

AN INFORMATION-ACCELERATION-BASED METHODOLOGY FOR
DEVELOPING PREPRODUCTION FORECASTS FOR DURABLE GOODS.
DESIGN, DEVELOPMENT, AND INITIAL VALIDATION

by

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ABSTRACT

Forecasting the success of a new durable good is of critical importance to durable good manufacturers. Designing and developing a new durable good may take several years and require a large monetary investment. For example, the new-product-development cycle from idea generation to market introduction for an automobile may take four to five years and require a \$1-5 billion investment. Given the high risk associated with the development and market launch of a new durable good, an error in judgement about consumer acceptance can be extremely costly. Reducing this risk is of significant importance to durable good manufacturers.

Limited attention has been focused on the stage where the GO/NOGO and final production commitment decisions are made. A gap in analytical support exists for the new product development phase between conjoint analysis/concept formulation and prelaunch forecasting . It is during this stage in which the best concept alternative(s) are considered and production commitments are established. It is an important stage in the new product development process given its timing, preproduction, and the investment levels associated with the GO/NOGO decision. During preproduction, modifications to the new product are relatively inexpensive and simple to make, and significant risk may still be reduced.

A new methodology for developing preproduction forecasts for durable goods is designed, developed, and partially validated. This methodology is based on the novel concept of *information acceleration*. Information acceleration is: 1) simulating the existence of a future new durable good, 2) simulating the availability of new durable good information that is typically available not only before but also after market launch, 3) simulating the availability of competition, 4) enabling consumer information search and interaction with the new durable good and the competitive products, and 5) recording critical behavior with regard to consumer information search and consideration for the new durable good.

Given the novelty of the methodology, it was important to validate it with respect to measures used for premarket forecasting (see Urban, Hauser, and Roberts 1990). The validity of using a computer-based video in-store retail experience (automobile showroom) as a surrogate for a real in-store retail experience was tested. The results suggest that the computer-based video retail outlet appears to be a potential surrogate for a real retail outlet with respect to measures used not only for developing forecasts (e.g., purchase intent), but also for understanding consumer search behavior (e.g., amount of time performing a search activity).

With respect to information search behavior, consumers, on average, search a little more than 2 sources, and allocate the most time to searching in a retail outlet. Within the retail outlet, consumers allocate time to looking at and inspecting a product, talking with a salesperson, and reading manufacturer produced literature.

Thesis Supervisor: Glen L. Urban
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CHAPTER 1

INTRODUCTION

Forecasting the success of a new durable good is of critical importance to durable good manufacturers. Designing and developing a new durable good may take several years and require a large monetary investment. For example, the new-product-development cycle from idea generation to market introduction for an automobile may take four to five years and require a \$1-5 billion investment (Connelly 1992; Woodruff 1992). Given the high risk associated with the development and market launch of a new durable good, an error in judgement about consumer acceptance can be extremely costly. Reducing this risk is of significant importance to durable good manufacturers.

Academics and manufacturers have provided solutions to this problem. They have devised methodologies for reducing the risk associated with the development and launch of a new product durable. Quality Function Deployment (QFD) is used for developing exhaustive design requirements which reflect the voice of the customer (Kogure and Akao 1983; Hauser and Clausing 1988).

Related to QFD (and used as an enhancement) is Pugh Concept Selection (Pugh 1981; Clausing and Pugh 1991), which is used for defining new product concepts. NewProd (Cooper 1992; Cooper 1985) is used during the early stages of the new-product-development process and is a computer based system for evaluating the likelihood of success for a new product concept . The Bass model (Bass 1969; Mahajan and Muller 1979; Mahajan, Muller, and Bass 1990) and extensions to it (Horsky and Simon 1983; Mahajan, Muller, and Kerin 1984; Kalish 1985; Kalish and Sen 1986; Kalish and Lilien 1986; Bayus 1987; Gatignon, Eliashberg, and Robertson 1989; Horsky 1990; Jain and Rao 1990; Chatterjee and Eliashberg 1990) incorporate the phenomena of innovation, imitation, and diffusion for life-cycle analysis. Prelaunch forecasting systems (Urban, Hauser and Roberts 1990) use a macro-flow model for optimizing a prelaunch marketing strategy. Conjoint analysis (Green and Wind 1975; Green and Srinivasan 1978; Green and Srinivasan 1990) is used for selecting the optimal features for a new product. These methodologies provide a means for reducing risk during the new-product-development process.

A manufacturer may select to use one or all of the above

approaches. Conjoint analysis and the initial phase of QFD are used during the earliest stages of the new-product-development process (note that QFD is used throughout the development process, not just during the initial phase), attribute formulation and concept development. Concept development is done, for say automobiles, approximately 4-5 years before new product launch. At this point in the process, the physical product does not exist. A prelaunch forecasting system is implemented for automobiles or cameras approximately 18-24 months before market introduction. A key assumption in carrying out a prelaunch forecast is that a working prototype is available. The Bass model is most effective once the new product has developed significant market experience (Heeler and Hustad 1980). Except for QFD and other "team-oriented" or "holistic" approaches, there is, for the most part, handshaking, overlap, or a hand off "over the wall" at each point in the new-product-development process where the application of one approach ends and another begins (Urban and Hauser 1980; Takeuchi and Nonaka 1986; Cooper 1990; Rosenthal 1992).

However, limited attention has been focused on the stage where the GO/NOGO and final production commitment decisions are

made. A gap in analytical support exists for the new-product-development phase between conjoint analysis/concept formulation and prelaunch forecasting (see Figure 1). A compelling reason for a "preproduction" (before production commitment) test is risk reduction (Urban and Hauser 1980). A firm would rather lose a few million dollars in activities associated with preproduction development and testing than a few billion dollars in activities associated with final product development and launch. A preproduction test would not only reduce risk, but also identify ways to improve profit (e.g., product modifications). Increased planning before development seems to increase the success likelihood of a new product introduction (Cooper 1990). This is not intended to suggest that a preproduction test is mandatory. It is assumed that decision makers will consider the potential benefits and likely costs of a preproduction test and other factors related to product development and launch. Formal decision analysis methods provide guidelines for making this decision (Raiffa and Schlaifer 1961; Magee 1964; Schlaifer 1969).

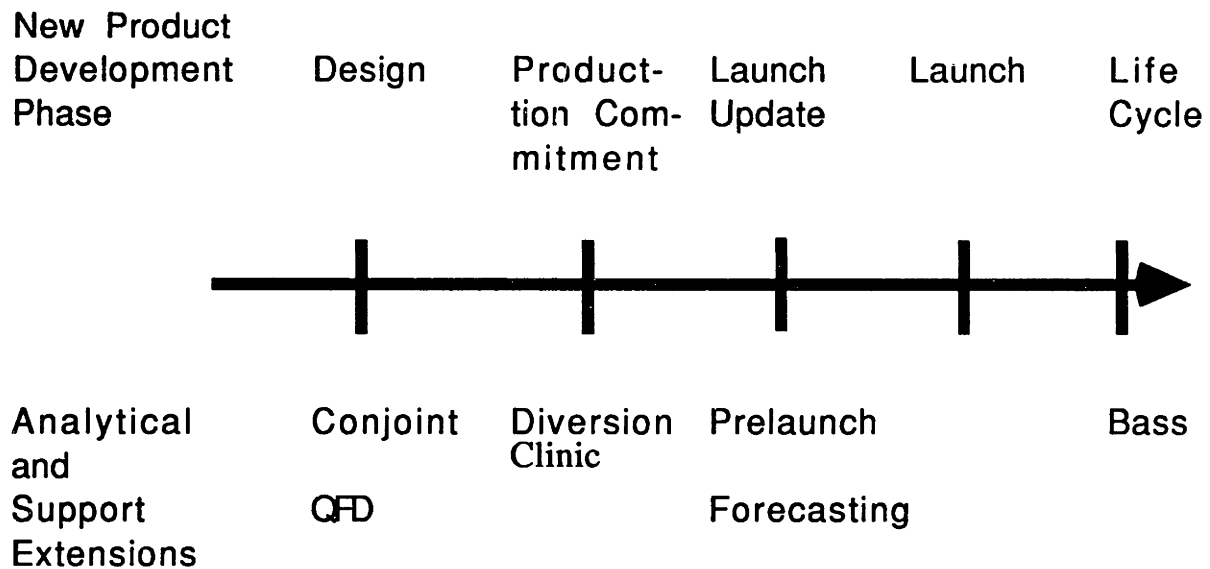


Figure 1

In the automobile industry, manufacturers have attempted to develop solutions to this problem. Volume forecasts for specific concepts are partially supported with a methodology known as a diversion clinic. In a diversion clinic consumers first view automobiles available in the current marketplace, next identify their two or three most preferred automobiles from this domain, then view new automobiles to be available in the future marketplace, and finally state switching probabilities to future marketplace automobiles from preferred current world marketplace automobiles. This approach is an accepted standard for estimating diversion from current products to new products. However, manufacturers are

interested in improved accuracy and useful diagnostics.

The research aims of this dissertation are contributing to filling this gap in the marketing literature and providing a partial solution to this managerial problem. The dissertation begins by reviewing relevant marketing literature on new product forecasting for durable goods, the consumer decision process, particularly the information search component, and methods for simulating the consumer decision process. Next, the five research tasks for meeting the research objective are discussed:

- development of an overall methodological framework for addressing this problem including the definition of a new concept, *information acceleration*,
- development of a prototype information accelerator, a multimedia computer and video laserdisc search system incorporating full motion video and sound for "full proposition" testing,
- execution of a field study in order to provide a partial validation of the methodology,
- description of observed consumer search behavior on an information acceleration system,
- empirical analysis of consumer search behavior in order to provide a general structure for building an information search model.

