The Future of the Residential Real Estate Brokerage Industry

by G. Donald Jud & Stephen Roulac

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The real estate brokerage business is on the cusp of a radical transformation brought about by the revolution of cyberspace technology and the globalization of business. This new technology is crushing established institutions and opening up new venues of change. In this manuscript, the authors examine how the new cyberspace technology is altering the residential brokerage business, how it will change institutional structures, and how it will shape the ways in which brokerage business will be conducted in the future.

THE TRADITIONAL BROKERAGE BUSINESS

In 1997, there were 129,333 establishments operating in the real estate brokerage business, employing 783,518 persons with a total payroll of $21.9 billion.[1] The average brokerage firm was small, with a staff of 6.1 persons and a total payroll of $169,451. Ninety-five percent of all brokerage firms employed 19 or fewer persons. Less than 1 percent of all firms employed 100 or more persons.

The small size of most brokerage firms indicates that scale economies have been absent in the industry. Traditionally, individual agents have been more important than real estate firms were to home sellers selecting a listing agent. Likewise, most homebuyers have searched for and found their homes using real estate brokers. The National Association of Realtors (NAR) reports that when home buyers are asked where they first learned about the home they bought, 80 percent of buyers report that they learned about the property from a real estate agent; 43 percent respond that they saw a newspaper ad; and 37 percent learned about the

property by searching the Internet (Roth, 2000).

FORTHCOMING CHANGES IN THE BROKERAGE BUSINESS

Historically, the brokerage business has existed because of the lack of market information. Buyers and sellers needed brokers to assemble market information that was too costly and time-consuming for them to amass on their own. Up through the mid-1800s, lawyers, bankers, and other business persons were the most common intermediaries in a real estate transaction (FTC, 1983). As the size and complexity of the real estate market increased, real estate brokerage developed as a business specialty. The brokerage firm operated with an independent contractor model, paying sales agents out of commissions and charging customers only commissions for closed transactions. Although brokerage fees are nominally negotiable, most customers accept the so-called standard commission without much discussion. And, because of industry business practices, few firms made meaningful investments in technology and training.

The National Association of Realtors (NAR) was formed in 1908. Early on, NAR began to encourage local boards to create multiple listing services (MLSs) to reduce search costs and to lobby state legislatures to enact legislation that institutionalized the agency relationship between the real estate broker and the client. These institutional relationships, which have been in place across the country since the 1920s, are now being challenged because of sweeping technological and legal changes.

The Challenge of the Internet

The new technology of cyberspace has wrought a sea of change that is making the search for housing much cheaper and easier (Tessler, 1999). Real estate Web sites like *Realtor.com*, sponsored by NAR, *Home-Advisor.com*, sponsored by Microsoft, and others allow potential buyers to search available properties by location or zip code and narrow the search by adding information on desired amenities and price range. Many sites also provide virtual tours of home interiors, allowing buyers a 360-degree look at each room. When Web searchers find something that meets their specifications, they can e-mail their interest to the seller or the listing broker.

Web sites also provide buyers and sellers with basic information about the home-buying process, loan qualification, and the other basics of a real estate transaction. They offer information about communities such as tax rates, school test scores, crime rates, etc. And they provide links to service providers: mortgage bankers, moving companies, utility providers, etc. Some also offer tools like mortgage loan calculators and links to online appraisal services.

These online services are provided free to consumers. The online service providers make money by selling advertisements and links to other Web sites. Thus, there is competition among sites to offer the most services to capture the highest traffic volume. Real estate Web sites represent substantial resource commitments by their sponsors and there is continued pressure to expand and consolidate to capture an ever-larger market share. This dynamic augers for substantial change in the brokerage industry and the way services are provided.

