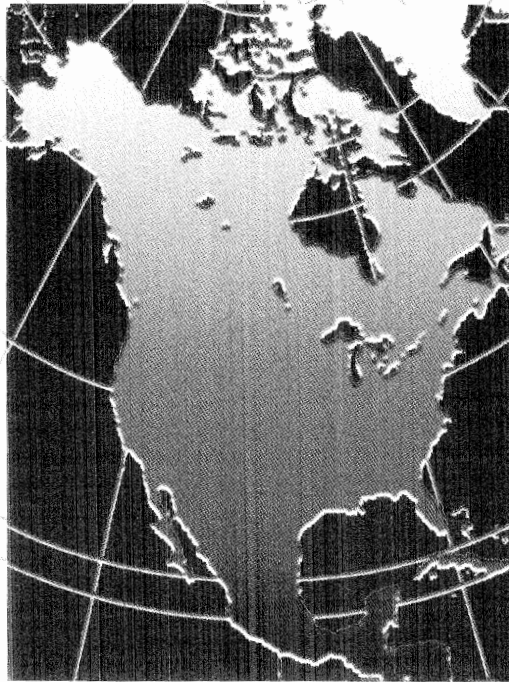# UNIVERSITY OF MICHIGAN
TRANSPORTATION RESEARCH INSTITUTE

Forecast and Analysis of the North American Automotive Industry
For 2004 and 2009

Delphi X: Tenth in a Series

TECHNOLOGY
MATERIALS
MARKETING

**Office for the Study of
Automotive Transportation**

Delphi X Forecast and Analysis

of the

North American Automotive Industry

VOLUME III: MARKETING

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The Office for the Study of Automotive Transportation (OSAT), a division of the University of Michigan's Transportation Research Institute, focuses on the future of the international automotive industry. Its overall objectives are to provide academic research, information resources, industry analyses, and communication forums that meet the continually changing needs of the international automotive and automotive-related industries. In addition, OSAT serves as a link between the University and its many external communities, including industry, labor, government, and the media.

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FOREWORD

Delphi X is a detailed analysis of forecasts by three separate panels of automotive industry executives, directors, managers, and engineers who are expert in automotive technology, materials, or marketing. For the first time in a Delphi report, the panelists also include top automotive dealers. These individuals were selected because they occupy positions of responsibility within the automotive industry and have strategic insight into important industry trends. In many cases, they are in a position to influence these trends. This report, published in three volumes, is the tenth in a series of in-depth studies of long-range automotive trends. The study began as Delphi I in 1979 and continued with Delphi II in 1981, Delphi III in 1984, Delphi IV in 1987, Delphi V in 1989, Delphi VI in 1992, Delphi VII in 1994, Delphi VIII in 1996, and Delphi IX in 1998. With Delphi X, a new approach has been implemented to stagger the release of the three volumes. Each will now be released within a year (instead of two) of its start date, but not all on the same date.

The Office for the Study of Automotive Transportation (OSAT) collects the data and analyzes, interprets, and presents the results. Because the forecasts are those of the panelists, Delphi X is essentially the industry's own consensus forecast. These forecasts are not "crystal ball" predictions but, rather, well-informed estimates, perspectives, and opinions. Such forecasts present an important basis for business decisions and provide valuable strategic planning information for those involved in all areas of the North American automotive industry: manufacturers; service, component and materials suppliers; government; labor; public utilities; and financial institutions. We believe these to be the most authoritative and dependable North American automotive forecasts available.

A key point to keep in mind is that the Delphi forecast presents a vision of the future. Obviously, it is not a precise statement of the future, but rather a prediction of what the industry views as likely. In retrospective review, some areas have been predicted less accurately than others; yet views of what the future will be influence decision makers of today.

As an industry-wide survey, the project also allows individual companies to benchmark their vision and strategy against consensus industry opinions.

The Delphi method: general background

The study is based on the Delphi forecasting process. This process requires that experts consider the issues under investigation and make predictions about future developments. Developed by the Rand Corporation for the U.S. Air Force in the late 1960s, Delphi is a systematic, interactive method of forecasting based on independent inputs regarding future events.

The Delphi method is dependent upon the judgment of knowledgeable experts. This is a particular strength because, in addition to quantitative factors, predictions that require policy decision are influenced by personal preferences and expectations. Delphi forecasts reflect these personal factors. The respondents whose opinions are represented in this report are often in a position to influence events and, thus, make their forecasts come true. Even if subsequent events result in a change of direction of a particular forecast, this does not negate the utility of the Delphi. This report's primary objective is to present the direction of developments in technology, materials, and marketing within the industry, and to analyze their potential strategic importance.

Process

The Delphi method utilizes repeated rounds of questioning, including feedback of earlier-round responses, to take advantage of group input while avoiding the biasing effects possible in face-to-face panel deliberations. Some of those biasing effects are discussed in this excerpt from a 1969 Rand memorandum:

> The traditional way of pooling individual opinions is by face-to-face decisions. Numerous studies by psychologists in the past two decades have demonstrated some serious difficulties with face-to-face interaction. Among the most serious are (1) influence, for example, by the person who talks the most. There is very little correlation between pressure of speech and knowledge. (2) Noise. By noise we do not mean auditory level (although in some face-to-face situations this may be serious enough) but semantic noise. Much of the "communication" in a discussion group has to do with individual and group interest, not with problem solving. This kind of communication, although it may appear problem-oriented, is often irrelevant or biasing. (3) Group pressure for conformity. In experiments at Rand and elsewhere, it has turned out that, after face-to-face discussions, more often than not the group response is less accurate than a simple median of individual estimates without discussion (see N. C. Dalkey, The Delphi Opinion. Memo RM 5888 PR, p. 14, Rand Corp., 1969).

In the Delphi method, panelists respond anonymously, preventing the identification of a specific opinion with any individual or company. This anonymity also provides the comfort of confidentiality, allowing panelists to freely express their opinions. Among other advantages, this process enables respondents to revise a previous opinion after reviewing new information submitted by other panelists. All participants are encouraged to comment on their own forecasts and on the combined panel results. The information is then furnished to the panel participants in successive iterations. This procedure reduces the effects of personal agendas or biases, and assists the panelists in remaining focused on the questions, issues, and comments at hand.

Panel characteristics and composition

The very essence of a Delphi survey is the careful selection of expert respondents. The selection of such experts for this Delphi survey is made possible by the long-standing association between the University of Michigan's Office for the Study of Automotive Transportation and representatives of the automotive industry. Lists of prospective experts were assembled for technology, marketing, and materials panels. Members were selected on the basis of the position they occupy within the automotive industry and their knowledge of the topic being surveyed. This ensures that respondents are deeply knowledgeable and broadly experienced in the subject matter.

The names of the panel members and their replies are known only to our office and are maintained in the strictest confidence. Replies are coded to ensure anonymity. The identity of panel members is not revealed. Upon publication of the Delphi report, all questionnaires and lists of panelists are destroyed.

The characteristics of the 101 Marketing X panel members are as follows: 49 percent of the marketing panel consisted of CEOs, presidents, or vice presidents; 29 percent were directors and executives; 19 percent were managers, supervisors, or specialists; and 4 percent of the panel was made up of analysts and consultants. Approximately 15 percent of the Delphi X panelists were employed by vehicle manufacturers; 66 percent by components and parts suppliers; 17 percent were dealers, and 2 percent were analysts or consultants.

Presentation of Delphi forecasts and analyses

Data tables. When a question calls for a response in the form of a number, responses are reported as the median value and the interquartile range (IQR). The median is a measure of central tendency that mathematically summarizes an array of judgmental opinions while discounting extremely high or low estimates; it is simply the middle response. The IQR is bounded at the low end by the 25th-percentile value and at the high end by the 75th-percentile value. For example, in a question calling for a percentage forecast, the median answer might be 40 percent and the IQR 35-45 percent. This means that one-quarter of the respondents answered 35 percent or less, another one-quarter chose 45 percent or more, and the middle half of all responses ranged between 36 percent and 44 percent, with 40 percent as the middle response. That narrow of an interquartile range would indicate a fairly close consensus among the respondents.

In contrast, the percentage forecast for a different question might show a similar median forecast of 40 percent, but with an interquartile range of 20-70 percent, indicating less consensus and a considerable degree of uncertainty about the issue in question.

Uncovering differences of opinion is one of the major strengths of the Delphi method. Unlike other survey methods, where differences of opinion among experts are often obscured by statistical averages, the Delphi highlights such differences through the presentation of the interquartile range.

Results summary. Narrative discussions are presented to highlight and explain a particular set of data.

Selected edited comments. Selected, edited comments from the Delphi panelists are shown following each data table to provide some insight into the deliberative process by which panelists arrived at their forecast.

In a Delphi survey, respondents are encouraged to contribute comments to explain their forecast and to perhaps persuade other respondents to change their positions. Many of these edited comments are included. These replies may provide important information that is not evident in the numerical data. An individual panelist may have unique knowledge that planners should carefully consider. However, readers should be careful not to overemphasize a particular comment. It is possible for a well-stated contrary opinion to mislead the reader into ignoring an important majority opinion which is accurately reflected in numerical data.

Manufacturer/supplier/dealer comparison. Delphi X panelists include respondents from North American automotive manufacturers; major suppliers of components, parts, and materials for the industry; dealers, consultants, and academics. A concerted effort is made to obtain a relatively equal distribution of manufacturer, supplier, and dealer panelists. Within the context of this survey, categorizations will refer simply to either manufacturers (or for brevity in tables, OEMs—Original Equipment Manufacturers), suppliers, or dealers.

For obvious competitive reasons, the automotive manufacturers seek to maintain a degree of secrecy regarding their design, engineering, and marketing plans. While the relationship between the manufacturer and supplier is moving toward an increasingly closer degree of cooperation and integration, a considerable element of proprietary concern remains. Additionally, the very size and complexity of the automotive industry works against optimum information transfer. Therefore, where it is considered relevant to a better understanding of or perspective on the forecast, our analyses include a comparison of the forecast from manufacturer and supplier panelists in an attempt to illustrate where significant agreements or differences exist.

Trend from previous Delphi surveys. A single Delphi survey is a snapshot that collects and presents the opinions and attitudes of a group of experts at a particular point in time. Some questions, in various forms, were asked in previous Delphi surveys, and thus provide trend data. The fact that forecasts for a particular question may exhibit considerable variation over the years does not diminish their relevance and importance to strategic planning. The forecasts reflect the consensus of expert opinion based on the best information available at the time. However, market, economic, and political factors do change. Trend data can reveal the stability or volatility of a particular market, material, or technology issue. A careful analysis of trend data is an important consideration in strategic business planning decisions.

Strategic considerations. Based on the replies to a particular question, other relevant Delphi X forecasts, other research and studies, and OSAT and CAR's extensive interaction with the automotive industry, this report makes inferences and interpretations as to the core issues in questions and their potential impact on the industry. By no means are they exhaustive statements of critical issues. Rather, they are points that the reader might consider useful.

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EXECUTIVE SUMMARY

The 2001 Delphi X Forecast and Analysis of the North American Automotive Industry Volume III: Marketing combines the predictions of over seventy automotive industry marketing experts to describe a vision of the future of the industry. The panelists, representing manufacturers, suppliers and automotive dealers, provide insight into the challenges and opportunities facing the automotive industry in the coming decade.

The Marketing volume of the Delphi X is divided into seven sections addressing industry structure, brand management, consumer information, car buying, order to delivery, vehicle features, and alternative powered vehicles. This summary highlights key results form the 2001 Delphi X: Materials volume.

Industry Structure

Recent years have seen a significant amount of consolidation within the automotive industry—in both manufacturers and platform componentry. Panelists forecast a continued decrease in the number of manufacturers and marketing divisions in the coming decade. However, they do not forecast any significant change in the amount of models/nameplate offerings (MKT-1). The number of models that share major content with vehicles from another market is expected to increase in the coming decade, and the number of platforms within a company is forecast to decrease in that same time period. The number of models within a company that share major components, and the number of models from different companies that share major content, are expected to increase (MKT-3).

Although the panelists forecast little change in segmentation, their comments do indicate potential for growth in the market share for small vehicles—both passenger car and light truck—in the coming decade. Given the recent success of many larger vehicles, the comments mark a significant shift in consumer buying trends. There are several potential marketing trends on the horizon that may give insight into the panel's forecast (MKT-4).

The panel forecasts many changes at dealerships and service outlets in the coming decade. They forecast significant decreases in the amount of new vehicles in dealer inventory and the number of single line dealerships. Conversely, they forecast increases in vehicles sold per dealership outlet and the number of motor malls and multi-franchise dealerships (MKT-5). Panelists expect independent repair shops and franchised gasoline/service stations to see significant decrease in the volume of repair/maintenance in the coming decade (MKT-6).

Several manufacturers have indicated that they intend to increasingly look downstream in an attempt to capture a larger portion of the vehicle life-cycle value stream. Yet, panelists rate most of the post manufacturing activities as only slightly profitable by 2009. Providing in-vehicle Internet communications access is rated as offering the best opportunity for profitability (MKT-8).

Brand Management

Recent years have seen an increased emphasis by some manufacturers on the development of brand identities for their products. The panel indicates that such a strategy may be effective for some segments, while not as effective for others. The panel believes that brand strategy is an effective marketing tool for luxury vehicles—both cars and SUVs—and for large pickup trucks (MKT-9). Many suppliers are attempting to gain brand awareness with the end user. The panel indicates that, with the exception of non-audio consumer electronics and engines, there is little likelihood of this occurring in the coming decade (MKT-10).

1

Consumer Information

Panelists think focus groups, field interviews, demographic/trend analyses, and spending time with end users are the most effective means of gathering consumer information for product decisions, though no source was rated as very effective. Manufacturers see dealer-collected information as the least effective means of gathering consumer information. The main challenges in using these methods are using the appropriate method to make decisions and the sheer variety and number of consumers. (MKT 13-14)

Car Buying

When looking at the most important current factors in purchasing new cars and trucks, panelists report a large number of factors including: purchase price, exterior styling, vehicle quality, previous experience with the make/model, service experience and convenience, OEM incentives and rebates, manufacturer's quality reputation, dealer reputation, brand image, a large selection of inventory, sales tactics, dealer incentives, passenger space, interior styling, performance, and safety. Panelists see fuel economy, safety, and vehicle technology increasing in importance in the future. Manufacturers see dealership characteristics playing a less important role in purchasing new cars and trucks in the future, while dealers think divisional reputation will play a less important role in the future. (MKT-15-16)

Panelists think improving dealership sales personnel and service will lead to improved customer satisfaction with the dealership in the future. They also see shorter new vehicle delivery times and Internet service appointments improving customer satisfaction. They do not see Internet sales, home delivery of vehicles, and one-price pricing improving customer satisfaction, though manufacturers more than dealers think these sales techniques will improve customer satisfaction. (MKT-17).

Dealers think they will reach acceptable ("satisfied") levels of customer satisfaction by 2004, while manufacturers think dealers will reach these levels by 2009 and suppliers think dealers will not even reach these levels by 2009. Price, be it for new vehicles or trade-ins, will continue to be the nemesis of improved customer satisfaction at the dealership level. Only if dealers or manufacturers can in some way eliminate or mute this element of the sales process will the dealership experience improve dramatically. (MKT-18)

Panelists are relatively conservative in their predictions about the future use of the Internet for purchasing financing, insurance, and the vehicle itself over the Internet. Manufacturers and suppliers see many more potential purchases of vehicles over the Internet than do dealers. Dealers throughout this Delphi survey are much more inclined to downplay the use of the Internet for doing almost anything involved with vehicle sales. (MKT-19)

When looking at Internet sales themselves, manufacturers, suppliers, and dealers still offer very different views on the future. By 2004, manufacturers see a world of Internet purchases split relatively evenly between dealer sites, OEM sites, and third party sites. By 2009, manufacturers see OEM sites taking over share of Internet purchases from third party sites. Dealers, on the other hand, see their sites dominating the near future and increasing their share of Internet purchases in the long term by taking share away from both OEM and third party sites. (MKT-20)

Respondents see issues dealing with improving the product as the major activities that will increase OEM customer retention in the coming decade. These include product innovation, vehicle quality/durability/reliability, and frequent product redesign. Manufacturers themselves also think customer relationship management programs (CRM) will be effective means of retaining customers. Customer retention by dealers will be improved through increased services, including vehicle concierge services, better trained staff, better use of the Internet, and the development of relationships with customers—especially after new vehicle warranties expire. (MKT 21-22)

Panelists are cautious about their views of the potential effectiveness of customer relationship management activities. They think programs such as frequent buyer discounts for new vehicles and service will be the most effective activities. Dealers predict that Internet/e-mail reminders for re-purchase and service will be more effective than do manufacturers and suppliers. Manufacturers think targeting households with offers based on their self-proclaimed interests will be more effective than do dealers and suppliers. The major challenges for CRM programs is combining dealer and manufacturer customer data and tailoring the programs to meet the needs of specific subsets of the vehicle-buying/servicing population. (MKT-23)

Over the next ten years, panelists predict the Japanese manufacturers will be the most effective in maintaining relationships with customers, followed by the European manufacturers and then by the Big Three. All dealers, except for single franchise dealers, are seen as being less effective (similar to the Big Three) in maintaining relationships with customers over the next decade. But manufacturers and dealers also see large dealers as being effective over the next decade. (MKT-24)

Order-to-Delivery

Manufacturers and dealers see little change in where vehicles will be purchased over the next ten years. They predict that 85-90 percent of all vehicle sales will be handled through traditional franchised dealerships. (MKT-25) In terms of the time customers are willing to wait for an ordered vehicle, panelists currently think customers are willing to wait 30 days for the exact vehicle they desire. But by 2004, panelists predict customers will be willing to wait only 20 days, and by 2009, only 10 days. (MKT-26)

Panelists currently think 15 percent of vehicles are built to order, and 80 percent are delivered from inventory. By 2004 they predict that 30 percent will be built to order, while 70 percent will be delivered from inventory. And by 2009, panelists think 50 percent of all vehicles will be built to order and 50 percent delivered from inventory.

By 2004, dealers think 17 percent of vehicles will be built to order while 80 percent will be delivered from inventory. Manufacturers think 25 percent will be built to order and 75 percent delivered from inventory. By 2009, dealers think 30 percent will be built to order and 70 percent will be delivered from inventory. Manufacturers think 42 percent will be built to order and 59 percent will be delivered from inventory. (MKT-27)

When considering the list of potential barriers to reducing build-to-order time, panelists report that the main barriers lie within the OEM/assembly plant, followed by the Tier One supplier and distribution parts of the value chain. Within the OEM assembly plant, panelists think the barriers of information flow between the supply chain and OEM production, flexible line changes/line flexibility, and model complexity are quite severe. They also think supplier communications, capacity management, and assembly line takt time are severe barriers. Body shop/assembly sequencing is seen as a somewhat severe barrier.

Respondents think supply chain management by Tier One suppliers is a severe barrier to reducing build-to-order time, while component shipping logistics and component production sequencing are seen as only somewhat severe. Within the distribution area, vehicle shipping time and shipping logistics are reported as somewhat severe barriers, while order tracking, order processing time, and dealer preparation time are seen as less severe barriers to reducing build-to-order time. (MKT-29) Panelists consider all these challenges as at least somewhat difficult to overcome, but they consider customization and manufacturing as the most difficult challenges to overcome. (MKT-30)

Looking at how all the proposed changes in the distribution system may improve customer satisfaction, the main features that panelists think will improve customer satisfaction include mass customization, the reduction of time spent at the dealership, accurate delivery date of ordered vehicles, and reduced order-to-delivery time. Panelists think real-time communication between OEMs and customers and the ability to track a vehicle from order to build to delivery will also increase customer satisfaction, but to a lesser degree. Finally, the ability of customers to order vehicles directly from the factory is expected to have the least effect of customer satisfaction. (MKT-31)

Vehicle Features

New technologies offer manufacturers the opportunity to increase the desirability of their vehicles, while offering suppliers the chance to gain critical new product lines. However, consumers do not necessarily view all new technologies as value-added. Panelists indicate that understanding the price points for new technologies is the most critical element in any marketing strategy. According to panelists, other important elements of successful marketing strategy include understanding the placement of new technologies between, and within, vehicle segments, communicating the advantages of new technologies to consumers, and appropriately test marketing the new technology (MKT-32).

The industry faces many challenges—and opportunities—in the coming decade. Nowhere is that more evident than the many pending environmental challenges. Manufacturers must balance the increasing pressure to create more environmentally friendly vehicles and manufacturing processes with the need to remain cost competitive. The development of more environmentally friendly vehicles and manufacturing processes will likely come, at least initially, with an increase in costs. A critical element of this challenge is what percent of any cost increases can be passed along to the consumer (MKT-37).

Manufacturers have increasingly found that safety features can be strong selling points. The listed features include both passive (airbags) and active (anti-lock brakes, traction control, etc.) safety technologies. Both types of technology will be critical in developing an effective safety system. The panel forecast side airbags and antitheft devices to experience the largest increase of the listed safety features (MKT-35).

Alternative-Powered Vehicles

When considering consumer acceptance of gas/electric and fuel-cell hybrid powered vehicles, vehicle cost is seen as the most severe barrier, followed closely by refueling issues. The next level of severity includes the unproven performance of the vehicles, the unproven technology, the reparability of the new technology, and the lack of consumer understanding and concerns over reliability and durability of the new technology. The least severe barrier reported is post-warranty repairs; although this barrier is still rated as severe. (MKT-38)

It is clear that from the perspectives of point of sale and warranty, marketing hybrid vehicles will demand a higher level of customer support than is currently provided. Be it through demonstration vehicles, technical information, well-trained staff, or longer warranties, moving to a new powertrain paradigm has the potential to change how vehicles are marketed and sold. The overwhelming response by manufacturers, suppliers, and especially dealers that this change cannot be business as usual may offer an opportunity for the manufacturers to work with their dealers in a new way.

In the area of distribution, panelists think the most effective methods will be marketing hybrid-powered vehicles to fleet and commercial customers and focusing on high pollution/urban areas. They also think that focusing marketing efforts on the west and east coasts will be effective. At the point of sale, panelists report that having demonstration models available will be the most effective method for marketing hybrid-powered vehicles, followed closely by having a well-trained staff. Panelists think the most effective warranties for marketing hybrid-powered vehicles need to be longer and more comprehensive than current warranties, even going so far as the life of the vehicle. (MKT-39)

Panelists think these vehicles are best positioned and advertised towards environmentally-conscious consumers. Sellers must clearly show the advantages of this type of vehicle, as well as focus on warranty and maintenance availability. Panelists also see these vehicles positioned to appeal to young, urban drivers, to buyers who value high technology, and to fleet buyers. But there are some inconsistencies in how manufacturers, suppliers, and dealers view positioning and advertising these vehicles. (MKT-40)

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I.   INDUSTRY STRUCTURE

MKT-1   The U.S. market continually evolves as new manufacturers enter or exit, new divisions appear or disappear, and new models are introduced or canceled. Please indicate the trend of these three processes through 2009, based on the scale below.

SCALE →	1	2	3	4	5
	SHARPLY DECREASE	DECREASE	NO CHANGE	INCREASE	SHARPLY INCREASE

INDUSTRY STRUCTURE	2000 - 2009
	MEAN RESPONSE
NUMBER OF <u>MANUFACTURERS</u> MARKETING VEHICLES (E.G.., GM, HONDA, VOLKSWAGEN)	2.3
NUMBER OF MARKETING <u>DIVISIONS</u> (E.G., LINCOLN, LEXUS, AUDI)	2.5
NUMBER OF <u>MODEL/NAMEPLATE</u> OFFERINGS (E.G., DURANGO, MALIBU, COROLLA)	3.2

SELECTED EDITED COMMENTS

- All OEMs have commented on consolidating platforms, however, successful OEMs appear to have many variations of these platforms (models/nameplates).

- By 2010 there will be only three large global OEMs and six or seven regional specialist OEMs.

- Consolidating or eliminating divisions will not be as easy as an outright acquisition in the short run. Customer loyalty and brand recognition require a "go-slow" until customers are introduced to a new way of thinking about their favorite nameplate. In some cases manufacturers will have to become divisions until the change occurs, e.g. the Jaguar, Lincoln, Volvo (luxury car group) could become one division long term.

- Development costs will continue to drive consolidation to be competitive in all global markets. Technology and brands chasing customers will add nameplates.

- Fewer and larger global manufacturers will consolidate divisions but increase the nameplate offerings in an attempt to further segment the consumer, approaching the feel of a customized vehicle to match image or lifestyle.

- I believe there will be a continued consolidation of manufacturers. A few losers exit but may be replaced by new manufacturers from Asia or Europe. Net change of marketing divisions will result in the same number of divisions. There will also be continued proliferation to increase nameplates, especially in the SUV and crossover or hybrid segment.

- I expect a reduction in divisions but more nameplates. I expect as more and more derivatives are created from existing platforms, the OEM will increasingly begin to give them individual nameplates.

- I see consolidation of companies who will try to exploit an increased number of brands they control. The number of brands will, in my opinion, not change unless a major economic event occurs in this period.

- I think the number of Big Three marketing divisions will decrease but that will be offset by an increase in foreign manufacturers in North America.

- Increase in nameplate offerings will require greater supplier flexibility in both product offering and asset utilization.

- The Renaults and Fiats will reenter North America to the detriment of Olds and Mercury.

- There will be no more than ten manufacturers, of which no more than six will be recognized as major and global. Nameplate offerings will increase slightly as a means to differentiate and brand products.

- While consolidations will reduce the total number of vehicle manufacturers, the trend toward brand identification will help to maintain the total number of models. Also, the addition of hybrid electric vehicles and SUV/wagon hybrids will offset any lost models.

- While mergers of OEMs may slow down over the next ten years, consolidation of the existing mergers will most likely decrease the number of manufacturers and divisions. Nameplates and models will decline at a faster pace as these consolidated companies eliminate duplicate product offerings.

RESULTS SUMMARY

Panelists forecast a decrease in the number of manufacturers and marketing divisions in the coming decade. However, they do not forecast any significant change in the amount of models/nameplate offerings.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the groups.

TREND FROM PREVIOUS DELPHI SURVEYS

The 2001 Delphi X panel is in general agreement with previous Delphi panels. However, they do forecast a greater decrease in the number of manufacturers than did the earlier panels.

STRATEGIC CONSIDERATIONS

Recent years have seen a significant amount of consolidation among automotive manufacturers. Ford Motor Company, with its acquisition of Volvo and Land Rover, has certainly been among the most active in this regard. General Motors has chosen an approach much different from that of Ford. It has chosen to pursue partnerships through the acquisition of other manufacturer's stock. The GM strategy does not, in the short tem, affect the overall number of independent manufacturers marketing vehicles. However, it is possible that such stock purchases may be a prelude to future acquisitions that would decrease the number of manufacturers.

A driving force behind this consolidation is the challenge of alternative powertrain technology. As industry participants increasingly allocate financial resources toward the development of electric, electric hybrid, and fuel cell technology, many smaller companies will not be capable of maintaining the technological pace.

The reduction in independent manufacturers does not necessarily mean a concomitant reduction in marketing divisions. The recent acquisitions by Ford and the Daimler-Benz (DaimlerChrysler) purchase of Chrysler Corporation reduced the number of independent manufacturers, but did not directly reduce the number of marketing divisions (Plymouth was dropped from DaimlerChrysler after the acquisition, yet the action was expected for some time prior to the takeover).

One panelist suggests that the Premier Automotive Group (Lincoln, Jaguar, Volvo, and Land Rover) could over time become a single marketing division. Ford has indicated that a key element of the PAG strategy will be a limited number of "dual" dealerships with all PAG nameplates at one location. However, the elimination of those brands in favor of a single PAG brand would forego the strong individual brands—some of the strongest in the world—to develop the PAG brand.

The panelists' comments indicate many believe that the number of marketing divisions in the U.S. market will continue to fluctuate in the coming decade. It is very possible—even likely—that some traditional divisions that have struggled may not survive. It is also possible that the recent consolidation of manufacturers—both in terms of takeovers and partial stock purchases—has increased the likelihood that some long-absent marketing divisions will soon reappear in the U.S.

The number of nameplates or models is forecast to increase slightly. Companies are increasingly attempting to leverage engineering resources by using the same basic platform for several models. The ability to differentiate products while maintaining common componentry will likely be in an important advantage to those that can successfully achieve the balance.

MKT-2   Currently, how important is a major product redesign to sales success across different segments?

SCALE →	1	2	3	4	5
	VERY UNIMPORTANT	UNIMPORTANT	NEITHER UNIMPORTANT NOR IMPORTANT	IMPORTANT	VERY IMPORTANT

SEGMENT	MEAN RESPONSE
	CURRENTLY
PASSENGER CAR	
SMALL CAR	3.9
MID-SIZE CAR	4.0
LARGE CAR	3.9
LUXURY CAR	4.2
LIGHT TRUCK	
MINIVAN	3.9
SMALL PICKUP	3.5
LARGE PICKUP	3.7
SMALL/MIDDLE SUV	4.1
LARGE/LUXURY SUV	4.1

MARKET SEGMENT EXAMPLES

PASSENGER CAR SEGMENT	SEGMENT EXAMPLES	
SMALL	Dodge Neon	Mitsubishi Mirage
	Saturn S Series	Volkswagen Golf
MIDDLE	Ford Taurus	Toyota Camry
	Dodge Stratus	Honda Accord
LARGE	Dodge Intrepid	Toyota Avalon
	Buick LaSabre	
LUXURY	Lincoln Continental	Mercedes S-Class
	Cadillac Seville	BMW 7 Series

MARKET SEGMENT EXAMPLES

LIGHT TRUCK SEGMENT	SEGMENT EXAMPLES	
MINIVAN	Dodge Caravan Ford Windstar	Mazda MVP Honda Odyssey
SMALL PICKUP	Ford Ranger Chevrolet S-10	Isuzu Pickup Nissan Frontier
LARGE PICKUP	Ford F-Series Dodge Ram Pickup	Toyota Tundra
SMALL SPORT UTILITY	Jeep Wrangler Chevrolet S-Blazer	Subaru Forester Honda CRV
LARGE/LUXURY SPORT UTILITY	Ford Expedition GMC Yukon	Toyota Land Cruiser Nissan Pathfinder

Source: Ward's Automotive Reports, Jan. 20, 1999.

SELECTED EDITED COMMENTS

- Developing products that bridge market segments—and, in some cases, redefine segments—will be important in capturing market share changes.

- I would say that fresh product is very important in every segment; however, it is more important in some than others.

- In today's highly competitive market, I can't think of many areas where major product redesign would be unimportant. With growing "clutter" in virtually every segment, manufacturers must advance design to differentiate their products; otherwise, they will have to compete aggressively on price and be forever trapped in the "incentive game." They even need to continue to offer new products in the small car segment in order to attract the first time buyer with something new and fresh, or else risk losing them to the used car market. Product segments do not necessarily have the same life cycle between each major redesign. The need and urgency to redesign a particular vehicle or platform also depends significantly on how well the OEM executed the latest redesign. A great redesign that "hits the mark" may have greater longevity in the market or require less substantial redesign.

- Major redesigns are the big opportunity to move a customer from your competitor to your vehicle and retain your repeat followers.

- The car will become more of a commodity except for a few brands. I believe the customer does not care about brands.

- The higher the price of a certain vehicle, the more important major product redesign is.