Note that this research does not include building an explicit

forecasting model or forecasting sales levels. These items are addressed in future research. This dissertation concludes with a discussion of future research, including the building of forecasting and information search models, testing information search theory, understanding consumer interactions with computers and technology, and using multimedia systems in industry.

CHAPTER 2

LITERATURE REVIEW

The new methodology is based on three relevant areas in the marketing literature. Existing methodologies for new product forecasting of durable goods is discussed first. This is followed by a discussion of the consumer decision process for durable goods and information search. The final literature topic discussed is existing methodologies for simulating durable goods, and the buyer decision process.

Existing Methodologies for New Product Forecasting of Durable Goods

QFD

Quality Function Deployment (QFD) was first implemented in 1972 by Kobe Shipyards, Mitsubishi Heavy Industries, Ltd. (Kogure and Akao 1983). Its development was a result of the Japanese' initial focus on the importance of new product development and subsequent desire to build quality assurance throughout the new-product-development process, the latter leading to steps which attempt to control quality further upstream in the development

process.

QFD is an interfunctional approach for guiding new (or product modification) product development from design to manufacture to introduction (Hauser and Clausing 1988; Griffin 1989). By making the process interfunctional, the methodology aims to insure that the customer's wants and needs (voice of the customer) are understood and satisfied at each stage of the new-product-development process. The process is broken down into four key phases: product planning, parts deployment, process planning, and production planning. Each phase is represented by a "house" and each "house" is linked to represent the linkage of each procedure.

Within each house a translation takes place between the existing expression of the customers demands and the technical terms representing, ultimately, the manufacture of the product. Customer attributes are translated into engineering specifications in the first phase. This product planning phase is also known as the "House of Quality." In the second phase, parts deployment, engineering characteristics are translated into parts characteristics. Parts characteristics are translated into key process operations during the third phase, the "House of Process Planning." Finally, key

process operations are translated into production requirements during the production planning phase. In this way, the voice of the customer is understood, transcends each house, and is ultimately translated into a product that (ideally) satisfies the wants and needs of the consumer.

This methodology places great emphasis on the early stages of the product development process, product planning and design, in an effort to minimize redesign and those costs associated with making changes which may occur in the later stages of the product development process. Japanese firms utilizing QFD within a context of Company Wide Quality Control (CWQC) have had extremely favorable results. According to Yoji Akao (former Head of Japan Society for Quality Control QFD Research Committee) the use of QFD has reduced by one-half the problems existing at the early stages of the product development process, shortened development time from one-half to one-third, all the while assuring users' satisfaction and increasing sales (King 1989). More work is required in the early stages, on the House of Quality, however the payoff is quickly realized in the reduction of total start-up costs (Sullivan 1986; Hauser and Clausing 1988).

According to Sullivan (1986), Quality Function Deployment makes it difficult to change direction once a project is underway because a change requires that all interrelated items in the system must be revised. In a private conversation, Hauser indicates that the opposite is true. That in fact, QFD allows one to simulate quickly a change and if a change is made, QFD indicates how to carry it out.

Weaknesses of QFD are that it requires significant effort to initiate and employ, and benefits may not be apparent in the short-term (Griffin 1992). This may be a barrier to many firms considering adoption of QFD. QFD is not a "technique" a firm employs within its current framework; it is a process that needs to be adopted in order to be used successfully. Learning QFD and committing to it requires significant effort and change. For some firms the "expense" of using QFD is too great.

Conjoint Analysis

Conjoint analysis is a methodology for selecting the optimal physical features for a new (or modified) product (Green and Wind 1975). It has been used for a variety of products, consumer packaged goods, consumer durable goods, services, and industrial products. Conjoint analysis has been used in hundreds of

applications in the public and private sector (Green and Srinivasan 1978; Green and Srinivasan 1990).

Conjoint analysis is used relatively early in the new-product-development process (Urban and Hauser 1980). With respect to durable goods, it is used after the set of critical attributes has been determined but just prior to the physical development of the actual product. The advantages of this are clear. Firstly, it enables product optimization at an early stage where product functionality and form are still relatively flexible. Secondly, it assists with the GO/NOGO decision at a critical time in the new-product-development process. Lastly, it reduces the tremendous risk associated with tooling up and physically developing a new durable good.

Essentially, conjoint analysis consists of four procedures. The first step is to select the most critical product attributes which need to be tested. Techniques for determining these attributes may be focus groups (Calder 1977), in-depth personal interviews, or managerial judgement among a variety of approaches. Next, a series of product concept representations are produced in order to carry out the predetermined experimental design. For durable goods, product forms are either illustrations, written concepts, or textual

attribute descriptions. Individual utility functions are then estimated for each individual either through ranking of composite concepts or attribute tradeoff analysis. Finally, the optimal features/products are selected based on estimated consumer response. Share of choice for the new product may be forecasted using a variety of techniques (Green, Carroll, and Goldberg 1981; Wind, Majahan, and Cardozo 1981).

Conjoint analysis has received significant attention by researchers and industry. A number of contributions to this methodology have been made with respect to consumer ease of use, estimation, and experimental design (Urban and Hauser 1980). It has been used extensively in industry (see Cattin and Wittink 1982 and Cattin and Wittink 1989).

Forecasts based on conjoint task results assume that the product-related stimuli reflect actual marketplace conditions with respect to the product. However, conjoint task product and environment representations are limited in profile and are not a "full proposition." A consumer's evaluation of and purchase intent for a consumer durable good is based on more than a product representation (e.g., textual, pictorial, textual and pictorial, mock-up,

prototype/actual) presented in a prescribed format. First, consumers obtain product information from a variety of information sources. Second, consumers self select the sequence in which information is obtained from various information sources. Third, consumers experience an integral process including these activities.

Bass Model

The Bass model is a diffusion model for forecasting product-class sales for durable goods and novelty items (Bass 1969). It has been successful in fitting data from retail, service, industry technology, agriculture, and consumer durable sectors (Mahajan and Muller 1979). A strong research following of this tradition is evidenced by the numerous articles which are outgrowths of this seminal paper (see Mahajan and Muller 1979; Mahajan, Muller, and Bass 1990; Kalish and Sen 1986).

The Bass model recognizes two or more segments in the diffusion process, adopters, and potential adopters. Potential adopters are influenced by either mass-media or word-of-mouth communications. "Innovators" are influenced to adopt the new product by mass-media communications. "Imitators" are influenced to adopt the new product through word-of-mouth communications

from prior adopters.

Three parameters are defined in the initial Bass model, and expanded upon in subsequent papers (see Mahajan, Muller, and Bass 1989). P is a coefficient of innovation and represents the proportion of potential adopters that are influenced by mass-media communications and not by other potential adopters or adopters. Q is the coefficient of imitation which reflects potential adopters that are influenced by word-of-mouth communication with adopters. M represents the market potential.

Outputs of the model are the peak sales level, the time at which this peak is achieved, and the shape of the product lifecycle. In addition, an objective of the model is to predict new product sales. In order to estimate sales, sales data are needed. However, this limits the functionality of the Bass model if the objective is to forecast new product sales prior to any market experience with the new product.

To use it for forecasting, estimates must be derived for the key parameters prior to introducing the new product to the marketplace. Estimates may be based on empirical analysis of previously introduced new product, or on managerial judgement. However,

estimating accurately these parameters is difficult and forecasts are extremely sensitive to changes in these parameters (Heeler and Hustad 1980).

Prelaunch Forecasting

Prelaunch forecasting models for consumer durable goods are relatively new in the marketing literature. The measurement and modeling systems are an outgrowth of related research done on premarket forecasting models for consumer packaged goods (e.g. Silk and Urban 1978).

A brand choice model for prelaunch management of a new product consumer durable good in an existing category has been developed recently (Roberts and Urban 1988). von Neumann-Morgenstern utility, Bayesian, discrete choice, and diffusion theories were utilized to model multiple product attributes, information uncertainty, risk, interpersonal communication, and belief dynamics. In its application, the model provided prelaunch estimates of market share for an automobile.

A prelaunch model and measurement system for the marketing planning of a new automobile which seems easier to implement than the above model, and handles production constraints and the "price"

forecasting problem was published recently (Urban, Hauser, and Roberts 1990). A macro-flow model of key consumer transitional responses to a firm's marketing efforts is developed in order to understand critical issues related to consumer response for durable goods. Specifically, issues addressed are active search by consumers, sources of information, and production constraints.

In the macro-flow model, a consumer transitions from one behavioral state to another. The behavioral states in a macro-flow model reflect consumer behavior which may be affected by managerial actions. Behavioral states represented in this macro-flow model for a new automobile are awareness (via word-of-mouth, advertisements, or both), being in the market, visiting a dealer showroom, receiving post dealership visit word-of-mouth, buying the new/target auto, or buying another automobile. Flow probabilities are estimated from experimental/clinic data, industry averages, and managerial judgement.

The prelaunch models seem to be successful. Their value to management has been noted. However, validation of this approach is currently underway and will need to be reported in future studies.