For years, brokerage firms have worked together to increase the efficiency of housing search through local multiple listing services. By cooperating and sharing information through their MLS, brokers reduced the cost and raised the efficiency of search. Because access to the MLS was available to market participants only through member brokers, the MLS gave members an informational monopoly. Now, however, with the availability of free market information online, the power of the MLS monopoly is greatly reduced. Almost everyone now has access to market information through the Web, and the real estate broker is no longer the gatekeeper to the housing market. The result is that search costs for buyers and sellers are greatly reduced.

The Internet makes real estate markets more efficient because it increases the quality and quantity of information available to buyers and sellers. It allows market participants to make better-informed decisions at lower costs. From an industry perspective, however, the demand for brokerage services is a function of the cost of search. Falling search costs reduce the demand for brokerage services. Because the Internet makes real estate market search easier and provides more information at a lower cost, it reduces the demand for real estate brokerage services.

The falling demand for brokerage services is illustrated in *Figure 1* by a shift in demand from D to D′. Falling demand brought about by lower search costs puts downward pressure on prices, or commissions and fees. This is illustrated in *Figure 1* by a fall in price from P to P′. Total revenue in the brokerage industry also falls from PAQO to P′BQ′O,

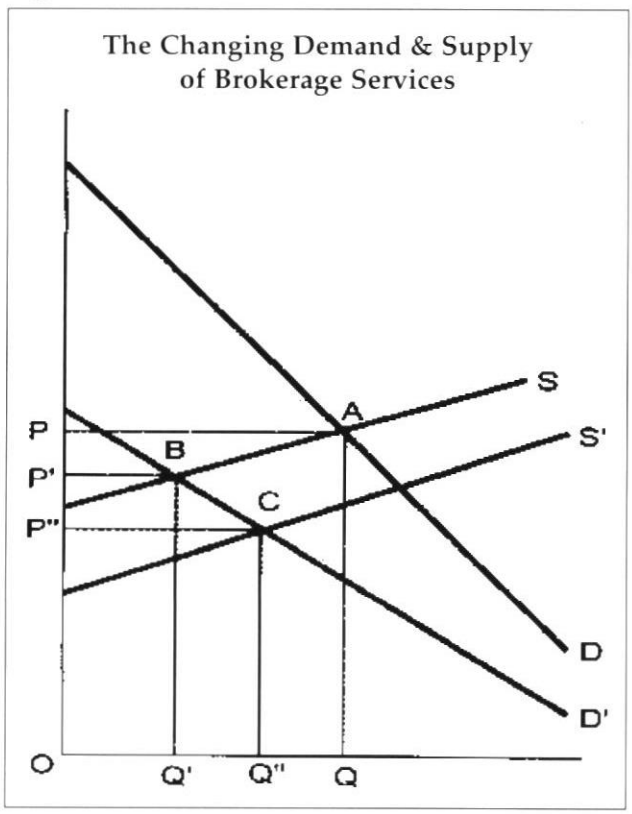
as the quantity of brokerage services produced declines from Q to Q′.

In addition to lowering demand for brokerage services, the Internet also makes demand more elastic because consumers (home sellers and buyers) have the easily available substitute of searching the real estate market using the Internet. Home sellers can list their properties on for sale by owner (FSBO) sites and buyers have expanded search opportunities.

The Internet, e-mail, and other electronic innovations also make possible greater efficiency in the delivery of brokerage service.[2] In *Figure 1*, this is illustrated by a shift in the industry supply curve from S to S′. Competition for survival will force brokers and firms to become more productive by mastering the new technology. And enhanced productivity will put still further downward pressure on prices. In *Figure 1*, this is shown by a drop in price from P′ to P″. Because the demand for brokerage services has become more elastic, the reduction in price from P′ to P″ raises total revenue from P′BQ′O to P″CQ″O and increases the quantity of service provided from Q′ to Q.″

Those individuals and firms that remain will need more education and technology to survive.

Figure 1



The Internet makes real estate markets more efficient because it increases the quality and quantity of information available to buyers and sellers. It allows market participants to make better-informed decisions at lower costs.

