

Selling Cars Online: Electronic Commerce  
Redefines the Automobile Business

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Electronic commerce (EC) is projected to grow at staggering rates in the near future. New and used automobiles are probably the largest dollar items currently bought and sold on the Internet. Automotive sales on the Web are expanding so rapidly that this segment has become a major component of e-commerce. While reluctant at first to the market their cars over the Internet, automobile dealers and manufacturers have "seen the light" and are actively pursuing e-commerce initiatives. In the following pages, this paper explored how e-commerce is redefining the marketing of automobiles. Popular car buying Web sites are examined. In conclusion, a brief look was taken at technologies that promise to make the electronic car buying experience simpler and more satisfying.

## Selling Cars Online: Electronic Commerce Redefines the Automobile Business

Electronic commerce (EC) is projected to grow at staggering rates in the near future. Sales over the Internet are expected to increase from \$2.6 billion in 1996 to \$220 billion during 2001 (Fox, 1997). The International Data Corp. <<http://www.idc.com>> predicts that 300 million devices will have Internet access that same year (1996 levels were around 32 million). New and used automobiles are probably the largest dollar items currently bought and sold on the Internet.

Automotive sales on the Web are expanding so rapidly that this segment has become a major component of e-commerce. Forrester Research, an analysis company in Cambridge, Massachusetts <<http://www.forrester.com>>, determined that there were more than 50 online car-buying services and 56 percent of the 22,600 dealerships now have Web sites (Conhaim, 1998).

While reluctant at first to the market their cars over the Internet, automobile dealers and manufacturers have "seen the light" and are actively pursuing e-commerce initiatives. In the following pages, this paper will explore how e-commerce is redefining the marketing of automobiles. Popular car buying Web sites are examined. In conclusion, a brief look is taken at technologies that promise to make the electronic car buying experience simpler and more satisfying.

### Online Car-buying Services

#### **Auto-By-Tel**

Surprisingly, the leader in Web-based new car sales is not an automobile manufacturer. The top spot currently goes to Auto-By-Tel (ABT) <<http://www.autobytel.com>>. ABT allows car buyers to search the inventory of 2,700 participating dealers (Hughes, 1998). Online shoppers are also able to look up manufacturer discounts and incentives. Once they have decided, customers email the dealers for firm, no-haggle price quotes. ABT has been so successful that it has turned away dealers in order to limit the number of franchises in each market area.

The number of new car shoppers buying via the Web is growing. J. D. Power and Associates <<http://www.jdpower.com>> found that 1.5 million people used the Internet to shop for cars in 1997. Auto-By-Tel sold 600,000 of that total. According to ABT's CEO, Mark Lorimer, customers use the site because the company enforces the no-haggle policy among its registered dealers. Dealers are also required to pay \$2,000 to \$4,000 in start-up fees in addition to monthly charges.

Another recent study by J. D. Power and Associates revealed that ABT achieved the highest level of satisfaction with dealers (Pepitone, March 1998). The results showed that ABT was able to provide a large quantity of high-quality sales leads. The study also proved that online marketing was cost effective when compared to traditional forms of

automobile marketing. Also included in the study was the finding that computer skills among the dealers were not important. Interpersonal skills (i.e. customer handling) were the most important to be successful in online selling.

Commenting on ABT's growth, Vern Keenan (director of Zona Research <<http://www.zonaresearch.com>>) stated, "Through the Internet, buyers have a chance to redefine their relationships with suppliers [by forcing them] to adjust their pricing more dynamically. The new dynamics of the value chain will make the direct sales chain less important." Customers, unhappy with the traditional adversarial sales process, are jumping at the opportunity to bypass salespeople (and their commissions) (Radcliff, 1997).

ABT supports its Web site with a custom-built front end that links customer requests to dealer inventories that are stored on a Microsoft SQL Server database. ABT's software application also links dealers to the back end while monitoring dealer response time and customer satisfaction.

### **Microsoft CarPoint and AutoWeb Interactive**

Microsoft is also a major player with its CarPoint Web site <<http://carpoint.msn.com>>. The 2,000 dealers associated with CarPoint undergo a similar process to those enrolled by Auto-By-Tel. Each dealer receives two days of training on how to handle Internet customers and must also assign a designated contact person to work with customers referred by CarPoint.

Unlike Auto-By-Tel, CarPoint shoppers are able to comparison shop between CarPoint dealers. After filling out a purchase request, the user is provided with the names of two dealers. CarPoint also has over 100,000 used car classifieds. These listings are updated daily.

The AutoWeb Interactive <<http://www.autoweb.com>> is another online new vehicle purchase service. AutoWeb has a network of approximately 4,000 new and used car dealers.

### **Manufacturer Web Sites**

General Motors, Ford, Chrysler, Toyota, and Jaguar also have a significant presence on the Internet. Prior to migrating to the Internet, most began their online efforts using subscription services such as America Online and Prodigy Classic. Common services provided online include referrals to local dealers as well as brand promotion. About 25 percent of the sites allow customers to schedule service appointments (Conhaim, 1998).

