

Real Estate War in Cyberspace: An Emerging Electronic Market?¹

Kevin Crowston and Rolf T. Wigand

School of Information Studies
Syracuse University
4-206 Center for Science and Technology
Syracuse, NY 13244-4100, USA

{crowston, rwigand}@syr.edu
+1-315-443-1676
FAX: +1-315-443-5806

Abstract

In this paper, we explore how electronic commerce, the World-Wide Web in particular, is affecting the real estate industry. Real estate is a promising setting for studying electronic commerce because it is an information-intensive and information-driven industry; transaction-based, with high value and asset-specificity; with many market-intermediaries (agents and brokers who connect buyers and sellers rather than buying or selling themselves); and experiencing on-going information technology (IT) related changes. We analyze a real estate transaction to suggest where IT might change the process of buying or selling a house and discuss several current ventures in this area. This analysis suggests that Web-based commerce is eroding the long-enjoyed information monopoly of real-estate agents and electronic commerce applications have the potential to drastically change current practices in the real-estate industry, including the disintermediation of agents.

Keywords: real estate, electronic commerce, World-Wide Web, disintermediation, electronic markets

¹ * This research was supported in part by grant IIS 9732799 from the National Science Foundation

Real Estate War in Cyberspace: An Emerging Electronic Market?

1 Introduction

In this paper, we explore the ways in which electronic commerce, the World-Wide Web in particular, is affecting the real estate industry. Real estate is a promising setting for studying electronic commerce because it is an information-intensive and information-driven industry; transaction-based, with high value and asset-specificity; market-intermediary (agents and brokers connect buyers and sellers rather than buying or selling themselves); and experiencing on-going information technology (IT) related changes.

Real estate is an information-intensive business. Agents connect buyers to sellers through control and dissemination of information (e.g., via the Multiple Listing Service, MLS, described below). Agents are valued for the information skills they bring to making both listings and sales. Since houses are expensive, not easily describable and infrequently bought or sold, most individuals still feel the need for assistance with this transaction from a professional. As well, these are all factors that tend to increase transactions costs (Williamson, 1981). Much of the research on electronic commerce has focused at the other end of the spectrum, on low-cost, easily describable commodity or branded goods, such as music CDs or computer parts, making this research setting especially interesting.

However, agents and real-estate firms are pure market-intermediaries—connecting buyers and sellers but rarely buying or selling themselves. If the value added by agents is merely as a source of information, their position is vulnerable if buyers and sellers develop new ways to find one another. For example, buyers and sellers can now use the Internet to list and search for houses, potentially bypassing traditional real-estate agents (e.g., Fletcher, 1997c). Hundreds of individual Websites exist to hawk homes, newspaper advertisements appear on-line and for-sale-by-owner (FSBO) listing registries have emerged. The Gartner Group claims that over three million homes, most of them FSBOs, appear on Websites (Guptil, 1997). While brokers still control four out of five real estate transactions, the level of FSBO sales has increased in recent years (Fletcher, 1997c).

The way IT can be used to disintermediate the traditional agent and broker is of focal interest here, as it potentially threatens the traditional relationship between agent and home owner. Disintermediation is the elimination or displacement of market intermediaries, enabling direct trade with buyers and consumers without agents (Wigand, 1997; Wigand, et al., 1997, p. 4). Traditionally linkages between buyer and sellers have been managed by a host of intermediaries—agents, wholesalers, retailers, distributors, warehousing operations, forwarders and “jobbers”—who reduce the number of customer

or suppliers with which a principal deals, thus avoiding information overload for the principal. Today, examples abound in which these mediating roles have been replaced or eliminated because information technology permits the principals to manage the relationship directly (e.g., Benjamin and Wigand, 1995; Wigand, 1997; Wigand, et al., 1997). For example, Benjamin and Wigand (1995) and Wigand et al. (1997) show how entire levels within a market hierarchy (e.g., wholesaler, retailer) might be replaced by direct communications between a manufacturer and customer. More generally, they suggest that an evolution from single-source channels to electronic markets is already underway. Similarly, it is possible today to link seller and buyer of a house directly without intermediaries.