- The key may be the manufacturer that correctly identifies and, thus, develops a vehicle for the next new, emerging segment (as Chrysler did with minivan or Ford with SUV).

- Major product redesigns are always important. Only when those who are executing the new model botch the designs are they unimportant.

- The improvements in product development cycles will make frequent design changes a competitive advantage for the segment.

- The more competitive the segment, the greater the risk for product that is perceived out-of-date. Time-based competition is the rule and manufacturers with longer development cycles will lose (share, profitability).

- Typically, the lower the price of the vehicle, the younger the buyer and the most focused they are on innovation. Luxury buyers like a sense of tradition and consistency (with some upgrades) while commercial drivers (large P/U) would like consistent durability and fewer frills.

- Vehicle redesigns are extremely important. Styling sells. The public wants new and different. The PT Cruiser and T-bird are proof. Look what happened to the Cougar without a style update!

- Vehicles in all segments need major redesign on an ongoing basis.

RESULTS SUMMARY

According to panelists, a major product redesign is important to each of the listed vehicle segments.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The dealers differ from the suppliers and manufacturers on the importance of a redesign for large pickup trucks. The dealers (4.2) rate it higher than do the suppliers (3.6) or the manufacturers (3.7).

TREND FROM PREVIOUS DELPHI SURVEYS

This question was changed from previous Delphi surveys. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Panelists indicate that the major redesign of a vehicle is an important competitive factor. It is interesting that the panelists make little differentiation among segments about the importance of a redesign. The comments highlight several important issues. First, there is little doubt that a well-executed redesign is an important element of a sales strategy. And second, the development of segment-busting vehicles is an important part of a successful manufacturer's product portfolio management strategy.

The sales curve of a vehicle over its life cycle usually includes strong initial sales, followed by decline as the product ages. The traditional industry response to decreased sales in the final years of a product life cycle has been to attempt to prevent a drop in sales by offering incentives. It is likely that a well-done redesign can not only increase the desirability—and thus the price premium—of a new product, but reduce the need to prop up sales at the end of a given product cycle.

Over the past 15 years, products such as the Chrysler minivan, the Ford Explorer, and the DaimlerChrysler PT Cruiser have defined entirely new segments. There are many recently introduced products that may define new segments—not all of which will be successful. The ability of manufacturers to develop non-traditional products that meet the needs of customers will likely become increasingly important.

According to panelists, major product redesign is important in the luxury car segment. This result differs greatly from a long-standing industry view that suggested that luxury car buyers appreciated the "timely elegance" of their vehicles, and thus major redesigns should be approached with great care. However, with the changing demographics of luxury car buyers, style may be a more transitory element. The increased application of technology may also be a factor. Increasingly, luxury vehicles are being sold as "host products" for electronics. However, the product cycle of a vehicle is significantly longer than that for electronics. A luxury car that was introduced just a few years ago may be three or four technological generations behind a newly introduced competitor.

MKT-3   Different models often share a platform or a significant number of components to realize economies of scale and resulting cost savings. At the same time, greater efforts are being made to increase product differentiation. Please forecast how the following component- or platform-sharing arrangements will change by 2004 and 2009.

SCALE →	1	2	3	4	5
	SHARPLY DECREASE	DECREASE	NO CHANGE	INCREASE	SHARPLY INCREASE

COMPONENT- OR PLATFORM-SHARING	MEAN RESPONSE	
	2004	2009
THE NUMBER OF PLATFORMS WITHIN A COMPANY	2.6*	2.3
THE NUMBER OF MODELS FROM DIFFERENT COMPANIES THAT SHARE MAJOR CONTENT (E.G., MERCURY VILLAGER/NISSAN QUEST)	3.4	3.7
THE NUMBER OF MODELS WITHIN A COMPANY THAT SHARE MAJOR CONTENT (E.G., TAURUS/SABLE)	3.6	3.9
THE NUMBER OF MODELS THAT SHARE MAJOR CONTENT WITH A VEHICLE FROM ANOTHER MARKET (E.G., CADILLAC CATERA/OPEL OMEGA)	3.9*	4.2

*Indicates a significant difference between 2004 and 2009.

SELECTED EDITED COMMENTS

- As GM, Ford, and Chrysler develop world alliances and joint ventures, engine, transmission, and chassis components, as well as other components not visible to the consumer, will have more standardization.

- Designs are pretty well locked in through 2004. Major changes will be sent post-2004.

- For the time being it will continue to be difficult for suppliers to drive commonality across multiple manufacturer companies, but that should increase beyond the 2004 timeframe as manufacturers recognize the benefits and realize that most of their unique component requirements have little impact on the end consumer.

- I answered this question based on knowledge of international markets where a high level of models and content is shared, especially based on the European platforms. Only North America with its differing legal requirements and specific market segments is set off from the worldwide sharing of models and major content, e.g., Opel Vectra, Brasil Chevrolet Vectra, Vauxhall, and Saab. It seems in North America that as soon as a vehicle is brought in, another program is abandoned for a net change of zero.

- Model and platform rationalization is a priority today. By 2009, the trend will have either slowed or reversed.

- Product differentiation is critical in order to compete within a specific market; thus, the number of models within a company should decline. However, globalization will allow content sharing across markets (e.g., United States with Cadillac Catera and Europe with Opel Omega) without sacrificing differentiation within a given market.

- The number of high volume platforms for any given manufacturer will go down. We will see an increased number of specialized platforms for niche vehicles.

- Today, considering market proliferation, there are very few global vehicles that can share a platform for multiple markets. Platform sharing within a company will increase primarily due to the emergence of crossover/hybrid models. Consolidation of manufacturers will result in platform sharing from different companies (considering the companies may have the same parent or be invested in each other).

- With the ongoing consolidations, vehicle manufacturers will reduce the number of models within a market but increase platform sharing across markets. As the number of markets penetrated increases (due to the consolidation with a company already in that market), the need to partner with other companies—and share platforms—will decrease.

RESULTS SUMMARY

According to panelists, the number of models that share major content with vehicles from another market will increase in the coming decade, while the number of platforms within a company is forecast to decrease in that same time period. The number of models within a company that share major components, and the number of models from different companies that share major content, are expected to increase.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the groups.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was first asked in the 1998 Delphi XI. The 2001 Delphi X panel is in general agreement with the 1998 Delphi XI panel.

STRATEGIC CONSIDERATIONS

Many manufacturers have been trying to reduce investment in product development costs via a reduction in sharing of platforms or models. The panel indicates that this trend will continue in the coming decade.

Although the "world car"—a single car for all international markets—has been a strategic goal of manufacturers for decades, all too often the vagaries of local markets led manufacturers to develop unique platforms for the different markets. The move to global platforms is an attempt by manufacturers to universalize components for similar-sized vehicles across the company's global product portfolio. This strategy has been most effective in small cars and luxury vehicles. The Ford Focus, Honda Civic, Toyota Corolla, and the Mercedes-Benz lineup are excellent examples of successful global platforms. Panelists forecast that this further globalization of products will continue in the coming decade, with the number of models that share major content with a vehicle from another market also increasing.

The panel also forecasts an increase in products that are co-developed or shared among companies. As the comments indicate, the recent stock partnerships and equity tie-ups will likely lead to more sharing of product resources. Renault and Nissan, GM and Subaru (or Fiat), and DaimlerChrylser and Mitsubishi are all likely to leverage their partner's technology or products and deliver a range of vehicle sharing content. Such programs may allow companies to provide a more complete product portfolio or gain access to other regions, while minimizing investment costs.

MKT-4 Please estimate the share of the overall U.S. market that each of the segments will hold in 2004 and 2009. Please see MKT-2 for examples of each market segment.

VEHICLE SALES BY SEGMENT	EST. 1999*	MEDIAN RESPONSE		INTERQUARTILE RANGE	
		2004	2009	2004	2009
PASSENGER CAR					
SMALL CAR	12.3%	13	14	11/14	10/16
MID-SIZE CAR	27.9%	27	27	26/29	24/29
LARGE CAR	4.0%	4	4	3/4	2/4
LUXURY CAR	8.7%	9	9	8/10	8/10
LIGHT TRUCK					
MINIVAN	8.1%	8	7.8	8/9	6/9
SMALL/MIDDLE PICKUP	6.6%	7	7	6/7	6/8
LARGE PICKUP	12.8%	12	12	12/13	10/13
SMALL SUV	6.5%	8	9	7/8	8/10
LARGE/LUXURY SUV	13.1%	12	11	11/14	9/14
TOTAL	100%	100%	100%		

* Source: Ward's Automotive Yearbook, 1999.

SELECTED EDITED COMMENTS

- About the same in 2009. It's too far out to forecast given understood dynamics. Smaller would seem to be an increasing trend.

- As the SUV and larger vehicle population increases, more people are not going to feel safe in smaller vehicles and will, therefore, convert to larger vehicles/trucks. As another alternative, manufacturers will begin designing more vehicles that are truck/car combinations (safety of truck, comfort of car, price in-between). Injury ratings between trucks and passenger cars will also increase due to the size differential.

- Consumers and/or governmental regulations may force the proliferation of HEV and fuel-cell vehicle alternatives in the small and mid-size car segments. If fuel economy becomes more of an issue, large truck and SUVs may lose market share.

- Globalization must cause Americans to reestablish the small car segment. Small SUVs will be a winner.

- Hybrid electric vehicles will likely increase; small and mid-size levels, large cars, and small SUVs will suffer. The SUV/wagon hybrids will blur the picture.

- I expect considerable sales of small SUV/minivan hybrids, such as the PT Cruiser.

- If for some reason fuel prices remain above $2.00 per gallon for an extended period of time, I believe the most significant change in share would come in the large/luxury SUV category. OEMs would also adjust their production of these vehicles downward.

- In reaction to fuel price and environmental pressure, station wagons reassert themselves.

- Small cars will increasingly offer safety features. That, combined with fuel mileage concerns, will drive small car growth.

- The drive for product differentiation will produce vehicles in between segments

- The love affair for the light truck will slow down, helped by gas prices, smaller families, and changing tastes.

- Unless a major economic event occurs, I believe the car segment will shrink in favor of the crossover vehicles.

RESULTS SUMMARY

Panelists forecast little change in market share for the listed segments. However, many comments suggest that there is potential for change in the coming decade.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The dealers differ from the suppliers and manufacturers on the importance of a redesign for large pickup trucks. The dealers (7 percent) rate it higher than do the suppliers (3 percent) or the manufacturers (4 percent).

TREND FROM PREVIOUS DELPHI SURVEYS

This question was changed from previous Delphi surveys. Therefore comparison is not possible.

STRATEGIC CONSIDERATIONS

Although the panelists forecast little change in segmentation, their comments do indicate potential for growth in the market share for small vehicles—both passenger car and light truck—in the coming decade. Given the recent success of many larger vehicles, the comments mark a significant shift in consumer buying trends. There are several marketing potential trends on the horizon that may give insight into the panel's forecast.

First, the coming decade will bring a large, highly affluent group of buyers into the market. According to many, this cohort group is highly informed, environmentally aware, and may not want to drive what their parents do. The current success of large/luxury SUVs could cause a backlash of sorts among these young buyers. The large/luxury SUV market has recently shown signs of stabilizing—if not softening—giving further indication that the forecasted loss of two percent of the market share for that segment is possible.

Increasingly, manufacturers are under pressure to decrease the adverse environmental impact of their products. This increased pressure will likely encourage manufacturers to spend greater resources on the development of smaller, more fuel-efficient vehicles that increasingly meet the wants and needs of their customers. Interestingly, several manufacturers have taken a proactive stance on the environmental issue and are moving to develop vehicles that are more environmentally friendly.

All companies are diligently working to develop alternative-fueled and alternative-powered vehicles, while maintaining their efforts to make the internal combustion engine more efficient and clean burning. Although these new powertrains may have important applications in increased mileage SUVs, they may lead to the increased popularity of small ultra-high mileage environmentally friendly vehicles—both passenger cars and SUVs.

MKT-5   Numerous characteristics describe the current U.S. dealership network. Please indicate how, if at all, the dealership network will change over the next ten years.

SCALE →	1	2	3	4	5
	SHARPLY DECREASE	DECREASE	NO CHANGE	INCREASE	SHARPLY INCREASE

DEALERSHIP NETWORK TRENDS	2000 - 2009
	MEAN RESPONSE
NUMBER OF	
NEW VEHICLES IN DEALER INVENTORY	1.9
SINGLE LINE DEALERSHIPS (ONE MAKE)	1.9
NEW CAR DEALERSHIPS	2.1
RURAL DEALERSHIPS	2.2
SALES PEOPLE AT THE DEALERSHIP	2.3
URBAN DEALERSHIPS	2.4
PUBLICLY HELD DEALER GROUPS (E.G., CARMAX, AUTONATION)	3.2
SUBURBAN DEALERSHIPS	3.2
DEALER GROUPS	3.3
MOTOR MALLS	3.7
MULTI-FRANCHISE DEALERSHIPS	3.8
VEHICLES SOLD PER DEALERSHIP OUTLET	3.9

SELECTED EDITED COMMENTS

- As dealers have to provide more value and accessories like insurance, the small rural and single dealers will die out.

- Delivery/service shops for warranty work only will emerge in place of the traditional dealer. It will offer a full range of vehicle related offerings: finance, insurance, customization, etc.

- Internet sales will increase.

- It will soon be possible to handle the whole vehicle transaction over the net. The dealer's role will be to deliver the car and handle the trade-in. More and more dealers will be in the used car business.

- Laws in many states must change before a major shift in the dealer system takes place. It is a matter of public policy, not a business issue. If this were purely business, we would see a vast reduction in dealers as Internet buying takes hold.

- My comments assume that the manufacturers will not sell vehicles over the Internet directly, but that there will be independent sellers utilizing the Internet in combination with service centers capable of providing the same services a dealer can provide.

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- My expectation is that there will be an increase in the number of points of sale (POS). These POS will be more conveniently located in normal high-traffic shopping locations such as shopping malls. The POS will be staffed to assist the consumer in direct order entry via an e-commerce network.

- Small rural dealerships will be a thing of the past.

- I expect that e-commerce development will reduce the face-time necessary to purchase a new vehicle, dispose of a used one, finance, and then register a vehicle transaction.

- While franchise laws may prevent the Internet from replacing the dealership, the function of dealerships will change. They will no longer be the point-of-sale, but rather, the distribution network for vehicles sold via the Internet. To serve this function, dealerships will want access to more brands, so dealerships will consolidate.

RESULTS SUMMARY

Panelists forecast the largest decreases in the amount of new vehicles in dealer inventory (1.9) and single line dealerships (1.9). They also forecast decreases in new car dealerships, rural dealerships (2.2), sales people at the dealerships (2.3), and urban dealerships (2.4).

Conversely, the panel forecast the largest increase for vehicles sold per dealership outlet (3.9). They also forecast increases in motor malls (3.7) and multi-franchise dealerships (3.8), and small increases in the number of dealer groups, publicly held dealer groups, and suburban dealerships (all three at 3.3).

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The three groups are in general agreement. The dealership trends where the three panels' responses statistically differ are shown in the table.

DEALERSHIP NETWORK TRENDS	MEAN RESPONSE		
2000 - 2009	MANUFACTURER	SUPPLIER	DEALER
NUMBER OF RURAL DEALERSHIPS	2.1	2.3	1.6
NUMBER OF SALES PEOPLE AT DEALERSHIPS	2.2	2.2	2.8
NUMBER OF URBAN DEALERSHIPS	2.8	2.3	2.2

TREND FROM PREVIOUS DELPHI SURVEYS

The 2001 Delphi X panel is in general agreement with previous Delphi panels. However, they do forecast a smaller increase in the number of dealer groups than did earlier panels.

STRATEGIC CONSIDERATIONS

Possibly no element of the automotive industry has come under closer scrutiny in the past several years than has the dealership system. The increase in publicly-held dealer groups, manufacturer-dealer programs, and the Internet have combined to change the traditional dealership landscape. Panelists forecast the change to continue.

The number of vehicles sold per dealership outlet, multi-franchise dealerships, and motor malls is forecast to increase in the coming decade. The number of vehicles sold per dealership outlet has historically been an important profitability driver. The forecasted increase in motor malls also continues a trend toward larger high volume, multi-franchise dealers.

Panelists forecast a decrease in the number of sales people at the dealership, but dealers predicted a slighter decrease than the other panelists. As some selected edited comment suggest, the role of the dealership may change in the coming decade.

There is some disagreement among panelists on the future of suburban dealerships. One-quarter of the respondents forecasted a slight decrease, slightly more than a quarter forecasted no change, and slightly less than half forecasted an increase in the coming decade.

MKT-6   Please forecast the change in volume of repair/maintenance activity (i.e., the amount of service work done) by each of the following outlets over the next ten years (2000-2009).

SCALE →	1	2	3	4	5
	SHARPLY DECREASE	DECREASE	NO CHANGE	INCREASE	SHARPLY INCREASE

SERVICE TRENDS	2000 - 2009
	MEAN RESPONSE
NUMBER OF OUTLETS OR TYPE	
FRANCHISED GASOLINE/SERVICE STATIONS	2.2
INDEPENDENT REPAIR SHOPS	2.2
MASS MERCHANDISERS (E.G., SEARS)	2.5
FLEET REPAIR SHOPS	3.1
FRANCHISED AUTO REPAIR SPECIALISTS (E.G., GOODYEAR, PRECISION TUNE)	3.3
QUICK OIL CHANGE OUTLETS	3.4
FRANCHISED DEALERS	3.5

SELECTED EDITED COMMENTS

- As technical features of the vehicles become more complicated, dealerships and specialists will increase and the smaller "guys" will decrease because they won't be able to keep up with the cost of equipment/training for the new technologies.

- Cars are getting too high tech for independents to grow.

- Could it be possible that someday OEMs will contract franchise or mass merchandisers to provide warranty service?

- Dealers are inefficient and over-priced. A process for warranty work utilizing mass merchandisers and franchised outlets will be developed.

- Dealers can be expected to remain indifferent to customer satisfaction and customer convenience and will lose repair and service work to all other options. OEMs can be expected to force continued reductions on warranty service allowances.

- Dealers will maintain control of service as it relates to in-warranty and near-warranty vehicles. Focus will trend towards technology service versus basic maintenance. How well independents compete against franchises for basic service will depend on how each reacts to the market.

- Franchise dealers will experience growth in repair and maintenance. Specialty departments will exist within service facilities. Advertising and marketing efforts will assist in this growth and extended hours will make dealerships more convenient.

- Greater amounts of in-vehicle electronics will force people to go to sources that have the sophisticated equipment.

- I agree very strongly with an earlier round comment that the OEM dealer network has a huge opportunity before them if they will offer competitive service and price to the consumer. Currently there is a huge misalignment with consumer expectations and OEM perception. The greed factor at the dealerships/OEMs will hinder them from succeeding.

- I believe that franchised dealers will gain based on a belief that Ford's strategy will work.

- I think that the manufacturers have a great opportunity before them to enhance their revenue stream from a vehicle owner. My greatest concern is that they will not be successful in capturing the full potential. I think manufacturers and dealers greatly overestimate the price premium they can charge a consumer for the service, repair, and customization services they can offer. If they can be price competitive with other channel options, they can capture a huge/majority share of this market.

- OEMs must, and will, address service competitiveness of their dealer franchises. They may consider outsourcing of service to qualified service providers (franchised repair specialists or mass merchandisers).

- Quality is the "price of admission" today. As improvement continues and service intervals move further apart, and complications increase, the toll it will take in independent repair shops and service stations will continue.

- Reliability, quality, and time between service needs will all increase, causing a general long-term decrease. Improved engine/transmission, brake, and tire technologies will reduce frequency and lengthen intervals for service.

- Specialized service garages are growing, purchasing more sophisticated equipment for diagnostics. Franchised dealers must change hours to capture more service work. More independent quick oil change garages are adding full service bays.

- Technological changes in automotive industry will require more service to be done at authorized dealer/repair shops. I believe the trend will move to dealers focusing on service and less on new car sales.

- Unscheduled maintenance will continue to decline, reflecting across the board improvement in quality through technology. Scheduled maintenance will become part of the vehicle purchase and loyalty will become more important to grow share.

- Vehicle quality improvements will continue to reduce repair, and technology will reduce the number of alternatives for repair.

- Vehicle reliability is getting better. The chance is that repair and maintenance will reduce. Therefore, from that standpoint, this field will not be attractive.

- Vehicles will continue to become more maintenance free.

- With technology, the repair process will have to go to the areas that support training and consumer confidence.

RESULTS SUMMARY

Panelists expect independent repair shops (2.2) and franchised gasoline/service stations (2.2) to see a decrease in the volume of repair/maintenance in the coming decade. They also forecast, to a lesser extent, a decrease in volume for mass merchandisers (2.5). The other listed types of service outlets are expected to increase slightly the volume of repair/maintenance performed in the coming decade.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The manufacturers, suppliers, and dealers are in general agreement. However, they do differ in their forecast for the volume of work done by franchised auto repair specialists and quick oil change outlets. Suppliers (3.5) forecast a gain in franchised auto repair specialists, while the dealers (2.8) and the manufacturers (3.2) forecast little change. The manufacturers (3.5) and the suppliers (3.6) forecast an increase in quick oil change outlets, while the dealers (3.0) forecast little change.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was changed from previous Delphi surveys. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

As manufacturers continue to develop more reliable, durable vehicles, the need for repair may diminish or at least be delayed. Yet, because of the increased amount of in-vehicle technologies, vehicles may require highly trained repair technicians with significant investment in diagnostics equipment when repairs are needed. This may greatly affect future trends for vehicle repair and maintenance. Those outlets with financial resources—or the support of the manufacturers—may have the opportunity to grow repair volume. Conversely, those without the resources—most likely the independent repair shops and service stations—may not be able to make the investments and thus become uncompetitive.

Dealers will likely continue to be the location for most warranty-related work. However, some manufacturers have shown interest in developing alternative warranty service outlets. Ford's purchase of European-franchised service repair specialist Kwik-Fit may serve as a model for manufacturers. The manufacturer ownership of a repair network parallel to their dealerships may allow them to gain better insight into consumers, as well as invigorate their dealership network via increased competition.

Dealers may—or may not—face the challenge of new competition for warranty services, but certainly have the opportunity to increase their share of total after-warranty repair. The panelists expect franchised dealers to grow the volume of repair/maintenance service in the coming decade. Yet many panelists suggest that if dealership service departments are to successfully capture greater volume, especially the after-warranty portion, they must do a better job of cost competitively satisfying the customer.

There may also be an increasing differentiation between repair service and maintenance service. The panel indicates that quick oil change outlets will see increased volume in the coming decade. It is likely that routine maintenance, such as fluid change and tune-ups, may be performed quickly and effectively by these outlets, while repair work will be done by dealerships or other outlets with greater financial resources.

MKT-7 Please rate the importance of resolving the following challenges for improving the relationship between OEMs and dealers.

SCALE →	1	2	3	4	5
	VERY UNIMPORTANT	UNIMPORTANT	NEITHER IMPORTANT NOR UNIMPORTANT	IMPORTANT	VERY IMPORTANT

OEM/DEALER ISSUES	MEAN RESPONSE
STABILITY OF OEM DISTRIBUTION FIELD REPRESENTATIVES	3.2
LOYALTY OF SALES STAFF TO INDIVIDUAL SALES DIVISIONS AT MULTI-FRANCHISE DEALERSHIPS	3.3
SELLING SPACE FOR DIFFERENT SALES DIVISIONS	3.5
CUSTOMER SATISFACTION SURVEYS	3.7
OEM OWNERSHIP OF DEALERSHIPS	3.8
STATE FRANCHISE LAWS	3.8
ALLOCATION OF ADVERTISING DOLLARS	3.9
OEM INVOICE PRICING POLICIES	3.9
OEM PARTNERSHIPS WITH THIRD PARTY VEHICLE SELLERS (E.G., CARPOINT)	3.9
CUSTOMER INFORMATION SHARING	4.0
VEHICLE ALLOCATION	4.0
WARRANTY CLAIMS RESOLUTION	4.0

SELECTED EDITED COMMENTS

- Accurate warranty claims resolution will become a bigger issue when more of the suppliers are directed to assume warranty costs. The e-business evolution will further strain the relationship.

- Actions of manufacturers relating to dealers are always critical.

- Cars are continually made better, and this will affect warranty claims. Customer surveys and how each dealer performs will be a key indicator of performance.

- Customer satisfaction surveys are getting little attention because there has been little evidence of improvement. Dealer misdiagnosis of warranty work and other repairs continues to be a major cost problem and a credibility issue for dealers.

- Customer satisfaction surveys have become "overblown." We dealers are the manufacturers' customers, and they had better realize the value of that asset.

- Customers will be able to get warranty information via the world-wide-web.

- If Ford Motor Company raises facility requirements to different levels for large and small dealers to qualify for Blue Oval certification, it will bomb!

- OEM and dealer loyalty are key to improving brand selling versus price focus. Must build brand loyalty and handle warranty claims efficiently. OEMs deal with their auto dealers like they deal with their suppliers, they do not establish true partner relationships.

- "OEM Ownership of Dealerships:" Manufacturers should *stay out* of the retail side of the equation. Let them build cars, let us sell them. "OEM Partnerships with Third Party Vehicle Sellers:" If third party sellers want a piece of the pie, let *them* invest in parts, people, land, brick, and mortar.

- The OEM should benefit dealers in some way.

- Owner loyalty will be the challenge of the decade. Manufacturers and dealers will have to work closely with customers to improve customer satisfaction. Relationship with customers will be more important than ever before and we will have to perform at high levels in all areas to build lasting relationships. OEM ownership will not be a factor. Third party sellers will not be a factor.

- Regarding franchise laws, the laws themselves are very important; however, there is nothing that currently needs to be resolved regarding them.

- Relationships can do more harm if not handled properly.

- The creation of manufacturers' bonus funds (such as Blue Oval) by taking margin away from the dealer and then giving it back only if the dealer does things the manufacturer is not entitled to require is an enormous problem.

- This area will need a major effort to resolve differences: state franchising laws are likely to be a major hurdle.

- While there may be some customers interested in buying from a Nordstrom's-type dealership, many more are looking for the Costco warehouse approach.

RESULTS SUMMARY

Panelists rate each of the listed issues as at least somewhat important. The panel's ratings indicate there is very little differentiation among most of the issues.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The three groups differ on several issues. The table shows the areas where there are differences among the groups.

OEM/DEALER ISSUES	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
LOYALTY OF SALES STAFF TO INDIVIDUAL SALES DIVISIONS AT MULTI-FRANCHISE DEALERSHIPS	4.0	3.2	3.4
ALLOCATION OF ADVERTISING DOLLARS	4.1	3.7	4.1
SELLING SPACE FOR DIFFERENT SALES DIVISIONS	4.0	3.3	3.6
STATE FRANCHISE LAWS	4.5	3.4	4.4
VEHICLE ALLOCATION	3.8	3.9	4.4

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

The relationship between manufacturers and their dealers has, at times, been strained. All too often, efforts to improve the relationships have not been successful. Ten of the twelve issues are rated between 3.5 and 4.0—or important. Such a tight spread indicates there are many issues that must be addressed.

Customer information sharing (4.0) presents an interesting challenge for both parties. Manufacturers and dealers have traditionally battled over customer "ownership". Many progressive dealers have developed valuable information on their customers. While such information may be of great value to manufacturers, many dealers fear that if they share this data with the manufacturers, they in turn would share it with dealers from their own regions.

Allocating both vehicle and advertising dollars are also issues that, if properly addressed, could lead to greatly improved OEM/dealer relationships. Although OEMs have attempted to make their allotment practices more efficient, they still must balance the requests of their dealer network with the product mix from the factories. The allocation of advertising dollars continues to be a point of serious contention between OEMs and dealers. Many dealers suggest that the funds have been used by OEMs to gain leverage in other areas.

One of the more divisive issues of late has been state franchise laws (3.8). Several manufacturers have shown interest in owning dealerships (3.8) in critical markets. Yet many states have franchise laws that greatly restrict OEM ownership of dealers. The Internet also presents increased opportunity for OEMs to establish direct-to-customer sales or third-party dealers to act as brokers. Such opportunity for displacement of the traditional dealership model will certainly continue to make state franchising and manufacturer's ownership of dealerships important issues to address.

OEM partnerships with third-party organizations are another important challenge for the OEM/dealer relationship. As OEMs move to expand the number of partnerships with Internet or other third-party contact with the customer, the dealers risk the potential of being further removed from the customer.

MKT-8   Many OEMs are looking downstream in order to capture a larger portion of the vehicle life-cycle value stream. Please rate the likely profitability of each of the following possible OEM post-manufacturing activities in the coming decade.

SCALE →	1	2	3	4	5
	VERY UNPROFITABLE	UNPROFITABLE	NEITHER UNPROFITABLE NOR PROFITABLE	PROFITABLE	VERY PROFITABLE

POSSIBLE OEM POST-MANUFACTURING ACTIVITIES	MEAN RESPONSE	
	2004	2009
OEM-OWNED CUSTOMER CONCIERGE SERVICES	2.7*	3.1
OEM-OWNED DEALERSHIPS	2.9*	3.1
OEM-OWNED USED VEHICLE SALES STORES	2.8*	3.1
OEM-OWNED AUTOMOTIVE AFTERMARKET PARTS STORES	3.1*	3.3
OEM-OWNED USED VEHICLE WEBSITES	2.9*	3.3
AUTOMOTIVE RECYCLING	2.6*	3.4
OEM INTERNET BROKERAGE/SALES	3.0*	3.5
OEM-OWNED INDEPENDENT VEHICLE SERVICE CENTERS	3.2*	3.5
AUTOMOTIVE INSURANCE	3.3*	3.6
PROVIDING IN-VEHICLE INTERNET/COMMUNICATION ACCESS	3.4*	4.0

*Indicates a significant difference between 2004 and 2009.

SELECTED EDITED COMMENTS

- I believe that most of the brick-and-mortar type businesses listed (parts, used cars, dealerships) could be very profitable; however, I don't think that the manufacturers are capable of running them profitably.

- The factories have proved time and again that they do not know how to run retail establishments.

- The manufacturers have not shown that they can manage small businesses, which most of the above reference. They must develop new management paradigms, which involve completely new management initiatives, to compete against small business owners.

- The OEMs need to focus on what they do well, and that is design, engineer, and build cars that sell.

- Value will only be attained if the consumer has loyalty in the OEM above any other such supplier. There are consumers who are brand loyal; however, there are many others who are not loyal or are loyal only because of a discount being received by that OEM (e.g., employee incentives, A-Plans, etc.).

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RESULTS SUMMARY

Panelists rate most of the listed post-manufacturing activities as neither profitable nor unprofitable for 2004. Providing in-vehicle Internet communications access is rated as offering the most potential for profitability by 2004. All of the listed activities are rated as more likely to be profitable in 2009 than in 2004. Again, for 2009, providing in-vehicle Internet communications access is rated as the best opportunity for profitability.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The three groups differ on the future profitability of several potential activities. The table shows those activities with significant differences among the groups.