Only by increasing the level of investment in information technology can brokers raise their operating efficiency to levels that will allow them to remain competitive. And this dynamic will necessitate that firms become larger and more capital intensive, which are contrary to the traditions of the industry. Many small firms will exit the industry, while others will seek to survive through merger and consolidation.

Legal Changes

In the absence of institutional frictions retarding the movement of human and physical capital, we might expect that the brokerage industry—faced with declining demand and increasing needs for investment capital to meet competitive pressures to rise producer productivity—might be absorbed by larger service-sector industries. However, the process of industrial consolidation is more difficult in the brokerage sector because of the legal morass that has engulfed the industry over the past two decades. Beginning in 1983 with a report by the Federal Trade Commission (FTC, 1983), the industry has been charged with failing to disclose whom the broker really represents, and the industry has appeared deceitful and untrustworthy to many consumers. In addition, an increasing number of product liability lawsuits have been directed at brokers owing to their agency status in real estate transactions.

These legal problems have stimulated NAR and others to push to reduce the broker's legal liability by creating a form of non-agency client representation that has become known as "transactional brokerage." Transactional brokerage is a means of providing neutral third-party real estate brokerage services to buyers and sellers and at the same time reducing the liability of the broker (Evans, 1999b). By replacing the common law of agency with state statutes that clearly define broker and agency relationships, the movement to transactional brokerage hopes to make brokers no longer subject to court cases in which the common law of agency either has set or will set a precedent of broker liability. The new statutes will clearly define the duties and responsibilities of brokers, thus eliminating the basis of many liability lawsuits. A

number of states, including Colorado, Florida, Georgia, Kansas, Pennsylvania, and Texas, have moved or are moving in this direction.[3]

The elimination of the liability problems that threaten the industry will have two effects. First, it will put further downward pressure on commission rates and fees. When brokers come to be seen not as agents but only as transactional middlemen, it will become harder for the industry to uphold traditional commission rates. The clear precedent here is what has happened in the securities industry, since the time commission rates were deregulated. This change in legal status will thus heighten the downward pressure on rates. Second, with the removal of the impediments of potential legal liability, entry into the industry will become easier and less threatening to service firms and others, furthering the movement toward merger and consolidation.

THE FUNCTIONS OF THE BROKER

In thinking about the future of the brokerage industry, it is useful to emphasize that brokerage services for the most part are an information commodity. The Internet makes it possible for information products to be produced dynamically based on the needs and wants of the consumer. Information technology also makes possible the personalization of information at little or no additional cost (Smith *et al.*, 1999). In this section, we consider the functions that the broker performs and how these functions are likely to change with the Internet.

Brokerage Services Offered to the Seller

According to Blanche Evans (1999a) the broker performs the following eight services for the *seller:*

1. Advice on fix-up prior to showing;
2. Advice on calculating the listing price;
3. Listing the property in the MLS and on the Internet;
4. Assistance with marketing, including signs, brochures, tours, open house parties, and other advertising;
5. Providing potential buyers with information on various financing alternatives;
6. Negotiating the offer;
7. Arranging the closing;
8. Troubleshooting the gap between offer and closing.

Looking over the list, it is clear that the Internet alters the method of efficient delivery for all of these eight services. All of the services that entail the broker relaying information to the home seller—advice on fix-up, marketing assistance, listing the property, negotiating the offer, arranging the closing—can be done faster and easier by utilizing the Internet rather than relying only on personal communication between the broker and the seller. Web sites can easily provide check lists for sellers to follow when planning fix-up activities, listing the property, developing their marketing plans, negotiating offers, and arranging the closing. Some sellers may still need or want personal contact with a broker to answer questions and provide advice, but many will not, and the savings will translate into increases in broker efficiency.