Usage of a prelaunch forecasting system is limited to the time

frame when production constraints have already been fixed and when a working prototype of the new product is available. It is within this time frame that most of the new product introduction risk has already been assumed by the manufacturer. The launch decision, and the physical form and functionality of the new product will not be changed based upon outputs of the prelaunch forecasting system. However, modification or detail setting of the launch strategy is a feasible use of the prelaunch forecasting system.

Production Commitment

Generally, after conjoint analysis, manufacturers consider the best concept(s) proposed for production. Based on conversations with industry experts, evaluation of the concept(s) consists of 1) talking with engineering to determine whether any concepts being researched are similar to or could be fit to the proposed concept, 2) management discussions about the concepts, or in some very rare cases 3) developing a prototype or mockup and obtaining consumer response. After consideration of the concept(s), manufacturers make a production commitment at this point in time.

The automobile industry uses "diversion" clinics to further test concepts and develop volume forecasts. These clinics are usually

conducted in a large convention area (e.g., the Houston Astrodome). In these clinics, consumers are exposed to automobiles available currently in the marketplace and asked to indicate their two or three most preferred automobiles. Next, consumers are exposed to the new product concept (generally a fiberglass mockup) and asked to indicate whether they would divert their purchase intent from their most preferred automobiles to the concept. Based on the diversion rates, volume forecasts are developed.

This approach seems sophisticated relative to the other approaches used by manufacturers. However, it is extremely expensive. A diversion clinic costs in excess of one million dollars. The distribution of the clinic participants is limited due to the fact that these clinics are generally executed at most once for any given vehicle. In addition, information about the product is only available by viewing the product. Information typically searched by consumers considering a new automobiles, such as advertising and word-of-mouth, are not provided in a diversion clinic. .Managers have expressed a desire for a lower cost methodology that provides a dynamic forecast rather than primarily switching rates

Consumer Decision Process for Durable Goods and Information Search

Buyer behavior models for durable goods identify the importance of information search in the consumer decision process (Bettman 1979; Engel and Blackwell 1982; Howard and Sheth 1969; Nicosia 1966). The Engel, Kollat, and Blackwell model (1982) describes the buyer decision process as consisting of 5 main stages, problem recognition, information search, alternative evaluation, choice, and postpurchase behavior (see figure 2).

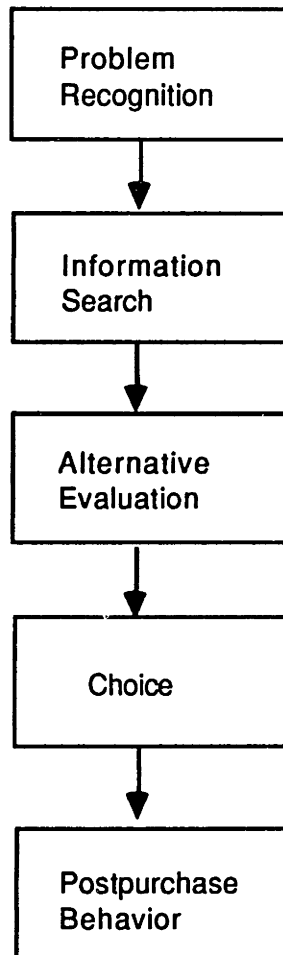


Figure 2 - Engel, Kollat and Blackwell model of the Buyer Decision Process

Research has confirmed the importance of external information search for durable goods in the consumer decision process.

Information search has been measured on 5 dimensions: the level of retail activity, the number of types of information obtained, the number of information sources, the number of brand alternatives considered for purchase, and the length of time devoted to purchase

deliberation (Newman 1977). Retail activity refers to the number of times a retail outlet has been visited, the number of different retail outlets visited, and the amount of time dedicated to retail search. Types of information refers to the specific attributes or features of a product.

Information sources have been defined at various levels of detail. At a general level, information sources have been defined as being either in-store or out-of-store (Newman and Staelin 1972). Specific sources of information are advertisements, books, magazines, newspapers, pamphlets, individuals (e.g. friends, neighbors, relatives, associates), retail outlet, salesperson, and brochures (Westbrook and Fornell 1979; Kiel and Layton 1981; Punj and Staelin 1983; Furse, Punj, and Stewart 1984).

Patterns of information source usage have been identified in a number of studies. The findings in these studies with respect to patterns of information source usage are, for the most part, highly correlated. Three different patterns of information search were identified in a study by Claxton, Fry, and Portis (1974). Non-thorough shoppers performed little search. Thorough-balanced shoppers used most sources a high number of times. Store-intense

shoppers perform significant retail search but search other types of information sources minimally. Other studies have reported usage patterns as being either low, high, and selective (Kiel and Layton 1981), low, high, moderate, purchase-pal assisted, high self-search, and retail (Furse, Punj, and Stewart 1984), and objective, moderate, personal advice seeker, and store intense (Westbrook and Fornell 1979).

Data for all of the research referenced above on information search have been from consumer self-reports of their past buyer behavior associated with the purchase of a durable good.

Methodologically, this has been the most feasible approach. In general, the characteristics of search for durable goods, the number of information sources searched, the length of time devoted to search, and the nature of searching an information source, make it impractical to observe information search behavior directly.

However, research suggests that measuring search behavior by direct observation is preferred to relying on consumer self-reports. Significant differences exist between directly observed consumer search behavior and consumer self-reports of search behavior (Newman and Lockeman 1975). This is due to the fact that when

consumers seek and obtain information over a period of time they are unlikely to recall the search behavior in detail, even when asked to report on search behavior carried out the very same day (Newman and Lockeman 1975, Newman 1977). Measures based on consumer self-reports do not reflect the full extent of information search (Newman and Lockeman 1975) and attempts should be made to develop search measures based on observation rather than consumer self-reports (Kiel and Layton 1981).

Direct observation, if it were feasible, would result in a richer and more detailed description of information search behavior. However, the nature of this methodology like that of obtaining historical measures does not lend itself for causal studies on information search behavior (Punj and Staelin 1983). Neither of these approaches allows for the manipulation of independent variables felt to affect information search and/or choice (Punj and Staelin 1983). A laboratory based approach would provide the control required for a causal study.

Investigating the retail outlet would be of interest as it appears to be a particularly important information source to consumers deliberating over a durable good purchase. Newman (1977)

indicates that retail shopping is the most frequently reported measure. Retail search is unique in that researchers have defined explicit measures for behavior associated with this source. For example, Newman and Staelin (1972) define one index for retail search behavior, in-store, and another index for all other types of search behavior, out-of-store. Retail visits is a key variable for identifying search-type groups of consumers (Claxton, Fry, and Portis 1974; Kiel and Layton 1981; Furse, Punj, and Stewart 1984). Retail outlet (measured as autodealer hours and number of autodealer visits) is the only source with separate measures for amount of external search in a model of consumer search for new automobiles (Punj and Staelin 1983). It is important to understand the nature of retail search (Kiel and Layton 1981) and yet limited knowledge exists on how much information seeking is represented by a store visit (Newman 1977).

Understanding retail search behavior is of particular importance to manufacturers of durable goods because the consumer may obtain first-hand detailed information about the product and, in most instances, the purchase transaction for a durable good occurs in the retail outlet. Given that the consumer is actively seeking

information and the purchase will be made in a retail outlet, the opportunity to influence choice will exist when the consumer is in the retail environment. Different retail selling approaches may be defined by identifying distinct patterns of not only retail search behavior but also total information search behavior among consumers (Westbrook and Fornell 1979).

Existing Methodologies for Simulating Durable Goods, Information Search, Alternative Evaluation, and Choice

Researchers have used various methodologies to simulate the availability of durable goods and the enabling of the buyer decision process. This section discusses these simulation methodologies.

Product

A component of a new product forecasting methodology is the provision of the new product under test for consumer inspection. The presentation format of the new product may be a working prototype (it is possible that the version of the product sold to the consumer is unchanged from the working prototype), a full-sized or scaled mock-up, an illustration or series of illustrations, a verbal or textual description of each attribute, or some combination of the above.

Working prototypes represent the physical and functional properties of the new product concept. However, working prototypes are typically available after the production commitment decision. The manufacturing specifications are utilized in order to develop an individual hand-built working prototype. For an automobile, the cost of producing a single unit is on the order of at least one million dollars. In addition, the infrastructure associated with the stage of the new-product-development process at which point a working prototype may be produced highly constrains the flexibility for modifications to the new product concept should consumer reaction suggest that a modification would be optimal.

A mock-up is similar to a prototype in that it represents the physical features of a new product concept. However, they generally do not represent any of the functionality of the new concept. Mock-ups are typically made out of clay or fiberglass and can appear extremely realistic. A mock-up is not functional and is expensive to produce. For an automobile the cost is in the range of \$150,000 to \$1,000,000. Full-scale mock-ups are used for developing volume forecasts just before the production commitment in the automobile industry. This would suggest that consumer reactions could then be

used to either modify or kill the new product concept. However, in practice this is not the case. Even at this stage in the new-product-development process, the infrastructure would not be able to accommodate any significant modifications to the new product concept. In addition, the direct cost associated with making a significant modification to a mock-up is very high.

Illustrations and textual descriptions of products are relatively low cost and relatively flexible means for presenting a new product concept. Both formats could be used at any stage of the new-product-development process including the earliest stages. In addition, these formats are inherently flexible to new product concept modifications. However, illustrative and textual representations are in a piece-meal format and the sum of the parts may not equal the whole.