POSSIBLE OEM POST-MANUFACTURING ACTIVITIES	2004 MEAN RESPONSE			2009 MEAN RESPONSE		
	MFR	SUPPLIER	DEALER	MFR	SUPPLIER	DEALER
AUTOMOTIVE INSURANCE	3.9	3.2	3.1	-	-	-
AUTOMOTIVE RECYLCING	2.3	2.6	3.2	-	-	-
OEM INTERNET BROKERAGE/SALES	3.1	3.2	2.5	3.6	3.7	2.3
OEM-OWNED AUTO AFTERMARKET PARTS STORES	3.7	3.1	2.6	4.0	3.3	2.5
OEM-OWNED CUSTOMER CONCIERGE SERVICES	2.9	2.9	2.1	3.4	3.3	2.0
OEM-OWNED DEALERSHIPS	3.1	3.2	1.7	3.5	3.3	1.7
OEM-OWNED INDEPENDENT VEHICLE SERVICE CENTERS	3.8	3.3	2.2	3.9	3.7	2.2
OEM-OWNED USED VEHICLE SALES STORES	3.2	3.0	1.9	3.6	3.3	2.0
OEM-OWNED USED VEHICLE WEBSITES	3.1	3.1	2.2	3.3	3.6	2.3

The dealers consistently rate the listed possible OEM actions as offering significantly less opportunity for profitability than do the manufacturers and suppliers. The OEMs also rate most of the actions as becoming more profitable in 2009 than in 2004. Conversely, the dealers rate the OEM activities as equally unprofitable in 2004 and 2009. Recycling in 2004 is the only activity that the dealers rate as potentially more profitable than do the OEMs.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Several manufacturers have indicated that they intend to increasingly look downstream in an attempt to capture a larger portion of the vehicle life-cycle value stream. Such a move would put OEMs in direct competition with existing downstream companies. Therefore, it is not surprising that the dealers have a less than positive response to such actions. The responses of the two groups give some indication of their markedly differing views.

The responses for OEMs and dealers differ for nine of the ten possible OEM post-manufacturing activities for 2004, and for seven out of the ten for 2009. In all but one case, the dealers rate the activities as not profitable, while the OEMs rate the activity as profitable or neither profitable nor unprofitable. For activities where they disagree, the 2009 forecast by the dealers contains no estimate higher than a 2.5, while the OEMs' forecast contains no estimate lower than 3.5— truly a great divide. The only exception is recycling for 2004, where the OEMs (2.3) rate it as unprofitable, while the dealers (3.2) rate it as slightly profitable.

The panel rated in-vehicle Internet/communication access (4.0) as the most profitable of the listed actions. The idea of providing such services has become an integral part of OEMs' strategy. The idea of a constant revenue stream (i.e., a monthly service fee) from each consumer for the life of the vehicle is certainly enticing. Yet, there is increasing concern over the true profitability of such services. The manufacturers also rate OEM-owned, aftermarket-part stores (4.0) and OEM-owned, independent vehicle service centers (3.9) as offering the potential for profits in the coming decade. The 1999 purchase by Ford of Kwik-Fit, a group of European independent vehicle service centers, may give some indication of future plans for the North American market. Not surprisingly, the dealers view both of these activities as unprofitable for the OEMs to undertake.

The reader must consider at least two possible explanations for this vast difference in forecasts. One possibility is that the dealers have been deeply involved in the operational aspects of many of these post-manufacturing activities, and therefore have a deeper understanding of the issues. From this view, they are better able to gauge the realistic success or failure of such OEM activities. Another possible explanation is that dealers as a group are acting out of self-preservation in an attempt to scare off the manufacturers, or that they simply fear the competitive threat. There has been a great deal of activity—and even more posturing—in many of these pursuits. It will be important to monitor trends closely regarding the downstream activities of OEMs in the coming decade.

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II.   BRAND MANAGEMENT

MKT-9   Please rate the likely effectiveness of brand management as a marketing strategy for each of the listed vehicle segments currently and in 2009.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	EFFECTIVE	VERY EFFECTIVE

VEHICLE SEGMENTS	MEAN RESPONSE	
	CURRENTLY	2009
PASSENGER CAR		
SMALL CAR	3.1*	3.4
MID-SIZE CAR	3.3*	3.5
LARGE CAR	3.3	3.3
LUXURY CAR	4.2*	4.4
LIGHT TRUCK		
MINIVAN	3.6	3.6
SMALL PICKUP	3.2*	3.4
LARGE PICKUP	3.9	4.0
SMALL/MIDDLE SUV	3.6*	3.9
LARGE/LUXURY SUV	4.0	4.0

*indicates a significant difference between current and 2009.

SELECTED EDITED COMMENTS

- Brand management is very important for luxury vehicles and for entry-level vehicles.

- Brand management is key to developing products that targeted groups of consumers want. Unless brand management (and subsequent product development) is implemented perfectly, it will be difficult for manufacturers to break out of the clutter and differentiate themselves. Brand management and potential for profitability are closely related.

- Customers will cease to be influenced by brand. Past experience and the manufacturer's full service offers will count more.

- Increased global competition for the large car, truck, and SUV markets will increase the importance of brand image.

- Once the current wave of technology (electronics) advances saturates the market, brand management will be the major differentiator in ten years

- The brand managers need to be empowered to make changes. Presently they do not have this power.

- Truck buyers seem very loyal to a manufacturer, often based on esoteric facts such as racing. Car owners tend to be more focused on the style of models available in the year purchased. Prestige brands—such as Jaguar, BMW, and Mercedes—can be grown through brand management.

RESULTS SUMMARY

According to panelists, brand management is currently an effective marketing strategy for three segments: luxury cars (4.2), large/luxury SUVs (4.0), and large pickups (3.9). Panelists also rate brand management as currently somewhat effective for minivans (3.6) and small/middle SUVs (3.6).

For 2009, panelists believe that luxury cars will continue to be the segment most effectively marketed using brand management strategies. Panelists also indicate that brand management will be an effective strategy for large pickups, small/middle SUVs, and large/luxury SUVs.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the groups for the current responses. However, for the 2009 forecast there are statistical differences in four segments, which are shown in the table.

BRAND MANAGEMENT AS MARKETING STRATEGY - 2009			
VEHICLE SEGMENT	MANUFACTURER	SUPPLIER	DEALER
SMALL CAR	4.1	3.3	3.4
LARGE CAR	4.1	3.2	3.2
LUXURY CAR	4.4	4.5	3.6
SMALL PICKUP	4.1	3.3	3.3

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Recent years have seen an increased emphasis by some manufacturers on the development of brand identities for their products. The panel indicates that such a strategy may be effective for some segments, while not as effective for others. The panel believes that brand strategy is an effective marketing tool for luxury vehicles—both cars and SUVs—and for large pickup trucks. However, the panel's responses suggest less certainty regarding the usefulness of such a strategy for small cars.

There are many examples of strong luxury car brands. BMW, Mercedes, and Lexus are established brands that have been effectively positioned. Each of these brands delivers a brand premium, based on effective positioning.

Small vehicles offer a marketing challenge for many companies. In many ways, small vehicles have become a commodity. OEMs are challenged to differentiate their subcompact and compact offerings while significantly constrained by cost concerns. The panelists disagree as to the effectiveness of a brand strategy for small cars. Thirty-four percent of the panelists say that brand management is currently an ineffective way to market small cars, while 40 percent say that it is an effective method. The remaining 26 percent say that it is neither ineffective nor effective. However, only 21 percent of the respondents believe that brand management will be ineffective for small cars by 2009. The success of two current offerings may suggest there is potential for effective branding of small cars. Using a unique design, and a low cost strategy, Ford has had initial success in establishing a brand image for the Focus. The Honda Civic also is a small car that has—over decades—gained a strong brand name.

According to panelists, large pickup trucks can also be effectively marketed with brand management. The main competitors in this segment have developed strong and lasting brand images. Any new competitors will face a long and difficult battle in establishing a unique brand image against such deeply entrenched competitors.

It is important to note that, for segments where the dealers and OEMs differed in their responses, the dealers were less positive on the effectiveness of brand management than were the OEMs.

MKT-10   Brand identity for light vehicles can often include several brand "levels". For the listed vehicle segments, please indicate the importance the customer currently places on model, division, and corporate brand.

SCALE →	1	2	3	4	5
	VERY IMPORTANT	UNIMPORTANT	NEITHER UNIMPORTANT NOR IMPORTANT	IMPORTANT	VERY IMPORTANT

VEHICLE SEGMENTS	MEAN RESPONSE		
	MODEL (E.G., TAURUS, SEPHIA)	DIVISION (E.G., AUDI, DODGE)	CORPORATION (E.G., GENERAL MOTORS, HONDA)
PASSENGER CAR			
SMALL CAR	3.2	3.3	3.6
MID-SIZE CAR	3.4	3.5	3.6
LARGE CAR	3.5	3.7	3.7
LUXURY CAR	4.3	4.2	4.2
LIGHT TRUCK			
MINIVAN	3.5	3.4	3.8
SMALL PICKUP	3.2	3.3	3.6
LARGE PICKUP	3.7	3.9	4.1
SMALL/MIDDLE SUV	3.6	3.6	3.6
LARGE/LUXURY SUV	4.2	4.1	4.2

SELECTED EDITED COMMENTS

- I believe that there is a great deal of variation in each of these segments depending on which products we are talking about. I think it's a mistake to try and generalize even at the segment level.

- With reference to "luxury car:" I believe people want a Jaguar or a Mercedes Benz, not a Ford or a DaimlerChrysler.

RESULTS SUMMARY

According to panelists, customers place a greater importance on the corporate brand than the nameplate or division brands for small vehicles and minivans. For luxury cars and large/luxury SUVs, the nameplate, division, and corporate brand are equally important.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Brand management strategies differ among manufacturers. Some manufacturers attempt to develop strong brand images for individual nameplates, while others focus their efforts on the development of a common brand image for their divisions. The third brand is that which the manufacturer itself develops—the corporate brand. Establishing these different brand levels among the already cluttered automotive marketing landscape can be a challenge. The responses of the panelists suggest that small vehicles—cars and pickup trucks—may be more effectively marketed at the corporate brand level than focusing on the nameplate or division brand.

To be successful in the small car market, it is important to deliver a reliable, high quality vehicle at a competitive price. In many ways, the halo-effect of a manufacturer's quality reputation is an important element for small car brand image.

Panelists indicate that division and corporate brands are important for large pickup trucks. The three main competitors in the large pickup truck segment have closely tied their large pickup trucks to their division brand image. In many ways, the large pickup has been used as the key vehicle for the entire truck lineup brand image.

According to panelists, the nameplate, division, and corporate brand are equally important for luxury cars and large/luxury SUVs. Both of these segments are strongly driven by image, and establishing a consistent brand theme at the nameplate, division, and corporate level is an important element of luxury vehicle marketing.

The development, use, and positioning of brands will continue to remain a strategic marketing element for many companies. According to panelists, the importance of brand strategy is dependent on segment.

MKT-11   Many suppliers are seeking to establish consumer brand recognition for their products. The following is a list of components and modules that may be candidates for consumer branding. Please rate the likelihood that each component will gain consumer brand recognition in the coming decade.

SCALE →	1	2	3	4	5
	VERY UNLIKELY	UNLIKELY	NEITHER UNLIKELY NOR LIKELY	LIKELY	VERY LIKELY

COMPONENTS/MODULES	MEAN RESPONSE
	2000 - 2009
BODY PANELS	1.9
INSTRUMENT PANEL	2.5
ROOF RACKS	2.5
SUNROOFS	2.6
COCKPIT	2.7
TRANSMISSION (FOR INTERNAL COMBUSTION ENGINES)	2.7
BRAKES	2.8
SEATS	2.9
ALTERNATIVE POWERTRAINS	3.2
ENGINE (INTERNAL COMBUSTION ENGINES)	3.5
NON-AUDIO CONSUMER ELECTRONICS (E.G., IN-VEHICLE NAVAGATION SYSTEMS, INTERNET ACCESS, VIDEO)	4.2

SELECTED EDITED COMMENTS

- CVTs could become a brand. "Brembo" brakes are also a brand.

- I considered adding tires to the list but did not because tires already carry the manufacturer's brand name.

- Most consumers know very little about component/module suppliers. Many consumers can not even match the model to the OEM!

- OEMs will be reluctant to allow branding on base vehicles and powertrains. Only "creative" features, such as entertainments and audio where brand will help sell cars, will be allowed.

- Supplier branding will be difficult for two reasons: 1) OEMs will not want to give up control of their brand to suppliers (e.g., Ford-Lear seats, Mercury-JCI seats). OEMs want to sell their brand, not that of the supplier. 2) If sourcing takes off, OEMs can no longer enjoy cost benefits of sourcing on the platform level. For example, rather than sourcing DN101 to Lear, DN101-Ford goes to Lear while DN101-Mercury goes to JCI. So unless parts are easily exchanged in the aftermarket, or name dealer-installed options, supplier branding, in my opinion, will be difficult.

- There may also be the situation where just a small portion or share of the product has brand awareness (e.g. THULE roof racks) but the largest part will still be unbranded. Unless the manufacturer is going to give the consumer the choice of two or three brands, I am not sure that the manufacturer will take the risk to tie its success to one brand that could potentially fall out of favor or become the subject of some negative "60 Minutes Exposé" and cause it to lose vehicle sales. For example, what if you were touting a supplier's safety systems across all your vehicles and then there was some big product risk raised to the public? In such a case, consumers may avoid your vehicles if they have that supplier's system in it.

RESULTS SUMMARY

Non-audio consumer electronics (4.2) are the only listed component that panelists expect to gain brand recognition in the coming decade. The panel indicates some likelihood that internal combustion engines (3.5) may become a viable candidate for brand recognition.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The three groups are in general agreement. However, the suppliers (2.9) rate the potential for brand recognition of interiors as neither unlikely nor likely, while the manufacturers (2.1) and the dealers (2.3) view it as unlikely.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Many suppliers are attempting to gain brand awareness with the end user. The panel indicates that, with the exception of non-audio consumer electronics and engines, there is little likelihood of this occurring in the coming decade.

Manufacturers have traditionally leveraged strong supplier brands for premium audio electronics, and it is possible that they will adopt a similar strategy for non-audio consumer electronics. The many strategic partnerships that have already developed between manufacturers (and traditional automotive suppliers) and the companies in the consumer electronics sector indicate that reliance on existing consumer brands is likely. This may be due, in part, to the high speed of change and innovation within the consumer electronics market. Even given the reduced product development time for a new vehicle program, the product development time and life cycle for consumer electronics is far shorter than that of the automobile. To maintain a competitive edge, manufacturers need access to the most innovative consumer electronics. These strategic partnerships offer manufacturers the opportunity to leverage the skills of their partners, without requiring them to tie-up added capital of their own.

The interior of the vehicle has been an area that has seen a great deal of interest in recent years. Several suppliers have positioned themselves as capable of supplying complete interiors. An important element of the business strategy for these complete interior module suppliers is to develop a relationship with the end user.

The internal combustion engine and continuously variable transmissions (CVTs) offer an interesting opportunity for brand recognition by suppliers. Manufacturers have traditionally guarded the powertrain as their own. However, recent events may indicate a change in that tradition. General Motors' announcement that they will purchase engines from Honda, and the joint venture between Ford and German supplier ZF to produce CVTs, offer potential to leverage unique supplier attributes for brand awareness.

MKT-12   What is the likelihood that the following issues will present significant barriers to consumer brand recognition of automotive components in the coming decade?

SCALE →	1	2	3	4	5
	VERY UNLIKELY	UNLIKELY	NEITHER UNLIKELY NOR LIKELY	LIKELY	VERY LIKELY

BARRIERS TO COMPONENT BRAND RECOGNITION	MEAN RESPONSE 2000 - 2009
COMPONENT SUPPLIER ISSUES	
MORE ACCOUNTABILITY FOR WARRANTY	3.4
CONSTRAINED MARKETING RESOURCES	3.6
LACK OF EXPERIENCE MARKETING TO CONSUMERS	3.7
CONSUMER ISSUES	
RAPIDLY CHANGING ATTITUDES TOWARDS BRANDS	3.2
LACK OF CONSUMER CONCERN	3.8
LACK OF CONSUMER AWARENESS	3.9
OEM ISSUES	
POTENTIAL SHIFT OF PROFIT TO SUPPLIER	3.8
CONCERN ABOUT POTENTIAL LOSS OF CONTROL OF CUSTOMER	4.0
DESIRE TO CONTROL SOURCING DECISIONS	4.1
DESIRE TO MAINTAIN TOTAL VEHICLE BRAND IDENTITY	4.1

SELECTED EDITED COMMENTS

- Access to the consumer and control are key.

- All issues are relevant and are discussed frequently. There is more complexity here than most would think when they first consider the topic.

- OEMs will be reluctant to cede control of sourcing. They are not going to let vehicle components become a larger brand than the vehicle itself.

- Reaching through or around the OEMs to the car buyer is a new and difficult direction for Tier One suppliers. Few are large enough to withstand pressure from the OEMs to fall back behind them and few have the dollars to mount an effective advertising campaign.

RESULTS SUMMARY

The panel views each of the listed issues as likely to present a barrier to consumer brand recognition of automotive components in the coming decade. According to the panel, the OEMs' desire to control sourcing decisions and to maintain total vehicle brand identity are important issues that present barriers to supplier brand recognition.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible

STRATEGIC CONSIDERATIONS

Suppliers have indicated that they would like to increase the end users' brand awareness of their components. Yet many financial, structural, and brand control issues appear to present significant barriers. The panel indicates that manufacturer issues such as the desire to maintain control of sourcing decisions and brand identity are important barriers for suppliers hoping to gain brand awareness.

Certainly the ability to establish—or increase—brand loyalty with the end user is of interest to many suppliers. And, while there are some products, such as tires, batteries, and audio equipment, that have been strongholds for supplier brands in the aftermarket, few suppliers have had luck establishing brand equity for original equipment parts. Manufacturers greatly value the opportunity to grow their brand awareness with the customer and are not likely to easily allow suppliers to gain access to the end users. It is likely that manufacturers would win any battles over brand visibility.

However, the trend within the industry toward modules may offer the opportunity for supplier brands to gain a foothold in the market place. As suppliers increasingly gain control over the development of key aspects of the vehicle, it is possible that they can leverage their successful programs to gain increased visibility with the end user.

The trend toward large Tier One suppliers also may enable the growth of supplier brands. Traditionally suppliers have lacked the financial resources and marketing expertise to reach the end users. These new, larger suppliers may have the resources to market their products better, and thus make inroads into the market.

Lack of consumer interest may also be a significant barrier. Many believe that manufacturers, by focusing their brand campaigns on nameplates, have already clouded the end users' image of automotive brands. It is possible that the market is cluttered with brand images, few of which are understood or valued by the customer. By adding supplier brands to the marketplace, the industry faces a further dilution of all brands. Thus, consumers may not acknowledge these supplier brands, let alone desire them.

Conversely, the manufacturers seem willing to co-brand their products with established non-automotive brands. In an effort to better position their brands, several manufacturers have associated their vehicles with a wide variety of brands, including electronics, clothing, and outdoor gear. Yet, such co-branding differs greatly from the branding of supplied parts because co-branding with consumer brands may help manufacturers better focus the image of their products in the minds of consumers. Co-branding also creates the opportunity for manufacturers to sell accessories for their vehicles—something that may appeal to those companies that are attempting to increase their purchase connection with the consumer.

III. CONSUMER INFORMATION

MKT-13   The following is a partial list of consumer information sources commonly used by OEMs and suppliers. Please rate the current effectiveness **for your company** of each type of information in making product decisions.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	EFFECTIVE	VERY EFFECTIVE

CONSUMER INFORMATION SOURCES	MEAN RESPONSE
	CURRENT EFFECTIVENESS
MARKET RESEARCH	
MAIL SURVEYS OF CURRENT CUSTOMERS	2.9
MAIL SURVEYS OF TARGET CUSTOMERS	2.9
FOCUS GROUPS OF CURRENT CUSTOMERS	3.8
FOCUS GROUPS OF TARGET CUSTOMERS	3.8
FIELD INTERVIEWS WITH CURRENT CUSTOMERS	3.9
FIELD INTERVIEWS WITH TARGET CUSTOMERS	3.9
WORLD WIDE WEB HOMEPAGE SURVEYS	2.7
WORLD WIDE WEB HOMEPAGE CHAT ROOMS	2.8
ASSIGNING ENGINEERS WITH DEMOGRAPHIC TRAITS SIMILAR TO TARGET MARKET	2.9
DATA GATHERED FROM BUYING SERVICES (E.G., AUTOBYTEL, ETC.)	3.0
PARTICIPATION IN "LIFESTYLE" EVENTS (E.G., SPONSORSHIP OF SPORTING EVENTS, ART EXHIBITS, ETC.)	3.2
DEALER-COLLECTED CUSTOMER/MARKET INFORMATION	3.4
CONSUMER CLINICS	3.6
SERVICE AND WARRANTY REPORTS/ EXPERIENCE	3.7
ENGINEERS SPENDING TIME WITH END USER	3.7
DEMOGRAPHIC DATA/TREND ANALYSIS	3.8

SELECTED EDITED COMMENTS

- Superficial information from the consumer is likely to be inaccurate. Careful analysis is always required.

- We are fairly new in this type of activity and, thus, have limited experience. However, we are finding this effective in proving preconceived OEM opinions about acceptance of our new products totally wrong, and their knowledge of their own customers' preferences also wrong!

RESULTS SUMMARY

Respondents, on average, stayed within a narrow range of response of neither ineffective nor effective (3) and effective (4) when answering this question. They find field interviews and focus groups with current and target customers, demographic data/trend analysis, warranty reports/experience, and engineers spending time with the end user as the most effective means of their companies gathering consumer information for making product decisions. They think consumer clinics as the next most effective source of consumer information. They see participation in lifestyle events and dealer-collected customer/market information as less effective, and they see data gathered from Internet buying services, mail surveys to current and target customers, assigning engineers with demographic traits similar to the target market, and web page chat rooms and surveys as the least effective, although even these items are in the neither ineffective nor effective range, indicating a neutral response.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Manufacturers currently see dealer-collected customer/market information as less effective for their companies than do suppliers and dealers.

CURRENT EFFECTIVENESS FOR YOUR COMPANY	MEAN RESPONSE		
	MANUFACTURER	SUPPLIER	DEALER
DEALER-COLLECTED CUSTOMER/ MARKET INFORMATION	2.8	3.3	3.8

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

The auto industry, like many large, consumer-oriented organizations, is continually challenged to understand the wants and needs of consumers. The millions of buyers who purchase vehicles every year represent an extremely large pool of people to understand when trying to design vehicles. Add to this the wide variety of vehicles produced today, and the task of matching millions of buyers with hundreds of vehicles becomes daunting.

Market research firms both internal and external of the manufacturers have tried for years to segment the vehicle buying population with varying degrees of success. The responses from our panelists for the most part represent the methods used by manufacturers for years to try to gather needed feedback from consumers. There has tended to be a heavy reliance on qualitative data from focus groups, field interviews (though these may be both quantitative and qualitative), engineers spending time with end users, and consumer clinics. There is also some quantitative analysis done on consumer demographics and trends, as well as service and warranty analyses.

One area of contrast among manufacturers, suppliers, and dealers is the low value manufacturers give to customer/market information collected by dealers. Based on our recent research on the relationship between manufacturers and dealers[1] and many of the results of this survey, this contrast comes as no surprise. The manufacturers and dealers continue to have very different views of their place and value within the automotive value chain. But although this situation may be well understood within the industry, the question becomes who is going to change the way manufacturers and dealers work with each other? Dealers have the only direct interface with consumers when they purchase a vehicle. This interface offers extraordinary opportunities to understand consumers during the buying process and ownership phase. The manufacturer who can overcome this disconnect with its dealer body can potentially develop unprecedented customer and consumer knowledge.

What is also particularly interesting in the panelists' responses is their feeling that none of these methods, on average, is actually very effective. No methodology is rated very effective, although quite a number are seen as close to the effective category. What this data suggests is that there is a need within the auto industry for a methodology that truly connects with consumers. It may be that the movement to customer relationship management (CRM) may hold the key to this better understanding. In theory, CRM offers the umbrella to unite all the disparate attempts to understand consumers while at the same time connecting with them in their own preferred ways through all available media. We discuss CRM more in MKT 22-24, but in terms of consumer research that aids product decisions, CRM suffers from the same challenge mentioned at the beginning of this discussion: How does a company connect personally with millions (billions, if you think globally) of consumers in a way that helps it understand how to "surprise and delight" them?

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[1] Michael S. Flynn, Bruce M. Belzowski, Kara F. Alkire, Richard H. Senter, Kim Hill, Jack C. Cragen, James A. Mateyka, and Diane K. Wujciak, *Competing for Customers: The Future of Automotive Retailing,* University of Michigan Transportation Research Institute and A.T. Kearney, 2000.

MKT-14   **Suppliers and OEMs**: What methods does your company primarily use for incorporating consumer information and insights into new product programs?

Dealers: Please comment on any formal programs OEMs have for incorporating consumer information and insights into their new product programs.

SELECTED EDITED COMMENTS

OEMS

- We rely very heavily on surveys that ask people what features they would like and what they are willing to pay. Over the years, I have become very skeptical about this data. People say they are willing to pay for things like side air bags, but when given a choice, they choose not to. People are also more likely to say they want practical or functional things, but their behavior says they want fun, cool and good looks.

- Customers are heavily surveyed. Do the surveys indicate their decisions for today's market as opposed to future market (i.e., price of fuel vs. desire for larger engines)?

- We send out surveys and perform benchmarking and competitor analysis on an ongoing basis. When a new program starts, those learnings are formally gathered and reviewed. Critical issues are translated into requirements in the program contract. Regular research is performed on every new program to make sure that we are on the right track.

- I have to assume we use more consumer research than almost any other OEM. Consumer research, clinic results, customer satisfaction survey results from previous models, etc. are funneled into the vehicle line teams early on in the design process, as well as at key points in time throughout the process. These insights assist us in developing vehicle design specs, and in ensuring that our prototypes along the way are meeting customer expectations.

- Product clinics during the vehicle development program, Internet customer panel, brand research, glove box surveys, field input via product line brand team, and warranty data.

- Consumer research, track competitive trends, futuring.

SUPPLIERS

- Access to OEM survey information; access to key OEM personnel.

- Focus group/panel discussions (qualitative research). Quantitative research (clinics). Consumer satisfaction surveys.

- Our company is a new company, focusing on chassis, engine and transmission modules. Our goal is to incorporate new technology and to provide high quality modules that will enhance the performance of vehicles. We attempt to understand performance and warranty issues when developing design and manufacturing parameters for new modules.

- J.D. Power "Appeal" study.

- Focus groups, benchmarking, and technology shows.

- I am a supplier. We use two main venues for incorporating consumer data into our development programs. The first is that we send engineers to dealerships on a monthly basis to check up on issues with both our parts and our competitors' parts. We find our dealer partners give us much more accurate information than our customers do. Secondly, we utilize various customer-supplied data, and the most useful is when consumer meetings are held during the design phase. We prefer to be onsite when our system components/features are discussed; however, this is very rare.

- Sharing information from focus groups and customer surveys with new product planning groups.

- On or off-site user meetings 2 times per annum, with 50 percent company status and plans, and 50 percent Round Tables with vigorous follow up schedules.

- Our efforts on new products are directly related to customer input and requirements.

- Our marketing department works very closely with the product development teams in all phases of market research. Product groups are involved in the up-front planning of the research to establish objectives for what is learned. Product groups also attend the clinics and focus groups to hear first-hand what consumers say about their general driving concerns and reactions to specific products shown. The marketing department also works closely with the product teams following the research to convey the consumer insights learned throughout the company.

- Contract and published surveys; consultants; and media.

- A variety of sources are utilized: syndicated customer satisfaction surveys (i.e., J.D. Power, proprietary surveys and focus groups, consumer relations data, product field performance data.

- Our primary consumer input is through established databases such as J.D. Power's "Appeal" information. We also conduct consumer clinics as part of our benchmarking activity.

- Currently, we depend on third party survey and consumer market data for customer information.

- We benchmark competition and participate in focus groups to determine interest in new product offerings. Further, we track market trends with respect to overall "macro" issues like fuel economy, government regulation, and environmental concerns.

- Through the discussion with OEM marketing people. Using market consultants.

- Consumer feedback from a variety of sources is incorporated into new product design via the new product specification that is written by our Product Marketing Department. The final decision on the acceptance of the new product for launch is based on how well it meets the new product specification.

- Market research techniques, including product and services clinics, focus group discussions, Internet and phone interviews.

- Marketing research, focus groups, brand attributes.

- None, as a supplier to the auto OEMs.

- Tracking warranty data and consumer satisfaction trends from J.D. Power to define opportunities for change and new technologies. Focus groups of consumers.

- 1. Have used OEM warranty data for some time. 2. Have just started to utilize J.D. Power reports - Initial Quality Survey, Feature Content Report. Unfortunately only a few "get it." Many internal people, primarily engineers disregard information because they feel that the consumer doesn't know what they are talking about. The biggest hurdle is to convince engineers and product designers that the end consumer is the final judge of their work. If they are not satisfied, we will not succeed in the long run.

- Surveys and clinics.

- We include the customer in cross-functional teams during the development process to take advantage of sharing lessons learned by both sides during previous programs.

DEALERS

- I have seen extensive focus group activities in product development. I believe this is widely true.

- OEM designed focus groups are lacking retail input from dealers. Final product is, therefore, skewed to "intellectual" end results, lacking in "real world" information. Example, early Ford Focus product advertising, "Generation X," missed the market terribly.

- Customer survey replies.

- Our manufacturer has dealer input provided through a "long term strategic product planning committee" of nine dealers. These dealers gather consumer information and insight and influence product decisions. They also interact with other dealership principals and their personnel when issues impacting new product strategy is not confidential. Several outside sources are involved with research, focus groups, etc.

- I think that clinics have failed to help OEMs in their efforts to improve products. Possibly because clinics are normally focus groups and give qualitative information as opposed to quantitative. Oldsmobile's decision to leave their Oldsmobile name off their new products because these models cliniced better with no name (people thought they might be imports) was absurd and helped lead to Olds' decline. I am an Olds dealer and many people thought than an Integra was a foreign car - and very few people know that Alero and Auroras were made by Oldsmobile!

RESULTS SUMMARY

Overall, panelists see the use of surveys and focus groups as the primary ways companies incorporate consumer information and insights into new product programs. Marketing research and clinics form the next level of methods used.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Manufacturers report they use surveys, market research, brand attributes, and clinics to incorporate consumer information and insights into new product programs. Focus groups, futuring, and warranty data are used less often. Suppliers report using primarily surveys followed by focus groups, clinics, and market research. Brand attributes, media, and warranty data are used less often. Dealers see manufacturers using focus groups and surveys for incorporating consumer information and insights into their new product programs.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Looking at the responses to this question in comparison to MKT-13, one can see why companies try to gather both quantitative and qualitative information from potential or current customers. Each methodology has its positives and negatives. Market research and surveys tend to lend themselves more to quantifying respondent feelings or attitudes; whereas, focus groups try to measure why people feel the way they do. Clinics, on the other hand, try to gather both types of information from participants.

The problem that arises in using these methods is that people sometimes use the wrong method to make decisions. For example, a focus group may lead one to think that the consensus gathered from the group represents the population when in fact represents only the members of that group. Conversely, survey results, which if based on a properly drawn sample, do a better job of representing the population but are limited only to the questions asked. Other choices or options are not available to test. Clinics potentially suffer from the weaknesses of both methods: poor representation or poorly asked questions.