Other services like calculating the listing price and offering financing advice to potential buyers are areas where traditionally the broker has had specialized knowledge that made his/her services essential to sellers. With the Internet, however, such knowledge is widely and easily accessible to all. Sellers can easily check listing services on the Web or purchase a Web-based appraisal of their property when determining a listing price. Likewise, the Internet offers a wide array of mortgage sites, which will pre-qualify a buyer and provide information on loan terms.

The last service on the list, troubleshooting the gap between offer and closing, entails checking on loan applications, keeping track of inspection reports, arranging utility hook-ups, etc. Here the broker coordinates and manages all of the activities from acceptance of the offer to final closing. The Internet makes this coordination process easier and the broker more efficient Evans (1999a, p. 200) suggests that soon every real estate transaction will be posted online. Every service provider—loan officers, inspectors, attorneys—will deliver reports to the transaction site, allowing the broker to monitor the progress to final closing.

Brokerage Services Offered to the Buyer

Considering services provided by the broker to the *buyer*, Evans offers the following list of activities:

1. Pre-qualifying the buyer;
2. Matching the buyer's needs and wants against his/her ability to pay;
3. Help with search;
4. Showing the property;
5. Help with the offer;
6. Assistance with inspections;
7. Help with financing;
8. Help with the closing.

Scanning the list, it is again clear that the Internet makes the broker's job easier and more efficient.

Web-based services provide information to the buyer that make it easier for buyers to obtain information on their own, without broker assistance. Once again, while some buyers may still need or want personal contact with a broker to answer questions and provide advice, many will not, and the savings will translate into increases in broker efficiency. Only item four on the list (physically showing the property) remains an area where the traditional role of the broker is unchanged. However, even here, there is no reason that this service cannot be purchased from vendors over the Internet.

DIRECTIONS FOR FUTURE CHANGE

In this section, we outline five scenarios for change in the brokerage industry. The five scenarios are: 1). the FSBO Model; 2). the Unbundled Services Model; 3). the Alternate Delivery Model; 4). the Product Extension Model; and 5). the Financial Supermarket Model. The scenarios are outlined in *Figure 2*, which shows how the basic services now provided by real estate brokers will be offered under each of the five scenarios.

The FSBO Model

In the FSBO (for sale by owner) model, the Internet becomes the medium through which buyers and sellers are able to interact directly, unaided by brokers or other middlemen. Here there is complete disintermediation of the real estate market.

Figure 2

Scenarios for Change in the Brokerage Industry (where brokerage service will be offered)

	FSBO Model	Unbundled Services	Alternate Delivery	Product Extension	Financial Supermarket
Services Offered to Seller:					
1. Advice on fix-up prior to showing.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
2. Advice on calculating listing price.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
3. Listing property in MLS & on Internet.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
4. Assistance with marketing.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
5. Information on financing alternatives.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
6. Negotiating offer.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
7. Arranging closing.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
8. Troubleshooting between offer & closing.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
Services Offered to Buyer:					
1. Pre-qualifying buyer.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
2. Matching buyer's needs & wants.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
3. Help with search.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
4. Showing property.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
5. Help with offer.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
6. Assistance with inspections.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
7. Help with financing.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other
8. Help with closing.	Internet	Broker/Other	Broker/Internet	Broker	Bank/Other

Sellers list their properties on Internet listing services, much like they do now with electronic auction services like *eBay.com* and others. A current example of this model is *fibonetwork.com*, which is an online link to for-sale-by-owner sites across the county. The site not only allows buyers to search for homes in their area, it also offers advice on home selling and buying and links to online mortgage brokers and appraisers. So far, the site does not permit online auctions. Another example is *homebid.com*, which offers homes listed by brokers for sale online at auction.

In the FSBO model, competition among Internet service providers for online traffic ensures that new information and services will continually be provided on the Web. Buyers and sellers are able to select the services they want to best assist their particular transactions. Service providers advertise on the Internet to buyers and sellers who may need or want their services. All services are unbundled, so that a home seller who may need help, for example, on negotiating an offer, arranging a closing, or troubleshooting between acceptance and closing, can contact potential vendors and purchase these services over the Internet. Likewise, home buyers who may want help, for example, with viewing a property, inspections, financing, or closing will be able to purchase these services on the Internet. Real estate brokers may choose to offer these services, but they will be in competition with attorneys, paralegals, and other service vendors who may enter this market.