Agents have begun to realize the potential disruption of the Web (Harper, 1997; Self, 1997; Bottenberg, n.d.). Some are adopting these new communications channels for their own use. For example, one Prudential agent in the vicinity of San Francisco, Carol Lucas, launched her own Website, CarolLucas.com, in December, 1996. This agent linked her site within the real-estate community and paid fees to appear on six property listing sites. Lucas is cited in June, 1998 as saying that 75 percent of her business is a result of her Web technology (Nelson, 1998). Other agents are stressing individual service and creating other value-adding mechanisms, such as buyer-broker relationships, connections to other house-buying services, buy/sell deals, and guarantees.

New forms of brokerage are evolving and changing the structure of the real-estate industry (e.g., “The new world ...”, 1997). Moreover, there seems to be a growing trend to unbundle services typically offered by real-estate agents. For example, for a discount in the commissions, some agencies have their customers deliver certain services themselves, including, e.g., using their home computers to advertise their homes on the Internet, using desktop publishing software to make fliers as handouts, organizing their own open houses, and various advertising efforts. This shift in service delivery from the agent to the homeowner will result in savings to the homeowner in the form of discounts on commission payments to the real-estate company. One such firm offers homeowners who sell their house within 45 days a discount of 32.5 percent discount off the traditional commission (Peters, 1997b). Such developments challenge researchers to better understand how electronic commerce might affect this industry.

2 Steps in a real estate transaction process

Before we consider how the World-Wide Web is and might be used, we will give a brief overview of how the real estate industry operates in the United States, focusing on residential transactions (although the Web is being used for commercial real estate as well, e.g., Kirkpatrick, 1997). The real estate transaction process can be divided into five distinct stages, which we call listing, searching, evaluation, negotiation and execution.

Each will be described briefly. This general outline probably applies in other countries as well, although the details will differ.

Stage 1: Listing. First, potential sellers put houses on the market. The seller has to determine how to position the property (e.g., which features to emphasize or if some repairs should be made), and how to price it. As well, some paperwork may be necessary (e.g., disclosing known defects in the property, major improvements). Houses are then advertised for sale (e.g., in the newspaper or with a sign on the lawn).

A seller might agree at this point to list the property with a real-estate agent, called the selling agent. Listing usually requires the seller to promise to pay the agent a commission if the house is sold within a fixed period (regardless of how the buyer finds the house) or to anyone to whom the agent shows the house (regardless of when it sells). In return, the agent helps with the previous decisions and markets the house, e.g., by running advertisements, holding open houses.

An important action in listing is entering the house in a database of houses for sale. Typically this database, called the Multiple Listing Service or MLS, is operated by the local real-estate agents' board, includes all houses listed with all real-estate agents in the area and can be searched by all agents. MLS is still a staple of modern real estate, a storehouse of information giving real estate agents an advantage in locating desirable properties. Houses that are not listed with an agent are kept out of the MLS, which dramatically reduces the number and quality of prospective buyers. As well, MLS house listings were historically not directly available to buyers, but instead provided by an agent. Since agents controlled listing information, they enjoyed a monopolistic or a cartel-like role in terms of information ownership, guaranteeing a significant role in a buyer and seller finding each other.

The listing process is depicted schematically on the left side of Figure 1, demonstrating how a seller can advertise a house in the classified section of the newspaper or with a sign, or contract with an agent to be listed in the MLS database.