Holograms and Computer-Aided-Design (CAD) are technologies which have not been developed recently. Holograms are special three-dimensional photographic images that are somewhat realistic in appearance. CAD images are produced on a computer with sophisticated software and are presented on a computer screen or a printout. The primary limitations to using either of these

technologies are the expense and the expertise required to produce new product presentations.

Information Search, Alternative Evaluation, and Choice

Two predominant methodologies are used for simulating information search, alternative evaluation, and choice. The Information Display Board (IDB) was first used by Jacoby (Jacoby 1973). An IDB provides attribute information on a series of brands. Information is structured in a matrix format where each row identifies an attribute and each column identifies a brand (or vice-versa). Initially each attribute-brand element's value is concealed, and is then revealed if selected during the course of information search. The IDB approach was computerized as the power and popularity of microcomputers increased during the early 1980's (Hoyer and Jacoby 1983).

Computer search systems became more sophisticated during the 1980's. Search Monitor is a microcomputer software package with a menu-driven interface intended for facilitating research on consumer information search and decision making (Brucks 1987). It runs on IBM and IBM-compatible systems. Bruck's identifies 5 advantages of using a computer search system compared to other

laboratory approaches (e.g. IDB board): 1) increased precision in monitoring subject activities, 2) greater control over task variables, 3) ability to build contingencies into the experimental procedure, 4) provision of richer and more complex information environments that offer a more complete simulation of the consumer search and purchase experience, 5) a greater number of research subjects may be run simultaneously.

Mouselab is another IBM and IBM-compatible personal computer-based search system (Johnson, Payne, Schkade, and Bettman 1986). It has been used for research on gambles and multiattribute decision making (Johnson, Payne, and Bettman 1988; Johnson and Schkade 1989; Payne, Bettman, and Johnson 1988)

These computer search systems have made it easier to study information search, alternative evaluation, and choice for three primary reasons. First, a high degree of experimental control is maintained. True experiments can be carried out. Second, precise measurement of subject response is, for the most part, assured (computers are not perfect, bugs do exist and glitches do occur). This is important not only for minimizing the number of "missing values" in a database of subject responses but also for collecting important

measures of search that otherwise would be extremely difficult to obtain (e.g. response latency). Third, subjects find that tasks performed on a computerized search system are interesting. Subject boredom and lack of involvement in the search task are less likely.

These computer-based search systems do have some limitations. All information is presented in a textual format and the manipulation of providing different sources of information is weak. In reality, not all information exists in a textual format or is processed in the manner associated with textual information. Different human senses are used to process different sources of information. For example, when speaking to an individual in person about a product (i.e., obtaining word-of-mouth) visual and auditory senses are used. The sense of hearing is used to process a radio advertisement. Vision is used for processing information obtained when looking at a product or a picture of a product. Both visual and auditory senses are used when processing a television advertisement. Different human senses are used to process different sources of information and the various sensory cues associated with each source of information serve to differentiate one source from another.

CHAPTER 3

INFORMATION ACCELERATION METHODOLOGICAL FRAMEWORK

The objective of this framework is to provide a methodology for developing preproduction forecasts for durable goods that are to be used as inputs into the managerial production commitment decision. The framework is built on theory pertaining to premarket forecasting methodologies for durable goods, consumer buyer behavior for durable goods and buyer behavior process simulation. The processes of information search, alternative evaluation, choice and postpurchase behavior, and the simulation of durable goods and information are modeled in order to develop preproduction forecasts for durable goods.

The framework is comprised of four components: 1) the current world, 2) the future world, 3) the information acceleration of the future world, and 4) the development of a sales forecast.

Current World

The current world represents the decision making environment of the consumer who is involved in the buyer decision process (see

Figure 3). This environment includes products that the consumer would consider for purchase, the consideration set, and information sources that the consumer may use for obtaining information about products. In addition, this environment includes the necessary procedures to enable the buyer decision process. Note that problem recognition is assumed and is a component of the Future World.

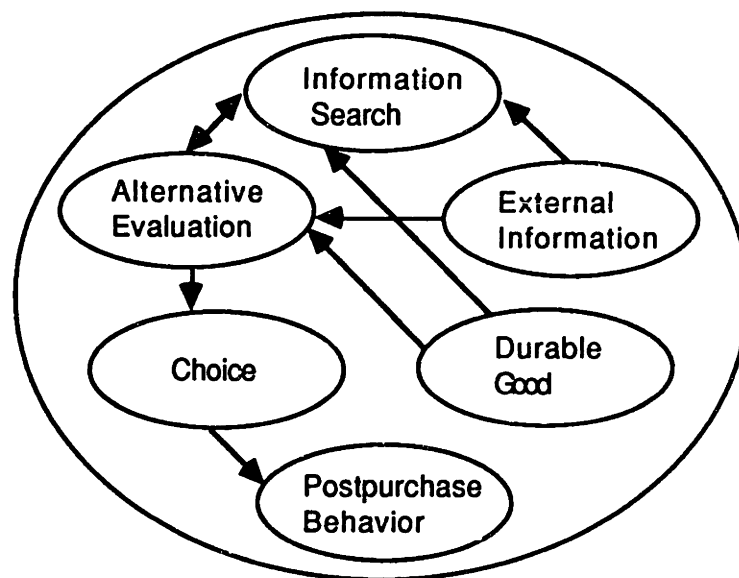


Figure 3 - Current World

It is critical that the current world include these items. The decision making environment would be dysfunctional without any one of them. The products and the information sources may be thought of as the hardware of the decision making environment of

the consumer. Procedures enabling the buyer decision process may be thought of as the software of the decision making environment of the consumer. The decision making environment, similar to a computing environment, requires the necessary hardware and software in order to function.

Further, it is not enough that the system function. It requires the appropriate hardware and software in order to function properly. In this context, marketing theory has defined the appropriate hardware as products and information sources, and the appropriate software as information search, alternative evaluation, choice, and postpurchase behavior. A properly functioning decision making environment is comprised of these attributes.

One stage of the buyer decision process is information search. Product information may be obtained by interacting with the product or with information sources carrying information about the product. It is possible that a consumer may not conduct any information search (e.g., routinized buying behavior). This may be due to a number of reasons such as one's experience, product knowledge, or particular situation.

Another stage of the process is alternative evaluation. The

consumer evaluates known information about the product in order to make a purchase decision (As in the information search stage, it is conceivable that a consumer would not compare alternatives. For example, if the consideration set consists of one product, or situational factors forced an immediate purchase, a consumer may not evaluate alternatives.). Information used during this stage may be accessed from storage (e.g., memory, notepaper, computer) or from the actual information sources. A slight blurring of the information search and alternative evaluation stages exists when using the latter approach. For example, a consumer evaluating a set of cameras for purchase may visit a store, place the cameras on the counter and deliberate over them at that time. Alternative evaluation would include looking at the cameras for attribute values rather than some other information storage medium. In this sense, the product and information sources may feed into the alternative evaluation stage.

Information may be evaluated by one of several possible methods (see Johnson and Schkade 1988) in order to make the choice decision (e.g., EBA, Lexicographic). The consumer may go back and forth between the alternative evaluation and information search

stages if additional information is required. Also, the consumer may skip this stage, for example, when choice is habitual.

The consumer enters the postpurchase behavior stage after making a choice among the consideration set. This stage is characterized by a number of possible behaviors such as product usage and maintenance. It may also include some less obvious behaviors such as word-of-mouth generation, additional information search, or further alternative evaluation.

Future World

A new product is in concept form just prior to production commitment. Its physical, functional, and perceptual properties have been defined. But, at this point in time the actual product does not exist and therefore does not exhibit its defined properties. In the future, the introduced new product will exist, ideally, with the same properties defined for it when it was a new product concept.

Product information for this new product will be available by accessing the actual product or information sources carrying information about it. The future world is defined as an environment in which the consumer goes through the problem recognition stage (Engel, Kollat, and Blackwell 1968; Tauber 1975; Bettman 1979;

Bruner 1986; Bruner 1987; Bruner and Pomazal 1988) and which contains the new product and information sources carrying information about the new product and like information about competitive products (see Figure 4). In the Future World, motives and learning feed into information processing such that the consumer detects a significant difference between a desired state and an actual state with respect to a particular want and need, resulting in problem recognition.

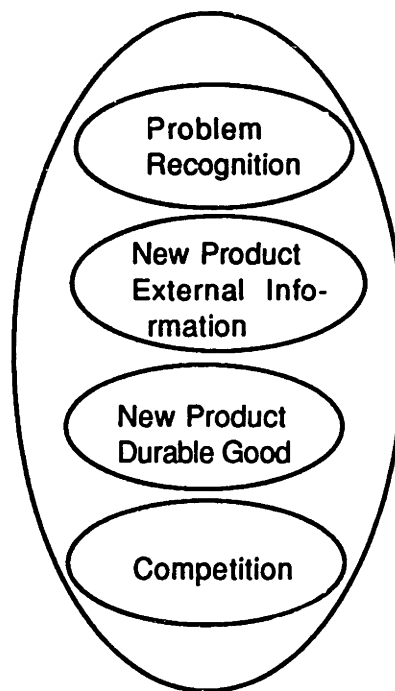


Figure 4 - Future World

Information Acceleration

This research is focused on providing a methodology for

developing preproduction forecasts for durable goods. A model of the buyer decision process has been described.