Unbundled Services Model

In the unbundled services model, in contrast to the FSBO model, real estate agents survive as a profession, but service offerings are unbundled. Agents offer consumers a menu of services from which the consumers are able to choose. Such services may include pricing the property for sale, negotiating the contract, managing the contract through closing, etc. An example of unbundled services in the area of appraisal is available on the *Wall Street Journal* Web site (www.homes.wsj.com), which allows potential home buyers and sellers to easily look up the recent selling prices of particular homes in specific neighborhoods all across the country. The site also provides neighborhood information on such factors as school quality, climate, income levels, etc.

The Internet revolution puts more control in the hands of buyers and sellers because they can obtain information more easily. Consumers can pick and choose the brokerage services they desire. In the past, consumers have had to consult brokers to obtain information. Now, information is provided free on the Internet. The rational for the local MLS no longer exists. MLS services are provided directly to consumers by Internet service providers, who are engaged in a fierce competitive struggle to maximize service offerings to attract traffic. Brokers are forced to offer services on a fee for service basis and competitive forces put downward pressure on fees.

Arguably, information advances, rather than eliminating the role of intermediaries can create multiple new niche markets for specialized, intermediary functions (PikeNet 2000). Those who provide the information, whose widespread availability challenges the traditional brokerage model, will necessarily be compensated for providing that information. If the information intermediary does not receive a commission for the transaction, then that intermediary will receive revenue through advertising, sale of allied information products, or some other economic benefit for business opportunities derivative of the function of providing that information. Interestingly, some individuals now working for salary and other forms of compensation for the Internet enterprises that provide information and services that threaten the traditional brokerage model, previously worked as sales agents in traditional brokerages.

Alternate Delivery Model

In the alternate delivery model, the full-service broker model continues to co-exist with the unbundled service model. Kim and Mauborgne (1999) remind us that competition in some industries centers around price and function, while other industries compete on feelings, using an emotional appeal. In the brokerage industry, the traditional appeal has been emotional. Consumers have been encouraged to trust their agent (broker). This appeal has been very effective for many people for whom the purchase or sale of a home is one of the largest financial transactions that they will ever undertake. Because real estate transactions involve extraordinary stress, the broker role appeals to the emotional need for a trusted adviser. Many consumers will still want advice and guidance from someone they can trust. Here the traditional, established brokerage firm with a reputation for competence and trust will be able to offer consumers help and advice as part of a total, full-service package.

For other, more independent consumers, the brokerage industry traditionally has offered many extra services that add cost without enhancing functionality. By stripping these extras away, some firms may begin to offer a fundamentally simpler, lower-cost model of service. In this kind of model, the discount brokerage firm would offer a fee-for-service price structure for services like pricing and listing the property, showing the home, negotiating the contract, etc. In this model, agents would be specialists providing services that the consumer would be free to select and add to their shopping carts as they moved through a transaction. And by moving from an emotional appeal to a more functional orientation, brokerage firms adopting this model may find a competitive advantage that may now be lacking.

The Product Extension Model

Creating new market space often can be the key to prosperity for brokerage firms caught in a very competitive environment. Kim and Mauborgne (1999) assert that creating new market space "requires a different pattern of strategic thinking" and they point out that a common way to create new market space is by finding product and service offerings that are complementary to the firms' basic product or service. In the product extension model, brokerage firms create new market space by offering consumers such complementary products or services.

Most products and services are not used in a vacuum. Usually, the availability of other products and services affects their value. Kim and Mauborgne emphasize that untapped value is often hidden in complementary products and services, but the key to unleashing this value is to define the total solution buyers seek when choosing a product or service.