The other challenge facing any large organization is collecting, organizing, and presenting the information in a way that allows engineers and marketers access and understanding. Some of the knowledge management systems in place and under development throughout the industry may offer both manufacturers and suppliers a better way of turning data and information into better knowledge of consumers. Please see the discussion of MKT-13 for some additional thoughts on consumer information.

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IV. CAR BUYING

MKT-15   How important are the following factors in influencing consumer **passenger car** buying decisions? Please indicate your response based on the scale below.

SCALE →	1	2	3	4	5
	VERY UNIMPORTANT	UNIMPORTANT	NEITHER UNIMPORTANT NOR IMPORTANT	IMPORTANT	VERY IMPORTANT

PURCHASING FACTORS FOR PASSENGER CARS	MEAN RESPONSE	
	CURRENTLY	2009
DEALERSHIP FACTORS		
LARGE SELECTION OF INVENTORY	4.0	3.0
DEALER PROXIMITY TO BUYERS	3.9	3.2
SALES TACTICS (E.G., HIGH VS. LOW PRESSURE)	4.0	3.6
SALES EXPERIENCE AND CONVENIENCE	3.9	3.7
DEALER REPUTATION	4.1	3.8
SERVICE EXPERIENCE AND CONVENIENCE	4.2	4.2
SALES TERMS		
DEALER INCENTIVES	4.0	3.8
FINANCING AND INSURANCE	3.8	3.8
OEM INCENTIVES/REBATES	4.2	4.1
PURCHASE PRICE/LEASE TERMS	4.5	4.5
VEHICLE FACTORS		
OTHER OPERATING COSTS	3.3	3.5
CARGO SPACE	3.7	3.7
STATUS	3.9	3.9
PASSENGER SPACE	4.0	4.0
EXPERIENCE WITH CURRENT MAKE AND MODEL	4.1	4.0
RESALE VALUE	3.9	4.0
FUEL ECONOMY	3.4	4.1
INTERIOR STYLING	4.0	4.1
PERFORMANCE, INCLUDING RIDE AND HANDLING	4.0	4.1
VEHICLE TECHNOLOGY	3.7	4.1
BRAND IMAGE	4.1	4.2
MANUFACTURER'S QUALITY REPUTATION	4.2	4.3
SAFETY	4.0	4.3
EXTERIOR STYLING	4.4	4.4
VEHICLE QUALITY	4.3	4.4

PURCHASING FACTORS FOR PASSENGER CARS (CONTINUED)	MEAN RESPONSE	
	CURRENTLY	2009
EXTERNAL/OTHER OPINION FACTORS		
OPINIONS OF CAR BUFF MAGAZINES	3.1	3.2
ADVERTISING CAMPAIGNS	3.4	3.4
DIVISION REPUTATION	3.4	3.4
CRASH TEST RATINGS	3.5	3.7
RESEARCH ORGANIZATIONS' SURVEYS (E.G. J.D. POWER, CONSUMER REPORTS)	3.6	3.7
CORPORATE REPUTATION	3.7	3.8
NAMEPLATE/MODEL REPUTATION	3.9	3.9
PREVIOUS EXPERIENCE WITH MAKE/MODEL	4.3	4.2

SELECTED EDITED COMMENTS

- Dealer and corporate response to customer problems are keys to building buyer loyalty.

RESULTS SUMMARY

When looking at the factors influencing consumer passenger car buying decisions both currently and in 2009, respondents report nearly every one of the dealership factors, sales terms, vehicle factors, and external factors as nearly important to very important. The highest rated factors in the current time frame include purchase price/lease terms, exterior styling, vehicle quality, and previous experience with the make/model. Thirteen other items also rated scores in the important to very important range. Respondents see 2009 purchasing factors as very similar to the current factors, although they see a decreased importance in the influence of the dealership's characteristics and an increased importance of fuel economy, safety, and vehicle technology.

In the area of dealership factors, respondents think all dealer factors are important currently, but see decreasing importance of all these dealer factors except service experience and convenience in 2009.

Concerning sales terms, respondents report that currently all items are important. By 2009, respondents think purchase price/lease terms and OEM incentive/rebates will continue to be important, but dealer incentives will be slightly less important.

For vehicle factors, panelists currently see exterior styling, vehicle quality, and manufacturer quality reputation as the most important purchase factors for passenger cars. All other factors are considered at least important except fuel economy and other operating costs. For 2009, panelists see little change from the current factors except that fuel economy, safety, and vehicle technology increase in importance.

External and other opinion factors have a wide range of responses with previous experience with the make/model considered the most important, followed by nameplate/model reputation, corporate reputation, and research organizations' surveys. By 2009, respondents see no significant changes in importance from current external factors.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Similar to some previous answers, dealers see their role in the value chain as more important than do manufacturers and suppliers. They see dealer reputation and a large selection of inventory as much more important factors in purchasing passenger cars currently and in the future.

Dealers and suppliers currently see fuel economy as much more important than do manufacturers, and dealers and manufacturers currently see resale value as more important than do suppliers. For 2009, suppliers and dealers see vehicle performance as more important than do manufacturers.

Manufacturers and dealers see divisional reputation as more important than do suppliers currently, while manufacturers alone see divisional reputation as important in 2009.

PURCHASING FACTORS FOR PASSENGER CARS	CURRENTLY - MEAN RESPONSE			2009 - MEAN RESPONSE		
	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER
DEALER REPUTATION	4.1	4.0	4.5	3.9	3.7	4.4
DIVISION REPUTATION	3.8	3.3	3.8	4.0	3.3	3.7
FUEL ECONOMY	2.8	3.5	3.5	-	-	-
LARGE SELECTION OF INVENTORY	4.3	3.8	4.3	3.1	2.8	3.7
PERFORMANCE, INCLUDING RIDE AND HANDLING	-	-	-	3.7	4.2	4.2
RESALE VALUE	4.1	3.8	4.2	-	-	-

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

What is interesting to note about the analysis of purchasing factors for passenger cars is the sheer number of factors that respondents consider important to the purchase decision. The current rank order of the factors considered important to passenger purchasing reads like a who's who of vehicle buying factors: purchase price, exterior styling, vehicle quality, previous experience with the make/model, service experience and convenience, OEM incentives and rebates, manufacturer's quality reputation, dealer reputation, brand image, a large selection of inventory, sales tactics, dealer incentives, passenger space, interior styling, performance, and safety. And this list does not include the eight factors that are rated as nearly important by respondents! If all of these factors play important roles in the purchase decision, the experience is indeed a complicated one. These responses may imply that determining the differentiating factors that are important to certain segments of the car buying population is the art behind designing, making, and selling passenger cars.

From the view of the vehicle itself, the rising importance of fuel economy, safety, and vehicle technology in the future may offer manufacturers and, in particular, suppliers opportunities to differentiate passenger cars in a way that is considered less important to vehicle buyers today. It may be that respondents anticipate increased regulation for emissions and fuel economy, as noted by our technology panelists in the Technology volume of Delphi X, or they may see the arrival of future powertrains that have the potential to revolutionize what most manufacturers consider their core technology.

One of the glaring changes that respondents, especially manufacturers and suppliers, think will happen in the future is the reduced importance of today's dealer characteristics. Be it dealer proximity to buyers, dealer reputation, a large inventory, or the sales experience and tactics, manufacturers and suppliers see these as less important in the future. If this future scenario is to occur, a number of major changes will have to take place. Many dealers today already build their business around service and used vehicles. For new cars, dealers will have to change their business model from "moving the metal" off lots full of inventory to a model where manufacturers will have such excellent control of their manufacturing processes, forecasting, and supply chain that buyers will be able to order a vehicle and have it arrive at the dealership (or their driveway) within a short period of time. Notice that this model likely moves the cost of inventory, if there is any, from the dealer to the manufacturer. In an era where manufacturers continue to try to eliminate costs, moving to this type of model will force manufacturers to look hard at this cost compared to the value it may bring to consumers. This build-to-order, locate-to-order, order-to-delivery model is discussed more thoroughly in MKT-27 and MKT-30, but it appears here in the way manufacturers and suppliers see future car purchasing.

Finally, one interesting difference occurs among responses focusing on the manufacturers themselves. For the most part, respondents see the manufacturer as an important purchase factor. A manufacturer's quality reputation, its corporate reputation, and nameplate/model reputation all register important or nearly important ratings. But divisional reputation currently and in the future is not rated as important as the other factors. Currently manufacturers and dealers see divisional reputation as important while suppliers see it as less important, but in the future both suppliers and dealers see it as less important than do manufacturers.

There seems to be a disconnect about how manufacturers view their divisions and how suppliers and dealers view them. Dealers may become much larger, multi-franchise dealerships in the future, and they may see the division as less valuable than the manufacturers do. But the view of suppliers is a bit puzzling. They do not have as strong a link to consumers in order to understand their purchase decisions. Could they be responding as consumers themselves? For years, manufacturers have used the divisional system to create distinguishable brands within their corporate brand that related directly to identifiable segments of car buyers. It may be that this system no longer provides the buyer the differentiation it once did or that vehicles in each division no longer can be differentiated from each other within the corporate fleet.

MKT-16 How important are the following factors in influencing consumer **light truck** buying decisions currently, and how important will this be in 2009?

SCALE →	1	2	3	4	5
	VERY UNIMPORTANT	UNIMPORTANT	NEITHER UNIMPORTANT NOR IMPORTANT	IMPORTANT	VERY IMPORTANT

PURCHASING FACTORS FOR LIGHT TRUCKS	MEAN RESPONSE	
	CURRENTLY	2009
DEALERSHIP FACTORS		
LARGE SELECTION OF INVENTORY	3.9*	3.2
DEALERSHIP PROXIMITY TO BUYERS	3.7*	3.4
SALES EXPERIENCE AND CONVENIENCE	3.8*	3.7
SALES TACTICS (E.G., HIGH VS. LOW PRESSURE)	3.9*	3.7
DEALER REPUTATION	4.0*	3.8
SERVICE EXPERIENCE AND CONVENIENCE	4.1	4.1
SALES TERMS		
DEALER INCENTIVES	4.0*	3.8
FINANCING AND INSURANCE	3.8	3.9
OEM INCENTIVES/REBATES	4.2*	4.0
PURCHASE PRICE/LEASE TERMS	4.3	4.3
VEHICLE FACTORS		
INTERIOR STYLING	3.5*	3.7
OTHER OPERATING COSTS	3.5*	3.7
STATUS	3.7	3.7
FUEL ECONOMY	3.3*	3.9
RESALE VALUE	3.8*	3.9
SAFETY	3.6*	3.9
VEHICLE TECHNOLOGY	3.5*	3.9
PASSENGER SPACE	3.8*	4.0
EXTERIOR STYLING	4.0	4.0
PERFORMANCE, INCLUDING RIDE AND HANDLING	3.8	4.0
CARGO SPACE	4.1	4.1
BRAND IMAGE	4.1	4.2
EXPERIENCE WITH CURRENT MAKE AND MODEL	4.3	4.3
VEHICLE QUALITY	4.2*	4.3
MANUFACTURER'S QUALITY REPUTATION	4.3	4.4

PURCHASING FACTORS FOR LIGHT TRUCKS (CONTINUED)	MEAN RESPONSE	
	CURRENTLY	2009
EXTERNAL/OTHER OPINION FACTORS		
OPINIONS OF CAR BUFF MAGAZINES	3.1	3.2
ADVERTISING CAMPAIGNS	3.4	3.4
RESEARCH ORGANIZATIONS' SURVEYS (E. G. J.D. POWER, CONSUMER REPORTS)	3.4	3.4
CRASH TEST RATINGS	3.3*	3.5
DIVISION REPUTATION	3.6*	3.7
CORPORATE REPUTATION	3.8	3.9
NAMEPLATE/MODEL REPUTATION	4.1	4.1
PREVIOUS EXPERIENCE WITH MAKE/MODEL	4.4	4.4

SELECTED EDITED COMMENTS

• Truck buyers are more focused on performance, advertising, and racing success.

RESULTS SUMMARY

When looking at the factors influencing consumer light truck car buying decisions both currently and in 2009, respondents report nearly every one of the dealership factors, sales terms, vehicle factors, and external factors as nearly important to very important. The highest rated factors in the current time frame include previous experience with the current make and the model in general, the manufacturer's quality reputation, and purchase price. Seven other items also received high scores in the important to very important range. Respondents see 2009 purchasing factors as very similar to the current factors, although they include vehicle quality as one of the higher rated factors. Like their views of passenger car purchase factors, they see a decreased importance in the influence of many dealership characteristics and an increased importance of fuel economy, safety, and vehicle technology.

In the area of dealership factors, respondents think all the dealer factors are important currently, but see decreasing importance of all factors except service experience and convenience in 2009.

Concerning sales terms, respondents report that currently all items are important. By 2009, respondents think purchase price/lease terms and OEM incentive/rebates will continue to be important, but dealer incentives will be slightly less important.

For vehicle factors, panelists currently see the manufacturer's quality reputation, experience with the current make and model, and vehicle quality as the most important purchase factors for light trucks. All other factors are considered at least important, except passenger space, fuel economy, interior styling, and other operating costs. For 2009, panelists see little change from the current factors except that fuel economy, safety, and vehicle technology increase in importance.

External and other opinion factors have a wide range of responses, with previous experience with the make/model considered the most important followed by nameplate/model reputation, corporate reputation, and division reputation. By 2009, respondents see no significant changes in importance from current external factors.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

As with some of the other questions, dealers see their role in the value chain as more important than do manufacturers and suppliers. They see dealer reputation and a large selection of inventory as much more important factors in purchasing light trucks currently and in the future. They also see sales experience and tactics as becoming much more important in the future.

Dealers and suppliers currently see fuel economy as much more important than do manufacturers. Manufacturers see divisional reputation as more important than do dealers and suppliers, both currently and in 2009.

PURCHASING FACTORS FOR LIGHT TRUCKS	CURRENTLY - MEAN RESPONSE			2009 - MEAN RESPONSE		
	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER
DEALER REPUTATION	4.3	3.8	4.2	4.1	3.6	4.3
DIVISION REPUTATION	4.3	3.5	3.8	4.4	3.6	3.9
FUEL ECONOMY	2.7	3.3	3.5	-	-	-
LARGE SELECTION OF INVENTORY	4.3	3.8	4.4	3.3	3.0	4.1
SALES EXPERIENCE AND CONVENIENCE	-	-	-	4.0	3.4	4.3
SALES TACTICS	-	-	-	3.7	3.6	4.5

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

It may be that light truck buyers make extremely similar purchase decisions compared to passenger car buyers because most SUVs and minivans are people movers like passenger cars. And SUV and minivan buyers would represent the majority of light truck purchases, and thus lean more toward passenger car purchasing behavior. In any case, panelists report few differences in the future influencing the purchase of passenger cars and light trucks.

Light truck purchasing factors raise the same issues as the passenger car analysis showed. The sheer number of purchasing factors that respondents consider important to the purchase decision is daunting. The current rank order of the factors considered important to light truck purchasing reads like a who's who of vehicle buying factors: previous experience with the current make/model and the make/model in general, purchase price, the manufacturer's quality reputation, OEM incentives/rebates, vehicle quality, service experience and convenience, brand image, cargo space, nameplate/model reputation, dealer reputation, dealer incentives, and exterior styling. And this list does not include the ten factors that are rated as nearly important by respondents. If all of these factors play important roles in the purchase decision, the experience is indeed complex. As discussed in the passenger car analysis, what these responses may suggest is that sorting out which factors are more important to which segments is the challenge of selling light trucks.

The light truck purchasing factors that increase in importance by 2009 do not differ from those of passenger cars: fuel economy, safety, and vehicle technology. Panelists also report the reduced role of current dealer characteristics similar to the passenger car purchase factors. Please see MKT-15 for further discussions on these changes reflected in both car and light truck purchasing factors.

MKT-17 How much improvement in customer satisfaction can the following dealership changes make in the coming decade if implemented?

SCALE →	1	2	3	4	5
	NONE AT ALL	VERY LITTLE	SOME	QUITE A BIT	A GREAT DEAL

DEALERSHIP CHANGES	MEAN RESPONSE
DEALER OPERATIONS	
INCREASED SERVICES AT THE DEALERSHIP (E.G., INSURANCE)	3.1
INTERNET SERVICE APPOINTMENTS	3.5
SHORTER NEW VEHICLE DELIVERY TIMES	3.5
REDUCED SERVICE TIME FOR ROUTINE MAINTENANCE	4.0
EXTENDED HOURS FOR SERVICE AND SALES	4.1
SALES PERSONNEL	
CONSULTATIVE STYLE MORE THAN "HARD SELL"	4.1
INCREASED PRODUCT KNOWLEDGE	4.1
SALES PROCEDURES	
ONE-PRICE PRICING	3.0
HOME SALES AND/OR DELIVERY	3.1
INTERNET SALES	3.1
MAINTAINING DATABASES ON CUSTOMER PREFERENCES AND DEMOGRAPHICS	3.4
COMPUTER-INTERACTIVE SYSTEMS TO DEMONSTRATE AVAILABLE MODELS, FEATURES, COLORS, ETC.	3.5

OTHER RESPONSES

- Customer empathy in the service department, 2000-2009: 5

SELECTED EDITED COMMENTS

- Always following the golden rule would be the most important.

- The customer is king and the Internet is here to stay.

- Dealers don't do a very good job of identifying and promoting accessories, perhaps because they are trying not to lose the sale.

- Dealerships need a "fast line" for simple repairs/maintenance rather than treating such work as fill time for more complex and expensive repairs.

- Detroit is one of the few areas in the country where dealership hours are limited. In most places, the dealer is already open late and on weekends. Shorter order times are unlikely to affect volume, as the great majority of vehicles are sold off the lot. People don't order vehicles. If some of the OEMs go to an order-to-delivery system, while others continue in the current mode, the time to delivery will have to be very short, or customers will just go to another make of vehicle. Very few people order their vehicle and have to wait now - why are more people going to be willing to wait in the future?

- Due to available information from the Internet, dealer visitors are more knowledgeable than in the past. The sales force needs to be at least as knowledgeable and be able to add more data.

- Each customer will demand his own buying and service process. Retailers must be flexible to offer what the customer wants, from Internet direct to personal visits.

- Eliminating every waiting time of the customer is important.

- For most people, getting their car serviced at a dealership is more intimidating and less satisfying than going to the dentist for a root canal. Many people take their vehicles to a dealership for repair only when it is in warranty or they perceive that the repair is too complex for an independent repair shop to handle. Dealers must learn that consumers are their customers and should be treated as such. At the prices they charge and the way they treat people, they are not "doing us all a favor" as they think they are.

- I am very skeptical with the often-stated claim that we need to speed up the delivery process. Much of the problem associated with buyers not understanding the warranty, service procedures, vehicle operation, etc. can be attributed to the attempt to broom people out. When they spend a year's salary on a new vehicle, they want attention. What they object to is waiting around while dealership personnel are waiting on other people.

- OEMs and dealers should focus on features and quality. Brand loyalty comes through handling warranty claims efficiently when they arise and creating reasons for buyers to return to the dealers, e.g., car washes, vehicle inspections, etc. They may have to pick up the high-end vehicles (Jaguars, Cadillacs, etc.).

- "One-price" - okay for high-line dealer (.e.g., one Lexus dealer in a market; full-line (Ford-Chevy) in Metro market is a failure).

- "Sales Personnel:" I believe we do a good job here, and I think most successful dealers do too.

- Sales procedures are viewed to be very favorable based on recent Gallup Reports. Again, relationships will be very important and all of these initiatives will be structured to respond to the "voice of the customer."

- The next decade may redefine the auto selling process. Will the OEMs preserve their relationships with dealers, thereby assuring the dealers' position in the supply chain? Will dealers respond to changing consumer needs and practices to assure their existence? It seems both OEMs and dealers have a lot at stake. In some ways they need each other and may work together to evolve, rather than reinvent the car buying process.

- Using a dealer is still painful for the consumer. Repair and service experience is the biggest problem in lost time for the consumer.

RESULTS SUMMARY

Panelists think two main areas of dealership change, if implemented, will improve customer satisfaction over the next decade: improved sales personnel and service. Panelists think that training sales personnel to use a more consultative style and increasing their product knowledge will improve customer satisfaction quite a bit. They also feel that both extending hours for sales and service and reducing service time for routine maintenance will increase customer satisfaction quite a bit. The next level of improvement of customer satisfaction, somewhere between "some" and "quite a bit," will come from providing Internet service appointments, shorter new vehicle delivery times, and computer-interactive systems to demonstrate available models, features and colors; and maintaining databases on customer preferences and demographics.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistically significant differences among the three groups on the key dealership changes. Of the changes they think will have less impact on customer satisfaction, manufacturers and dealers more than suppliers think increasing services at the dealership and maintaining databases on customer preferences and demographics will improve customer satisfaction. Manufacturers, more than suppliers and dealers, feel that home sales and/or delivery will lead to increased customer satisfaction. Dealers, more so than manufacturers and suppliers, continue to see one-price pricing as having little effect on customer satisfaction. One respondent noted that one-price pricing works for high end brands with only one store in a market, but it is a failure for full line brands such as Ford or Chevrolet in a metro market.

DEALERSHIP CHANGES	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN	SIGNIFICANCE
HOME SALES AND/OR DELIVERY	3.8	3.2	2.4	.005
INCREASED SERVICES AT THE DEALERSHIP (E.G., INSURANCE)	3.5	2.8	3.6	.008
MAINTAINING DATABASES ON CUSTOMER PREFERENCES AND DEMOGRAPHICS	4.0	3.1	4.0	.000
ONE-PRICE PRICING	3.1	3.4	1.6	.000

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

It seems pretty clear that respondents think focusing sales personnel on the art of sales and dealerships on service will improve customer satisfaction the most over the next decade. According to panelists, this does not include Internet sales, home sales and/or delivery, increased services at the dealership, or one-price pricing. But improved customer satisfaction is seen as improving through shorter new vehicle delivery times and Internet service appointments.

These suggested changes play important roles in the evolution of dealerships over the next ten years. They represent the evolution from the hard sell to the consultative sell with sales personnel who really know the vehicles, from slow service to quick service for routine maintenance, from phone appointments to Internet appointments for service, from long delivery times for ordered vehicles to shorter delivery times, from short hours to longer, more convenient hours for sales and service, and from database development that is often spotty and poorly used to fully connected databases that link to every interaction with the customer, be it sales or service.

These changes can take place over time only if dealers see a need to change or if manufacturers provide them with incentives to change. Dealers tend to change if they think a competitor is taking business away from them because of a new way of selling or servicing. The adoption of dealer websites over the past year or so shows how dealers adapt if driven by overwhelming support from their national organization, the National Automobile Dealers Association (NADA). They also adapt if change is suggested and compensated by the manufacturer. As manufacturers continue to take a more active and consistent role in the distribution of vehicles, they will be able to develop a better understanding of what works and what does not work for dealerships based on their size, location, and clientele. Developing a best practices forum with dealers that takes these differences of the dealership into account may go a long way to establishing better understanding and cooperation with dealers.

MKT-18   How satisfied are consumers with the following elements of their dealership experience currently and how satisfied do you think they will be in 2004 and 2009?

SCALE →	1	2	3	4	5
	VERY DISSATISFIED	DISSATISFIED	NEITHER DISSATISFIED NOR SATISFIED	SATISFIED	VERY SATISFIED

DEALERSHIP EXPERIENCE	MEAN RESPONSE		
	CURRENTLY	2004	2009
TRADE-IN PRICE NEGOTIATION	2.2	2.5	2.8
NEW VEHICLE PRICE NEGOTIATION	2.2	2.8	3.3
SHOWROOM SALESPERSON SALES AND SERVICE	2.7	3.1	3.4
OVERALL BUYING/LEASING EXPERIENCE	2.8	3.2	3.6
OVERALL DEALERSHIP EXPERIENCE	2.7	3.2	3.6
SERVICE EXPERIENCE	2.7	3.2	3.7
INTERNET SALESPERSON SALES AND SERVICE	2.6	3.5	4.1

SELECTED EDITED COMMENTS

- As the new car buying experience incorporates more Internet "pre-dealership visit" transactions, the average customer will become more satisfied with their overall experience. Dealers will change their role in the value chain, becoming more service providers than price negotiators.

- Customer satisfaction could improve faster with technology.

- In order for the buyers to gain more confidence in dealers, there must be a change in strategy, especially at the dealers handling the mid- and lower-priced automobiles. We are seeing that change on the high end due to competition from Lexus and Infiniti dealers. Saturn has done the best of the Big Three on the lower end, but they are starved for advertising dollars and new product.

- Internet expectations will generally exceed the deliverable.

- Significant changes are needed. The prospect for change is not positive for the traditional dealer.

- The Internet will make price negotiations much easier since they will not be face-to-face, but over the Internet. This will make the car buying experience much better.

- There is too much information for people to be happy. They will always feel they paid too much. The Internet will only confuse people more. Too many models and too many options confuse pricing. Rebates, residuals, and rates change monthly, and all affect the transaction price. The dealer is in the same position as the customer - no advance warning of changes.

RESULTS SUMMARY

In the aggregate, the mean responses by panelists suggest they view customers as somewhat dissatisfied with the dealership experience currently, but customer satisfaction will improve over the next ten years. However, only one category, Internet sales and service, actually received a solid "satisfied" rating at any point in the entire ten year time period.

Currently, respondents see consumers as somewhat dissatisfied with the dealership experience in the areas of negotiation of new vehicles and trade-in prices. Panelists think consumers are a bit more neutral in their view of Internet sales, service experience, showroom salesperson experience, and the overall buying and dealership experience.

By 2004, panelists see a dramatic increase in customer satisfaction in the area of Internet sales and service. But the other areas of the dealership experience hover around the neutral range of neither dissatisfied nor satisfied. Again, as in the current situation, satisfaction with negotiation of new vehicle and trade-in price falls below the other items.

By 2009, panelists predict that Internet sales and service will satisfy consumers, and the service experience and the overall buying and dealership experience will approach satisfying consumers. Satisfaction with the negotiation of new vehicle price and the showroom sales experience will reach the neutral range of neither dissatisfied nor satisfied while the negotiation of the trade-ins will continue to be a contentious issue with consumers.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The issue with this set of questions, and most of the other questions that focus on the dealership experience, is the number of differences that exist in manufacturer, supplier, and dealer views. For the most part, dealers see consumers as being more satisfied than manufacturers do, while suppliers see consumers as less satisfied than dealers and manufacturers do. All three groups agree with the challenge dealers face satisfying customers during negotiation of vehicle price and trade-in, though dealers think they are further along in satisfying the customer than the other groups report. Except for these two areas, dealers think they will reach acceptable ("satisfied") levels of customer satisfaction by 2004, while manufacturers think dealers will reach these levels by 2009 and suppliers think dealers will not reach these levels even by 2009.

DEALERSHIP EXPERIENCE	CURRENTLY - MEAN RESPONSE			2004 - MEAN RESPONSE			2009 - MEAN RESPONSE		
	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER
NEW VEHICLE PRICE NEGOTIATION	1.8	2.1	2.9	2.5	2.8	3.5			
OVERALL BUYING/ LEASING EXPERIENCE	2.8	2.5	3.7	3.3	2.9	4.0	4.0	3.4	4.2
OVERALL DEALERSHIP EXPERIENCE	2.6	2.4	3.9	3.4	2.9	4.1	4.2	3.33	4.3
SERVICE EXPERIENCE	3.0	2.4	3.6	3.4	3.0	3.9	3.9	3.5	4.3
SHOWROOM SALESPERSON SALES AND SERVICE	2.9	2.5	3.5	3.3	2.9	4.0	3.7	3.3	4.0
TRADE-IN PRICE NEGOTIATION	2.2	2.0	2.9	2.6	2.4	3.2	2.9	2.6	3.4

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Price, be it for new vehicles or trade-ins, will continue to be the nemesis of improved customer satisfaction at the dealership level. Only if dealers or manufacturers can in some way eliminate or mute this element of the sales process will the dealership experience improve dramatically. Based on the high expectations panelists have for Internet sales and service (all three groups report increased customer satisfaction with this item), the Internet may provide the negotiation buffer dealers need to overcome this customer satisfaction hurdle.

But as one of our panelists noted, there is already too much information on the Internet. Too much information leads to possible pricing confusion, especially with numerous models with numerous options, including frequently changing rebates, residuals, and interest rates. If dealers and manufacturers can help the consumer wade through this information and reach a price the consumer finds acceptable, then customer satisfaction concerning pricing should increase.

The biggest challenge manufacturers and dealers face in terms of the dealership experience is the major differences between the two groups about how satisfied customers are currently and how satisfied they will be within the next five years. By 2009, both the manufacturers and dealers think customers will be much closer to being satisfied with the dealership experience, but currently and over the next five years the gap between their views is great. There are certainly reasons for some of these differences, but the need to bridge this gap is as great as the gap itself. If one of the manufacturers can develop a relationship with its dealers based on mutual reliance and trust, it may be possible to bridge the gap. One opportunity for manufacturers may be the large dealer groups such as AutoNation and Group One. By working with these large dealer groups, manufacturers may be able to drive initiatives across a wider range of dealerships nationally, but the initiatives must be a win-win for both manufacturers and dealers and also must be designed to last for a significant period of time. These types of initiatives should begin to develop a needed feeling of mutual reliance in both groups.

MKT-19   What percent of new vehicle buyers currently use the Internet for the following activities, and what percent will in 2004 and 2009? (Define the purchase of a vehicle as any purchase derived from an offer to sell, obtained via the Internet, whether or not a dealer is involved.)

ACTIVITY	MEDIAN RESPONSE			INTERQUARTILE RANGE		
	CURRENT	2004	2009	CURRENT	2004	2009
PURCHASE/ARRANGE FINANCING	5	14	25	2/10	8/20	15/44
PURCHASE/ARRANGE INSURANCE	5	10	23	1/10	5/20	10/40
RESEARCH (NEW VEHICLE)	25	50	75	20/50	40/69	60/90
PURCHASE VEHICLE (I.E., ANY PURCHASE DERIVED FROM AN OFFER TO SELL, OBTAINED VIA THE INTERNET, WHETHER OR NOT A DEALER IS INVOLVED.)	5	10	25	2/8	8/20	15/40

SELECTED EDITED COMMENTS

- Delivery and disposal of used cars and demo experience will change the interaction at a dealership or create a new service.

- I would only be guessing at the numbers. I expect the value to increase quite a bit.

- People will shop the Internet but will buy close to home because they want to see it first.

RESULTS SUMMARY

Estimating the current use of the Internet for researching (25 percent), financing (5 percent), insurance (5 percent), and final purchase (5 percent), panelists see little use except for research. However, they expect significant increases over the next ten years. In particular, panelists predict a doubling of use of the Internet for vehicle research by 2004 and a tripling by 2009. They expect a two fold increase in financing and insurance by 2004 and a five fold increase by 2009. Panelists report a similar prediction for the purchase of the vehicle itself over the Internet, with a two fold increase by 2004 and a five fold increase by 2009.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Manufacturers and dealers report a much higher current use of the Internet than do suppliers. Manufacturer and dealer percentages are more in line with current independent estimates of the use of the Internet for automotive buying research. Manufacturers and suppliers see many more potential purchases of vehicles over the Internet than do dealers. Dealers throughout this Delphi survey are much more inclined to downplay the use of the Internet for doing almost anything involved with vehicle sales.