The product, information about the product, and information carriers (information sources) that will exist after the product is launched (assuming it is launched) are projected into a current world context. In the current world context, interaction with items from the future world is similar to that with items from the current world. Availability and accessibility of future world items is similar to that for current world items. For example, an individual curious about the latest 35mm camera from Minolta may go to a camera store to investigate the camera. This may include talking with a salesperson, or obtaining a brochure. In this framework, an individual curious about the new Minolta 35mm camera to be introduced in four years may also go to a camera store to investigate the camera, talk with a salesperson, and obtain a brochure.

Future world items projected into the current world are used in the buyer decision process. Information about current and future world products may be searched during the information search process. Both current and future world products may be considered for purchase.

The methodology needs to carry out three difficult tasks. First, the existence of new durable good needs to be simulated. Second, the search and purchase environment need to be made available (e.g., word-of-mouth, retail outlet). Third, the existence of competitive products needs to be simulated. Implicitly, two other mechanisms need to be provided. Consumers must be able to interact with the new product and to search information within the environment. In addition, critical consumer behavior needs to be recorded.

The concept of *information acceleration* is proposed to achieve these tasks (see Figure 5). The term refers to the acceleration of information availability from a future context to the present.

Specifically, information acceleration is defined as:

- 1) simulating the existence of a future new durable good.
- 2) simulating the availability of new durable good information that is typically available not only before but also after market launch,
- 3) simulating the availability of competition,
- 4) enabling consumer information search and interaction with the new durable good and the competitive products, and
- 5) recording critical behavior with regard to consumer information search and consideration for the new durable good.

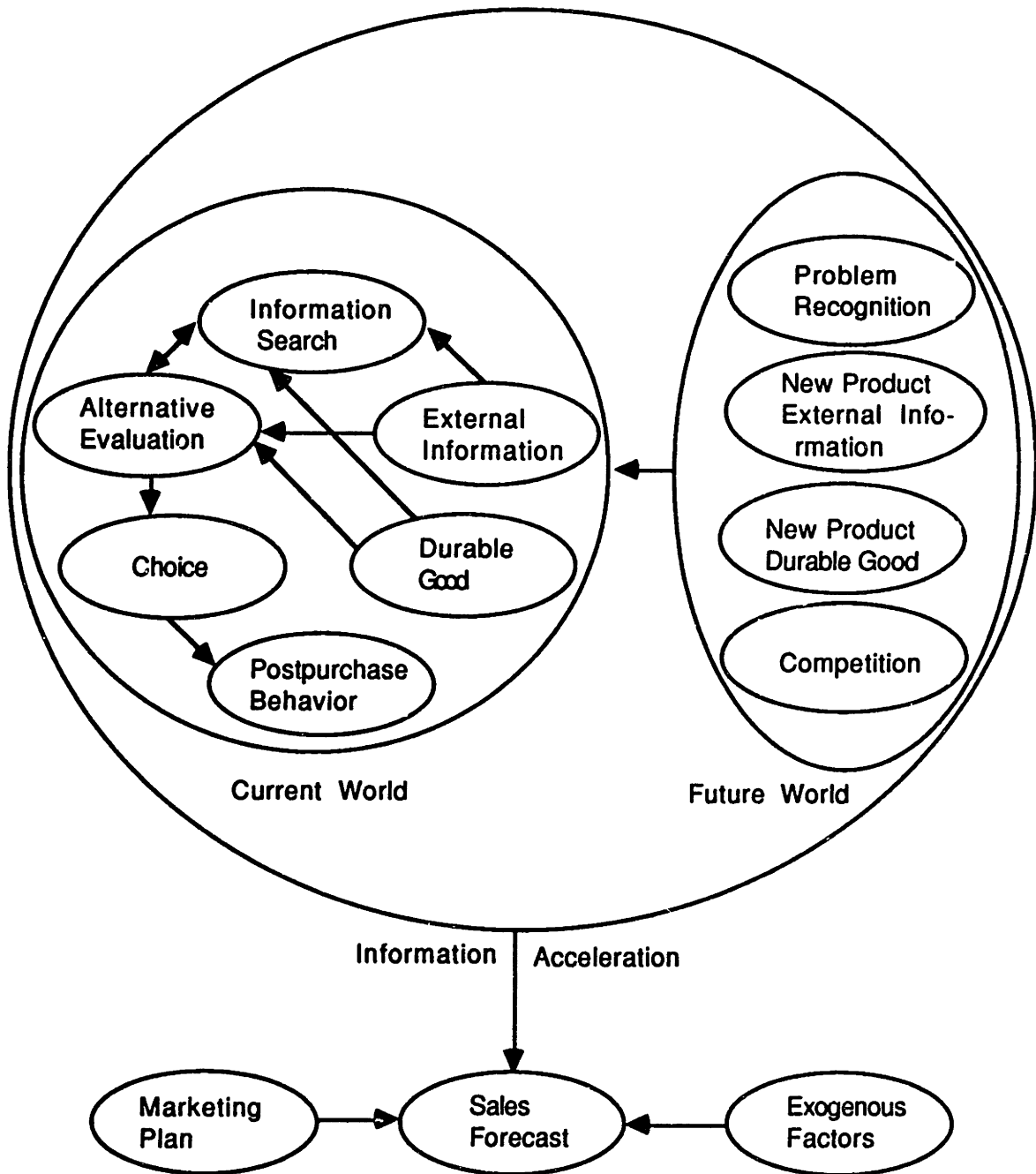


Figure 5 - Hypothesized Information Acceleration Methodological Framework

Methodological Priorities for Developing a Preproduction Forecasting Model for New-Product Durable Goods

A methodology which is to be used for developing preproduction forecasts of new-product durable goods should enable the consumer to experience those activities associated with the consumer decision process for durable goods. The active components of this process are information search, alternative evaluation, and choice.

In order for a new product to be considered for the alternative evaluation and choice phases of the consumer decision process an awareness of the new product must exist. Awareness is obtained via some form of information, and subsequent knowledge about the new product is obtained through information search behavior (information may be obtained through either passive or active search). Therefore, information search receives the highest priority in developing the methodology with respect to the consumer decision process.

Implicit in the information search activity is that the new product itself exists (even the Infiniti Q45 by Nissan existed though the advertising campaign during its roll out excluded a visual image

of the vehicle). The new product is the nucleus from which all information ripples emanate (see figure 6). Information about a product will not exist unless that product itself exists.

A product may exist in various forms. A product may be expressed as an idea, a detailed concept, a prototype, or a market-launch version. The type, availability, and detail of information about the new product will depend on the form of the new product. For example, information associated with a new product idea is likely to be from new product committee members (perhaps during new product committee meetings or private conversations) or internal documents, confidential to a limited group of individuals within the firm, general, and incomplete in detail (e.g., physical form, functionality).

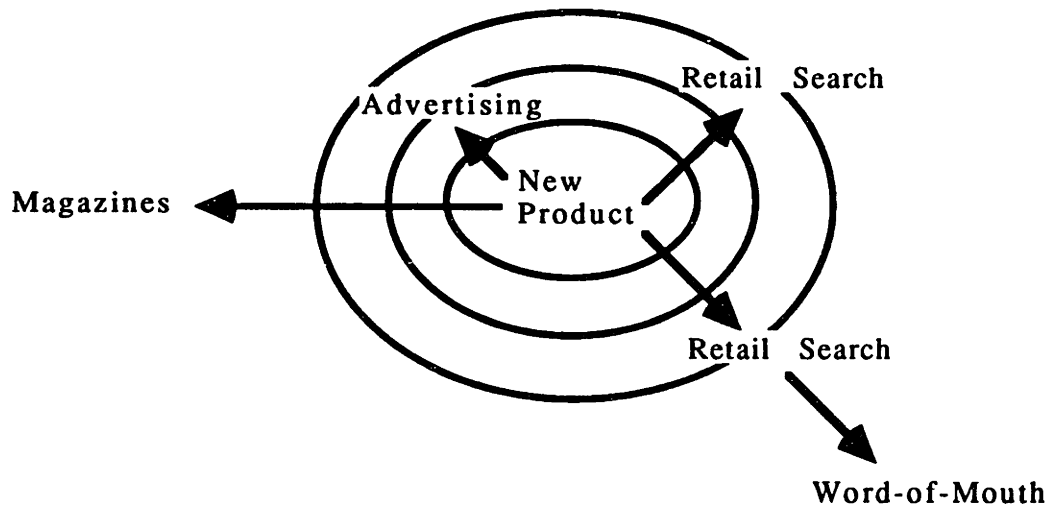


Figure 6 - New product as Nucleus for Information Disbursement

A new product available in the market is fully defined (though a consumer may not be aware of or fully understand it). It has physical and functional properties which are explicitly defined. Any question about the product's appearance or performance may be answered definitively. For example, if one is curious about the size of an automobile and how well it drives, one may satisfy this curiosity by observing and driving the automobile of interest. Definitive responses to a product question may not be readily available due to the specific nature of an inquiry. For example, if one were curious about how well an automobile would perform under specific conditions (e.g., on flooded backroads in a mountainous area), one would have to drive an automobile under such conditions.

The information acceleration framework is designed to simulate the availability of new product information and enable the consumer decision making process. An information acceleration system, an information accelerator, is a mechanism for enacting the information acceleration framework.

