrading the market for less popular artists whose works are less rare. These strategic moves require an expansion of the (inter)national marketing activities and the provision of provenance. The Internet is still predominantly used as brochure-ware. The Internet lowers the cost of pre- and after-sales services and speeds up the time-to-market (interviews, 1997-1998). Still, high investments are required. Because of the limited resources of independent auction houses, this further accelerates the ongoing economic rationalization, organizational concentration and cooperation of auction houses.

Dealers purchase between 30 to 45 percent, about $830 million, of their total incoming stock at auctions. Instead of buying from dealers, the empowered collectors began to buy directly from auctions. Dealers therefore face increased competition at auctions. The first (economic) driver is that dealer prices include the dealer's profit margin and overhead, and in addition, there is a limited number of objects to choose from. The second driver is the power of the traditional media, such as magazines, newspapers, trade journals (www.atg-online.com), art research, and auction house publications, which led to a codification of knowledge (Smithuijsen, 1992). As a result, private buyers became more confident at bidding. A more transparent and accessible market resulted so that collectors and auction houses disintermediated dealers at an increasing rate. On the other hand, auction houses used aggressive marketing to construct and lock-in a buoyant public. The previous paragraphs show that the traditional media can drive market dynamics, which are normally linked to e-commerce.

Use, Perception and Effects of E-commerce

The use of information technology before the Internet was predominantly directed to the business-to-business markets, aimed at auctioneers, dealers, specialist collectors and house designers. However, because these tools became more widely available to the public through the Internet and Web-based auction tools, increased competition between professional and private buyers can be observed.

The use of e-commerce smoothen the communication, coordination and control of the physical networks of auction houses and the interaction with buyers. The networks function as regional hubs to calculate the most remunerative place to send an antique
piece for auction. The Big Four even initiated sophisticated experiments with auctions broadcast live on satellite television. Still, the Internet is especially used in pre- and after-sales activities, such as price results and catalogs. An example is LotFinder, Christie's computerized service to make searching for a specific item at Christie's worldwide auctions easy. Consequently, more dealer activities are disintermediated, as the filtering roles of dealers are taken over by diversifying auction houses.

Independent auction houses lacked the resources to develop equal systems. Further, the respondents show a regional initiative of firms to establish a critical mass of e-commerce applications, by fostering closer cooperation between auctioneers, dealers, trade associations and media corporations. However, traditional auctioneers find it hard to think beyond contemporary competition and across traditionally firm boundaries. These social and cultural constraints, in combination with a subjective rejection of technological possibilities by traditional actors, left some negotiation room for cybermediaries, based upon the digitalization of catalog information and price results data (Figure 6). Examples are www.thesaurus.co.uk, www.icollector.com and www.art-sales-index.com. The outsourcing by auction houses of information and communication-technology related activities avoided the necessity to redesign their internal business processes. In addition, these 'collective' electronic services (used to pool dispersed objects electronically and aggregate market information) covered a large part of the market and therefore created faster critical mass. Cybermediaries show that there must be incentives for participation. This is the provision of value to both sides of the market (Bailey & Bakos, 1997), and the incorporation of the ongoing institutional, social and cultural market relations.

Figure 6: Media usage of auction houses. Source: Interviews 1997-1998.

The reluctance of auctioneers to use Web-based e-commerce can partly be explained by the degree of the social and cultural embeddedness of client relationships (interviews, 1997-1998;
Granovetter, 1985). Auctioneers do not want to jeopardize their reputations in favor of a still insecure and unreliable technology. The respondents indicated that social and cultural factors, such as the age of the management, are more suitable variables to explain the use of e-mail, the World Wide Web and cybermediaries, as opposed to economic factors, such as turnover. The younger generation is more enthusiastic about the Internet as a new marketing and sales channel, which can be related to the emerging techno-economic paradigm (Freeman & Soete, 1994).

**Telephone bids**

The internationalization and digitalization of pre-sale (for example the search and valuation services of www.artprice.com), sale and after-sale processes decreased the costs of the time-consuming perambulations, obtaining market information and attending an auction (Flynn, 1997). In effect, the last ten years have shown a rapid increase in the use of telephone bids (Figure 7). By using telephone bids, buyers can still feel the rhythm of the sale. Other advantages of absentee bidding are its low costs and greater anonymity for buyers. Still, telephone bidding is used predominantly by professional dealers for expensive and specialist objects.

![Figure 7: Semi decoupling and telephone bids. Source: Interviews, 1997-1998.](http://www.ascusc.org/jcmc/vol5/issue3/adelaar.htm)

**Web-based auctions**

Web-based auctions offer a platform to aggregate supply and demand on a worldwide basis. There are major differences between a Web-based auction and traditional auctions. Firstly, Web-based auctioneers introduced a new way of negotiation. The Web-based auction of one item lasts for days, instead of minutes at traditional auctions. This is to prevent Internet traffic overload and to improve the liquidity (*Art & Auction*, 1997). Lately, auctioneers are experimenting with a limited number of registered bidders to ensure time-sensitive bidding.