ACTIVITY	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
RESEARCH (NEW VEHICLE): CURRENT	44	27	45
PURCHASE VEHICLE: 2009	26	31	15

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Panelists are relatively conservative in their predictions about the future use of the Internet for purchasing financing, insurance, and the vehicle itself over the Internet. This is in keeping with state franchise laws that prevent manufacturers from selling vehicles directly to consumers. Although dramatic in terms of percent of increase, these estimates start from a very low base, except for research.

The low percentage of new vehicle purchases through the Internet predicted by dealers in 2009 may represent a form of denial by dealers. Throughout this survey, dealers continually downplay the future value of the Internet to vehicle sales. Though they may be wrong in their prediction about the Internet, many of the decisions they make concerning their dealerships will probably be based on this view of the Internet. This view by dealers creates an important challenge to manufacturers as they try to take advantage of this new medium to sell vehicles.

The manufacturers' attempts to include dealers as part owners in Internet car referral and purchasing sites may overcome some of the dealers reluctance to invest in this new sales method. In particular, some of these manufacturer-dealer sites may be multi-franchise in nature, overcoming one of the major challenges manufacturers have had in working with these types of dealerships. In many ways this is a bold move on the part of the manufacturers and may signal a greater willingness to work more cooperatively with their dealers in selling vehicles, whether over the Internet or off the lot.

MKT-20   Please estimate what percent of Internet purchases will be sold through the following retail sites in 2004 and 2009.

RETAIL SITES FOR INTERNET PURCHASES	MEDIAN RESPONSE		INTERQUARTILE RANGE	
	2004	2009	2004	2009
FRANCHISED DEALER NETWORK SITES	50	50	20/80	25/70
OEM SITES	10	20	5/20	10/40
THIRD PARTY (E.G. AUTOMOTIVE BROKERS) SITES	20	20	10/48	10/30

SELECTED EDITED COMMENTS

- Experiencing the vehicle and delivery will still require a dealer for most customers.

- For most states, it is illegal for OEMs to sell directly from their sites.

- I expect the value to increase quite a bit.

- Third party sites may be a temporary phenomenon until the OEMs get their act together. There is no room for another intermediary in the chain. I still think that the OEMs will direct the pickup of the vehicle at a dealer even though they close the sale.

- While purchasing directly from the manufacturer will be desirable for many, at least an equal amount of consumers will wish to purchase from a local delivery source in order to have face-to-face contact in case of a problem or question.

RESULTS SUMMARY

Panelists see 50 percent of Internet purchases being sold through franchised dealer network sites in 2004 and in 2009, while they think 10 percent of Internet purchases will go through OEM sites in 2004 and 20 percent in 2009. Respondents think third party sites will represent 20 percent of Internet purchases in 2004 and 2009.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

As with many of the other questions, there are significant differences among manufacturers, suppliers, and dealers on all of these questions. Dealers think 75 percent of Internet sales will go through franchised dealer sites in 2004 and 79 percent in 2009. In contrast, manufacturers and suppliers think 36 percent and 46 percent respectively will go through dealer sites in 2004, and 39 percent (manufacturers) and 42 percent (suppliers) in 2009.

Dealers think only 6 percent of Internet sales will go through OEM sites in 2004 and 12 percent in 2009. In contrast, manufacturers and suppliers think 27 percent and 17 percent respectively will go through dealer sites in 2004, and 40 percent (manufacturers) and 29 percent (suppliers) in 2009.

Dealers report that 18 percent of Internet sales will go through third party sites in 2004 and 10 percent in 2009. In contrast, manufacturers and suppliers think 37 percent and 31 percent respectively will go through dealer sites in 2004, and 15 percent (manufacturers) and 24 percent (suppliers) in 2009.

RETAIL SITES FOR INTERNET PURCHASES	2004 - MEAN RESPONSE			2009 - MEAN RESPONSE		
	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER
FRANCHISED DEALER NETWORKS SITES	35.6	46.4	75.4	39.0	42.4	78.6
OEM SITES	26.6	17.3	6.4	40.3	28.7	11.6
THIRD PARTY	-	-	-	15.1	24.4	9.9

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Since selling directly over the Internet is currently non-existent primarily due to laws that restrict anyone other than a licensed dealer completing the sale of a vehicle, we asked this question only about how Internet purchases will be performed in the future.

Keep in mind that these questions were answered before the appearance of independent manufacturer sites that have dealers as co-owners and before the demise of most of the third party sites. Manufacturers, suppliers, and dealers still offer very different views on the future of Internet sales. In the near future (2004), manufacturers see a world of Internet purchases split relatively evenly between dealer sites, OEM sites, and third party sites. In the longer term (2009), manufacturers see OEM sites taking over share of Internet purchases from third party sites. Dealers, on the other hand, see their sites dominating the near future and increasing their share of Internet purchases in the long term by taking share away from both OEM and third party sites.

The demise of most of the third party sites over the past year or so seems almost inevitable in retrospect because of the strong franchise laws in place throughout most of the country. Third party sites are required to purchase any vehicles they sell through their sites from franchised dealers, which limits the types of vehicles and terms they can offer their buyers. Even OEMs themselves cannot sell vehicles directly to consumers over the Internet or in any other way. The responses by our panelists suggest both the OEMs and the third party sites would overcome these obstacles in some way by 2004. It is interesting that all three groups predict that third party sites would lose share of Internet purchases by 2009.

Some think only a consumer revolt against the dealer franchise laws will be the only way these laws will change, and the revolt will come only if consumers are clearly shown how much they will save if the laws are not in place. There is currently only one independent consumer group that is taking up this cause, and it is too early to tell what success it will have.

The experience of the past year or so suggests that the OEMs are taking another tack. Rather than battling their dealer body, they are trying to incorporate them into a full scale website that offers buyers all the tools needed to decide on a vehicle, plus the links to their dealers where the vehicle can be purchased. Some of the tools, such as online vehicle configurators, needed for a complete online buying experience are very complicated and expensive. The lack of these tools limits how much of the buying experience can be completed online, particularly for dealer websites. Working with the manufacturers on these full-scale sites may offer dealers a good avenue to a broader sales reach. The challenge for manufacturers at this point is that as soon as one OEM releases a competitive retail program, every other OEM in the industry knows about it and can probably match it. Competing in this environment will be difficult.

Finally, one should consider the reason manufacturers might enter into the retailing fray in the first place. Retailing has never been a core competency of the manufacturers, and it would seem ambitious to expect them to achieve a sophisticated level of expertise in so short a time. Also, today's mega-dealers are gathering consumer buying information on a wide variety of makes and models and have the money to develop fully-functioning sites for their entire group of dealers. Will a single OEM be truly able to avail itself of this collective consumer knowledge and use it to compete against the mega-dealers that combine national and local understanding of buyers?

Manufacturers can also be challenged on their attempts to enter the new vehicle market. If conventional wisdom is true–that retail margins on new vehicles are shrinking–why would a manufacturer want to take over the least profitable revenue center in the dealership?

MKT-21 Please rate the potential effectiveness of each of the following activities for increasing **OEM** customer retention in the coming decade.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	EFFECTIVE	VERY EFFECTIVE

CUSTOMER RETENTION ACTIVITIES	MEAN RESPONSE
	2000 - 2009
OEM-OWNED DEALERSHIPS	2.7
AUTOMOTIVE INSURANCE	3.0
OEM NON-AUTO INTERNET PORTALS SALES	3.0
ONE-PRICE SELLING	3.1
OEM AFFINITY CREDIT CARDS	3.2
OEM-OWNED INDEPENDENT VEHICLE SERVICE CENTERS	3.2
VEHICLE 'HOTELLING' (I.E., MULTI-VEHICLE LEASES)**	3.5
INTERNET SALES	3.6
PROVIDING IN-VEHICLE INTERNET/COMMUNICATION ACCESS	3.6
AUTOMOTIVE FINANCING	3.7
CUSTOMER RELATIONSHIP MARKETING PROGRAMS	3.7
VEHICLE CONCIERGE SERVICES (E.G., PICKUP AND DELIVERY OF VEHICLE FOR SERVICE NEEDS, SCHEDULING SERVICE, ETC.)	3.9
FREQUENT PRODUCT RE-DESIGN	4.0
NEW VEHICLE PURCHASE INCENTIVES	4.0
PRODUCT INNOVATION	4.4
VEHICLE QUALITY/DURABILITY/RELIABILITY	4.4

**Vehicle hotelling: offering, via lease, the ability of the lessee to periodically select different vehicles to drive within the same lease.

SELECTED EDITED COMMENTS

- Performance is the number one factor over the first three years of the vehicle life. OEMs and dealers must create reason to have customers come back to their showroom.

- Service and convenience will win.

- Some items such as Internet access in the vehicle will be common across all products and will not differentiate beyond the very short term for the first mover.

- The key is to deliver a fresh and innovative design with direct customer input on content in the shortest time possible and with the maximum convenience.

- Vehicle hotelling will never happen; it's too expensive.

RESULTS SUMMARY

Respondents see issues dealing with improving the product as the major activities that will increase customer retention in the coming decade. These include product innovation, vehicle quality/durability/reliability, and frequent product redesign. The other areas where panelists see effective means of increasing customer retention are through purchase incentives and financing. Customer services like vehicle concierge services and increased customer retention through customer relationship management programs are also seen as effective.

The activities that panelists predict will not increase customer retention include one-price selling (very ineffective according to dealers), OEM-owned dealerships (very ineffective according to dealers), OEM non-auto Internet portals, and auto insurance.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Of the effective activities that increase customer retention, manufacturers think customer relationship management programs will be more effective than do suppliers and dealers, while vehicle concierge services are seen as much more effective by manufacturers and suppliers than by dealers.

OEM CUSTOMER RETENTION ACTIVITIES 2000 – 2009	MEAN RESPONSE		
	MANUFACTURER	SUPPLIER	DEALER
CUSTOMER RELATIONSHIP MARKETING PROGRAMS	4.1	3.7	3.4
INTERNET SALES	3.6	3.7	3.1
OEM AFFINITY CREDIT CARDS	3.7	3.0	3.3
OEM-OWNED DEALERSHIPS	2.7	3.0	1.6
OEM-OWNED INDEPENDENT VEHICLE SERVICE CENTERS	3.4	3.4	2.1
ONE-PRICE SELLING	3.2	3.4	1.8
VEHICLE CONCIERGE SERVICES	4.1	4.0	3.1
VEHICLE HOTELLING	3.5	3.6	2.9

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

While the industry has given a lot of emphasis to the importance of process improvements such as the service, sales, and negotiating experiences, it would seem that only the product can substantially improve customer retention. While this has been well known by previous industry managers, it might be a lesson worth re-learning. However, product innovation does not necessarily mean a new transmission design, chassis design, or engine technology, which can cost hundreds of millions of dollars. It may mean marginal but meaningful improvements in important consumer attributes such as quality, fuel economy, and packaging, while at the same time improving processes.

As one might expect, cost issues also play a role in customer retention, but the potential for increased customer services such as vehicle concierge services and the use of customer relationship management to improve customer retention is an important step for the industry. In particular, these services offer the opportunity for manufacturers to develop a continuing relationship with customers for the complete ownership cycle.

One might think that OEM incentives would play a greater role in customer retention as part of the cost issue, but panelists in MKT15-16 predict incentives will play a less important role in the vehicle buying decision in the future. This result may be connected to the idea that as manufacturers better understand and connect with their customers, they will become less reliant on incentives to satisfy them.

MKT-22 Please rate the potential effectiveness of each of the following activities for increasing **dealer** customer retention in the coming decade.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	EFFECTIVE	VERY EFFECTIVE

CUSTOMER RETENTION ACTIVITIES	MEAN RESPONSE
	2000 – 2009
DEALER AFFINITY CREDIT CARDS	2.7
DEALER INSTALLED OPTIONS (E.G., RUSTPROOFING, SECURITY SYSTEMS, ETC.)	2.9
AUTOMOTIVE INSURANCE	3.1
ONE-PRICE SELLING	3.3
VEHICLE 'HOTELLING'(I.E. MULTI VEHICLE LEASES)**	3.6
AUTOMOTIVE FINANCING	3.8
CUSTOMER RELATIONSHIP MARKETING PROGRAMS	3.8
INTERNET SALES	3.8
DEALERSHIP LOCATION	3.9
INCREASED PRODUCT KNOWLEDGE BY SALES STAFF	3.9
SALES STAFFS AS 'PRODUCT CONSULTANTS'	3.9
INTERNET SERVICE APPOINTMENTS	4.0
VEHICLE CONCIERGE SERVICES (E.G., PICKUP AND DELIVERY OF VEHICLE FOR SERVICE NEEDS, SCHEDULING SERVICE, ETC.)	4.1

**Vehicle hotelling: offering, via lease, the ability of the lessee to periodically select different vehicles to drive within the same lease.

SELECTED EDITED COMMENTS

- Convenience, customer services, and flexibility will entice customers to return to the dealers and establish an on-going relationship.

- The dealer system is dead but they just don't know it yet.

RESULTS SUMMARY

Though none of the activities listed are seen as ineffective by our panelists, there is some differentiation among the activities. Vehicle concierge services and Internet service appointments are seen as having the most potential to improve dealer customer retention over the next decade. These activities are closely followed by sales staff improvements in the areas of increased product knowledge and positioning the sales staff as product consultants. Also rated highly are dealership location, Internet sales, automotive financing, and customer relationship management programs. Vehicle hotelling, considered by some as too expensive to implement, offers some potential, but is not rated as highly as the previously mentioned activities.

The lowest rated activities for increasing dealer customer retention include one-price selling (driven by dealers who see it as ineffective in increasing dealer customer retention), auto insurance, dealer installed options, and dealer affinity credit cards.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Of the more highly rated activities, vehicle concierge services are seen as having more potential effectiveness by manufacturers and suppliers than by dealers. Increased product knowledge by sales staff is seen to have more potential effectiveness by dealers than by manufacturers and suppliers.

DEALER CUSTOMER RETENTION ACTIVITIES 2000 – 2009	MEAN RESPONSE		
	MANUFACTURER	SUPPLIER	DEALER
INCREASED PRODUCT KNOWLEDGE BY SALES STAFF	3.7	3.8	4.4
ONE-PRICE SELLING	3.3	3.6	1.9
VEHICLE CONCIERGE SERVICES	4.3	4.2	3.6

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

For the most part, dealers and manufacturers report similar views about the potential effectiveness of the listed activities to increase dealer customer retention. This is in contrast to many of the questions related to the buying experience, and may offer some common ground for both groups to work on improving the relationship with customers. One respondent's comment sums up very well a good part of the responses by all groups: "Convenience, customer services, and flexibility will entice customers to return to the dealers and establish an on-going relationship." Increased services, including vehicle concierge services, better trained staff, better use of the Internet, and the development of relationships with customers—especially after new vehicle warranties expire—are key to dealer customer retention.

Unfortunately, most of these activities are not being practiced by a majority of dealerships throughout the country, and the development of these activities will come at a significant cost. Will all of this cost be shouldered by the dealers? If so, history tells us that change will be very slow. Dealers are notoriously slow to respond to customer needs because of cost pressures in their business. Unless some other dealership in the local area tries something that seems like a differentiator between dealerships, most dealerships will continue to go with what has worked for so many years (and costs no more to implement). In some ways one can say that all dealership activities, like politics, are local.

The use of the Internet is a good example. Dealers originally denied that the Internet would have any impact on their business, but as more and more dealerships began to put up websites with e-mail addresses to contact the dealership, almost all dealerships came onboard (now 80 percent of dealerships have a web page). Dealerships are finding that the Internet has enormous potential for both sales and service, but that the cost of making their dealership truly "connected" is expensive. Because of some dealers' reluctance to pay for incorporating the Internet into their dealership, it may become a potential differentiator in the near future.

Finally, customer relationship management is seen by all groups as having potential to increase customer retention for both OEMs and dealers. But herein lies the rub. Whose customer is it? Should OEMs use CRM to develop relationships with customers or should dealers take the lead in establishing the relationship? One can see potential for both groups to "own" the customer relationship, but there are some serious challenges involved in moving in this direction. OEMs are challenged to establish a serious marketing relationship with the millions of people and households who own their vehicles, and dealers—although they have a smaller base of customers and a face-to-face relationship with most of their new vehicle buyers—tend to be technologically-challenged when implementing an e-CRM package. A tremendous opportunity exists for OEMs and dealers to share information and use CRM systems to truly market to customers in a way that leads to increased customer retention. (We discuss this issue in more detail in following questions.)

MKT-23   Please rate the potential effectiveness of the following customer relationship management programs from either OEMs or dealers in 2004 and 2009.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	EFFECTIVE	VERY EFFECTIVE

CUSTOMER RELATIONSHIP MANAGEMENT PROGRAMS	MEAN RESPONSE	
	2004	2009
CAUSE-RELATED MARKETING (E.G., DONATIONS TO CHARITIES BASED ON NEW VEHICLE PURCHASE)	2.8*	2.9
INTERNET/E-MAIL REMINDERS FOR RE-PURCHASE	2.8*	3.1
PERSONALIZED INTERNET WEB PAGES FOR EACH CUSTOMER (DESIGNED AND MAINTAINED BY THE DEALER)	3.1*	3.3
PERSONALIZED INTERNET WEB PAGES FOR EACH CUSTOMER (DESIGNED AND MAINTAINED BY THE OEM)	3.1*	3.4
VEHICLE HOTELLING LEASES **	3.4*	3.6
FREQUENT BUYER DISCOUNT FOR NEW VEHICLE PURCHASES	3.7	3.7
TARGETING HOUSEHOLD WITH OFFERS SPECIFIC TO THEIR SELF-PROCLAIMED WANTS AND NEEDS	3.4*	3.7
FREQUENT USER DISCOUNT FOR SCHEDULED MAINTENANCE AND SERVICE	3.7	3.8
INTERNET/E-MAIL REMINDERS FOR SERVICE	3.5*	3.8

**Vehicle hotelling: offering, via lease, the ability of the lessee to select from a fleet of vehicles.

SELECTED EDITED COMMENTS

- Customers will increasingly deal via the Internet but it will not be a major factor until later in the decade. Key influences will be personal experience—the reliability of the vehicle and the experience in purchase and service. Service will become a much more important factor in future years.

- I remain doubtful about personalized Internet methods (privacy issues).

- The key to successful customer relationship management is to discover which of these will be effective with individual customers. None of them are effective across the entire customer base.

RESULTS SUMMARY

This question asks panelists to rate the effectiveness of several customer relationship management (CRM) activities for 2004 and 2009. While none of the activities reached an average rating of "effective," there is some differentiation among the activities. In the near term, panelists think frequent buyer discounts for new vehicles and scheduled maintenance and service will be the most effective. These activities are followed by Internet/e-mail service reminders, targeting households with offers based on their self-proclaimed interests, and vehicle hotelling leases.

In the long term, respondents think the same CRM activities will be the most effective, but they see Internet/e-mail reminders for service, targeting households with offers based on their self-proclaimed interests, and vehicle hotelling leases increasing in their potential effectiveness over their 2004 scores.

A few activities are not seen as being effective by 2004 or 2009. These include cause-related marketing, Internet reminders for re-purchase, and personalized web pages for each customer.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

A few activities reach the "effective" range of the scale when looking at differences among manufacturers, suppliers, and dealers. Dealers, more than manufacturers and suppliers, see Internet/e-mail reminders for re-purchase and service as being an effective CRM activity, although manufacturers think that Internet reminders for service will be effective by 2009. Manufacturers, more than suppliers and dealers, think that targeting households with offers based on their self-proclaimed interests will be effective by 2004 and will be even more effective by 2009. Dealers think this activity will be effective by 2009.

CUSTOMER RELATIONSHIP MANAGEMENT PROGRAMS	2004 - MEAN RESPONSE			2009 - MEAN RESPONSE		
	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER
CAUSE-RELATED MARKETING	3.4	2.8	2.5	-	-	-
INTERNET/E-MAIL REMINDERS FOR RE-PURCHASE	3.2	2.6	3.6	3.6	2.8	4.2
INTERNET/E-MAIL REMINDERS FOR SERVICE	3.6	3.3	4.0	4.0	3.7	4.3
TARGETING HOUSEHOLD	4.0	3.2	3.7	4.3	3.5	3.9
VEHICLE HOTELLING LEASES	3.5	3.6	2.9	3.8	3.8	3.0

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Customer relationship management (CRM) programs may have the single best ability to bring greater productivity to OEM and retail marketing efforts. Essentially based on the idea that customers want a customized shopping, buying, and ownership experience, CRM can do much to deliver that promise. Combined with a manufacturing system that utilizes customer inputs to create "mass-customized" products, these systems may change the attitudes of retail customers toward the auto industry.

Some of these results may reflect either a misunderstanding as to what CRM can and cannot do, or the infancy of CRM applications within the industry. One of the lowest rated strategies—surprising because of its easy application via the Internet—is an e-mail reminder for a repurchase. Collecting e-mail addresses and running a contact management program is a strategy dealers and OEMs have been using for years. Of the four items that focus on using the Internet for CRM, only its use for service reminders is rated near the "effective" category by 2009. This is a curious result considering the interest and money that has been spent on the Internet thus far. OEMs and dealers have spent millions of dollars building the infrastructure to take advantage of the Internet, yet they report that using it, except for service reminders, will not be very effective even by 2009.

However there is high confidence placed in using economic strategies such as frequent buyer discounts and frequent user discounts. The belief that customers are rational and value driven is a major assumption that can drive the application of CRM information technology and should be examined more closely.

However, many difficulties emerge in the implementation of CRM. In the multi-franchise, mega-dealer context, dealers will be collecting information from customers and managing that information in a way that will create a strategic advantage for them as retailers, not only for their manufacturers. The question of who owns the data has already been tested in court, and so far the OEMs are winning. This case, which required GM dealers to indicate the type of retail financing a customer used, may not hold up in the future as retailers learn to collect data from customers on their own, and not as a by-product of the retail transaction. In that case the dealers would own the data, not the manufacturer.

Finally, as stated in the previous question, whose customer is it? Should OEMs use CRM to develop relationships with customers or should dealers take the lead in establishing the relationships? One can see potential for both groups to "own" the customer relationship, but there are some serious challenges involved in moving in this direction. Although both OEMs and dealers think targeting individual households with offers based on their self-proclaimed wants and needs is an effective CRM method, OEMs are challenged to establish a serious marketing relationship with the millions of people and households who own their vehicles, and dealers—although they have a smaller base of customers and a face-to-face relationship with most of their new vehicle buyers—tend to be technologically-challenged when implementing an e-CRM package.

One respondent put the challenge of CRM very well, "The key to successful CRM is to discover which of these will be effective with individual customers. None of them are effective across the entire customer base." A tremendous opportunity exists for OEMs and dealers to share information and use CRM systems to market to customers in a way that leads to increased customer satisfaction and retention.

MKT-24   Please rate how effective each group will be at maintaining relationships with vehicle customers over the next ten years.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER EFFECTIVE NOR INEFFECTIVE	EFFECTIVE	VERY EFFECTIVE

GROUP	2009
	MEAN RESPONSE
OEMS	
BIG THREE	3.1
EUROPEAN OEMS	3.7
JAPANESE OEMS	4.0
DEALERS	
PUBLIC DEALER GROUPS	2.9
MULTI-FRANCHISE DEALERS	3.2
PRIVATELY-HELD DEALER GROUPS	3.2
SMALL DEALERS	3.3
MID-SIZE DEALERS	3.3
LARGE DEALERS	3.3
SINGLE-FRANCHISE DEALERS	3.5

SELECTED EDITED COMMENTS

- Dealers are not effective in assigning sales or service representatives to maintain contact with individuals who purchase vehicles. They are not building dealer loyalty or offering inspections, car washes, etc.

- Import quality is superior. Big Three luxury owners are dying out. Multi-franchised dealers are financially stronger. Public dealer groups have difficulty in maintaining standards with so many dealerships.

- Multi-franchise and dealer groups may have more resources to invest in maintaining customer relations.

- Relationship with consumers is critical to being able to sense and respond to consumer trends. Those manufacturers who do not maintain this relationship will lose market share. Additionally, as online purchasing becomes more popular, dealers, especially large dealers, will only survive through their relationships.

- Significant turnover in dealer sales staff and modest customer loyalty make database maintenance unrewarding.

- Size counts in providing service to the levels of future customers expectations.

- The closer the customer is to the dealer the better the relationships will be.

- The materials I get from North American OEMs (DCX, Ford) are nowhere near as product focused as those I get from my BMW dealer (car or motorcycle). It's all oil change specials and, maybe, a puff piece on new models vs. some real informative stuff from BMW or Mercedes, leading up to the ML320 launch.

- The U.S. companies listen better to the consumer. The larger the dealer operation, the more impersonal the "service." Computer generated customer follow-up does not make it.

- To survive, firms will have to do a better job of getting closer to customers and developing databases – making it easier to work with.

- Toyota and Honda will continue to gain market share. Luxury division: Lexus, BMW, and Mercedes appear to have a significant advantage over the Big Three. Public dealer groups have a greater challenge than private groups or single-franchise dealers in establishing relationships. Public groups may be successful in building brand with a consumer driven approach.

RESULTS SUMMARY

Among the manufacturers, respondents think the Japanese OEMs will be more effective in maintaining relationships with their customers over the next ten years. The European OEMs are also seen as effective in maintaining relationships with customers, but the Big Three are predicted to be neither effective nor ineffective in maintaining relationships with their customers. For the most part over the next ten years, all types of dealers *except* single-franchise dealers are seen as similar to the Big Three in being neither effective nor ineffective in maintaining relationships with their customers.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Though single-franchise dealers are predicted to be the most effective dealerships in maintaining relationships over the next ten years, a comparison among the manufacturers, suppliers, and dealers shows that large dealers are also seen as effective by manufacturers and dealers.

GROUP	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
LARGE DEALERS	3.7	3.1	3.6

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

With the recent emphasis on customer relationship management, this question focuses on maintaining relationships with customers over the next decade by different manufacturers and dealers. Although it is clear from the responses that the Japanese OEMs will be the most effective (with the European OEMs not far behind) in maintaining relationships with customers over the next decade, there is less consensus about the effectiveness of the Big Three in maintaining customer relationships. Although the Big Three consider themselves to have too many dealers in the distribution channel and are spending a significant amount of money and time trying to rearrange their franchises into coherent sales groups, they have more single-franchise and large dealerships than the other manufacturers. One wonders if the higher effectiveness ratings for the Japanese and European OEMs are related more to the luxury side of the business or to the fewer number of dealerships in their groups.

There are some inherent contradictions in the reports of respondents concerning different types of dealerships, especially when comparing this question with MKT-5. The single-franchise dealership is predicted to be the most effective dealership type for maintaining customer relationships, but MKT-5 reports that single-franchise dealerships will decrease over the next decade. Although this response makes sense when one considers that a single-franchise dealership staff should have more focus on one manufacturer's customers, it flies in the face of the consolidation into larger, multi-franchise dealerships that have been taking place throughout the distribution channel.

Panelists show less consensus in their responses on how effective multi-franchise dealers, public dealer groups, and small dealers will be in maintaining relationships with customers over the next decade. This contrasts with the predicted growth of multi-franchise dealerships in MKT-5 and the leveling off of growth of public dealer groups.

Though manufacturers and dealers think large dealers will be effective in maintaining relationships with customers over the next ten years, this conflicts with the low effectiveness scores given to multi-franchise dealers and private and publicly held dealer groups, which are usually also large dealers. These multi-franchise and large dealers, as a few of the panelist comments suggest, have more resources to invest in maintaining customer relationships.

As the discussions of the CRM questions in this report (MKT22-24) show, using CRM in an industry that has millions of vehicles and customers is extremely challenging. One respondent noted that the significant turnover in sales staff and modest customer loyalty make database maintenance unrewarding. We are only just beginning to see the complications of implementing CRM programs.

V. ORDER-TO-DELIVERY

MKT-25   What percent of vehicles are currently purchased from each of the following retail points and what percent will be purchased in 2004 and in 2009?

RETAIL POINTS	MEDIAN RESPONSE			INTERQUARTILE RANGE		
	CURRENTLY	2004	2009	CURRENTLY	2004	2009
OEM-OWNED DEALERSHIPS	4	5	10	1/10	2/20	3/25
THIRD-PARTY AUTOMOTIVE BROKERS (BOTH ELECTRONIC AND TRADITIONAL)	6	10	15	4/10	5/20	5/25
TRADITIONAL FRANCHISED DEALERSHIPS	88	80	70	80/94	65/90	47/88

SELECTED EDITED COMMENTS

- OEMs will take advantage of service capability to sell more vehicles and the Internet will become more important as a sales channel.

- Third parties do not add value over the long term.

RESULTS SUMMARY

Panelists report that 5 percent of vehicles purchased currently come from OEM-owned dealerships, 5 percent from third-party brokers, and 87 percent from traditional franchised dealerships. By 2004, respondents predict that third party brokers will double their share (10 percent) of vehicles purchased through their channel, while the share of purchases transacted through traditional dealerships will decrease. By 2009, panelists predict that OEM-owned dealerships will double their share (10 percent) of vehicles purchased through their channel, third-party brokers will increase their share to 15 percent, and traditional franchised dealerships will decrease their share of new vehicles purchased to 65 percent.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Nowhere in this survey is the stark contrast between what suppliers, in contrast to manufacturers and dealers, know about the distribution of vehicles more pronounced than in this question of the percent of vehicles sold through each channel. For every prediction currently through the year 2009, suppliers continually overestimate the percent of vehicles purchased through OEM-owned dealerships and third party brokers, compared to manufacturer and dealer respondents. Compared to manufacturers and dealers, suppliers consequently underestimate the percent of vehicles purchased through traditional franchised dealerships. Supplier views about the future are no doubt conditioned by their views about the current state of vehicle purchases, perhaps compounding their differences compared to manufacturers and dealers over time.

Suppliers see the current share of vehicle purchases from OEM-owned dealerships, of which there are very few because of state franchise laws, at about 10 percent while manufacturers and dealers estimate the share to be in the range of 1 to 2 percent. Third party brokers, according to suppliers, represent a 10 percent share of current new vehicle purchases, while manufacturers and dealers suggest the share is 5 percent. Suppliers think the share of traditional dealerships of new vehicle purchases is 75 percent, while manufacturers and dealers think it is much higher at 83 percent and 92 percent, respectively. In this case, the manufacturers and dealers also disagree about the share of new vehicle purchases at traditional dealerships.

By 2004, suppliers predict OEM-owned dealerships will reach a 16 percent share of new vehicle purchases, while manufacturers (3 percent) and dealers (2 percent) think it will be much less. Suppliers also predict third party brokers will reach a 16 percent share of purchases, while manufacturers (8 percent) and dealers (5 percent) expect less participation by brokers. Because of their prediction of the increase of purchases through OEM-owned dealerships and third party brokers, supplier predictions of purchases through traditional dealerships is significantly lower (66 percent) compared to manufacturers (88 percent) and dealers (92 percent).