CHAPTER 4

INITIAL VALIDATION TEST

It was unclear whether a system based on the information acceleration concept was a valid surrogate source of new product information. If the information stimulus was unrealistic and did not provide valid measures then models utilizing data generated by subjects using the information accelerator would be of questionable worth. Therefore, an important procedure was to conduct an initial test of the information accelerator's validity.

This was performed by assessing the realism of the information source stimuli. The sources of information provided on the system in this study were retail outlet, interpersonal individuals, magazine articles (product specific and consumer guide), and advertisements (television and print). Testing the realism of all the sources was infeasible due to field study budget constraints.

Therefore, the initial validation focused on testing the realism of the retail outlet because it is a very important information source and because it seemed to be the most difficult to simulate. The information search literature indicates the importance of retail

search and the need to understand retail search in greater detail.

The retail outlet seemed to be the most difficult source to simulate and hence would provide the most rigorous test.

The objective of the initial validation test was to determine the realism of a computer simulated retail experience. Purchase intent for a new product due to consumer search behavior in a retail environment was compared between consumers experiencing either a real or a computer simulated retail outlet search.

Product Stimulus

The stimulus product for this study was an automobile. An automobile is a complex durable good and has been used previously in a number of studies on information search (Furse, Punj, and Stewart 1984; Punj and Staelin 1983; Kiel and Layton 1981; Newman and Staelin 1972) and durable good forecasting (Roberts and Urban 1988; Urban, Hauser, and Roberts 1990; Urban, Hulland, and Weinberg 1991).

Information Sources

Information sources related to the product stimulus that were provided needed to be those that were available typically not only before but also after product introduction. Information sources

provided were advertising, interpersonal individuals, magazine articles, and retail outlet. Exploratory research revealed additional sources of information for automobiles as being rental experience, direct mail, and automobile shows.

The following specific sources of information were available on the information acceleration system: television and print advertising, interpersonal individuals, automobile and consumer guide magazine articles, and automobile showroom. Direct mail, automobile shows and automobile rental sources were not available for feasibility reasons.

Information available currently and after launch of the new product was collected from the natural search environment and the manufacturer, respectively. Print and television advertisements were obtained from the manufacturer and its advertising agency. Relevant consumer guide and automobile magazine articles were obtained from the public domain.

The interpersonal individuals differed from the "word-of-mouth" tapes used in Urban, Hauser, Roberts (1990). In that study word-of-mouth was simulated by presenting a videotape of individuals who had (theoretically) experienced the test product (the

Buick Reatta). In actuality, the individuals on the tape were hired actors who acted out a written script which was based on actual focus group data on the test product. The intent was that the actors would appear to be actual consumers presenting their unbiased opinions. However, Buick managers sponsoring the research and the research authors agreed that the word-of-mouth presentations could be improved.

A slightly different technique for providing word-of-mouth was employed in this study. The approach was similar in that different people were available for a "conversation." However, the individuals discussing the new product were not hired actors acting out scripts, but were "regular people" providing their honest first impressions of the vehicle. Given the importance of perceived credibility in an interpersonal communication dyad (King and Summers 1967), this approach was used in an effort to increase the credibility of the word-of-mouth sources.

A cross section of individuals with respect to age, gender, driving habits, and current automobile ownership were given the opportunity to obtain experience with the new test product (a prerelease version was made available from the manufacturer).

After gaining sufficient experience, these individuals were interviewed one at a time and asked to provide their honest first impressions about the new product in an unrehearsed videotaped interview. The topics covered in each interview about the new product were first impressions, positive and negative thoughts, unexpected surprises about the product, who would use it.

The simulated (video) showroom (retail outlet) provided the opportunity to walk around and view the exterior and interior of the automobile (new test product), interact with a salesperson, and read a brochure and manufacturer sticker. In order to simulate interaction with the automobile, video footage was taken of the exterior and interior of the automobile. An actual salesperson describing various attributes on the automobile was videotaped and the automobile brochure and price sticker were scanned into (stored in) the system (stored on the hard drive).

Clinic Timing

The data collection portion of the field study was executed over a twelve day period, May 12-23, 1990.

Design

A 2 x 2 design was implemented. Variables for showroom-

type and automobile-type were manipulated in the design. The showroom-type was real or simulated and the automobile-type was test or control.

An alternative 1 x 2 design was not used for three reasons. One, by having two automobile cells, the statistical test is strengthened. The rival hypotheses that similarity (assuming the showroom is similar) is due to probabilistic "luck of the draw," and that the research instrument may not be sensitive enough to detect differences are addressed. Two, if the real and simulated showroom are not similar, then by testing two automobiles, it may be possible to calibrate the simulated to the real showroom. Three, the use of a "similar" vehicle currently on the market is used for forecasting purposes (Urban, Hauser, and Roberts 1990).

The real and simulated showroom were constructed to have similar "look, feel, and functionality," in order to control for differences other than those related to the differences between real and video stimuli.

The real showroom physically consisted of a room containing an automobile, automobile salesperson, automobile brochure, and automobile price sticker. The simulated showroom consisted of

exactly the same items, however, interaction with these items was through a computer. The automobiles in each type of showroom were exactly the same. The salesperson responding to questions in the real showroom was the same as the one in the video showroom. Similarly, the price stickers and manufacturer brochures were the same in both types of showrooms.

The test automobile was a new model that was physically available at the time of the clinic but had not been distributed to the public. Specifically, the 1990 Buick Reatta Convertible was the test automobile. The control automobile was a new year version of an established model that was in the same category as the test automobile. This method for selecting a control vehicle was consistent with the approach employed in Urban, Hauser, Roberts (1990). The control automobile was the 1990 Mazda RX-7 Convertible. Previous research (Urban, Hulland, Weinberg 1991) and managerial judgement were used in establishing that the test and control automobile were in the same category.

In this research, the cost of a type II error is high. Therefore the power in the test was set at a high level. The planned sample size was determined assuming an $\alpha = 0.01$ and power of 0.99 for

shifts in the showroom distributions of 0.1 standard deviations¹
 (see Table 2).

		Automobile		
		Reatta	RX-7	
Show room	Real	50	50	100
	Simu lated	50	50	100
		100	100	200

Table 2 - Sample Size Design

Sampling Screener

Two factors were taken into consideration in defining the sample screening procedure. First, the screen needed to be tight enough in order to include only individuals that would consider a vehicle of the type under study. Second, the screen needed to be wide enough to make obtaining the desired sample size feasible. This approach conforms to a method used previously (Urban, Hauser and Roberts 1990). Specifically, individuals in the greater Boston area that would consider a two-door sporty automobile priced over

¹ n was set based on $\phi = \Delta / \sigma_{\Delta} \times (2)^{-1/2}$ and the properties of the noncentral T distribution.

\$20,000 on the next purchase occasion for a new automobile qualified as potential participants in the study.

Sample Selection

A list of individuals that were most likely to qualify as potential participants were obtained from R.L. Polk in Detroit, Michigan. These were defined as individuals who had purchased a 2-door sporty automobile within approximately the last two years (in 1988, 1989, or 1990). The name, address, and phone number for each individual was obtained (for list of automobiles see Appendix A).

Obtaining Sample

Obtaining clinic participants was a two-step procedure. First, an introductory letter on MIT stationery describing briefly the study was mailed to potential participants (see Appendix B), and after receiving the letter, potential participants were contacted over the telephone. This decision was made in order to lend instant credibility to the study, make cold-calling a little bit warmer, and most importantly increase the response rate. Introductory letters were mailed on a staggered timetable, and the first mailing went out on May 3 (so that the letters would arrive one week prior to the first

day of the clinic). Telephone calls to potential participants were made during after work hours, 6:30 p.m. to 10:00 p.m. Each individual was 1) qualified to participate, and 2) thanked for participating if not qualified or asked to participate and offered \$25 to cover travel costs to and from the clinic location if qualified. Individuals agreeing to participate were scheduled for a specific day and time.

Individuals agreeing to participate were mailed a confirmation letter including the date and time agreed upon, directions to the clinic facility, and phone numbers for rescheduling if necessary.

Sample size

Nine-hundred-seventy-six (976) potential participants were telephoned. Of these, 561 were reachable. Four-hundred-fifteen (415) individuals were unreachable because either the phone number was disconnected, a wrong number was provided by R.L. Polk, they were no longer residing at the phone number provided, or they were unavailable to answer the phone (e.g., away on business or pleasure, or the phone was never picked up at the other end). Of the 561 actually contacted, 280 were qualified, and 204 agreed to participate. Of these 204, 184 ultimately participated. Finally, of

these 184 that participated, data for 172 subjects were complete enough for data analysis.

Approximately two-thirds of the subjects were assigned randomly to the test automobile cells and two-thirds to the simulated showroom cells (see Table 3). Discrepancy in planned and actual sample size was due to subjects not showing up for their appointments, and computer errors.

		Automobile		
		Reatta	RX-7	
Show room	Real	43	23	66
	Simu lated	67	39	106
		110	62	172

Table 3 - Actual Sample Size

Experimental Site

Facility selection was based upon two dimensions. One, specific physical space requirements were necessary for equipment and instrument setup (computers and automobiles). Two, location accessibility would affect the response rate, proportion of "no-

shows", and promptness of clinic participants. A facility in the greater Boston area (Dedham, MA) that could accommodate the setup necessary for the study and was conveniently located was secured. It provided ample space to accommodate four information acceleration systems and the real showroom. In addition, the facility was easily accessible as it was located near two major highways (Routes 1 and 128).