When selling a home, for example, households often need a variety of services besides traditional real estate brokerage. Many may need help finding a new home, help with financial planning, assistance with moving, tax advice, help with managing utility service cut-offs, etc. Similarly, when buying a new home, consumers may need assistance with such things as moving, utility connections, and the entire range of needs and wants related to becoming settled in a new residence and a new community, such as home improvements and interior decoration. Brokerage firms that make it easy for their customers to obtain these additional services may be able to substantially enhance the value of their overall service package. Smaller brokerage firms may lack the human and financial capital to effectively extend their service offerings. In such cases, strategic partnerships and alliances with larger service firms may allow them to offer the extra services some consumers demand.

Because of the revolution in information technology and the changing legal environment, the authors foresee a residential brokerage industry characterized by the crumbling of the MLS informational monopoly; the abandonment of agency law; the unbundling of services; anD the rise of fee-for-service pricing. The days of the small local firm protected by a close-knit trade association are passing fast, as widespread change engulfs the brokerage industry.

The Financial Supermarket Model

In the financial supermarket model, large financial service firms recognize that they possess two elements required in the brokerage industry. First, they have the human and financial capital necessary to allow brokerage firms to cope with the demands of the information technology revolution. Second, they can offer the complementary products and services that real estate buyers and sellers may want as part of a real estate transaction.

In this scenario, real estate companies look for assistance from financial service firms for financial capital and technological experience, and firms in the financial service industry look toward real estate brokerage as a way to bring additional customers into their services networks.[4] A real estate transaction generates a great deal of data about the buyer and the seller that when captured by an information network becomes valuable in target marketing additional products. The transactional information can offer financial service firms a way to create new market space, thus providing them with a competitive advantage in what has become a very competitive economic environment.[5]

Looking only at the sales of existing, single-family homes suggests that the potential market is quite large. In 1997, for example, there were some 4.2 million homes sold at an average price of

$124,000, generating a transaction volume of some $520.8 billion. If this volume of transactions were to generate only 5 percent in additional fees and profits from the sales of other products (for example, brokerage commissions, mortgage origination fees, etc.), it would potentially add some $26 billion to the bottom lines of those services companies that capture it.[6]

Because the cost of housing represents a household's largest expenditure, companies offering financial supermarket services as well as related services are attracted by the opportunities that are derivative of relationships with homeowners. Specifically, the opportunities to cross-market other services to households is extraordinary (Roulac, 2000). Consequently, major companies can be expected to seek a closer alliance with the real estate brokerage transaction as a means to expand relationships and pursue cross-marketing objectives.

The traditional real estate broker in this scenario evolves into a real estate marketing specialist, providing sellers advice on pricing, showing, negotiating, etc. and buyers help with inspecting various properties, obtaining financing, making an offer, negotiating, and moving. And brokers increasingly are employees of larger service firms who have the resources necessary to finance the continuing investments in needed information technology. Real estate buyers and sellers are able to purchase a wide array services such as appraisal, marketing advice, financial assistance, etc., under the umbrella of the large financial services firm.[7]

SUMMARY

Because of the revolution in information technology and the changing legal environment, the authors foresee a residential brokerage industry characterized by 1). the crumbling of the MLS informational monopoly; 2). the abandonment of agency law; 3). the unbundling of services; and 4). the rise of fee-for-service pricing. The days of the small local firm protected by a close-knit trade association are passing fast, as widespread change engulfs the brokerage industry.