For 2009, suppliers predict OEM-owned dealerships will reach a 21 percent share of new vehicle purchases, while manufacturers and dealers both predict a much smaller share of 4 percent. Suppliers also predict third party brokers will reach a 24 percent share of purchases while manufacturers (10 percent) and dealers (6 percent) expect much less participation by brokers. Finally, suppliers predict a continued reduction of vehicles purchased through traditional dealerships (54 percent), while manufacturers (85 percent) and dealers (90 percent) see only slight decreases from their 2004 predictions.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Leaving aside the contrasting predictions of suppliers compared to manufacturers and dealers discussed above, manufacturers and dealers see little change in the retail landscape over the next decade in terms of where vehicles will be purchased. Manufacturers see a doubling (10 percent) in the role of third party brokers, but this is from a very low current base of 5 percent of vehicle purchases. Both manufacturers and dealers also see a slight increase in the purchase of vehicles through OEM-owned dealerships. This may indicate the manufacturers' continual experimentation with trying to better understand the distribution system, looking for and testing new methods over time.

What these results suggest is that the retail revolution, if it is to take place, will occur within the traditional dealership setting. Manufacturers seem to be placing their bets on being better able to rationalize their outlets, better market their vehicles, and better work with their dealers to take advantage of new technologies (such as the Internet and customer relationship management systems) to increase their share of the very competitive North American market.

MKT-26   When a vehicle is not available on a dealer's lot, how many days are customers currently willing to wait to get the exact vehicle they desire; and how long will they be willing to wait in 2004 and 2009?

MEDIAN RESPONSE			INTERQUARTILE RANGE		
CURRENTLY	2004	2009	CURRENTLY	2004	2009
30	20	10	21/57	10/30	5/15

SELECTED EDITED COMMENTS

- People seem to currently tolerate huge waits for the "hottest new vehicle," at times in excess of 120 days. It's almost like there is some prestige in telling your friends at cocktail parties that you have one on order.

- Buying to order is a major sales enhancer.

- If customers were given a discount for ordering a car, more would do it. Presently there is no advantage for the customer to wait for an order to be processed.

- The growing Internet businesses providing quick order-to-delivery cycles will raise customer expectations and increase pressures for shorter wait times.

- There is very little expectation today on a special order. Impulse shoppers take what is available. Buyers will wait for a special vehicle. Buyers will become less patient.

RESULTS SUMMARY

Panelists report that currently customers are willing to wait 30 days to get the exact vehicle they desire, but by 2004 they expect that customers will be willing to wait only 20 days, and by 2009, only 10 days.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistically significant differences in responses among manufacturers, suppliers, and dealers.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

While seemingly a simple question, this topic embodies many of the issues facing the automotive industry. Do you cater to the stated needs of the customer to get the exact vehicle of choice within days, or do you "force" them into a vehicle that the dealer happens to have on the lot (and that also has a rebate attached to it to help move it off the lot)?

This begs several questions. First, why is it that the dealer has the wrong vehicles on the lot? Are configurations so complex that no one dealer can have enough of the combinations on the lot? Second, what is the real harm to customer satisfaction if he or she doesn't get the exact color or accessory that they want but, instead, barters that preference away for something else of value? Third, what will be the effect of a reduced order-to-delivery or build-to-order strategy on the overall value equation? Implicit in the industry's answers to these questions is the belief that customers are not currently getting their ideal vehicle choice and are therefore less than ideally satisfied with their purchase. If they were to be ideally satisfied, the belief is that overall satisfaction would rise, customer retention would improve, marketing costs would decline, and ultimately retailer and OEM profits would rise. The single and only reason for implementing such a strategy is for the economic benefit. Careful analysis needs to be done on this assumption to understand exactly what the economic benefit would be for all involved parties.

Because the industry is putting such an emphasis on reducing order-to-delivery (OTD) time, it seems the reduction predicted by panelists may be based on their belief that the manufacturers will indeed reduce OTD over time. What is interesting is that by showing that they can reduce the OTD time, manufacturers are raising the expectations of customers, thereby forcing themselves to further decrease the time to be competitive.

MKT-27   What percent of all vehicles are currently built to order or delivered from inventory and what percent will be in 2004 and 2009?

CUSTOMER PURCHASE METHODS	MEDIAN RESPONSE			INTERQUARTILE RANGE		
	CURRENT	2004	2009	CURRENT	2004	2009
BUILT TO ORDER	15	30	50	5/30	15/45	25/70
DELIVERED FROM INVENTORY	80	70	50	70/92	55/85	30/75

SELECTED EDITED COMMENTS

- As the Big Three develop the make-to-order system, inventories can be reduced at the dealers and plants, taking huge costs out of the system.

- I don't have a great feel for the specific numbers, but would like to comment on the dynamic. Both areas are pushing for major improvements. OEMs are trying to assemble a new supply chain business model to effectively implement a build-to-order "pull system," while at the same time, expending great effort in trying to better anticipate specific customer preferences and more effectively plan vehicle builds. They are implementing sophisticated inventory systems to "find and deliver" the specific vehicle a customer wants. I think that each of these initiatives will improve customer satisfaction by getting people the vehicle they want, when they want it. I believe that the build-to-order route has greater potential to meet the customer's needs, but sophisticated inventory systems will be more successful in the next five years in filling specific customer orders (I would call these "deliver (from inventory) to order" systems).

- I expect that over time OEMs will have to figure out how to provide cafeteria-style ordering for consumers and provide exactly what is requested in a short period of time. The ability to order over the Internet and our drive to want "what we want now" will drive this trend. Also, increased technology will make specializing vehicles more important to a consumer dependent upon their personal needs.

- There is a balance here if dealer inventory reflects better customer demand; this would require flexible manufacturing that quickly replenishes dealer inventory.

RESULTS SUMMARY

Panelists currently think 15 percent of vehicles are built to order, and 80 percent are delivered from inventory. By 2004 they predict that 30 percent will be built to order, while 70 percent will be delivered from inventory. And by 2009, panelists think 50 percent of all vehicles will be built to order and 50 percent delivered from inventory.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Manufacturers, suppliers, and dealers have vastly different views of the percent of vehicles that will be built to order versus delivered from inventory. Overall, dealers are less convinced than manufacturers and suppliers that a high percentage of vehicles will be built to order, although they do predict a significant increase by 2009.

Both manufacturers and dealers have similar views of the percent of vehicles built to order currently, 13 percent and 11 percent respectively, while suppliers report 23 percent of vehicles are purchased this way. Dealers think 89 percent of vehicles are currently delivered from inventory, while manufacturers think 77 percent and suppliers 74 percent.

But by 2004, dealers think only 17 percent of vehicle purchases will be built to order, while manufacturers predict that 25 percent and suppliers predict that 39 percent will be purchased in this manner. In terms of delivering vehicles from inventory in 2004, as one might expect, dealers see little decrease from current levels with 83 percent delivered this way. Manufacturers see only a slight decrease, 75 percent, from their current assessment of the percentage of vehicles delivered from inventory, while suppliers expect a smaller percentage of vehicles delivered from inventory, 62 percent.

By 2009, dealers predict that 30 percent of vehicles will be built to order, while manufacturers and suppliers think many more vehicles will be built to order, 42 percent and 57 percent respectively. In terms of delivering from inventory, dealers think they will still deliver 70 percent of vehicles in this manner. Manufacturers think 58 percent will be delivered from inventory, and suppliers think only 43 percent will be delivered this way.

PERCENT OF CUSTOMER PURCHASE METHODS	CURRENT - MEAN RESPONSE			2004 - MEAN RESPONSE			2009 – MEAN RESPONSE		
	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER	MFG	SUPPLIER	DEALER
BUILT TO ORDER	13	23	11	25	38	17	42	57	30
DELIVERED FROM INVENTORY	77	73	89	75	62	83	58	43	70

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Build-to-order is considered within the industry as the next Holy Grail of automotive sales and marketing. "If only we could produce a 10-day car" is heard at every conference and every planning meeting, and is often repeated in both press releases and by stock analysts. There is a belief that consumers are displeased by their current choices and that they leave the showroom disgruntled with animosity toward the retailer and the brand.

Consumer behavior is complex in many ways, but is also fundamentally driven by self-interest. If consumers see an advantage in behaving a certain way, such as shopping at the end of the month or model year, or considering vehicles that are less popular, they will certainly do so. At the same time, if sufficiently motivated by desire, consumers will patiently wait for their ideal vehicle to be built by the factory and delivered 60 or 90 days later. There is a clear trade-off in buying off the lot. It may be that some buyers actually prefer to purchase this way, especially if there is an economic incentive to do so.

All panelists think build-to-order will increase over the next ten years (though dealers predict this will happen less than manufacturers and suppliers think it will). But the other issue directly related to this question, which was addressed in the previous question, is how long buyers are really willing to wait for a new vehicle. On other large purchases such as a home, buyers wait about a month before taking ownership. Some consumer data suggests it is the accuracy of the delivery date, not so much the time it takes to deliver, that consumers care about. This distinction must be carefully studied because it will affect the ultimate design of the distribution system each manufacturer employs.

The real strategic question is how to align the self-interest of consumers with the self-interest of the industry. While the economic advantages of build-to-order are easy to identify (lower inventory costs being most significant), little attention has been paid to the advantages for consumers. On the one hand, industry executives believe that consumers are economically driven and design retail programs that address this, but in terms of build-to-order, it now seems customers are seen as emotionally driven. What is actually implicit in this strategy is not only that OEMs will save money on inventory costs, but that retail margins will actually improve because they are now building a vehicle that has higher emotional/image content and customers will pay more for that.

Deeper analysis should be considered for this subject. Build-to-order does have tremendous potential to both reduce costs and improve customer satisfaction. However, a better understanding of how this system will affect consumer attitudes and ultimate behavior should be undertaken.

MKT-28   The following is a partial list of actions or strategies that may reduce new vehicle inventory. Please rate the effectiveness of the following actions in reducing new vehicle inventory over the next decade.

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	EFFECTIVE	VERY EFFECTIVE

ACTIONS TO MANAGE NEW VEHICLE INVENTORY	2000 - 2009 MEAN RESPONSE
USE OF MANUFACTURER-OWNED RETAIL OUTLETS	2.5
REGIONAL OEM DISTRIBUTION CENTERS	3.3
BUILD SCHEDULES BASED ON MONITORING CONSUMER PREFERENCES VIA INTERNET SITES	3.4
DEALER TRADING OF VEHICLES FROM OTHER DEALERS' INVENTORY	3.5
SHARING OF DEALER GROUP INVENTORIES	3.7
USE OF INTERNET SERVICES TO CONDUCT NATIONAL SEARCHES THROUGH EXISTING INVENTORIES	3.9
IMPROVED ORDERING SYSTEM FOR DEALER ORDERS	4.1
IMPROVED DEALER ORDERING SYSTEM OF CUSTOMER ORDERS	4.1

SELECTED EDITED COMMENTS

- The key is to be able to tell what customers want quickly and sharing inventories will be the way to go.

- OEM and supplier manufacturing and distribution processes are critical.

- We need to develop quicker order response (true JIT through the supply chain) and reduced build-to-order.

- The more the OEM controls the process, I believe we get further from customer satisfaction.

- The only true method to accomplish lead-time reduction is to streamline the order, production, and delivery process through application of lean manufacturing techniques.

- The only way to deal with inventories is to not transfer them but to eliminate them by having vehicles available within five days of an order being placed.

RESULTS SUMMARY

Reducing new vehicle inventory is considered one of the goals or outcomes of reducing customer order-to-delivery time. The most effective actions panelists reported for reducing new vehicle inventory focus on improving the ordering systems for dealer and customer orders. Panelists report that using the Internet to conduct national searches of existing inventories and sharing dealer group inventories are the next most effective means of reducing new vehicle inventories. Dealer trading of vehicles from other dealers' inventory, build schedules based on monitoring consumer preferences via Internet sites, and regional OEM distribution centers were reported as effective, although less effective than the previously mentioned actions. Finally, the use of manufacturer-owned retail outlets was not considered an effective means of reducing new vehicle inventory.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Though all groups considered improving the ordering system for dealer orders as one of the most effective ways of reducing new vehicle inventory, suppliers report this action as less effective than do manufacturers and dealers. Although all groups report the use of manufacturer-owned retail outlets as the least effective means of reducing new vehicle inventory, dealers think this action is even less effective than do manufacturers and suppliers. Finally, both manufacturers and suppliers think sharing dealer group inventories and using the Internet to conduct national searches through existing inventories are effective means of reducing new vehicle inventory, but dealers see these actions as neither ineffective nor effective.

ACTIONS TO MANAGE NEW VEHICLE INVENTORY	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
IMPROVED ORDERING SYSTEM FOR DEALER ORDERS	4.4	3.9	4.4
SHARING OF DEALER GROUP INVENTORIES	3.9	3.8	3.2
USE OF INTERNET SERVICES TO CONDUCT NATIONAL SEARCHES THROUGH EXISTING INVENTORIES	3.9	4.0	3.3
USE OF MANUFACTURER-OWNED RETAIL OUTLETS	2.5	2.8	1.5

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Reducing new vehicle inventory can be seen as an end in itself, but it can also be seen as the consequence of moving to a build-to-order system. Based on the panelists' responses, improving ordering systems for dealer and customer orders is the most effective means of reducing new vehicle inventory over the next decade. These improvements will be crucial if the industry is to not only reduce order-to-delivery time, but move to a build-to-order system. The improvement in information technology systems to broadcast orders quickly throughout the supply chain may well be the enabler to improving the ordering systems.

The broader reach of sharing inventories within large dealer groups and national Internet searches of existing inventories also rate high scores for reducing new vehicle inventories, but they also have their drawbacks; in particular, the cost and time of shipping vehicles from outside a local area. Distribution centers are not seen as particularly effective in reducing new vehicle inventory, possibly due to the cost of maintaining these centers and the uncertainty of their maintaining proper levels of inventory and fairly distributing the most popular versions of vehicles. Their advantage to dealers (and their disadvantage to manufacturers) comes from the transfer of cost to maintain large inventories from dealers to manufacturers.

The lack of confidence dealers show in the use of the Internet is consistent with their responses throughout this survey. It most likely stems from their general hesitancy to add cost to their operations without a known return, and also from the continual discussion in the media about how the Internet will replace dealers in the future. Dealers are already feeling the challenge of the Internet through the intensified research (such as the vehicle invoice price) that customers bring with them when negotiating the cost of a new vehicle.

MKT-29   The following is a partial list of potential barriers to the reduction in the build-to-order time. Please rate the severity of these barriers to reducing build-to-order time over the next decade.

SCALE →	1	2	3	4	5
	NOT SEVERE AT ALL	NOT VERY SEVERE	SOMEWHAT SEVERE	QUITE SEVERE	EXTREMELY SEVERE

BARRIERS TO REDUCING BUILD-TO-ORDER TIME	2000 – 2009
	MEAN RESPONSE
1ST TIER SUPPLIER BARRIERS	
COMPONENT SHIPPING LOGISTICS	2.9
COMPONENT PRODUCTION SEQUENCING	3.1
SUPPLY CHAIN MANAGEMENT (I.E., ORDERING OF PARTS FROM AND COMMUNICATION WITH SECOND AND THIRD TIER SUPPLIERS)	3.7
OEM/ASSEMBLY PLANT BARRIERS	
BODY SHOP/ASSEMBLY SEQUENCING	3.3
ASSEMBLY LINE TAKT TIME (I.E. LINE BALANCING)	3.5
CAPACITY MANAGEMENT	3.7
SUPPLIER COMMUNICATIONS	3.7
MODEL COMPLEXITY	3.8
FLEXIBLE LINE CHANGER/LINE FLEXIBILITY	3.9
INFORMATION FLOW BETWEEN SUPPLY CHAIN AND OEM PRODUCTION	4.0
DISTRIBUTION BARRIERS	
DEALER PREPARATION TIME	2.4
ORDER PROCESSING TIME	2.6
ORDER TRACKING	2.7
VEHICLE SHIPPING LOGISTICS	3.3
VEHICLE SHIPPING TIME	3.4

OTHER RESPONSES

- 1st Tier Supplier Barrier: Firm forecasting of demand, 2000-2009: 4
- 1st Tier Supplier Barrier: Timely, accurate input from OEM, 2000-2009: 5
- 1st Tier Supplier Barrier: Ability to adjust to variable production demands, 2000-2009: 3
- OEM schedule changes, 2000-2009: 3
- Lead times, especially as parts become more complex, 2000-2009: 5
- Color mix interior/exterior trim, 2000-2009: 4

- OEM/Assembly: The leap to actually do it: the risks associated with doing something differently, 2000-2009: 5

SELECTED EDITED COMMENTS

- A good result is possible using good computer software programs and keeping on top of communications.

- Are there statistics/user questionnaires that even point to a need for the five day order-to-delivery, yet alone the four weeks, which most might find quite acceptable?

- Build-to-order time reduction is not important to me if it's within four to six weeks. Keeping the promised time is important.

- Is build-to-order truly a critical issue to the consumer? I would argue that consumers can get a vehicle of their choice within five days. Only dealers must carry inventory or swap vehicles to make this happen. Thus, unless the manufacturers pass the savings of reduced inventory along to consumers, there will be no big push for OTD.

- Most customers will still want delivery out of a dealer's stock (90+ percent).

- Reducing order time to three weeks would be fine; further reductions would have reducing value.

- The biggest challenges may be in the communication chains (dealer to OEM and OEM to supplier) than in the actual manufacturing process.

- To accomplish just-in-time or 15 day order-to-delivery will require *best efforts* of all of the supply chain.

RESULTS SUMMARY

When considering the list of potential barriers to reducing build-to-order time, panelists report that the main barriers lie within the OEM/assembly plant, followed by the Tier One supplier and distribution parts of the value chain. Within the OEM assembly plant, panelists think the barriers of information flow between the supply chain and OEM production, flexible line changes/line flexibility, and model complexity are quite severe. They also think supplier communications, capacity management, and assembly line take time and are severe barriers. Body shop/assembly sequencing is seen as somewhat severe.

Respondents think supply chain management by Tier One suppliers is a severe barrier to reducing build-to-order time, while component shipping logistics and component production sequencing are seen as only somewhat severe. Within the distribution area, vehicle shipping time and shipping logistics are reported as somewhat severe barriers, while order tracking, order processing time, and dealer preparation time are seen as less severe barriers to reducing build-to-order time.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Though there are no significant differences among manufacturers, suppliers, and dealers for most of the barriers, there are differences for three barriers. Dealers see Tier One supplier component shipping logistics and production sequencing as a more severe barrier than do manufacturers and suppliers. Manufacturers see body shop/assembly sequencing as a more severe barrier to reducing build-to-order time than do dealers.

BARRIERS TO REDUCING BUILD-TO-ORDER TIME	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
COMPONENT SHIPPING LOGISTICS	3.0	2.8	3.7
COMPONENT PRODUCTION SEQUENCING	3.1	3.0	3.8
BODY SHOP/ASSEMBLY SEQUENCING	3.9	3.3	3.3

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Based on responses to the list of potential barriers to reducing build-to-order time, the main challenges lie with the manufacturer rather than with suppliers or dealers. Manufacturer challenges fall into the large categories of communication with suppliers, model complexity, and capacity management and the more plant-level barriers of assembly line take time and body shop/assembly sequencing. These ratings of the barriers are interesting because they demand that manufacturers focus on the complete product development-to-manufacturing process. They must look for ways to reduce model complexity while providing differentiation of their vehicles, and they must better forecast volumes in order to better plan capacity. Line and plant flexibility will no doubt aid in this process, but there may be limits to how truly flexible a line or plant may be within the context of volume, tooling, and profitability.

Tier One suppliers, for their part, have their own challenges in managing their supply chains, which includes selecting suppliers and communicating with them for orders. Panelists see this barrier as quite severe. Considering the large number of supply chain management programs on the market and the significant work that has been already done on this topic, it seems that the whole idea of supply chain management may be like world domination. It's a lot harder than it looks. It may be that the second and third tiers of the supply base are not fluent in the electronic processes that the manufacturers and Tier One suppliers are implementing to manage the supply chain. If this issue is not addressed, then no matter how flexible the manufacturers become, the supply chain will not be able to provide them with the components they need on schedule.

Finally, it is surprising that the vehicle shipping time and logistics were not rated as more severe barriers. In discussions about reducing build-to-order time, one of the issues that continually surfaces is the time vehicles sit on trains or in train yards as they move across the country. It is thought that this process adds significant time to the delivery process. It may be that the panelists view manufacturing issues as so great that the logistics issues are simply seen as less severe in contrast.

MKT-30 How difficult will it be to make required changes in the following areas to reduce order-to-delivery time?

SCALE →	1	2	3	4	5
	NOT DIFFICULT AT ALL	NOT VERY DIFFICULT	SOMEWHAT DIFFICULT	DIFFICULT	EXTREMELY DIFFICULT

PRODUCT DESIGN	CURRENT DIFFICULTY
	MEAN RESPONSE
INBOUND LOGISTICS	2.9
ORDERING PROCESSES	3.1
OUTBOUND LOGISTICS	3.1
SUPPLY CHAIN COMMUNICATION	3.2
DISTRIBUTION PROCESSES	3.3
MANUFACTURING	3.6
CUSTOMIZATION	3.8

SELECTED EDITED COMMENTS

- Customization will be a big hurdle for the supply chain.

- Designs can be developed in reasonable amounts of time; however, validation—making sure the product works in the intended application—takes an enormous amount of time.

- Just simplify the build options.

- Logistics and scheduling must be the focus of the Big Three to improve supply chain efficiency and as an opportunity to lower supply chain costs.

- Multiply OEM typical colors (12-16 colors) times the various interior/exterior parts purchased, plus the assembly plant's body in white paint requirements, and you have a major challenge. Increase inventory and you create another set of problems. This is why supplier parks have such great appeal to the OEMs. JIT delivery on-site is not their investment.

- Options and customizing are the biggest problems.

- Product design should not be an issue. The ordering process is not the problem. Supply, manufacturing, and distribution chains must work in concert with each other to resolve problems.

- Until there is a change in mindset, it will be difficult to implement.

RESULTS SUMMARY

This question was designed to see how difficult it will be to make the required changes to reduce order-to-delivery time. In general, panelists see all the areas as being at least somewhat difficult to change. The areas panelists considered the most difficult to change are customization followed by manufacturing. Other areas including distribution processes, supply chain communication, ordering processes, and outbound logistics are considered somewhat difficult. Inbound logistics are considered the least difficult area to change, although it too was considered somewhat difficult.

What is particularly interesting about these responses is that except for customization and manufacturing, panelists did not reach consensus about whether changes in the other areas will be difficult. These results illustrate how hard it will be move to a BTO/OTD paradigm.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistically significant differences in responses among manufacturers, suppliers, and dealers.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Based on our first round question (MKT-29) that focused on specific challenges to reducing order-to-delivery time, this question was designed to find out which general areas will be the most difficult to change. As one might expect based on responses to MKT-29, the areas of customization and manufacturing are considered the most difficult to change. Although customization is not really considered an "area," it represents the product development challenge of making the tough decisions about what customers really value in a particular vehicle and what will differentiate the vehicle within the manufacturer's lineup and against the offerings of competitors. Not only must the product development team decide on these issues, but they must also sort out the manufacturing and supply costs of providing this form of differentiation.

The customization/product development issue is not only an OEM issue. As many of the larger suppliers take on product development responsibility for complete systems, they will have to be intimately involved with their customers' customization initiatives in order to make their designs compatible. If different OEMs have different strategies for customization, which they probably will, suppliers may not be able to leverage the economies of scale their systems should provide them.

Manufacturing issues are also noted in first-round question MKT-29 as presenting severe barriers to reducing build-to-order/order-to-delivery time. Line flexibility and capacity management, in particular, are considered quite severe barriers to reducing BTO/OTD time. What is interesting about the manufacturing issue is that it can apply to both OEMs and suppliers. Both groups will be challenged in much the same way with BTO/OTD manufacturing.

Finally, harkening back to a number of comments from MKT-29, one might question the need to move in the BTO/OTD direction in the first place. Research needs to be performed to prove that the return on investment in transforming product development, manufacturing, and the supply chain into a BTO/OTD model will create more value for the vehicle purchaser and more profits for the manufacturer. Can a manufacturer save enough money through this process to pass a significant amount along to customers, thereby creating a competitive edge for their vehicles in the marketplace? In theory, building and giving customers the exact vehicle they desire will eliminate the need to use rebates to move inventory off the dealer's lot. But are customers willing to trade off this rebate/discount and pay the sticker price for the exact vehicle they desire, or are they willing to live with the current system of rebates/discounts for making compromises and buying off the lot? There are so many costs involved in completely re-designing the product development, manufacturing, and the supply chain, and so much uncertainty about the desire of consumers to adopt this model that one must wonder if the returns will justify the costs.

MKT-31   How much will each of the following business to customer (B2C) features improve customer satisfaction?

SCALE →	1	2	3	4	5
	NONE AT ALL	NOT MUCH	SOME	QUITE A BIT	A GREAT DEAL

FEATURES	CUSTOMER SATISFACTION IMPROVEMENT
	MEAN RESPONSE
CUSTOMERS ORDERING VEHICLES DIRECTLY FROM THE FACTORY	2.7
REAL-TIME COMMUNICATION BETWEEN OEMS AND CUSTOMERS	3.4
TRACKING THE VEHICLE FROM ORDER TO BUILD TO DELIVERY	3.4
REDUCED ORDER-TO-DELIVERY TIME	3.6
ACCURACY OF DELIVERY OF ORDERED VECHICLE (DATE)	3.7
MORE DESIRABLE VEHICLES ON THE DEALER'S LOT BECAUSE OF BETTER MEASUREMENT OF CUSTOMER'S ABILITY TO ORDER EXACTLY WHAT THEY WANT (MASS CUSTOMIZATION)	3.7
THE REDUCTION OF TIME SPENT AT THE DEALERSHIP	3.7

SELECTED EDITED COMMENTS

- Advantages to the customers who use the Internet and like to check on delivery daily.

- Customers don't really want to order a vehicle. They want to find exactly the vehicle they're looking for in stock.

- Customers want a simplified buying experience and not more bonding with an OEM or dealership.

- The dealer and OEM could use the Internet to provide a forum for communication, e.g., e-mail vehicle alerts, inspection requirements, offers for car washing, and other benefits.

- Enhancing the B2C features also could raise the consumers' expectations regarding what is acceptable customer service. The consumers who will use the B2C most intensively are used to a very high standard of instant gratification. They are used to ordering exactly what they want and being able to get it delivered to their door in a couple of days. They can also pay a couple of more dollars and have it delivered at their door the very next morning. They have a very high expectation and standard for customer satisfaction.

- For volume brands, order-to-delivery isn't really an issue. Ninety-five percent of vehicles are delivered from stock. Only small dealers and obscure brands are a problem.

- Getting it quickly is *not* the issue. Getting it when promised, as ordered, and in clean, perfect working order at the time of delivery is *key!*

- Most dealers know what colors, models, trim, equipment, etc. consumers want. Manufacturers should adjust production to this information and not force poor-selling units on dealers.

- Possibly most customers don't care who they are communicating with or what the status of an order in process is as long as they get the product they want, when they want it, and with a minimum of personal time invested.

- The OEMs have a difficult time handling dealer orders from 19,000 dealers. How would they handle 1 or 2 million? Disaster from customer sales and action standpoint.

- The problem is cost associated with today's method of handling inventory. Many customers are impulse buyers and they don't want to wait for delivery; whether it is 15 days or more. Mass customization will create problems, not solve them.

RESULTS SUMMARY

This question addresses a number of business-to-customer features that may improve customer satisfaction. The main features that panelists think will improve customer satisfaction include mass customization, the reduction of time spent at the dealership, accurate delivery date of ordered vehicles, and reduced order-to-delivery time. Panelists think real-time communication between OEMs and customers and the ability to track a vehicle from order to build to delivery will also increase customer satisfaction, but to a lesser degree. Finally, the ability of customers to order vehicles directly from the factory is expected to have the least effect of customer satisfaction.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

As one might expect, dealers report that having customers order vehicles directly from the factory will do little to improve customer satisfaction, while manufacturers and suppliers think it will have some improvement, although not a lot. Both manufacturers and suppliers also think reducing the time spent in the dealership will improve customer satisfaction quite a bit, while dealers report that it will yield some improvement.

FEATURES	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
CUSTOMERS ORDERING VEHICLES DIRECTLY FROM THE FACTORY	3.1	3.0	1.5
THE REDUCTION OF TIME SPENT AT THE DEALERSHIP	3.7	3.8	3.1

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

This question summarizes a number of issues brought up throughout the discussion of improving customer satisfaction with the new car buying experience. All of the features that panelists were asked to respond to are not currently in place, although all have been discussed over the last few years as manufacturers, in particular, focused on improving their distribution channels.

As has been the case with many of the questions that focus on areas that reflect on dealer performance or dealer business issues, manufacturers and dealers see the world quite differently. We see this in this question in the differences between dealers and manufacturers on the issues of customers ordering directly from the factory and reducing the time customers spend at the dealership. It is interesting that although there is a wide gap between the groups on ordering directly from the factory, manufacturers see this feature as improving customer satisfaction only somewhat. And in terms of reducing time spent in the dealership, dealers actually see this feature as providing some improvement in customer satisfaction.

But what is striking in these results is the commonality that exists in the responses of manufacturers, suppliers, and dealers. All three groups think mass customization of vehicles, reduced order-to-delivery time, and accuracy of delivery date of ordered vehicles will improve customer satisfaction quite a bit. These are important results because they show all groups moving away from established paradigms in both manufacturing and distribution. In the new paradigms all three groups will have to make significant changes in their business processes. Manufacturers will have to come to terms with what can and should be available to customize on a vehicle, and re-design their entire manufacturing process to adapt to a BTO/OTD mentality. Suppliers will have to re-design and adapt to the BTO/OTD paradigm within their manufacturing and supply chain management processes. And dealers will have to move from a big box, large floor plan mentality to smaller, Internet and information technology-driven dealerships. These are major changes for all three groups, but these results suggest that they think they will yield higher levels of customer satisfaction in the long run.

What is presumed in the responses to this question is that consumers actually really want these changes to occur. As discussed throughout the section of BTO/OTD and brought up in a number of comments by respondents, there is still concern about how much consumers want the paradigm to change. Of course, consumers will say they want these changes if they save time and money, but what if they only save time but not money? What if a BTO/OTD paradigm says manufacturers do not have to provide rebates or incentives to buyers because they will be getting exactly what they want in a vehicle with no compromises? These are the tough questions manufacturers must wrestle with as they decide whether moving to this model will actually be worth the cost and effort.

If manufacturers do move to the BTO/OTD model, it will most likely be an evolutionary change; numerous changes would first need to occur throughout the company and supply and distribution chain before the model can function. As can be seen today, manufacturers are looking for easy ways to reduce order-to-delivery time by better understanding where vehicles are located throughout the country. Dealers have been swapping vehicles between dealerships for years in order to deliver a new vehicle to a customer within days, so a more advanced system that encompasses a larger area, or one that can be accessed directly by consumers through the Internet, may only improve the process incrementally. The major paradigm shift will occur when order times on vehicles built to order reach levels of one to two weeks for customized vehicles. As manufacturers reach these levels across all their vehicle lines, consumers will more often consider ordering vehicles. But as discussed above, this decision will also be based on the difference between the cost of ordering a vehicle versus purchasing it off the dealer's lot.

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VI. VEHICLE FEATURES

MKT-32   There are many recent examples of new technologies or features that have met with great consumer success (e.g., the electronic key fob) and many that have met with far less success (e.g., heads-up display and CRT instrumentation). Currently, how important are each of the following marketing elements in assuring success of a new technology? Please note any other issues you think are important.