Experimental Procedure

Clinic participants were subjected to the following procedures:

1) participant greeting, 2) computer training, 3) computer task including information acceleration, and 4) debriefing.

The overall procedure was broken down into these major components in order to insure that participants understood the task at hand, felt comfortable at all times during the procedure, and had ample opportunity to ask for clarification if necessary.

Participant Greeting

An area near the entrance of the facility was established for greeting participants upon their arrival. Refreshments were provided and offered to all participants. In addition, seating was made available for obligatory paperwork required by MIT to confirm

participation and payment dispersal and for waiting to begin the procedure if a system were unavailable upon their arrival.

When ready, participants were guided to an information acceleration system in an adjoining room. An information acceleration system was running in each of the four corners of the room. The space was open and relaxed, however, partitions were in place to insure privacy and confidentiality. In an effort to obtain responses that would best reflect the participants actual perceptions, it was explained that confidentiality was guaranteed and that responding as honestly as possible would be helpful.

Computer Training

Participants received training on how to interact with the information acceleration system and were then given instructions on how to proceed. This stage was critical, as the entire task was performed on the system (except for those visiting the real showroom). The training consisted of learning how to use a "mouse" (see Figure 7), - an inputting device available on all Apple Macintosh computers as well as several other brands - understanding that the task would be self-guided, and being made aware that an MIT student would be made available to provide any type of assistance at

any time. After this brief training exercise the participant began the information acceleration task.

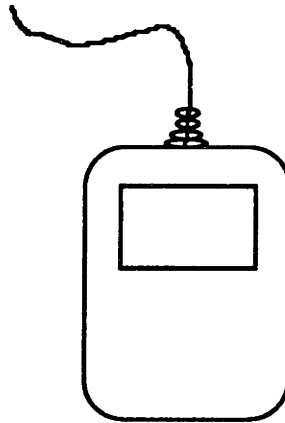


Figure 7 - Apple Macintosh Mouse

Computer Task

The information acceleration task consisted of three distinct parts, a front-end questionnaire, new product concept exposure and information acceleration and search, and a back-end questionnaire (see Figure 8).

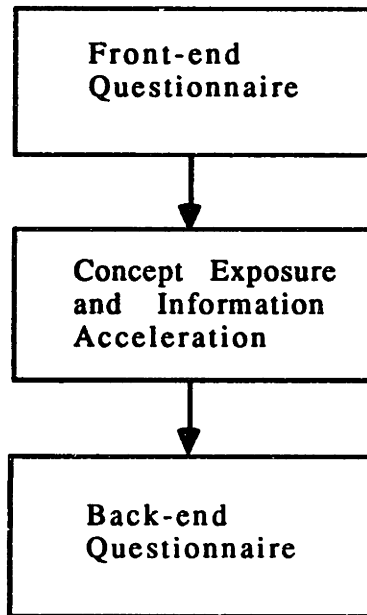


Figure 8 - Overview of Information Acceleration Task

Though each component was inter-related, each component had a different purpose. Clearly delineating each component would help the participant focus on the specific task at hand. For this reason, each component had unique presentation cues and required a unique response approach, and each component was separated by an actual delay in the system (of approximately 30 seconds). The delay cues reinforced textual cues indicating a logical change in directive and were intended to aid the participant in "shifting gears" in responding.

Participants were trained in the general response techniques utilizing a mouse. In addition to providing adequate mouse use

training, the response screens were purposely constructed in an attempt to minimize required mouse movement, and routinize response movements for each separate procedural component. This was intended to make it easier for respondents to provide their desired responses and to make the task feasible for the "worst-case" participant (the mouse and/or computer illiterate).

FRONT-END QUESTIONNAIRE

The front-end questionnaire served two purposes. First, it introduced the topic of the research study and gave the subject an opportunity to "get into the mind set" of the task. Since subjects were to be required to search and evaluate an automobile during the information acceleration stage later in the task, introductory questions were intended to help the person conjure up their mood for automobile search and evaluation. Second, the front-end questionnaire consisted of questions that would be useful for evaluating the information acceleration validation and for developing a forecasting model.

The front-end questionnaire queried about one's prior automobile ownership and information search behavior, and current automobile consideration set (see Figure 9). Specifically, subject's

were asked to inform about their most recent automobile purchase with respect to the make, model, and year of the automobile purchased, the information sources searched, information source usage frequency, and information source influence (see Chapter 6 for greater detail). After answering these questions, subjects were guided through a task, similar to a procedure used in Urban, Hauser, and Roberts (1990), for determining their automobile consideration set.

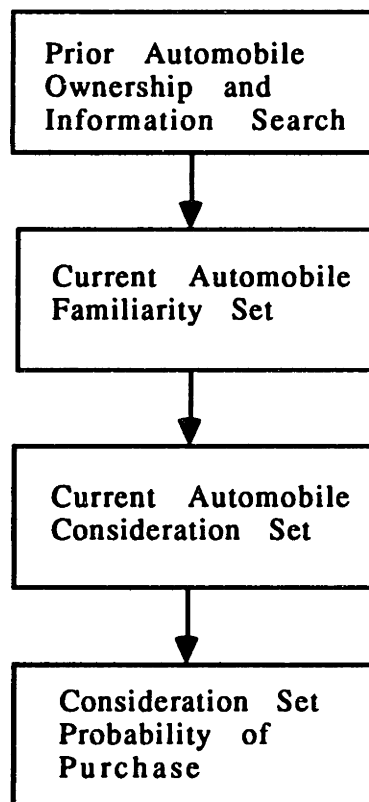


Figure 9 - Front-end Questionnaire

Before determining the consideration set, an aided recall task was used to determine each subject's automobile familiarity set. This was done because, it was assumed that individuals do not consider products of which they are unaware. Subjects were shown a set of 32 2-door sporty automobiles (depending on the forecasting objective, a wider array of automobiles conceivably could have been displayed. However, the objective in this study was not to develop an explicit forecast, but to test the methodology in the context of what the methodology requires - in this case, simply the provision for determining the consideration set.). The make and model, and a black and white photograph of each automobile was shown on the monitor. Subjects were asked to indicate whether they were familiar with each automobile. The familiarity set was defined as those automobiles with which a subject was familiar. After determining the content of the familiarity set, the consideration set was established.

Subjects were shown again those automobiles belonging to their familiarity set and asked whether they would seriously considering purchasing each of the familiarity set automobiles on the next automobile purchase occasion. In addition to presenting the

make, model, and a black and white photograph of the automobile, the option of viewing specifications about each automobile's price, engine, performance, size, and options was made available. The optional information was made available in the event that a subject needed more information in order to make a consideration decision and to provide the type of information one may require in order to make a consideration decision. It was conceivable that some subjects may not have considered any of the automobiles presented or may have considered other automobiles not presented. In the event that this contingency was invoked, participants were asked about consideration for any "other" automobile.

Subjects were finally shown their consideration set automobiles and asked to indicate their probability of purchasing each of the automobiles on the next purchase occasion. Additional measures such as attribute importance, attribute ratings, and attribute rating confidence could have been requested. Even though the objective of this study did not include developing a forecast, it is important that the critical contextual sections be provided in order to provide a better overall test of the methodology.

CONCEPT EXPOSURE AND INFORMATION ACCELERATION

Subjects performed the information acceleration task after completing the front-end questionnaire. The availability of a new automobile, not yet introduced to the marketplace, was introduced to subjects through a concept exposure. It was then indicated to each subject that the automobile would be available for search and evaluation. Each subject was allocated a search time and requested to search for the new automobile as they would for any other automobile they were seriously considering for purchase.

Test Concept Exposure

An important issue was how to present the new product concept exposure. The information to be provided by each information source was predetermined and fixed. However, it was not clear as to what form the new product concept exposure should take on.

The primary issue was how to present the new concept. One alternative was to present a television advertisement. Viewing a television or print advertisement is one way in which individuals become aware of new products. However, advertisements was one of the information sources provided on the system. In order to minimize possible confounding between the new product exposure

and the advertisement information source this approach was rejected. In addition, the use of a marketer-produced source of information as a concept exposure could possibly introduce unnecessary bias with respect to the product and information search.

Another alternative was to present an article about the new product. However, the same problems indicated above would have still existed. A concept exposure needed was one which would introduce the new product with limited information in order to minimize confounding with available information sources.

A concept exposure including a picture of the automobile along with its make and model was employed. Immediately after concept exposure, participants were required to indicate their probability of purchase for the new product concept .

Search Time Allocation

A critical issue in information search is search cost. With a decrease in the cost of information an associated increase in the amount of search is expected (Stigler 1961). The information acceleration system reduces the cost of search by making information easily accessible.

For example, the cost of visiting an automobile showroom is a

function of the drive time to and from the showroom, and search time at the showroom. Obtaining information at the showroom may be time consuming depending on the dealership visited (e.g., some salespeople have a reputation for making it difficult and time consuming to obtain factual information). However, an individual searching on the information acceleration system does not incur directly a travelling cost as one arrives at and departs from the showroom instantaneously upon command. In addition, search time in the showroom is extremely likely to be reduced as the salesperson is strictly informational and does not attempt to motivate a sale.

In order to force the consumer to make information search decisions, search time on the system was constrained with respect to a consumer's search activities for their most recently purchased automobile. If search time were not constrained then individuals would be expected to search more information than they would in reality due to the reduction in search costs. In an effort to establish partial external validity, real life information search time for using a source (this is only a part of search "cost") were translated into information acceleration search times. A pre-test of the information acceleration system resulted in the appropriate translations of time

for the search time allocation algorithm (Appendix C).