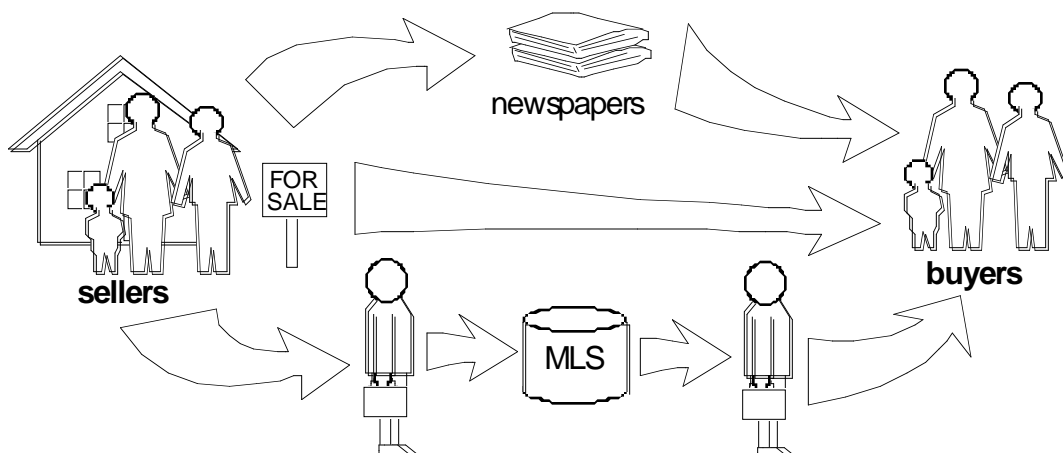


Fig. 1. Information flows in listing a house and searching for houses for sale.

Stage 2: Searching. In the next stage, potential buyers review houses to find those that might be suitable (in location, size, price, features, etc.). Information on available houses comes from many sources. Buyers look in newspaper advertisements or in the area they are considering to locate houses offered directly by the owner (called for-sale-by-owner or FSBO), as shown on the right side of Figure 1. Alternately, a buyer might work with an agent, who can help buyers decide what features are important or in which neighbourhoods to look, and also provide information about houses listed in the MLS database.

Stage 3: Evaluation. In the third stage, the most promising houses are evaluated further. Typically this evaluation is done in person during a walk-through or showing. The importance of this stage is a key difference between real estate and most of the goods previously studied in the electronic commerce literature. While buyers may be comfortable buying a book or a music CD based on the title and a short review, few would consider purchasing a house having seen only a short description, although occasional exceptions have been reported.

A major advantage of working with an agent is that agents can show houses more easily. Real estate agents often have access to a copy of the house key, stored by the selling agent in a locked box near the door. Houses can also be viewed during an open house arranged by the selling agent or the owner. Since agents are paid by commission, agents will usually show only houses for which there is a listing contract (i.e., houses in the MLS database). However, it is possible for buyers to make a separate contract with an agent promising a commission for any purchase (i.e., the buyer pays the commission if the seller will not), in which case agents might also suggest FSBO houses, if they happen to know of one that is appropriate.

Stage 4: Negotiation. After a desirable house is identified, the potential buyer makes an offer to purchase the house at some price, usually contingent on a number of factors, such as getting financing, having the house inspected, etc. Often the agent advises the buyer on the price to offer or other points of negotiating strategy. The seller may receive some number of offers or make a counter-offer to the potential buyers (e.g., at a higher price); again, the agent will advise the seller on this process.

Eventually, buyer and seller agree to a binding contract for a sale. At this point, various other professionals become involved to remove the contract contingencies by inspecting the house for defects that might affect its value, appraising it, arranging financing, etc. As well, a title search is done to ensure that the seller actually owns the property or title insurance may be obtained to cover the chance that the title is invalid.

Stage 5: Execution. Once the contractual issues are resolved, the sale can close, meaning that the money and house change hands. Legally, ownership of the house is transferred by giving the buyer a deed to the house. Closing is usually handled by a third party (e.g., a lawyer or the title company) that both sides trust, although who that is differs from jurisdiction to jurisdiction.

Of course, there are many possible variations in the process described above depending on the particulars of the market. For example, in a very tight market, buying might involve searching for information about houses about to be offered so as to get a bid in more quickly, while in a weak market, pricing and positioning might be revisited after some time on the market.

3 Exemplary Uses of the Web to Support Real Estate

The growth of commerce on the Internet has attracted special interest. Since the Internet is a public network, and increasingly ubiquitous, it neatly addresses the problem of connectivity between potential trading partners (Neches, et al., n.d.), extending even to the general consumer. Of particular interest for this research are the numerous Websites being developed to support various aspects of the real estate sales process. In this section, we will discuss sites that support the different stages in a transaction.