General Motors recently announced plans to roll-out [www.gmbuyer.com](http://www.gmbuyer.com) (it's Internet shopping service) nationwide (GM to roll..., 1998). "GM BuyPower" is the first manufacturer initiative of its kind and is scheduled to go live nationwide during the first quarter of 1999.

GM BuyPower (pilot) was first launched in October 1997 in California, Oregon, and Washington. The site is powered by GM's massive legacy system and provides consumers with direct online access to GM dealer inventories, ability to schedule a test drive/hold a vehicle, and obtain the dealer's best purchase price. Online requests are answered within 24 hours.

During the first 10 months of the test pilot the Web site received more than 670,000 hits. Users were logged-on an average of 11 minutes. More than 60 percent of the Western region dealers took advantage of the service. Consumers made more than 300,000 online searches.

The GM site is different from other online services (i.e. Auto-By-Tel) because customers are not locked into a specific geographic area. Customers are ensured the best in choice and convenience. "Today people are pressured for time, and we wanted to give them the ability to shop and buy on their own terms," said Ann Noel Blakney, director of GM's Consumer Marketing Initiative. "With GM BuyPower we empower consumers by giving them control and the ability to judge products and value for themselves."

In early 1997, Chrysler also launched its "Get A Quote" pilot site for customers in Maryland and California <<http://www2.chryslercorp.com/default.html>>. Rich Everett, Chrysler's director strategic technologies, found that most of his department's work in implementing the site focused on educating and training the dealers to keep up with technology. "The dealerships don't understand what to do with this new set of online buyers." The "Get A Quote" pilot has demonstrated that 20% of the online shoppers buy a vehicle. This is the same closing ratio as for sales executed only on the dealership floor (Radcliff, 1997).

The Trilogy Development Group <<http://www.trilogy.com>> provides the technology behind Chrysler's site. Trilogy's Selling Chain for the Web (SC Web) system allows potential customers to peruse a selection of vehicles. SC Web also gathers information about what online customers are looking for. Information that will enable Chrysler to modify future product lines (Nelson, 1997).

GM and Chrysler have no plans to offer direct sales over the Internet. However Daewoo, the Korean car maker, has other plans. Daewoo deployed an E-business solution in Europe in 1996. Daewoo-owned showrooms in Europe sell cars directly to consumers. Buyers order their vehicles from an automated kiosk and only use the showroom to "sample" cars.

### Ancillary Car Buying Services

Also available to prospective buyers on the Internet are numerous ancillary information services. A recent study by J. D. Power and Associates found that 25 percent of all new-vehicle buyers use the Internet to prepare themselves with product and pricing information (Pepitone, September 1998). Internet shoppers many times are more

knowledgeable than the salespeople at the dealership. Chris Denove, director of consulting operations at J. D. Power and Associates indicated, "Consumers surfing the Internet for information related to an auto purchase could in one hour become more informed about a particular vehicle than even the most sophisticated salesperson."

A couple of the most visited information sites are Edmund Publications <<http://www.edmund.com>>, Kelley Blue Book <<http://www.kbb.com>>, and Intellichoice <<http://www.intellichoice.com>>. Edmund's provides extensive product and pricing information. The site has reviews of the latest models. Each review contains a photo of the car, detailed pricing information, along with an explanation of the car's pros and cons. The price provided is the dealer invoice (i.e. the amount paid by the dealer for the car).

Another favorite information site is Intellichoice. Intellichoice offers three different types of car reports. The Face-Off report allows shoppers to do side-by-side comparisons of up to four different models. This format allows easy comparison of pricing, specifications, safety, and other qualities. Also available is The New Auto Report that provides detailed dealer invoice prices and for a fee (\$4.95) and evaluation of a car's other costs (i.e. total cost of ownership).

The Kelley Blue Book Web site features the online equivalent of the famous "Kelly Blue Book." The online version will determine a car's estimated value (wholesale and retail) based upon criteria such as model, year, mileage, and features.

Once the online car buyer decides what to buy, sites like [www.smartmoney.com](http://www.smartmoney.com) help them calculate whether it is best to buy or lease the vehicle. The Smart Money site offers a variety of online calculators <<http://www.smartmoney.com/ac/autos/leasing/index.cfm?story=cc>>. These calculators are written in Java and do the math to determine net interest and monthly payments. Java is a programming language for Internet applications developed by Sun Microsystems <<http://www.sun.com>>. Java was modeled after C++, and Java programs can be called from within HTML documents such as Smart Money's listed above.

Related to the automobile buying process is obtaining insurance. The Internet also provides resources in this area. For example, InsWeb <<http://www.insweb.com>> is a free service that allows anyone to shop for insurance conveniently and securely without sales pressure.