![Diagram](http://www.ascusc.org/jcmc/vol5/issue3/adelaar.htm)
Secondly, Web-based auctions charge lower or no commissions. Lower commission rates are possible, because the virtual auctioneer does not carry out any valuation, determine estimates or arrange transport (Figure 8). These activities are outsourced to market participants, thereby enabling an enormous number of items to be offered. One Web-based auctioneer’s role as a trusted provider focused on electronic feedback mechanisms for a community of buyers and sellers (www.ebay.com) or built around accepted quality standards (www.numismatic.com). An expansion of Web-based auctions’ market reach is done to decrease the uncertainty of Internet buyers by adopting more dealer-like characteristics. One option is the introduction of hybrid price discovery systems by allowing participants to chose whether to bid or to buy. The second option is to ensure the quality and trust by predominantly auctioning objects from respectable dealers, such as the Sotheby’s-Amazon Web auction joint venture. Interviews indicate that these practices do not fully meet the codes of conduct of traditional auctioneers, and partly explain the low re-intermediation towards Web-based auctions.

Thirdly, Web-based auctions focus on collectors’ items and on low-to medium-priced art and antiques (Web review, 1997-1998). They are predominantly used for the consumer-to-consumer, business (dealers)-to-consumer segments, and to a lesser extent for the business-to-business, and consumer-to-business markets. The global reach of Web-based auctions improves the liquidity (degree of matching seller and buyers) of niche markets in the lower price segments. Additional auction markets are now economically facilitated, due to their worldwide reach and the lower commissions. However, established art and antiques in the middle and higher market segments in particular are very rare. Not having a physical market presence makes it difficult to adapt to regional circumstances and to build trust and reputation, which might necessitate a physical presence in local and national marketplaces after all (Cornish, 1996). Contrary to the USA, the number of successful European Web-based auctions is still very small and therefore it can be argued that a worldwide electronic market enabled by e-commerce is still a ‘virtual reality’.

**Art and Antiques Market Dynamics**

The analysis of new electronic roles and actors in the art and antiques market indirectly indicates classes of transaction costs and the related dynamics described by Sarkar et al. (Figure 9). However, it also shows that disintermediation is not a unique feature of e-commerce. Firstly, disintermediation of dealers, but not of auction houses was observed. Secondly, electronic commerce creates new roles in the value system. Through the concentration of cybermediaries, a portal service at sector level evolved. Thirdly, re-
intermediation is a lengthy process, because of the contemporary social and cultural constraints. Still, a re-intermediation of roles is not the same as the re-intermediation of actors. Finally, there is an indication of an Internet-supplemented direct market. Direct trade between collectors becomes easier, because of the provision of additional information by online collectors’ clubs.

One observed dynamic in the post-Internet area has been identified. Even in the Internet-supplemented direct market, indirect intermediaries are present, such as banks, Internet Service Providers and media firms. This indirect intermediation affects the market structure and roles. For example, indirect intermediaries may attempt to transform themselves into direct intermediaries in an e-commerce environment. It is observed that media firms try to capitalize on their customer relations by starting Web-based auctions (Web review, 1997-1998). These firms facilitate the empowerment of consumers by creating new kinds of ‘direct’ intermediation, which extends their market power and control.

### Figure 9: Implications of e-commerce for the art market. Source: Sarkar et al, 1995; interviews and Web review, 1997-1998.

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<tr>
<td>Direct '</td>
<td>e.g. Online Collectors’ Clubs</td>
<td>e.g. Dealers</td>
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<td><strong>Post-Internet</strong></td>
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<td>Indirect '</td>
<td>e.g. Art and Antiques Portals</td>
<td>e.g. Web-base Auctions</td>
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### Social, cultural and regional embeddedness

Web-based auctions threaten the income, role and existence of predominantly local, but also regional auctioneers. This is because they have a similar market focus, but lower commission rates. Web-based auctions have the potential to decrease firms’ entry barriers into the higher market segments, because of the lowered costs to reach an international audience. Still, there is a channel trade-off of selling things on the Web versus offline. For example, this depends on medium characteristics, sufficient information supply and object...
characteristics, such as value, standardized description and transportation costs. A greater electronic market reach will be hindered by the international differences in import duties, VAT, artist resale rights, export restrictions and logistics costs. Therefore, auction houses often re-intermediate themselves to organize Web-based auctions for collectibles, books, coins and stamps. The Web-based auctions expand their market scope and upgrade to higher price segments. This is achieved by improving video quality, security and utilizing accepted quality standards (interviews, 1997-1998). It is also observed that Web-based auctions acquire traditional auction houses in the higher price segments, for example the all-stock purchase of Butterfields & Butterfields, one of the oldest auction houses in the USA, by Ebay in 1999. This triggered some traditional auction houses to start online auctions by themselves, or collaborate with online auctioneers.