3.1 Listings

Many sites accept advertisements for houses for sale. These sites are primarily financed by the sellers, either from the commissions they pay when they list a house with a real-estate agent or directly to the maintainer of the site. This use of the Web is shown on the left side of Figure 2. Note that real-estate agents still control which houses are listed in the MLS database.

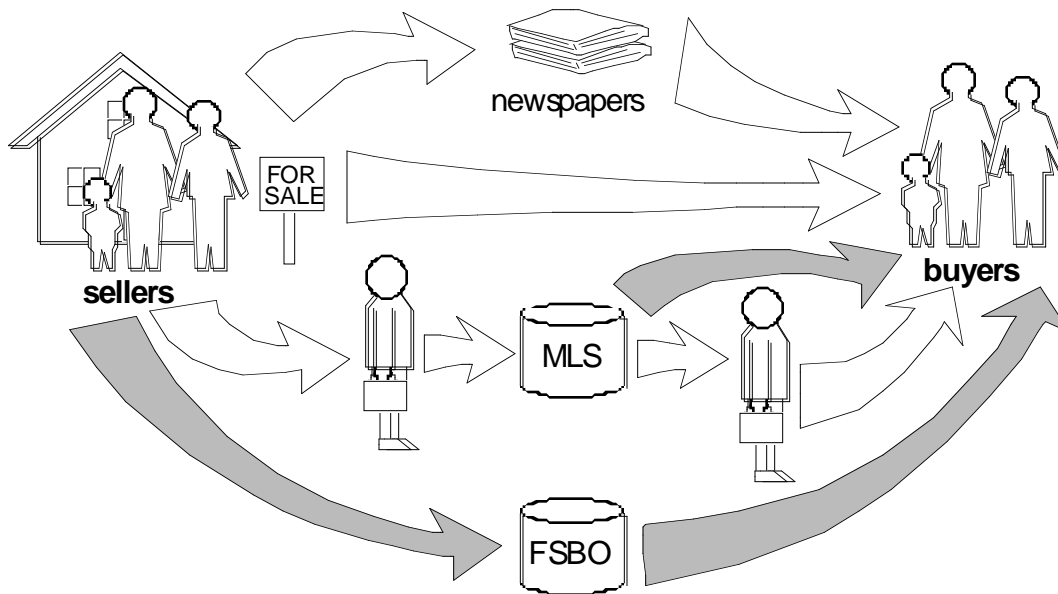


Fig. 2. Using the Web to bypass real-estate agents.

Other services allow sellers to list their homes directly. Homehunter (www.homehunter.com) links to real estate classified advertisements in 31 daily Knight-Ridder newspapers. Abele's Owner's Network (www.owners.com) lists about 35,000 houses for sale by owner, but expects to list about 200,000 properties this year. Such services are directed to consumers trying to make an end-run around the MLS cartel. Rather than paying a commission, sellers pay only for advertising. A listing in owners.com without pictures is free; packages including on-line pictures and physical yard signs cost \$65 to \$115.

3.2 Searching

The Web can also be used to find possibly appropriate houses, the flip side of the listing services described above. These alternative information flows are shown on the right side of Figure 2. Many sites allow prospective buyers to search MLS listings directly. Of course, to be listed in the MLS, the seller must sign a listing contract, so these sites pose little threat to the traditional role of the agent. Indeed, the National Association of Realtors (NAR) sponsors the largest of these sites, Realtor.com (www.realtor.com). This site allows access to 1.2 million homes listed in various MLSs, with good searching and mapping tools. Other home listing sites exist on the Web such as Cyberhomes.com and Homes.com, but none come even close to Realtor.com in offering as many listings or geographic coverage across the United States. Some of these competitors instead offer additional services. For example, Coldwell Banker Online (www.coldwellbanker.com) features 190,000 listings with photos zeroing in on room details.

Some non-traditional players are beginning to be active in this area. For example, Homeadvisor (homeadvisor.msn.com), from Microsoft, features a database of 500,000 homes with excellent geographic mapping. The site offers various statistics about the surroundings, such as the neighbors' median age and income. It is possible to secure the ratings of local schools and the frequency of crime. Of course, the FSBO Websites mentioned above all also allow users to search for houses that meet their criteria, such as number of rooms, prices, etc.