However, by its very nature, obtaining a quote for insurance requires the disclosure of large amounts of personal information. Since InsWeb works with a variety of insurance companies, the form that InsWeb users fill out must encompass a wide range of questions. InsWeb protects this personal information as it travels over the Internet with Secure Sockets Layer (SSL) protocol. SSL is the leading security protocol on the Internet.

When a SSL session begins, the shopper's browser sends its public key to the server. This allows the server to securely send a secret key to the browser. The browser (shopper) and

server (InsWeb) exchange all personal information using secret key encryption. Netscape developed SSL. In the future, the Internet Engineering Task Force (IETF) will merge SSL with other protocols and authentication methods. The new protocol is called Transaction Layer Security (TLS).

### Conclusion - New Technologies

As the trend toward online vehicle shopping and purchase continue, new technologies promise to make the electronic car buying experience simpler and more satisfying. These include Web-based customer decision support systems (CDSS) and 3-D product viewing. Web-based CDSS systems will connect a company with its customers and provide support for some part of the customer decision-making process (O'Keefe & McEachern, 1998). These systems are second-generation Web-based marketing systems.

Even more exciting (from the customer perspective) will be the introduction of 3-D product viewing to the online buying process. Customers will be able to look under the hood, or lockout from behind the steering wheel. Virtual Reality Modeling Language (VRML) technology is the first step to making such an experience a reality. VRML uses simple programming techniques coupled with a standard browser to create three dimensional images that can be manipulated as desired (Zbar, 1996).

In conclusion, car buying over the Internet is a very fast moving trend. Robert Eaton, chairman of Chrysler Corporation, cited projections that more than 25 percent of Americans will use the Internet for buying a car in 1998 (Conhaim, 1998). He expected that to increase to 50% in the year 2000. Once the current online car buying experience is enhance by emerging Internet technologies, the author will be very anxious to shop, purchase, and take delivery of a new vehicle, all without having to leave the house.

## Reference List

- Auto-By-Tel Web Site. <http://www.autobytel.com>
- AutoWeb Interactive Web Site. <http://www.autoweb.com>
- Conhaim, W. (1998, September/October). Buying cars online. *Link-up*, 15(5), 5.
- Chrysler Web Site. <http://www2.chryslercorp.com/default.html>
- Edmund Publications Web Site. <http://www.edmund.com>
- Fox, R. (1997, September). News Track: Future purchases... *Communications of the ACM*, 40(9). Author's email: [fox\\_r@ACM.org](mailto:fox_r@ACM.org)
- Forrester Research Web Site. <http://www.forrester.com>
- GM BuyPower Web Site. <http://www.gmbuyer.com>
- GM to roll out benchmark Internet shopping service nationwide; GM BuyPower initiative raises the bar for automotive online services. (1998, September 28). *Business Wire*. [http://www.businesswire.com/cgi-bin/f\\_headline.cgi?day5/1035333](http://www.businesswire.com/cgi-bin/f_headline.cgi?day5/1035333)
- Hughes, J. (1998, March 2). Auto dealers see future in Internet. *Marketing News*, 32(5), 13.
- InsWeb Web Site. <http://www.insweb.com>
- International Data Corporation Web Site. <http://www.idc.com>
- Intellichoice Web Site. <http://www.intellichoice.com>
- J. D. Power and Associates Web Site. <http://www.jdpower.com>
- Kelly Blue Book Web Site. <http://www.kbb.com>
- O'Keefe, R., & McEachern, T. (1998, March). Web-based customer decision support systems. *Communications of the ACM*, 41(3).
- Messmer, E. (1998, July 6). Despite obstacles, corporations tackle EC. *Network World*, 15(27), 34.
- Microsoft CarPoint Web Site. <http://www.carpoint.msn.com>
- Nelson, M. (1997, August 18). Web to ease car purchasing. *InfoWorld*, 19(33), 12.

Pepitone, J. (1998, March 2). *Auto-By-Tel tops new J. D. Power and Associates study that measures dealer satisfaction with online buying services.*  
<http://www.jdpower.com/jdpower/releases/80302car.html> Accessed October 3, 1998.  
Author's email: [john.pepitone@jdpower.com](mailto:john.pepitone@jdpower.com)

Pepitone, J. (1998, September 14). *One out of four new car buyers shop the Internet.*  
<http://www.jdpower.com/jdpower/releases/80914car.html> Accessed October 3, 1998.  
Author's email: [john.pepitone@jdpower.com](mailto:john.pepitone@jdpower.com)

Radcliff, D. (1997, December). The Web meets auto world -- Will it kill the flimflam man? *Software Magazine*, 17(14), 81-85.

Smart Money Web Site. <http://www.smartmoney.com>

Sun Microsystems Web Site. <http://www.sun.com>

Trilogy Development Group Web Site. <http://www.trilogy.com>

Zbar, J. (1996, January 1). Technology offers 3-D view of products. *SunSentinel: Fort Lauderdale*, p. 12.

Zona Research Web Site. <http://www.zonaresearch.com>