SCALE →	1	2	3	4	5
	VERY UNIMPORTANT	UNIMPORTANT	NEITHER UNIMPORTANT NOR IMPORTANT	IMPORTANT	VERY IMPORTANT

MARKETING ELEMENTS	MEAN RESPONSE
	CURRENTLY
OFFER NEW TECHNOLOGY ACROSS ALL VEHICLES SIMULTANEOUSLY	2.7
OFFER REBATES/DISCOUNTS AS AN INCENTIVE TO PURCHASE THE NEW TECHNOLOGY	3.1
OFFER NEW TECHNOLOGY ONLY ON LUXURY VEHICLES AT THE INTRODUCTION OF THE NEW TECHNOLOGY	3.2
TEST MARKET THE NEW TECHNOLOGY ON CURRENT CUSTOMERS WITHIN THE TARGET VEHICLE SEGMENT	3.9
DEVELOP MARKETING/ADVERTISING PLANS THAT COMMUNICATE THE ADVANTAGE OF THE NEW TECHNOLOGY TO CONSUMERS	4.0
UNDERSTAND PLACEMENT OF NEW TECHNOLOGIES WITHIN VEHICLE SEGMENTS	4.0
UNDERSTAND PLACEMENT OF NEW TECHNOLOGIES BETWEEN VEHICLE SEGMENTS	4.1
UNDERSTAND CUSTOMER PRICE POINTS FOR NEW TECHNOLOGIES	4.5

SELECTED EDITED COMMENTS

- ABS is a great technology, but consumers were never given the how and why. Airbags are a great technology, the how and why were obvious to consumers. Compare the market shares.

- Consumer awareness of the value of new technology is important.

- Cost/benefit is the primary factor with the educated consumer.

- If you need to communicate the advantage of new technology to get customers to use it, then you must question why you are offering it. Personal experience at our company in conducting customer clinics clearly proved the OEM had totally wrong impressions of the new technology we were offering. When given our clinic results, they were surprised. The bottom line is that OEMs remain arrogant and think they know their customers' preferences/profiles, and they don't!

- It is most important that the technology actually respond to some genuine customer interest or need.

- Connect technology to safety and environment.

- Technology must offer the owner a real improvement in some aspect of the vehicle or driving experience. Gadgets for gadgets' sake will not fly.

- Test marketing new technology is most important when the new technology requires a high level of customer interface.

- This is an art as well as a science. Knowing the customer and understanding how developments in other industries can transfer to the auto industry is critical.

- Understanding customer needs and pursuing solutions is key. The Detroit press recently knocked the GM OnStar program. I believe GM said they hoped to sell 1 million units in 2000. I suspect they will not hit their goal. I believe consumers do not want to pay what GM is charging. If I am correct and it does not sell, how could GM miss this market segment so badly?

- What is generally missed is the customer acceptance price point.

- Industry needs to work with the car-clubs (AAA) to communicate advantages.

RESULTS SUMMARY

Understanding consumer price points for new technologies is rated as the most important of the listed marketing elements for assuring success of a new technology. According to panelists, other important elements of successful marketing strategy include understanding the placement of new technologies between and within vehicle segments, communicating the advantages of new technologies to the consumers, and appropriately test marketing the new technology.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

The three groups are in general agreement. However, the dealers (3.4) rate the development of marketing and advertising plans that communicate the advantages of the new technology as less important than do the manufacturers (4.0) and the suppliers (4.2).

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

New technologies offer manufacturers the opportunity to increase the desirability of their vehicles, while offering suppliers the chance to gain critical new product lines. However, consumers do not necessarily view all new technologies as value-added. Panelists indicate that understanding the price points for new technologies is the most critical element in any marketing strategy. If the perceived value added is not at or above the price, the new technology will have little chance of surviving without other forms of assistance. Some new technologies—especially safety and emissions related items—may gain higher penetration rates due to government regulation. Such technologies that offer societal benefits may not be as highly valued by the consumer, but may reach higher penetration rates than those that the consumer does value.

Another important challenge to the introduction of new technologies is to assist the consumer in gaining a clear understanding of the value of the new technology. There are examples of companies, both suppliers and manufacturers, spending great effort and cost to inform the consumer of the benefits of a new technology. These efforts have meet with varied success.

Panelists indicate manufacturers must carefully position new technologies in appropriate segments. Traditionally, many new technologies have seen initial application in luxury vehicles, then as the technologies gained acceptance, they were rolled out to the rest of the lineup. In-vehicle e-mail and the Internet present an interesting challenge. The technology has already appeared in some luxury vehicles where the cost of the Internet access technology is a relatively small portion of total vehicle costs. Yet many suggest that this technology may be most accepted by younger drivers who often drive smaller, less expensive new vehicles or even used vehicles. The manufacturers face a challenge selling the technology to a technologically savvy young buyer who may value the portability of a PDA as opposed to the in-vehicle technology, and may well lack the financial resources to afford duplicate technologies. The industry is working to develop wireless communication protocol between in-vehicle components and hand-held devices. This communication platform will be a critical element of the overall strategy.

Such challenges illustrate another critical element of the successful implementation of new technologies: the need to undertake appropriate test marketing, and the subsequent understanding of the consumer's needs and wants. Panelists indicate that the ability to listen to and observe the end user is a vital part of positioning a new technology.

MKT-33   For the following features, please estimate the highest price that will support a 25 percent market penetration rate. Remember that the average vehicle costs about $20,000.

FEATURE	MEDIAN RESPONSE	INTERQUARTILE RANGE
ADAPTIVE CRUISE CONTROL	200	100/375
IN-VEHICLE INTERNET/E-MAIL ACCESS	250	100/450
IN-VEHICLE NAVIGATION SYSTEMS (GPS)	300	200/500
NIGHT VISION	300	150/500
COLLISION-AVOIDANCE SYSTEMS (WITH BRAKE ASSIST)	500	200/500

SELECTED EDITED COMMENTS

- At this point in time, Internet/e-mail access is not a high priority to the $20,000 vehicle buyer.

- Consumers may be willing to spend more on safety enhancing features, especially if insurance companies provide rate incentives. The current (emerging) trend of driver awareness/alertness may promote opposition to driver distracting devices such as GPS or in-vehicle Internet access. Voice interaction may be necessary to offset safety concerns.

- I think that most consumers would like to have portable devices (computers/Internet, navigation) that they can take to other cars, their homes, or anywhere else they would want to use such a device and not pay to have duplicate devices that aren't utilized.

- I think the Palm VII just outmoded Internet access in vehicles. You cannot do Internet while driving and who wants to sit in a parked car to work when the device fits in your pocket.

- The last three systems need to be removable as more and more people are leasing.

- Portable devices will come on fast at a better price and stronger brand promise.

- Several of these features will be offered only as a package. "Off board navigation and using cellular telephones (OnStar, etc.) offer lower cost navigation.

- The majority of Americans like control and don't want it taken out of their hands.

RESULTS SUMMARY

Panelists indicate that each of the listed features will have to be delivered at or below $500 to gain a 25 percent market penetration rate. According to the panel, collision avoidance systems would have the highest 25 percent threshold price ($500). The panelists indicate the other listed features have a $200-300 threshold.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

This question was changed from previous surveys. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

The listed components can be described as safety (adaptive cruse control, collision avoidance, and night vision) or convenience (Internet/e-mail and navigation systems). A critical determining factor for each of the listed components will likely be government regulation. Certainly increased attention is being given to technologies that may distract the driver, and in-vehicle Internet/e-mail access and GPS navigation systems offer the potential to distract drivers. Due to safety considerations, regulation may positively—or negatively—affect the listed features.

Driver distraction regulations are not the only potential hurdle for in-vehicle Internet/e-mail access and GPS technologies. Both of these technologies face direct competition from hand-held devices. Today, hand-held cell phones are the dominant technology, with in-vehicle technology still very limited. It is possible that the hand-held PDA, and to a lesser extent, hand-held GPS technology, may supplant the need for in-vehicle components. Some manufacturers may look to offer complete subscription services that make the transition between hand-held technologies and car-based technology seamless, thus gaining the opportunity to incorporate the technology into the vehicle, and also, maybe more importantly, beginning to develop access to ongoing revenue streams from subscriptions.

Night vision and collision avoidance systems offer the potential to significantly increase driver safety, and therefore may benefit from insurance rate incentives. Over the past decade, consumers have become increasingly aware of safety features, and have shown a willingness to pay a premium for such options. Night vision will be an interesting case study in the coming years. Cadillac has experienced some initial success with its first offering of the technology at price of approximately $2,000, yet penetration rates are far below 25 percent. Several manufacturers have announced their intentions to offer similar technology in the coming years. The challenge for the suppliers is to reduce the costs to meet the Delphi panel's estimates, or for the manufacturers to develop marketing programs that increase consumers' perception of the value of night vision.

With these new technologies, the companies may face the challenge of informing the consumer of the usefulness of the new technologies. MKT-32 addresses this and other challenges regarding the introduction of new technology.

MKT-34   Please forecast the percent of the total U.S. light vehicle market that will have each of the following factory-installed comfort and convenience items in 2004 and 2009.

COMFORT FEATURES	EST. 2000 MY*	MEDIAN RESPONSE		INTERQUARTILE RANGE	
		2004	2009	2004	2009
ADJUSTABLE BRAKE PEDALS	n/a**	10	20	5/15	10/41
AUTOMATIC CLIMATE CONTROL SYSTEMS	21.1%	27	40	25/30	30/55
CAR PHONE	0.4%	5	10	1/5	2/40
CD PLAYERS	34.8%	50	70	40/55	50/80
DUAL CLIMATE CONTROL SYSTEMS	n/a**	10	20	5/20	10/30
IN-VEHICLE NAVAGATION SYSTEMS	n/a**	10	20	5/11	10/40
IN-VEHICLE INTERNET/E-MAIL ACCESS	n/a**	5	20	2/10	7/40
INCOMING AIR FILTERS	n/a**	5	15	1/10	4/30
KEYLESS ENTRY	50.8%	65	85	60/70	70/100
LEATHER INTERIORS	23.8%	25	30	25/30	25/40
REAR SEAT AUDIO CONTROLS	n/a**	10	15	2/10	5/25
STEERING WHEEL-MOUNTED CONTROLS	n/a**	12	30	8/25	15/50
SUNROOF	23.0%	25	30	25/30	25/35
TELESCOPIC STEERING COLUMNS	n/a**	5	10	5/10	5/25
TRIP COMPUTERS	7.1%	10	15	10/15	10/30
VCR/VIDEO	n/a**	5	10	1/10	4/20

*Source: Ward's Automotive Yearbook, 1999.

** n/a = not available

SELECTED EDITED COMMENTS

- Adjustable pedals offset the need for telescopic steering columns. Another music deliverable will become available that is more advanced than CDs. Navigation systems make trip computers obsolete.

- CDs will be replaced by players that can read digital files without all the mechanicals.

- Cell phones will soon fit into an adapter in the vehicle; thus, built-in phones go fast to zero.

- Cell phones and Internet access installed in the vehicle will not grow too quickly since both are available via the new cell phones and palmtop computers entering the market.

- For CD players, I'd also include MP3 or other similar digital formats. Satellite radio will also become popular.

- Many of the electronic items above are difficult to forecast without some idea of cost.

- New technology will make CDs obsolete.

- Penetration of CD players will be high as long as CDs are still the technology of the masses. If something else is the prevalent medium to play back music, then the CD penetration will be very low in 2009.

- Price will be the ultimate driver of penetration. I see more removable features, such as telephones, e-mail, etc., where they can be used anywhere.
- SUVs and vans will see more of the rear area convenience items.
- There will be a portable that docks in the vehicle. Also, new, integrated entertainment or productivity system won't see individual playbacks such as CDs.
- Videos will be DVD-based and probably in 25 percent of the vehicle market.

RESULTS SUMMARY

Many of the listed features are expected to achieve penetration rates 20 to 30 percent higher than current estimates, yet many features had wide interquartile estimates. The panel forecast keyless entry and CD players to see the highest gain in penetration rates in the coming decade, although a number of comments remind us that CD players could go the way of the eight-track.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

The 2001 Delphi X panel is in general agreement with earlier Delphi panels. However, they do forecast substantially higher penetration rates for automatic climate controls, CD players, keyless entry, and steering wheel controls.

STRATEGIC CONSIDERATIONS

The listed convenience features offer greater opportunity for suppliers and manufacturers to satisfy their customers. Yet the addition of each feature adds to the cost of a vehicle. Therefore the penetration rates for each of the listed features will depend on the cost of the feature compared to the perceived value added, as well as competition from other features.

Panelists forecast very little increase in car phone penetration by 2009. The in-vehicle cell phone, like several other listed technologies, faces strong competition from hand-held technologies. However, such hand-held devices may be viewed as an increased distraction for drivers compared to in-vehicle technologies. The manufacturers must make efforts to offer seamless integration by using adaptors. Such integration could allow for voice cell phone conversations, e-mail, and other interactions to be transmitted through the vehicle's audio system, thus possibly reducing the potential for driver distraction while maintaining transportability.

The panel's estimate for in-vehicle Internet/e-mail access is significantly lower than estimates that some manufacturers have recently put forth. Such differing forecasts should not be surprising given the rapid evolution of this technology and the hyperbole that has accompanied it. There is little doubt that Internet access will soon be readily available for in-vehicle applications. Yet it is far less certain what form that technology will take, and even less certainty as to who will provide the services. General Motors' OnStar service has established a leading role in subscription-based cellular services.

The panel indicates that several of the listed technologies face competition from newer technologies, which may affect future penetration rates. Given the comments regarding the possibility of CD players being replaced by alternative technology, the panel's forecast for 70 percent penetration for CD players in 2009 must be viewed cautiously. While compact disks have become the accepted standard, it is possible that there will be viable alternative in the coming decade. MP3 technology is rapidly gaining acceptance, and will soon be offered by some manufacturers.

MKT-35   Please forecast the percent of the total U.S. light vehicle market that will have the following factory-installed safety feature items in 2004 and 2009.

SAFETY FEATURES	EST. 1995 MY*	MEDIAN RESPONSE		INTERQUARTILE RANGE	
		2004	2009	2004	2009
AIRBAGS					
INFLATABLE SEATBELTS	n/a**	3	9	1/5	1/15
ROLLOVER AIRBAGS	n/a**	5	13	0/10	3/25
REAR PASSENGER AIRBAGS	n/a**	5	20	2/10	5/30
SIDE AIRBAGS	13.1%	25	50	20/30	38/73
NIGHT VISION	n/a**	5	10	2/10	5/20
REAR COLLISION AVOIDANCE (I.E., RADAR DETECTION)	n/a**	5	15	2/10	8/25
STABILITY CONTROL	n/a**	6	15	3/15	10/40
TRACTION CONTROL	22.9%	30	40	26/35	35/63
ANTITHEFT	34.5%	42	60	40/50	50/75
ANTI-LOCK BRAKES	60.7%	70	85	70/75	80/100

*Source: Ward's Automotive Yearbook, 1999.

**n/a = not available

SELECTED EDITED COMMENTS

- Inflatable "whatevers" are not necessarily the only approach to safer vehicles.

RESULTS SUMMARY

Each of the listed safety features is forecast to see increased penetration in the coming decade. The panel forecast side airbags (50 percent) and antitheft devices (60 percent) to see the largest increase of the listed features. The panel forecast minimal inflatable seatbelt penetration in the coming decade.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

The Delphi X panel is in general agreement with earlier Delphi panels.

STRATEGIC CONSIDERATIONS

Manufacturers have increasingly found that safety features can be strong selling points. The listed features include both passive (airbags) and active (anti-lock brakes, traction control, etc.) safety technologies. Both types of technology will be critical in developing an effective safety system.

As buyers continue to embrace sport utility vehicles, rollover airbags—or curtains—may see application rates higher than forecasted. At least one manufacturer has indicated that it will make airbags designed to protect passengers in the event of a rollover accident available on all sport utilities in the next few years. While this feature may see limited application in passenger cars, the number of sport utility vehicles sold as a percent of total vehicle sales may lead to substantial penetration rates.

Side airbags are forecast to see strong growth in the coming decade. The many different possible airbag locations, and associated costs, will likely lead manufacturers to concentrate development activities on complete passive restraint systems.

Given the panel's forecast of an 85 percent penetration rate for anti-lock brakes, their forecasts for traction control and stability control are interesting and perhaps low. If anti-lock brakes are to become nearly standard equipment, as the panel's forecast suggests, then the addition of traction control and stability control may not add significant cost. Both systems rely on anti-lock brake technology, and would therefore require minimal additional hardware.

MKT-36   Please forecast the change in penetration rates for the following tires and wheels in the coming decade. What trends for 2009 do you see for tires and wheels?

SCALE →	1	2	3	4	5
	SHARPLY DECREASE	DECREASE	NO CHANGE	INCREASE	SHARPLY INCREASE

TIRE AND WHEEL TRENDS	MEAN RESPONSE
	2000 – 2009
TIRES	
LOWER PROFILE	3.4
LONGER LIFE	3.7
WATER-SHEDDING DESIGNS	3.8
SELF-REPAIRING	4.1
RUN-FLAT TECHNOLOGY	4.3
WHEELS	
WHEEL COVERS	2.4
CHROME-PLATED	3.3
STYLED-STEEL	3.5
ALUMINUM	3.8

SELECTED EDITED COMMENTS

- Aluminum is the recycling king.

- Most people like the idea of never having to change a spare tire. They also would like to utilize the space currently taken up by the spare tire.

- We will see the increase of tire/wheels mounted and delivered to assembly plants with either wheel or tire manufacturers, First Tier. Longer-term larger modules, including other front end suspension, brake, and other components, are to be included in these modules.

RESULTS SUMMARY

All but one of the listed tire and wheel attributes are expected to see increased penetration rates in the coming decade. Only wheel covers are expected to see lower penetration rates. Run-flat technology is expected to see a strong increase ($4.3 \neq 5.0$) in the coming decade.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

The 2001 Delphi X panel is in general agreement with earlier Delphi panels. However, the 2001 panel expects lower gains in the development of longer wear tires and water shedding capabilities than do the previous panels.

STRATEGIC CONSIDERATIONS

There are many factors that influence tire and wheel technology trends. Run-flat technology and self-repairing tires, the two technologies forecast to see the biggest increase in penetration, are safety related. Run-flat technology offers the opportunity to significantly increase safety, while decreasing total vehicle weight because of the ability to forego a spare tire. Yet total system cost—and replacement cost for tires—remains a strong inhibitor for future growth.

Aluminum wheels and steel-styled wheels are also expected to see increased penetration in the coming decade. The forecasted increase in both of these indicates a continued trend toward greater personalization and style for vehicles. The forecasted decrease in wheel covers fits well with the increased penetration of aluminum and styled-steel wheels. However, there have been some recent applications of materials and technologies that deliver high quality chrome-like wheel covers that may offer the opportunity for increased personalization and decreased cost vis-à-vis other alternatives.

MKT-37   For each vehicle attribute, please estimate the highest price increase which customers will accept without decreasing a vehicle's market share by 5 percent or more. Remember that the average vehicle costs about $20,000.

"GREEN" ATTRIBUTES	MEDIAN RESPONSE	INTERQUARTILE RANGE
LOW-POLLUTION MANUFACTURING	38	0/175
NEAR 100% RECYCLABILITY	100	0/200
NEAR ZERO EMISSIONS	200	0/300
80 MPG FUEL ECONOMY	1000	525/1200

SELECTED EDITED COMMENTS

80 MPG fuel economy

- Consumers will be more accepting of this because they will realize some expense savings.
- Consumers want to know how much will be saved if they purchase this option.
- This mileage could come with combination of diesel and other technology that provides similar performance as gas with new common rail systems.
- The customer will pay the amount equal to fuel savings.
- Customers are now sensitive to gasoline prices.
- Depends directly on fuel cost and whether the cost of this mileage increase equates to savings in everyday driving.
- Depends on the competitive environment. If all manufacturers offer very high mileage vehicles, then no one will pay much extra for it. If one manufacturer achieves a technological breakthrough, it will be able to charge a premium for a while, until the industry catches up.
- Fuel costs have risen since round one and opinions are changing.
- Fuel costs will not be a major issue in total ownership.
- Gas and maintenance savings need to offset in three years.
- Hard to say because of mass, space, and other compromising factors.
- Lower if performance is significantly impacted.
- If the gas price is high and the vehicle performance is good.
- It appears this must be accompanied by poor performance, which would be unpopular and, perhaps, unsafe.
- It will be a major consideration in the future.
- Lower end market only, driven by gas prices greater than $2.00/gallon.
- Maybe high, except generally, for entry-level buyer with payments.
- Must provide good performance.
- There must be no loss of performance.
- Purely a calculation based on current fuel pricing.
- Reduces risk of gas costs, plus it's cleaner.

- This is a "visible" attribute and the customer will pay, within reason.
- This is a cost-justified expense.
- This is the OEM's job!
- Variance depends on the price of fuel and performance.
- Will be based on payback analysis if performance is equal.
- With fuel prices increasing, customer will view as real savings.

Low-pollution manufacturing

- Consumer sentiment that this has no immediate financial return unless they are "green consumers."
- Consumers will not pay for it.
- Consumers will view this as the manufacturer's responsibility.
- Consumers won't pay anything if this was an option, but the question asked about LOST market share.
- Customer doesn't "see" this.
- The customer either doesn't get it or doesn't care.
- The customer views this as a manufacturing obligation.
- The customer will pay more if dispose fee/tax is applied.
- Customers expect us to be working toward this.
- Customers want a clean environment but they want someone else to pay for it.
- Customers won't pay. This will be viewed as the responsibility of manufacturers.
- It's difficult for consumers to accept responsibility.
- Does not directly affect the customer. This is a government mandate; imports should also be taxed to support.
- If it doesn't offer direct value to the consumer, they are not willing to pay for it.
- Most consumers want to save the environment, but only if it does not cost anything.
- OEMs must continue to seek financially viable modifications to the internal combustion engine.
- This is the OEMs' responsibility (3 responses).
- People want to feel good about saving the environment but won't pay for it.
- The public does not care (7 responses).
- The consumer understands, but is not likely to pay for this.

Nearly 100% recyclability

- Benefits the customer only extremely indirectly.
- Consumers will not pay for it.
- Consumers don't care (6 responses).
- Consumers won't pay anything if this was an option, but the question asked about LOST market share.

- The customer either doesn't get it or doesn't care; even though they understand this better than "low-pollution."
- The customer views this as a manufacturing obligation (3 responses).
- Customers want clean environment but they want someone else to pay for it.
- Customers won't pay. This will be viewed as the responsibility of manufacturers.
- It's difficult for consumers to accept responsibility.
- Except for a small "green" segment of the population, this does not offer any direct value to the consumer; so again, they will not pay for it.
- Most consumers would be surprised that this isn't true now.
- Only a niche set of consumers will voluntarily pay for this option.
- People want to feel good about saving the environment but won't pay for it.
- Perhaps part of the price of the car is a deposit, like for a pop bottle. When the car is traded in, the customer gets a refund. I am not sure how to deal with private sales.
- Some consumers will pay for this but many will not.
- Some incentive is required.
- The goal here should be that it more than pays for itself. Aluminum is cheaper to process than to make, etc.
- The OEMs have knowledge of materials that can be recycled and know how to achieve this goal. They must find economical benefits that improve their cost position.
- This won't work unless the consumer is compensated somehow.

Near zero emissions

- Consumer sentiment that this has no immediate financial return unless they are "green consumers". No immediate return to mass market. Appeal limited to green consumer. BMW's been recycling in Europe. What's been the result on sales?
- Consumers don't care (3 responses).
- Consumers will care more about this in the future and will pay something.
- Cost ($200) only if the performance does not suffer.
- The customer views this as a manufacturing obligation.
- Customers want a clean environment but they want someone else to pay for it.
- Customers won't pay. This will be viewed as the responsibility of manufacturers.
- It's difficult for the consumer to accept responsibility.
- Honda has it now with the new four-cylinder.
- If performance is not degraded.
- Market and legislative forces are driving us in this direction anyway. Less demand than for high mpg. Depends on the competitive environment. If all manufacturers offer very high mileage vehicles, then no one will pay much extra for it. If one manufacturer achieves a technological breakthrough, it might be able to charge a premium for a while, until the industry catches up.
- Most people wouldn't pay for it, but some "green types" may be willing to pay $500.

- OEMs must continue to develop cost effective technology.
- People care about pollution.
- People want to feel good about saving the environment but won't pay for it.
- Performance cannot be lower.
- Social consciousness will increase if performance holds.
- Some consumers will pay for this but many will not.

RESULTS SUMMARY

Panelists indicate that consumers would be willing to accept a $1,000 increase in vehicle price if a new vehicle were to deliver 80 mpg fuel economy. Panelists indicate that consumers would value the other attributes far less.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

There are no statistical differences among the three groups.

TREND FROM PREVIOUS DELPHI SURVEYS

The Delphi X panel is in general agreement with earlier Delphi panels.

STRATEGIC CONSIDERATIONS

The industry faces many challenges—and opportunities—in the coming decade. Nowhere is that more evident than in the many pending environmental challenges. Manufacturers must balance the increasing pressure to create more environmentally friendly vehicles and manufacturing processes with the need to remain cost competitive. The development of more environmentally friendly vehicles and manufacturing processes will likely come, at least initially, with an increase in costs. A critical element of this challenge is what percent of any cost increases can be passed along to the consumer.

A vehicle that gets drastically increased fuel mileage—without reducing current performance standards—would offer buyers an economical justification for choosing a more environmentally friendly vehicle. This economic justification becomes even stronger as gasoline prices increase.

Low-pollution manufacturing, near 100 percent recycling, and near zero emissions offer social responsibility, but unlike the 80 mpg fuel economy, they offer no direct economical benefit to the purchaser. Therefore, consumers will likely not willingly pay more for these attributes. The companies find themselves in the unenviable position of trying to deliver such environmental gains at little or no additional cost.

Several of the comments suggest that it is the manufacturer's responsibility to deliver products that do not negatively impact the environment. Yet, there are few strategies that can currently do so without raising the cost of a vehicle. Some suggest that an alternative is the use of government incentives to encourage consumers to choose products that better serve societal needs. As such, the incentives could increase the rate at which these new technologies may gain scale economies and technical efficiencies. Yet such regulation can certainly be viewed as interference in market demand, and should be approached with great care.

The panelists indicate that consumers would be willing to pay an additional $1,000 for a vehicle that achieved 80 mpg. A quick calculation suggests that the value of such a vehicle attribute could be significantly higher. Based on a 14,000 mile per year average and assuming a rather conservative $1.75 per gallon of gasoline, the difference of driving an 80 mpg vehicle, compared to the current U.S. fleet average of about 24 mpg, would be about $600 per year. Therefore, even if discounting of the purchase is allowed, the payback for the $1,000 price premium would be about two years. Two important considerations: First how willing are consumers to pay for an attribute that will deliver return over the life of the product? And second, there appear to be no silver bullet technologies to achieve an 80 mpg vehicle at this time.

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VII. ALTERNATIVE POWERED VEHICLES

MKT-38   The following is a partial list of possible barriers to consumer acceptance of gas/electric and fuel-cell hybrid powered vehicles. Please rate the severity of the following barriers to consumer acceptance of hybrid-powered, gas/electric, or fuel cell vehicles.

SCALE →	1	2	3	4	5
	NOT SEVERE AT ALL	NOT VERY SEVERE	SOMEWHAT SEVERE	SEVERE	VERY SEVERE

BARRIERS TO CONSUMER ACCEPTANCE OF HYBRID POWERED VEHICLES	MEAN RESPONSE
POST-WARRANTY REPAIRS	3.7
CONCERNS OVER RELIABILITY/DURABILITY OF NEW TECHNOLOGY	3.9
LACK OF CONSUMER UNDERSTANDING OF NEW TECHNOLOGY	3.9
REPAIRABILITY OF NEW TECHNOLOGY	3.9
UNPROVEN PERFORMANCE	3.9
UNPROVEN TECHNOLOGY	4.0
REFUELING ISSUES	4.3
VEHICLE COST	4.5

SELECTED EDITED COMMENTS

- Acceptance will be slow and in niche segments.

- We need a scientific breakthrough to make this a viable alternative.

RESULTS SUMMARY

Panelists think all the barriers listed are severe barriers to consumer acceptance of hybrid-powered, gas/electric, or fuel cell vehicles. The differences among the barriers are in the level of severity. Vehicle cost is seen as the most severe barrier, followed closely by refueling issues. The next level of severity includes the unproven performance of the vehicles, the unproven technology, the reparability of the new technology, and the lack of consumer understanding and concerns over reliability and durability of the new technology. The least severe barrier reported is post-warranty repairs; although this barrier is still rated as severe.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Suppliers see concerns over reliability/durability of the new technology as a more severe barrier to consumer acceptance than do dealers and manufacturers.

BARRIERS TO CONSUMER ACCEPTANCE OF HYBRID POWERED VEHICLES	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
CONCERNS OVER RELIABILITY/DURABILITY OF NEW TECHNOLOGY	3.6	4.0	3.4

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

This question opens the section on the marketing of alternative fueled vehicles, and shows the challenges the auto industry faces in attempting to evolve to a new drivetrain paradigm. In this case, the focus is on hybrid-powered, gas/electric, or fuel cell vehicles. The severity of the barriers as reported by the panelists shows that the industry has a significant challenge ahead. All of the barriers are considered significant, especially vehicle cost and refueling issues. Bringing these new powertrains to market will challenge the manufacturers because they have not had to completely refocus their customer on such an important part of the vehicle. It has taken years to educate consumers about the advantages of anti-lock brakes. Trying to educate them about the advantages and reliability of hybrid powertrains will be even more challenging.

The Delphi X Technology panelists predicted that by 2009, there would be about 300,000 hybrid vehicles sold. This sounds like a significant number, but when spread across 15 or so global manufacturers, the hybrid vehicle is seen only as a niche vehicle in a manufacturer's fleet. One may argue that not all manufacturers are actually researching these vehicles and that these vehicles are more likely than others to be designed on global platforms and volumes. But these vehicles are still many years from high volume production. Manufacturers are no doubt being cautious about these vehicles because of the high cost of development and manufacturing compared to comparable gas-fueled vehicles. Because of the high cost of these vehicles, the competitive environment, and consumers' uncertainty of the value of these vehicles, manufacturers will be challenged to price the vehicles realistically.

What may accelerate the sale of these vehicles is state or federal government regulation and assistance to support the sale of hybrids. The California Air Resources Board's continual push to have manufacturers sell a certain number of zero or near-zero emissions vehicles has and will continue to increase the development of new powertrains, but these regulations do not create consumer demand or ensure that the manufacturers make a profit on the sale. These regulations have the potential to force manufacturers to sell vehicles at a loss in order to sell the rest of their fleet in California. The only silver lining in this cloud is that as consumers see more of these vehicles on the road, they will become more knowledgeable about hybrids and this will begin to allay the consumer issues reported as barriers to acceptance.

Federal tax credits for the purchase of hybrids may act as a catalyst to consumer purchase, but these credits will have to be sizable in order to overcome the uncertainty consumers have about hybrids. If the tax credits of the 1970s for the purchase of alternative forms of household heating are any example of the effects of tax credits on hybrid vehicle sales, manufacturers will have to more widely advertise the benefits of the credits if they are to have any effect. Of course, the other way to generate demand for more fuel- and emissions-efficient vehicles is for the country to go through a fuel or pollution crisis, which is not an appealing alternative. The following questions look at how manufacturers can position and sell these vehicles as they are brought to market.