Note the increased number of information sources available to buyers shown in Figure 2. In order to be successful, these new sources of information must attract buyers. One way to be attractive is to have a good supply of house listings. Ideally, each site should include essentially all of the houses for sale in each area it covers. At present most of these listings are controlled by the local MLS. In order to assure a steady flow of new listings from agents and brokers, Microsoft is cutting deals with local MLS organizations offering cash payments based on the average number of listings they maintain on the site per month. The NAR has started to ask MLS organizations for exclusive listing rights in exchange for cash payments under its "Gold Alliance" program.

An alternative way to manage the diversity of information sources is to use a service that integrates information from multiple sources. HomeScout Real Estate Search (www.homescout.com) provides access to data from several underlying listings databases, suggesting an evolution towards an agent-mediated electronic market (Crowston, 1996). Combining access to both listed and FSBO homes means that buyers may not even be aware of the status of a house they are considering.

3.3 Evaluation

As mentioned above, in-person evaluation of a house is usually necessary because houses are a unique and difficult-to-describe good. However, entrepreneurs have successfully devised ways to sell other unique goods over the net sight-unseen. For example Manheim Auctions (www.manheim.com) auctions used cars to dealers in this way ("Auctioneer finds ...," 1997). Similar systems have succeeded in Japan as well. One factor in Manheim's success is the buyers' confidence that the cars will be as advertised. Obviously, developing the necessary level of trust between buyers and sellers is difficult. Towards that end, one Web advertisement reportedly offered an interview with prospective neighbours and a three month guarantee of satisfaction to permit potential buyers to feel comfortable buying without an in-person visit.

A second reason for Manheim's success is their ability to adequately describe the cars being sold. In this vein, Web sites such as Virtual Home Tours (www.hometours.com) offer additional information about the houses, in the form of a virtual walk-through. This feature provides potential buyers a mini-tour of the house,

featuring panoramic photographs of the neighborhood, the house, rooms, etc. The user can look around 360 degrees, go forward or backward, as well as zoom in on important features. Virtual tours may be paid either by the agent or the seller and scenes cost \$100 or more (Fletcher, 1997a). Text, voice, background music, etc. can also be added. A small number of luxury agents, (i.e. agents whose listings last one year rather than the typical 90 days), relocation specialists, and wealthy home owner-sellers are beginning to offer virtual reality walk-through tours of homes (Fletcher, 1997a). Some industry experts expect that about 25 percent of their listings of upper-end homes will offer virtual reality (VR) tours (Fletcher, 1997a).

It seems unlikely that such virtual tours will completely replace on-site visits, but they might help speed up and improve the search. If nothing else, such a visual mini-tour of the house may save time for the potential buyer, as well as agent in the sense that he/she would decide not to make a physical visit at this particular house, i.e. the searching step could be sped up considerably. As well, they may be an attractive option for buyers in a distant location who would like to explore on their own neighborhoods and houses available without having to travel to this location. For example, Glasgall described how one buyer used the Internet to speed up the search process (1998, p. 114). Maurice Velasquez wanted to purchase a home with a fenced backyard but did not look forward to “dragging the kids all over town” while looking at houses. So Mr. Velasquez searched on the Internet in Baton Rouge, LA and in three hours he and his wife had identified 150 homes meeting their criteria. The couple narrowed the choices to five and packed the kids in the car. “We fell in love with one of them as soon as we saw it, called the real estate agent, and made a successful offer the next day,” Mr. Velasquez said.

If such virtual walk-throughs replaced on-site showings, they would also break the monopoly agents have on access to MLS lock boxes containing house key. However, this monopoly may be eroding anyway due to the unbundling of services. A buyer might buy just this specific service. For example, one agent in the Syracuse, NY area offers to put an MLS lock box on one’s door for a flat fee, reportedly about US \$600-700. This discussion shows the important role the *access* to this key has, i.e. the access again is being mediated by the real-estate agent. Presently, *key access* cannot be gained directly by the buyer. Key access, however, could be by-passed virtually when more and more houses are featured on the Web.