Further, e-commerce increases the opportunities for a greater concentration and centralization of the roles and physical networks of auction houses. The internal electronic networks of the Big Four miss the merits of sector-wide applications, as developed by cybermediaries. However, a global Web exposure of regional auction houses under the umbrella of new intermediaries, might imply a further loss of control and power. Because most cybermediaries are located in the South-East of England, other regions are confronted with the possibility of a disintermediation of art market roles. In addition, the strong network effects of Web-based auctions push European vendors to consign objects to the successful American Web-based auctions (Web review, 1997-1998). An increased decoupling of physical and information flows (caused by the Internet) may accelerate the relocation of regional auctions to major international sales rooms. This is because these international sales rooms have a larger income-generating effect and higher market liquidity. An example is that Internet entrepreneurs reflect regional competitive advantages in the art and antiques market. However, even some ‘footloose’ British Internet firms have relocated to London, thereby facilitating closer contacts with the market (interviews, 1997-1998).

These paragraphs validate the Sarkar et al. model that the coordination role of intermediaries is in fact a multifaceted set of functions. An unbundling of traditional services of auctioneers is identified through the rise of cybermediaries around pre-sale, sale and after-sale functions. However, there is no uniform impact of e-commerce on these functions. There is a trend towards integration and rebundling of market functions. This formation of a one-stop service is driven by a concentration process of the functions of cybermediaries.

**Discussion and Conclusion**

From the research, the following conclusions can be drawn. E-
commerce can increase the market reach of the art and antiques trade and it enables a higher liquidity of markets and easier collaboration. However, a purely economic perspective quickly overgeneralizes the implications of e-commerce for the market structure. The internalization by auctioneers and consignors plus the outsourcing towards cybermediaries and consumers is difficult and costly. It can be stated that e-commerce is an efficient and effective marketing channel rather than an income-generating technology. Although electronic interactions influence the cost and nature of transactions, the market structure is only gradually changing, supporting an evolutionary view of e-commerce. The observation of the implications of e-commerce for the art and antiques market dynamics validates the model of Sarkar, Butler and Steinfield (1995). The assumption of classes of transaction costs is indirectly verified by the analysis of the art and antiques market. Four intermediation processes are at work in the initial stage of the growth of the Internet. Web-based auctions and cybermediaries perform partly complementary roles. For instance, they enlarge the market at the lower end through the electronic bundling of previously separated markets, whilst still competing with traditional regional auctioneers, and threatening certain roles of those intermediaries at the lower end of the market. However, exploitation of e-commerce is still constrained by ongoing social relations. For example, the re-intermediation of the roles of auctioneers to Web-based auctions occurs predominantly by new actors. However, the Sarkar et al. model partly explains the disintermediation, re-intermediation and cybermediation of roles. This is because the results indicate that the traditional media and not e-commerce caused a disintermediation of dealers' functions. Further, the Sarkar et al. model does not account for the effects of globalization and regionalization on the disappearance or the creation of new roles within the marketplace. The research indicates that e-commerce facilitates disintermediation of market roles at the regional level, since these roles are being automated and to some degree relocated to core regions. E-commerce not only offers a window of opportunity, but also allows a concentration and centralization of power and control.

Analysis of the art market also validates the assumption that the coordination role of intermediaries is a multifaceted set of functions, through the differential impact of e-commerce on pre-sale, sale and after-sale processes. New technologies “sometimes offer an illusion of benefit that holds true only within a narrow economic frame” (Winner, 1997). The exploitation of e-commerce, the role of cybermediaries, and the location of Internet entrepreneurs indicate the existence of social and cultural constraints surrounding e-commerce. Intermediary roles continue and emerge in a situation of lower transaction costs. In summary, considering the social and cultural embeddedness of economic activity allows a better understanding of the implications of e-commerce for the market structure and roles. However, this should be supplemented by an extended time and space perspective, injecting bias into the assumptions. Transaction costs in different domains are affected at different speeds because they are (temporarily) shielded from e-commerce. Therefore, more research is needed on the regional
aspects of e-commerce. To understand the possibilities of the upgrading of Web-based auctions, more insight is needed into the coevolution of the role of trust and physical location. Further, the results indicate that e-commerce might also increase transaction costs. There are signs that, contrary to common thinking, prices are likely to increase by introducing electronic commerce in second-hand markets (The Economist, 1999). However, we should bear in mind that the art market is both a sector in which expertise is ‘traded’ and also a second-hand market. Future research should differentiate between information and physical products. Although it is hard to disentangle the implications of e-commerce from other interlinked (technological and organizational) developments, the Sarkar et al. model provides a starting point to understand and predict the implications of e-commerce. Future research should focus on applying the Sarkar et al. model to predicting the evolution of Internet strategies within electronic markets, such as, for example diversification of cybermediaries and the impact of broadband on Web-based auctions.

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