In the foregoing discussion, the authors outlined five scenarios for future change. At the current juncture, it is not possible to say which of the scenarios will come to dominate, and the final reality may well comprise elements of all five. The authors are certain, however, that the big winners in the new reality will be the consumers: the home buyers and sellers who will be provided with better, more timely information at lower costs. REI

NOTES

1. U.S. Bureau of the Census, *County Business Pattern,1997 United States)*, CBP/97-1.
2. Jud, Winkler, and Sirmans (2001) examine the impact of information technology on real estate licensee income. The authors use 292 completed surveys (out of 983 surveys sent for a 29.7% response rate) of real estate licensees who are members of the Greensboro Regional Realtors® Association (in North Carolina). Their combination of factor analysis and regression modeling shows that use of information technology has a positive impact on the earnings of real estate licensees.
3. See, Miedema (1998) and Merin (1999).
4. The recently passed financial restructuring act (the Gramm-Leach-Billey Act of 1999, Public Law 106-102) maintains the traditional separation between banking and commerce which prohibits financial service companies from directly engaging in real estate brokerage, but it does not bar financial service companies from owning real estate subsidiaries. The Gramm-Leach-Billey Act permits a bank holding company that qualifies as a financial holding company (FHC) to engage in any activity that has been determined by the Board of Governors of the Federal Reserve to be "financial in nature." In December 2000, the American Bankers Association has asked the Fed to determine that real estate brokerage and management activities are financial in nature. The National Association of Realtors has urged the Fed not to permit FHCs to engage in real estate brokerage activities and has mounted a strong lobbying effort to oppose the change.
5. Recently consumer advocates have expressed concern that large financial conglomerates many share confidential information among subsidiaries.
6. A recent report by Banc of America Securities estimates that residential real estate brokerage commissions presently total some $18.8 billion annually (Rich, 2000).
7. The purchase of Better Homes and Gardens Real Estate Network by GMAC; the formation of HomeAdvisor Technologies as a partnership of Microsoft, Freddie Mac, Chase Manhattan, GMAC, Norwest Mortgage, and Bank America; and the entry of Goldman Sachs into commercial real estate brokerage are all instances of the movement of financial service firms into the real estate arena.

REFERENCES

Blanche Evans, *Homesurfing.net: The Insider's Guide to Buying and Selling Your Home Using the Internet* (Chicago, IL: Dearborn Financial Publishing, Inc., 1999a).

Blanche Evans, "Transactional Brokerage: A Controversial Salvation," *Realty Times* (June 14, 1999b).

Federal Trade Commission, *The Residential Real Estate Brokerage Industry*, (Washington, DC: U.S. Government Printing Office, December 1983).

G. Donald Jud, Daniel T. Winkler, and G. Stacy Sirmans "The Impact of Information Technology on Real Estate Licensee Income," paper presented at the American Real Estate Society Meeting, Coeur d' Alene, ID (April 2001).

W. Chan Kim and Renee Mauborgne, "Creating New Market Space," *Harvard Business Review* (January/February 1999), pp. 83-93.

Michael G. Merin, "Agency: A Pennsylvania Perspective and a Smile," *Real Estate Educators Association Journal*, Spring 1999, pp. 45-50.

Jack Miedema, "The Changing Face of Agency in Real Estate," *Real Estate Educators Association Journal*, Spring 1998, pp. 49-57.

PikeNet Dispatch (2/27/2000).

Motoko Rich, "For Brokers, the Internet Looms Ever Larger," *Wall Street Journal*, (Wednesday) August 23, 2000, p. B12.

Kevin A. Roth, "Homebuying in 1999 – A Profile of Buyers and the Process," *Real Estate Outlook*, (May 2000), pp. 6-7.

Stephen E. Roulac, "The New Real Estate Market," *Mortgage Banking*, (January 2000), pp. 62-67.

Michael D. Smith, Joseph Bailey, and Erik Brynjolfsson, "Understanding Digital Market: Review and Assessment," in Erik Brynjolfsson and Brian Kahin, eds., *Understanding the Digital Economy* (Cambridge, MA: MIT Press, 1999).

Joelle Tessler, "More People Turn to Web to Buy, Sell Homes," *Wall Street Journal*, Thursday, July 8, 1999, p. B9.

U.S. Bureau of the Census, *County Business Pattern,1997 (United States)*, CBP/97-1.

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