3.4 Negotiating

As mentioned above, many professionals are involved in the final details of a purchase. Agents increasingly coordinate a web of other service providers of value to their clients (e.g., building inspectors, appraisers, loan officers and lawyers) to facilitate transactions. Agents add value for their clients by quickly assembling the necessary professionals, thus providing one-stop shopping.

Many of these supporting services are available via the Web. Fletcher (1997b) discusses a number of sites that offer appraisals. For example, Experian Information Solution (www.experian.com), provides assessed value of a property and the prices of comparable houses. Overby (1997) reviews a selection of mortgage sites. Mortgage origination on the Internet has reached one percent of total originations in the United States, according to California-based Myers Internet services (www.myer.com). Warren Myer, company CEO, said that the company expects this figure to increase to 2.5 % in 1998, 5% in 1999 and to reach 12 % by the year 2001 (Myer, 1997). Many real estate Websites provide links to these services. For example, Homeadvisor.com includes an integrated mortgage finance component, which permits users to evaluate lenders' offerings and, while on-line at the Website, to actually qualify for a loan. Finet Holdings has gone beyond linking its financial services to the emerging real estate sites. This company built its own network to automate the entire real estate transaction process. PTN attempts to bring real estate agents and consumers together with real estate services and insurance providers, while its finance site, www.iqualify.com, provides instant loan approval.

3.5 Closing transactions

Currently, the legal system creates obstacles to electronic closings. A second obstacle to on-line transactions is the lack of standards, and of entities with sufficient market power to create them (Real Estate Tech Trax, 1997). However, given the potential savings, it is merely a question of time before some non-bank lenders decide to close transactions themselves. Microsoft, to name one company, is interested in some aspects of the banking business. Given its market power and deep financial pockets, this firm might offer closing services.

Other such services are provided by traditional players. For example, the Property Transaction Network (PTN) [www.theptn.com], a subsidiary of Finet Holdings, is offering already an "Electronic Closing Table" on which—figuratively speaking—the real estate transaction can be completed online. This "Table" provides a secure area in which all transaction participants (real estate agents, insurers, title companies, escrow representatives) may safely exchange documents. PTN has made a "Closing Table" agreement with Stewart Information Services, a title company with 3,800 locations nationwide and targeted 50,000-plus realtors to participate on the Electronic Closing Table.

4 Conclusions

Real estate is an information business, and consequently, is deeply impacted by information technology. The escalating rate of change can be seen when studying firms in this area as well as the consumers it serves. The information revolution that is inescapably

penetrating all facets of industry is propelling the real estate industry as well into territories unknown.

The technology enabling the collecting and conveying of information expands in speed, efficiency and boundary-spanning daily. This, in turn, may throw entire industries into turmoil, some become redundant while completely new ones emerge. New approaches to work, knowledge, information, IT and organization structure are essential prerequisites to survive in this new environment. Current advances in computer technology, low-cost transmission of transactions easily crossing continents in seconds, as well as the growth of the World Wide Web, have placed pressures on the real estate industry as never before and challenge traditional assumptions about real estate transactions. Due to the pervasiveness of the Internet, we anticipate an eroding power position of real estate professionals, as they adapt to the loss of exclusive access to the Multiple Listing Service. More and more steps within the value-chain of the real estate transaction process are being automatized and, at least partially, disintermediated, suggesting the emergence of an electronic market. Electronic markets emerge through the automated mediation of market transactions. Consequently, traditional industry chains lose their relative importance since business can be conducted quicker and often with an increased number of opportunities. Moreover, electronic markets are abstract places where (1) trade occurs, where (2) satisfied information can be found and (3) transaction costs approach zero (See, e.g., Schmid, 1993; Wigand, 1997; Wigand et al., 1997). Future research may permit us to demonstrate how the influence, monopoly position and role of the real estate professional in the transaction process changes.