MKT-39 How effective will the following distribution, point of sales, and warranty methods be in marketing hybrid-electric and fuel-cell hybrid powered vehicles?

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	SOMEWHAT INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	SOMEWHAT EFFECTIVE	VERY EFFECTIVE

MARKETING METHODS	MEAN RESPONSE
DISTRIBUTION THAT	
RELIES ON SELLING OVER THE INTERNET	2.2
IS THE SAME AS THE CURRENT SYSTEM	2.8
IS BASED PRIMARILY AT THE TOP-RATED DEALERSHIPS	3.2
IS BASED PRIMARILY AT THE OEMS	3.5
IS FOCUSED ON THE WEST AND EAST COASTS	3.5
IS FOCUSED ON HIGH POLLUTION/URBAN AREAS	3.9
IS AIMED AT FLEET/COMMERCIAL CUSTOMERS	3.9
POINT OF SALE WHERE	
THE OEM SETS UP A SEPARATE DEALERSHIP FOR THESE VEHICLES	2.3
THERE IS NO DIFFERENCE FROM CURRENT POINT-OF-SALE TECHNIQUES	2.4
THE INTERNET IS USED	2.7
TECHNICAL INFORMATION IS AVAILABLE	4.1
POST-SALE FOLLOW-UP IS AVAILABLE	4.1
WELL-TRAINED STAFF ASSIST CUSTOMERS	4.3
DEMOS ARE AVAILABLE	4.5
WARRANTIES THAT ARE	
BASICALLY THE SAME AS TODAY'S WARRANTIES	2.3
SERVICED DIRECTLY BY THE OEMS	2.6
SERVICED ONLY THROUGH AUTHORIZED DEALERS OR SERVICE CENTERS	3.2
DESIGNED FOR EXTENDED POWERTRAIN WARRANTIES ONLY	3.5
LONGER, MORE COMPREHENSIVE THAN CURRENT WARRANTIES	4.3
DESIGNED FOR THE LIFE OF THE VEHICLE	4.4

OTHER RESPONSES

- Distribution: Sell in level country without temperature extremes: 4

- Warranties: Serviced only through authorized dealers: 5

SELECTED EDITED COMMENTS

- An issue would be that not everyone lives near a "top-rated" dealership.

RESULTS SUMMARY

This question looks at the potential effectiveness of marketing methods that may be used to sell hybrid-powered vehicles. The focus in this question is on the areas of distribution, point of sale, and warranty. The methods suggested came from an open-ended question from the first round of this survey. In the area of distribution, panelists think the most effective methods will be marketing hybrid-powered vehicles to fleet and commercial customers and focusing on high pollution/urban areas. They also think that focusing marketing efforts on the west and east coasts will be effective. Respondents are neutral about basing distribution at top-rated dealerships or using the current system of distribution for marketing these vehicles. They are not convinced that basing distribution at the manufacturer or relying on the Internet for selling hybrid-powered vehicles will be effective ways of marketing them.

At the point of sale, panelists report that having demonstration models available will be the most effective method for marketing hybrid-powered vehicles, followed closely by having a well-trained staff. The panel thinks having technical information available and providing post-sale follow-up will be somewhat effective, but they do not think using current point-of-sale methods, having the manufacturer set up separate dealerships, or using the Internet will be as effective in marketing hybrid-powered vehicles.

Panelists think the most effective warranties for marketing hybrid-powered vehicles need to be longer and more comprehensive than current warranties, even going so far as the life of the vehicle. They report that extended powertrain warranties will be effective, although not as effective as longer, more comprehensive vehicle warranties. Panelists are neutral about the effectiveness of warranties serviced only through authorized dealers or service centers, and they do not think using the same warranties as today or service provided directly by the manufacturer will be effective in marketing hybrid-powered vehicles.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Though there are a number of differences among the three groups, all groups respond in the same general direction, either positive or negative about the effectiveness of the marketing methods. Manufacturers think distribution aimed at fleet and commercial customers, and based primarily at top rated dealerships, will be much more effective than do dealers and suppliers. Dealers, more than manufacturers and suppliers, report that basing distribution of hybrid-powered vehicles primarily at the manufacturers, manufacturers setting up separate dealerships, or relying on the Internet for sales are much less effective, although none of the groups see these marketing methods as effective. Suppliers and manufacturers think that having demonstrator models available is more effective than do dealers in marketing hybrid-powered vehicles, and suppliers more than manufacturers and dealers think having technical information available will be more effective, although in both of these comparisons, all groups see these methods as effective means of marketing these vehicles.

MARKETING METHODS	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
DISTRIBUTION THAT			
DEMOS ARE AVAILABLE	4.8	4.5	4.1
IS AIMED AT FLEET/COMMERCIAL CUSTOMERS	4.5	3.8	3.5
IS BASED PRIMARILY AT THE OEMS	2.8	2.6	1.7
IS BASED PRIMARILY AT THE TOP RATED DEALERSHIPS	3.9	3.3	2.7
RELIES ON SELLING OVER THE INTERNET	2.6	2.3	1.6
TECHNICAL INFORMATION IS AVAILABLE	4.5	4.0	4.3
THE OEM SETS UP A SEPARATE DEALERSHIP FOR THESE VEHICLES	2.8	2.4	1.5

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

It is clear that from the perspectives of point of sale and warranty, marketing hybrid vehicles will demand a higher level of customer support than is currently provided. Be it through demonstration vehicles, technical information, well-trained staff, or longer warranties, moving to a new powertrain paradigm has the potential to change how vehicles are marketed and sold. The overwhelming response by manufacturers, suppliers, and especially dealers that this change cannot be business as usual may offer an opportunity for the manufacturers to work with their dealers in a new way. It gives the manufacturers an opportunity to re-design their distribution processes from the ground up, working with dealers to deliver the best customer service for this new form of powertrain. It may not be the same as establishing a completely new division such as Saturn, but it does allow manufacturers to start fresh with their dealers. The lack of support for manufacturer-only distribution, sales, and service by manufacturers, suppliers, and dealers represents a good start in focusing on the dealer body for the needed customer support. But marketing to primarily fleet and commercial customers is not the way to establish a new relationship with dealers. It may help with the learning curve in developing a better understanding of the service issues involved, but it does not help build dealer relations.

Focusing on high pollution areas, as well as the east and west coasts, will help build credibility with local governments in areas that have been pushing for the type of technological improvements that hybrid-powered vehicles bring. If the local governments are pushing for "green" vehicles, it is most likely that their constituents are also "green" and thus good targets for these vehicles.

But it must be noted that the hybrid solution is only one step towards the emission-free, high fuel economy vehicle that lessens reliance on fossil fuels. These vehicles do have reduced emissions and their fuel economy is improved in city driving, but they do not break fossil fuel dependence. Because these vehicles do not necessitate changing the complete infrastructure for refueling, they help lay the groundwork for the more ambitious vehicles powered exclusively by non-fossil fuels. At the present pace, it will probably take 20 years to have sufficient numbers of vehicles on the road to make significant inroads into emissions and fuel economy, although incremental improvements will set the tone for the complete value chain from suppliers to manufacturers to dealers to the vehicle purchaser. Developing appropriate marketing for these vehicles in the short term will also have a major impact on how they are perceived by the public, and in some ways may determine their short and long term success in the marketplace.

MKT-40 How effective will the following product positioning and advertising methods be in marketing hybrid-electric and fuel-cell hybrid powered vehicles?

SCALE →	1	2	3	4	5
	VERY INEFFECTIVE	SOMEWHATE INEFFECTIVE	NEITHER INEFFECTIVE NOR EFFECTIVE	SOMEWHAT EFFECTIVE	VERY EFFECTIVE

MARKETING METHODS	MEAN RESPONSE
PRODUCT POSITIONING AND ADVERTISING	
TO APPEAL TO ENTRY LEVEL BUYERS	2.3
TO APPEAL TO MID LEVEL BUYERS	2.8
USING THE INTERNET TO REACH POTENTIAL BUYERS	2.9
TO APPEAL TO HIGH END BUYERS	3.0
TO APPEAL TO BUYERS WHO VALUE LOW COST OF OPERATION	3.3
TO APPEAL TO YOUNG BUYERS	3.4
TO COMPETE IN PRICE AGAINST ALL VEHICLES IN EACH SEGMENT	3.4
TO COMPETE IN PERFORMANCE AGAINST ALL VEHICLES IN EACH SEGMENT	3.5
TO APPEAL TO URBAN DRIVERS	3.6
TO APPEAL TO BUYERS WHO VALUE HIGH TECHNOLOGY	3.8
FOCUSING ON THE WARRANTY/MAINTENANCE AVAILABILITY	3.8
TO APPEAL TO FLEET BUYERS	3.9
SHOWING THE ADVANTAGES OF THIS TYPE OF VEHICLE	4.2
TO APPEAL TO ENVIRONMENTALLY-CONSCIOUS CONSUMERS	4.4

OTHER RESPONSES

- Appeal to women: 4
- Appeal to low mileage drivers: 4
- My guess is that first models will not be "heavy duty" types.
- Initial cost - Less than $20,000: 5
- Seating - Min. four passenger: 5
- Taking the risk away from the consumer for trying new product: 5
- Help the consumer understand the technology and benefits to them: 5

SELECTED EDITED COMMENTS

- A package of financial incentives will help make breakthroughs.

- Communicating the key attributes to the target audience is vitally important–as is a competitive price to individuals. Fleets will see and can take advantage of the economic benefits. Individuals need to be educated.

- Consumers want a <u>proven</u> vehicle. It must start with a five-year, 100,000-mile bumper-to-bumper warranty. Poor product performance could destroy OEM reputation.

- Consumers will require an overload of information and reassurance to eliminate the uncertainties of an unproven concept.

- Fleets may be in a better position to service unique product, but they're cost conscious as well and these costly approaches may be problematic if price truly reflects cost.

- Hybrid electric and fuel cell technology is still ten years from becoming a reality for mass-produced vehicles. There is no infrastructure in place to maintain vehicles and there are no production facilities in place to produce these vehicles in high production.

- If hybrid electrics like the Prius demonstrate lower maintenance costs and greater engine lifetime due to a less stressful duty cycle that should be an effective sales strategy.

- The cars must be appealing to the mainstream buyer. Four door, automatic transmission, a/c, and cost within $1000 of non-hybrid. Must not need to be plugged into wall for battery recharge.

- New technology will require superior service. First buyers will be upper income with large family fleets. Infrastructure will be an inhibitor.

- "Reliability" will dictate all of the other marketing initiatives. No manufacturer has demonstrated they can produce a vehicle to satisfy this market. Once this is done, the distribution system shouldn't be that different from today's franchise system.

RESULTS SUMMARY

Like the previous question, this question on product positioning and advertising is based on responses to open-ended questions from the first round of this survey, where respondents reported how they thought hybrid-powered vehicles should be positioned and advertised. This set of questions focuses on their thoughts on product positioning and advertising of hybrid-powered vehicles. Panelists think these vehicles are best positioned and advertised towards environmentally-conscious consumers. Sellers must clearly show the advantages of this type of vehicle, as well as focus on warranty and maintenance availability. Panelists also see these vehicles positioned to appeal to young, urban drivers and to buyers who value high technology and, as in the previous question, fleet buyers. They also think, to a lesser extent, that these vehicles must be positioned and advertised to compete against all vehicles in each segment in price and performance.

Respondents are neutral about which mid-level and high-end buyers to best position these vehicle towards, but they seem certain that entry-level buyers should not be the target. Panelists are also neutral about using the Internet to reach potential buyers, but there is a wide range of opinion on this issue.

MANUFACTURER/SUPPLIER/DEALER COMPARISONS

Manufacturers and suppliers more than dealers think that hybrid-powered vehicles would be more effectively marketed to young buyers, and that the Internet would be more effective in reaching potential buyers. Suppliers more than manufacturers and dealers think these vehicles need to compete in performance against all vehicles in each segment.

MARKETING METHODS	MANUFACTURER MEAN	SUPPLIER MEAN	DEALER MEAN
PRODUCT POSITIONING AND ADVERTISING:			
TO APPEAL TO YOUNG BUYERS	3.5	3.6	2.8
TO COMPETE IN PERFORMANCE AGAINST ALL VEHICLES IN EACH SEGMENT	2.8	3.8	3.2
USING THE INTERNET TO REACH POTENTIAL BUYERS	2.8	3.0	2.3

TREND FROM PREVIOUS DELPHI SURVEYS

This question was not previously asked. Therefore, comparisons to previous Delphi surveys are not possible.

STRATEGIC CONSIDERATIONS

Based on the responses to this question, one must question if the auto industry has determined how to position and market these new types of vehicles. Although there is consensus on showing the advantages of this type of vehicle, the idea of positioning hybrid-powered vehicles to environmentally-conscious consumers may create too narrow of a market for the vehicles. As noted in the car buying section of this report, panelists report that vehicle cost is the first issue when customers purchase new vehicles. Why would purchasing a hybrid-powered vehicle be any different? Yet panelists are neutral about positioning these vehicles to compete in price against all vehicles in each segment.

In terms of performance, there are lessons to learn from the history of bringing diesel technology to mass market vehicles. In the 1980s, the introduction of diesels that did not perform as expected tainted diesels' reputation with the public for years. As one respondent noted, poor product performance can destroy an OEM's reputation in hybrid vehicles, but it can also sour the public on the new powertrain technology.

Manufacturers and suppliers think these vehicles would be more effectively marketed to young buyers, while dealers do not. This is also true for using the Internet to reach potential buyers. If these vehicles are positioned towards young buyers, why would all three groups report that the vehicles should not be positioned or marketed to entry-level buyers? Who do they think makes up the major portion of entry-level buyers? Although panelists think entry-level buyers are not good targets for these vehicles, they are also neutral about mid-level and high-end buyers. Given this scenario, it is unclear how the industry will market hybrid-powered vehicles. Panelists seem to fall back on fleet buyers as the main target for these vehicles, but like the environmentally-conscious group, this is a limited target group. Panelists are even uncertain about marketing these vehicles to buyers who value a low cost of operation, which seems to define fleet buyers.

One would think the high scores given to marketing hybrid-powered vehicles to buyers who value high technology would lead respondents to think that marketing to high-end buyers would be effective (most new technology today begins in high-end vehicles). Yet panelists are neutral about the appeal of these buyers to these vehicles. These results lead one to wonder how these vehicles will ultimately be positioned by the manufacturers. It may be just too early in the process to pin down the best group or groups to market to, but these vehicles will be on the road within the next few years across multiple platforms. It is not too early to understand the exact appeal of these vehicles, if any, across the vehicle buying population.

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DEFINITIONS

BIG THREE. Refers to Ford, GM, and DaimlerChrysler.

CAFE. Corporate average fuel economy is based on all vehicles sold in the United States by a corporation. DaimlerChrysler will now have one CAFE value for cars and one for trucks.

EUROPEAN INDUSTRY. Includes functions and activities performed in Europe regardless of headquarter location or ownership, e.g., Opel and Saab in Europe.

JAPANESE INDUSTRY. Includes functions and activities performed in Japan regardless of headquarter location or ownership, e.g., Mazda and Toyota in Japan.

LIGHT TRUCK. Includes sport utilities, vans, and pickup vehicles less than 6,000 lb. GVW.

NORTH AMERICAN INDUSTRY. Includes functions and activities performed in North America regardless of headquarter location or ownership, e.g., Honda design in California and BMW production in South Carolina.

PNGV. Partnership for a New Generation of Vehicles.

Notes:

"Year" refers to model year unless otherwise specified.

Installation rates for 1998 include production in the United States, Canada, and Mexico for the United States market.

"Current vehicles" refers to model year 1998 unless otherwise specified.

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KEY WORD INDEX

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
60 degree V6	39		
90 degree V6	39		
ABS	34		
ABS (plastic)		15, 44,45	
AC compressor	62		
Accessory drive	4		
Acetal		15	
Acrylic		15	
Active engine mount	34		
Actuators	55		
Adhesives		9	
Advertising			7,13,15,16,32,40
Aerodynamics	4		
Air pump	62		
Airbags	36,57	44	
Alcohol	6	5	
Alternative energy sources		5,6	38,39,40
Alternative fuel/power source legislation	12	4	38
Aluminum	28,29,47	9,14,17,19,20,21,22,26,27,30,31,32,35,36,37,40,41,43,47,48,50,51,52,54,56	36
Anti-spin control	34		
Anti-theft	59		
Assembly line			29
Automatic transmission	9,52,53		
Automotive brokers			20,25
B2C			31
Balance shaft	42		

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Batteries	7,9		
Big Three	3,15,16,17,19		24
Blocks	47	19,20,21	
Body	31,64	17,38	
Bonding/joining		9,10,12	
Brake-by-wire	59		
Brakes	34	17	35
Brand image			9,10,12,15,16
Built to order			27,29,30
Buying process			4,5,7,13,15,16,17, 18,22,23,25,27,31, 40
CAD/CAM/CAE operator	65		
CAE	21,22		
CAFE (Corporate average fuel economy)	1,2,3,4,27,28,29,30	2,8,13,14,37	
CD player	59		34
Camshaft		23	
Canadian	17		
California standards	48		
Capacitors	7		
Carburetors	44		
Cargo space			15,16
Carpet fiber		46	
Cast iron	28,47	14,17,19,21,22,23, 24,26,53	
Casting		9,11,14	
Catalyst	49a		
Cellular phones			34
Ceramics	28	14,17,28	
Chassis	24,33,64	11,14,17,38,47,59	
Chat rooms			13
Chip-proof windshield	63		
Clean Air Act		3	

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Coatings		55	
Coil-on-plug	46		
Collision warning system	37		
Combustion engine	8,41	5,17	
Comfort			34
Competition	14		6,8,33,34
Component production			29
Components	18,29	9,11,16,22,28,29,30,36,40,44, 45,46,47,51,59	3,11,12,33
Composites, structural		10,41	
Compression ignition	8		
Computer-based tools	21,23		
Computer simulation	24		
Consumer clinics			13,14
Consumer information sources			13,14
Consumer purchase			38
Continuous variable transmission (CVT)	52		11
Control arms		48	
Convenience			15,16,34
Coolant	63		
Copper	28	14,30	
Corporate image	14		
Corrosion	63	8,11,37,38,39,49,52,59	
Cost		1,2,8,13,14,15,21, 23,24,25,26,27,28, 29,30,31,32,33,34, 40,41,42,43,45,48, 49,50,51,52,54,55, 56,57,58,59,60,61, 62	3,9,15,16,22,26,27 ,28,33,34,36,37,3, 40
Cost of technology	49b		
Crankshaft		24	

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Crash simulation	21		
Crashworthiness	12	6,59	15,16
Cross beams		43	
Cruise control	37,59		33
Customer relationship			13,21,22,23,24
Customer retention			21,22,26
Customer satisfaction			6,7,23,27,31
Customization			5,30,31
Cylinder blocks		17,19,20	
Cylinder heads		14,19	
Cylinder pressure ignition	46		
Cylinders	38,39,40,43,47	19	
Cylinders, number of			
Cylinders, sleeved		20	
Dealership			5,7,15,16,17,18,21,22,24,25,26,31,39
Design issues		8,31,37,40	2,3,9,21,27,30
Design optimization		9,10,12	
Designer	65		
Development cycles	19		
Development time	23		
Diagnostic			6
Diesel	6,8	5	40
Direct cylinder injection	44		
Direct ignition engine	49a		
Disc brakes	34		
Disposal		7,8,14,37,44,60,61	
Distribution system			25,27
Distributorless ignition	46		
Doors	29	36,44,45	
Drive shafts		52	
Drive-by-wire	49a,57,59		

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Drivetrain	54		3
Drivetrain configurations	9,54		
Drowsy-driver detection	58		
Dual overhead cam	41		
Durability	63	13,19,20,21,23,24, 25,26,27,28,37,41, 42,43,45,48,49,52, 55,56,59	2,21,38
EPA	49b		
Electric	6,8	4,5	38,39,40
Electric drivetrain	9,11		
Electric motors	11,61,62		
Electric power plant	6		
Electric vehicle	7,11	4,5	38,39,40
Electrical	33,55,59,64		
Electrochromatic glass	59		
Electromagnetic		9	
Electronic controls	4,33		
Electronic keyless entry	59		
Electronic systems	55,59		
Electronics technician	65		
Elimination of labor	26		
Emerging technologies	14,58,64		
Emission absorbers	49a		
Emissions		3,4,5,8,13,21,31,5 3,57	37,39
Energy		5,10,40,60	
Energy storage	4		
Engine	9,38,39,40,41,42,4 3,44,45,46,47,51,6 2,63	5,14,16,17,18,19,2 0,22,28,29, 30,24,34,59	
Engine block	47	19,20	
Engine controls	49a		
Engine efficiency	4		

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Engine head	47	19	
Engineering	15	13,16,39,60	
Engineering duplication	26		
Engineers	65		13,14
Environment	14	7,8,13,39,42	4,14,32,37,38,40
Epoxy		15,56	
Ergonomics	14	59	
Europe	3,16,19,20		6,8,24
Evaporative controls	49a		
Exhaust manifold		17,28	
Exhaust system	63	17,22	
Exterior panels	29		15,16
Fastening		10	
Federal standards	48		
Fiber optic		14,17	
Field experience		8,37	13
Financing			15,16,19,21,22
Fluid		18	6
Focus Groups			13,14
Forgings		14	
Formability		8,9,23,33	
Forming		9	
Four cylinder	43		
Frame construction	31	34,35,36,41,59	
Front covers		26	
Front fenders	29		
Fuel cells	6,9,49a		1,38,39,40
Fuel economy	4,14,27	1,2,3,4,5,6,13,14,15,16,17,18, 35,36,37,61,62	4,14,15,16,21,37
Fuel injection	44		
Fuel price	1	1,2,13	

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Fuel rails	51	17,25	
Fuel tank		31	
Fuel taxes		1,2	
Fuels	6,49a		39
Fuels and fluids	64	5	
GDI	44		
GPS	37		33
Gas turbine	8		
Gasoline		1,2,3,4,5,8,17,35	6,37,38
Gasoline prices	1	1	37
Gasoline tank/fuel tank		31,37	
Glass	28	14,17,37,55,56,59, 60,54	
Global warming		2	
HID (high intensity) headlights	59		
HVAC control	57		
HSLA steel (HSS)		14,17,36,40,43,43, 48	
Handling	57		15,16
Hardpoints	19		
Headliner		46	
Heater cores		30	
Hollow camshaft	42		
Hood	29	36	
Human resources	65		
Hybrid		5,56	38,39,40
Hybrid electric combustion engine	6,8	5	
Hybrid powertrains	4,10	5	38
Hybrid vehicle	7,11,49a	1,5	38,39,40
Hydroforming		9	
Ignition system	46		

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Ignition timing	49a		
Inline	41		
Inline (IL-6)	39		
Individual cylinder control	49a		
Information technology	58		28
Infrastructure		1,7,37,60,61	23,39
Injection		5,59	
Instrument panel		43,44	11
Insurance			15,16,21,22
Intake manifold	51	15,16,17,27	
Integral body/frame	31		15,16
Interior components		46	
Interior safety	12	6	
Internet			5,7,8,11,13,17,18, 19,20,21,22,23,28, 33,34,39,40
Ionomer		15	
Japan	3,16,19,20		24
Job One	19		
Knock/adaptive control	46		
Korea	20		
Lean burn technology	48		
Leasing			15,16,18,21,22,23
Legislation	12,13	4,5,6,7	
Lift control		1,17	
Lightweight materials		9,10,11,13,14,59	
Load sensing	57		
Logistics			29,30
Luxury vehicle	58,61		2,3,9,10,32
MEMS	57		
MPX	56		
MacPherson struts	32		

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Magnesium	28	11,14,16,17,19,37,38,41,43,56	
Maintenance	63	1,18	6,17,23,40
Manual transmission	52		
Manufacturing		8,9,10,11,12,16,30,35,36,57,59	8,15,27,29,30,31,37
Market share		5,16	2,4
Material content	28	14	3,34,35,37
Materials		7,8,9,10,11,12,17,19,21,29,30,31,55,59,60	
Materials change		9,10,11,12,17,23,24,25,26,27,31,32,33,41,42,43,45,48,49,50,51,52,54	
Math-based engineering	22		
Matrix composite		21	
Message system	37		
Metal matrix composite (MMC)		14,17	
Mexico	17		
Microelectromechanical systems	57		
Microprocessors	55		
Mini disc	59		
Modules	18,26		11,12
Multiplexed power system	56		
Multipoint fuel injection	44		
Nameplate			1,10,12,15,16
Natural gas	6	1,5	
Navigation system	37,58		33
New technologies	64	4,17	32,33
North America	15,16,17,20		
NOx catalyst	48	5,17	
Nylon		46	

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Occupant restraint		6	
Offshore	18		
Oil pan	51	16,17,22	
One-price pricing			17,21,22
Ordering issues			28,29,30,31
Outsourcing	18,26		
Ownership			7,21
PC entertainment systems	59		
PC/PBT		15,44,45	
PNGV (Partnership for a New Generation Vehicle)	5	6,13	
PPO/nylon		15	
PPO/styrene		15	
Paint		9,10,37,45,56,57,58,59,61	
Panels		44,45	11
Part sourcing	16,17		
Parts		7,15,17,19,35,37,38,39,59,60, 61	8,17,29
Passenger space			15,16
Pedals	37		34
Performance	14	4,5,8,13,17,18,34, 23,24,25,26,27,38, 39,58,59,62	15,16,37,38,40
Phenolic		15	
Physical prototypes	24		
Piston		22,28	
Piston skirts	51		
Plastic	29,51	15,17,22,31	
Plastic/composite	28	14,25,27,30,31,35, 36,40,41,43,44,49, 52,56,62	
Platforms		34,40	3

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Plastic fuel tanks		31	
Polycarbonate		15,44,55	
Polyester elastomer		15,44,46	
Polyester thermoplastic		15	
Polyester thermoset		15	
Polyethylene		15	
Polypropylene		15,41,42, 44,45,46	
Polyurea		15	
Port fuel injection	44		
Powdered metal	28,42	14,17,23,29,32	
Power brakes	62		
Power cells	9		
Power plants	6		
Power steering pump	62		
Powertrain	5,24,64	38,29	11,38,39
Powertrain material applications		17,29	
Prices		1,2,16	2,6,7,17,18,21,22, 30,32,33,37,38,40
Product design	15	61	30
Product development	14,22,23		3,11,29,30
Product liability	12	6,8	3
Product technology	20		
Production process		5,23,24,25,26,27,3 2,33,37,41, 42,43,45,48,49,50, 51,52,54,55	
Propane	6	5	
Purchasing			19,20,21,23,24,29
Push rod	41		
PVC		15,16,42,44	
Quality		3,7,8,20,21,56,59	15,16,21,26,40
Radiators		30	
Rear axle		54,55	

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Rear deck	29		
Rear quarter panels	29		
Recyclability	13	7,8,15,23,24,25,26,27,36,37,41,42,43,43,45,48,49,50,51,52,54,55,56,60,61,62	37
Redesign		19	2,4,21
Reformulated gasoline		1,3	
Regional industry	20		
Regionalization		6	
Regionalization of regulation	12		
Regulations	12,13	3,4,6,7,8,13,57,59	37
Repair		1,2,17,37,39,59	6,36,38
Retail sales		4	
Ride and handling	14,33		15
Roller followers	42		
Roller lifters	42		
Roof	29		11,34
Rubber	28		
SMA		44	
Safety	12,14,35,64	6,7,8,13,35,36,55,56,59,62	15,16,19,28,32,33,35
Sales		3,4,8,13,38	2,4,5,7,8,15,16,17,18,19,20,21,22,39,40
Seals		28	
Seat belts	37		
Security systems	58		22
Seat frames		41	
Semiconductors	55		
Sensors	49a,55		
Separate body/frame	31		

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Service		8,38	6,8,13,15,16,17,18,21,22,23,28,33,34 37,39
Service technician	65		
Sharing			3,7,28
Sheets		14	
Simulation	24		
Single overhead camshaft	41		
Skilled trades	65		
Skills		15,60	
Sleeve material		21	
Software programmers	65		
South America	20		
Sourcing	16,17,26		12
Space frame	31	34,35	
Spark ignited engine	44,45,46,51	28	
Spark ignition	8,46,51		
Spark plugs	46		
Springs	32	17,49	
Stability control	34		35
Stabilizer bars		51	
Stainless steel		14,17,22,31	
Standards		1,3,4,6,7,8,14,16, 37,56,58	
Steel	28,29	12,14,15,16,17,21, 22,23,24,25,31,32, 33,35,36,37,38,39, 40,41,43,48,49,50, 51,52,56,57,58,59, 60,61	36
Steering	33	16,17,18,50	34
Stirling engine	8		
Structural composites		10	

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Styling	14	8,17,37,40,56	15,16
Subassemblies	16,17		
Subsystems	18		
Supercharged/supercharger	45		
Suppliers		7,8,14,16,17,35	
Supply chain			15,16
Survey			13,14,29,30
Suspension	24,32,33	17,19	
Systems engineering	25		
TPO		15,17,40,42,44,59,61,62	
Taxes		1,2,8,13,15	38
Technology, bonding & joining		9,10,12	
Technology leadership	20	17	
Telecommunication	58		
Telematics	58		
Thermal spray		21	
Thermoplastic		14,15,17,36,37,40,59,60,61	
Thermoset		14,15,17,36,37,40,60,61	
Throttle body	51		
Tier One supplier	18		12
Tier Two emissions	49		
Tire rolling resistance	4		
Tires	35	7,14,17	36
Tires/wheels	64	7,14	36
Titanium		17	
Toll collection	37		
Tooling		37,59	
Traction control			35
Traffic information	58		18

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Transmission	4,52,53,63	29,30,32,33	11,21
Transverse		16,17,18,29,30,38	
Trends			3,5,6,36
Turbine		28	
Turbocharger, -turbocharged	45	28	
Twin A-arm	32		
Unibody	31	34,35	
United States	17		1,4,5,34,35
Urethane		15,42,44,46,56	
V-6	43		
V-8	43		
Valve covers	51		
Valves	40,42	22,28	
Valvetrain	41	28,29	
Variable lift control	42		
Variable valve phasing	42		
Variable valve timing control	42		
Vehicle cost	14,22,26a,49c		33,38
Vehicle downsizing	4		
Vehicle emission standards	12	6	
Vehicle features			32,33,34,35,36,37
Vehicle hotelling			21,22,23
Vehicle proximity	57		
Vehicle systems	37		
Vehicle weight	4,27,30,49a		
Vinyl ester -TS		15	
Voice activated controls	59		
Voltage	11,60		
Warranty	63	8	6,7,12,13,14,38,39,40

KEY WORDS	QUESTION NUMBER		
	TECHNOLOGY	MATERIALS	MARKETING
Water pump	62		
Weight reduction/weight	4,49a	8,13,19,20,23,24,25,26,27,32, 33,36,41,42,43,45, 48,49,50,51,52,54, 55,56,60	
Welding		9	
Western Europe	16		
Windows		55	
Wheels		16,17,47,56,59	36
Wrist pins		28	
Yaw control	34		
Zinc		14, 60	
Zinc die casting	28		