These developments challenge the real estate establishment and may force real-estate agents to look for other ways to add value to the consumer. Information technology may, in turn, provide a means (e.g., data visualization, broad-band telecommunications, interactive communications, dispersion of jobs and work, relationship marketing, use of intelligent agents) to make this possible. Will it be possible to utilize information technologies to serve again as the one-stop shop and in a central role for all real estate transactions? Will real-estate agents be able to capture the consumer first in the provision of the large number of central and related real estate services as a settlement services provider? With these unknowns and more change looming, unquestionably the real-estate agent and brokerage of the future must become flexible, responsive and information technology-savvy.

References

- Auctioneer finds success in coaxing used car dealers onto Web. (1997, August 11). *Web Week*, pp. 10–11.
- Benjamin, R. and Wigand, R. (1995). Electronic markets and virtual value chains on the information superhighway. *Sloan Management Review*(Winter), 62–72.
- Bottenberg, T. A. (n.d.). *Making the Internet Work for REALTORS® or, Getting Serious about the Web!* (URL <http://www.ired.com/news/web-biz/abc0.htm>). IRED.
- Crowston, K. (1996). Market-enabling Internet agents. In J. I. DeGross, S. Jarvenpaa and A. Srinivasan (Ed.), *Proceedings of the International Conference on Information Systems*. Columbus, OH: ACM Press.
- Fletcher, J. (1997a, September 19). High-tech is coming for high-end house sales. *Wall Street Journal*, pp. B16.
- Fletcher, J. (1997b, September 26). On the Web: What's your house worth? *Wall Street Journal*, p. B12.
- Fletcher, J. (1997c, June 6). Touring the tangled web of For-Sale-by-Owner homes. *The Wall Street Journal*, pp. B12.
- Glasgall, W. (1998, September 7). How not to sell your house. *Business Week*, pp. 112-114.
- Guptil, B. (1997, October). Presentation to the GartnerGroup ITExpo, Orlando, FL.
- Harper, J. (1997). *How to Fix the Real Estate Web* (URL <http://www.retechtrax.com/today.html>, [today2.html](http://www.retechtrax.com/today2.html), [today3.html](http://www.retechtrax.com/today3.html), [today4.html](http://www.retechtrax.com/today4.html)). TechTrax.
- Kirkpatrick, D. D. (1997, September 10). Prudential selling real estate on-line. *Wall Street Journal*, pp. B10.
- Myer, W. (1997, October 1). Mortgage originations in the U. S. *Virtual Finance International*, pp. 8.

- Neches, R., Neches, A.-L., Postel, P., Tenenbaum, J. M. and Frank, R. (n.d.). *Electronic Commerce on the Internet* (URL <http://info.broker.isi.edu/fast/articles/EC-on-Internet.html>). USC Information Sciences Institute.
- Nelson, K. (1998, June). Home on the net: Electronic commerce infiltrates real estate sales. *Sales & Field Force Automation*, pp. 58-60.
- Overby, S. (1997, Winter). Home: A loan. *Internet Shopper*, pp. 27-34.
- Peters, K. (1997a, September 10). Gallinger auctions take off. *Post-Standard*, pp. B-12.
- Peters, K. (1997b, November 6). Realtor offers homesellers a cheaper option. *Post-Standard*, pp. C1.
- Real Estate Tech Trax. (1997). *Online Transactions: The Fallacy of Acceptance Without Standards* (URL <http://www.retechtrax.com/transact.html>).
- Self, T. (1997). *The Agent and the WEB* (URL <http://www.ired.com/news/web-biz/agents0.htm>). IRED.
- Schmid, B. (1993). Elektronische Märkte. *Wirtschaftsinformatik*, 5, pp. 465-480.
- The new world of real estate. (1997, September 22). *Business Week*, pp. 78-87.
- Wigand, R. T. (1997). Electronic commerce: Definition, theory and context. *The Information Society*, 13(3), 1-16.
- Wigand, R. T., Picot, A. and Reichwald, R. (1997). *Information, Organization and Management: Expanding Markets and Corporate Boundaries*. Chichester, England: John Wiley & Sons.
- Williamson, O. E. (1981). The economics of organization: The transaction cost approach. *American Journal of Sociology*, 87(3), 548-577.