In addition, individuals are heterogeneous with respect to the amount of time they would be willing to dedicate to information search. Some individuals have low costs of search while others may have moderate or high costs of search. The search time allocation algorithm takes this heterogeneity into account.

Information Search

Four different sources of information were made available on the information acceleration search system - advertisements, magazine articles, word-of-mouth conversations, and automobile showroom visit. Both television and print advertisements were made available. Magazine articles were from both automobile and consumer guide type journals. Word-of-mouth conversations were of individuals that vary with respect to gender, age, driving habits, and automobile ownership. The showroom visit enabled interaction with an automobile, salesperson, and manufacturer brochure and sticker.

A main menu indicated the availability of these sources for search as well as the average cost (in time) for searching an information source and the amount of allocated search time currently

remaining. The presentation of the search cost of each information source and the time allocation remaining was critical as these bits of information would be used for making search decisions by the consumer. The average search costs for each source were based on a pre-test of the system. However, actual time searching a source was determined by each respondent.

In order to allow for the observation of realistic heterogeneity of search among participants, search was designed to be nonlinear. Each participant determined which sources to search, the amount of time to allocate to searching each source, and the order in which each source is searched. Time allocation among sources could be determined by the consumer due to the provision of a mechanism for exiting a source of information at any moment during search. In addition, as much or as little of the search time allocation could be used.

Participants were not required to specify explicitly and fix any search strategy with respect to information sources to be searched and amount of time to allocate to searching each source. Some participants may have predetermined their entire search strategy. However, others may have made some or all of their search decisions

dynamically.

There is one exception to the true nonlinearity of the search experience. If the showroom visit was not selected at the completion of information search, then the participant was provided with a "free" showroom visit (i.e., forced to search the showroom visit source). However, the participant was free to immediately exit the showroom upon being forced to search it. This constraint was imposed due to the primary objective of assessing the similarity of the simulated and real showroom visits.

"Free" showroom visit consumers may be biased in their search. The lack of a time constraint may influence them to search more. On the other hand, since the showroom was not self-selected, they may search less.

Immediately after searching each source, participants were asked to indicate any change in their probability of purchase for the new product concept. Upon indicating either change or no change, the main menu presenting the availability of information sources reappeared. At this point, an information source was selected for search or search was terminated.

Showroom

Two different types of showrooms were provided. However, their design was similar with respect to functionality and content. Each showroom contained the new product automobile, an automobile salesperson, a manufacturer's brochure, and a manufacturer's price sticker.

Implementation of the real showroom was straightforward. A facility giving the appearance of an automobile showroom, containing an automobile, salesperson, brochure, and price sticker, was set up. Respondents interacted with the environment as if in an actual automobile showroom. One could walk around, get in, look under the hood, and into the trunk of the automobile. Questions about the automobile could be directed to the salesperson. The brochure and price sticker could be read as desired.

The simulated showroom gave a similar appearance to the real showroom except one viewed and interacted with the environment through a computer screen and mouse respectively. The mouse was used to indicate a desired path one would take when viewing the automobile. Walking around, getting in, looking under the hood, and looking in the trunk were possible. In addition, the mouse could be used to facilitate interacting with the salesperson. A list of questions

which could be asked of the salesperson (essentially an attribute list) was made available. Clicking the mouse on one of the attributes enabled one to ask the salesperson about a feature.

The same salesperson was made available in both the real and simulated showroom. The salesperson was videotaped providing answers to questions about various attributes of the automobile. This videotape footage was made available for the simulated showroom. The salesperson was physically available in the real showroom. Respondents interacting with the real showroom stimulus were limited to asking questions for which replies were available in the simulated showroom. A pretest was performed to insure that answers to the most asked questions were provided in both types of showrooms.

Word-Of-Mouth

Individuals having experience with the automobile were made available for questioning. These individuals provided information about first impressions, positive and negative thoughts, unexpected surprises about the product, and who would use it. Visual images and background information about these individuals (age, current automobile driven, driving habits) were presented in order to

differentiate each word-of-mouth individual from the other.

Providing this information was important as it helps consumers to identify the type of person(s) they would prefer to "talk" with and to calibrate responses from these individuals. For example, a consumer who currently drives a BMW or some other upscale European automobile may prefer to hear the opinions of a "similar" individual on the system. This consumer may select to "talk" to the individual on the system who currently drives a BMW 735i. Other consumers may select to "talk" with the BMW 735i owner because they are curious about what a luxury performance oriented driver has to say.

Consumers may select to hear from more than one individual in order to calibrate responses from the various individuals on the system or to calibrate responses from the system in general. In this clinic, the word-of-mouth individuals selected were positive in tone (in an actual forecasting clinic, a negative word-of-mouth set of individuals would have been made available in another cell(s)). It is conceivable that consumers may detect this and attempt to calibrate responses accordingly (perhaps downward if it is believed that the information provided on the system is biased). However, consumers

were asked to assume that the word-of-mouth individuals were providing their honest opinions.

Magazine Articles

Four magazine articles were available on the system for reading by consumers with the intent of providing a cross section of magazine articles that consumers reference when searching for information about automobiles. Two of the articles were from consumer guide type magazines and two articles were from automobile type magazines. These articles had actually been published and were presented on the system as they appeared in print.

Advertisements

Two television, one print, and one newspaper advertisements were available for viewing by consumers. Again, the intent was to make available the types of advertising that consumers may reference when searching for an automobile.

Consumers had the ability to stop viewing an advertisement at any time, even for a television ad. A "stop" button was provided to stop viewing a television advertisement. This was provided to simulate television remote-control behavior of "clicking" off a

television advertisement when it is not of interest for viewing. In addition, it enabled the consumer to remain in total control of the search process.

BACK-END QUESTIONNAIRE

Upon completing search during the information acceleration stage, a back-end questionnaire was administered. Four sets of back-end questions were asked. The first set asked for an update of purchase probabilities of consideration set automobiles (as defined in the front-end questionnaire). The second set of questions asked about source influence and usage during the information acceleration search stage. The third set of back-end questions pertained to evaluating the search system. The final set of questions asked about automobile experiences and demographics.

Purchase probability updates of the consideration set were asked for two reasons. First, these measures along with the purchase probability for the test (control) vehicle could be used to estimate choice. Though it was not an objective to explicitly forecast sales in this study, it was an objective to provide the (basic) context and procedures of a forecasting study. Second, it was assumed that purchase probabilities for the unsearched consideration set

automobiles would remain unchanged.

Questions pertaining to source influence and usage were asked for two reasons. First, they provided a multiple measure of source influence during the search experience. Second, they provided a mechanism for replicating the finding that consumers do not recall details of search behavior, "even that done just moments before."

System related questions were asked in order to gain insight into how subjects evaluated the computer search system and how they might use it. Demographics and automobile experience based questions were asked because they are standards in automobile studies and would be of interest to the research sponsor for categorization purposes.

DEBRIEFING

Respondents were debriefed after completing participation in the study. The debriefing consisted of explaining the purpose of the research, requesting respondent's thoughts about the study, and answering any questions a respondent may have had about the study.

CHAPTER 5

INFORMATION ACCELERATOR FUNCTIONALITY

AND DEVELOPMENT

An information accelerator was developed in order to perform the initial validation of the information acceleration theory. This system was developed in accordance to the definition of information acceleration. A computer based solution was used in developing the information accelerator. Noncomputer based types of information accelerators could have been developed (for example: a personal interview could have been used as the measurement instrument; actual people could have been made available for word-of-mouth; television advertisements could have been viewed on a television; actual magazines could have been available for reading.).

Functionality

The information acceleration system used in this research was based on a personal computer and multimedia platform that was state-of-the-art and flexible to change and growth in the future. Personal computers have been available since 1974, began gaining popularity at the consumer level in 1977, and are presently

sophisticated and powerful (Sanders 1983; Freiburger and Swaine 1984; Juliussen, Isaacson, and Kruse 1987). The power of a typical personal computer used today is similar to that of a mainframe used in the early 1980's (Forester 1987; Kurzweil 1990). Within a couple of years, personal computers will exhibit the sophistication and power of today's most powerful supercomputers. Multimedia is relatively new. It has seen limited adoption to date. However, the computer industry (following the lead of Apple, Macromind, Truevision, IBM, and Microsoft) is investing billions of dollars into researching and developing new multimedia products and hailing multimedia as the next significant function of computers.

Designing and developing the system was a major task. Finding and obtaining the necessary hardware and software support required significant investigation. When this version of the information accelerator was designed and developed in December of 1989, one could not walk into a computer store, describe the desired functionality of the information acceleration system, and expect to leave with a suitable package in tow. This was a function of the lack of multimedia products distributed through retail outlets at the time and the complexity of the system design.

Conversations with leading manufacturers of multimedia equipment were carried out in order 1) to learn as much as possible about the state of multimedia with respect to functionality and compatibility, and 2) to develop a relationship with suppliers (i.e. become developers) who would be willing to provide access to their latest products (e.g., beta versions - products still under development and test and unreleased) and key technical support.

Platform Determination

The first decision was determining upon which type of platform to develop. Two criteria were used for selecting a platform. One, the system had to have the hardware and software (either through the manufacturer or third party suppliers) to support the current information acceleration system design needs with respect to graphics, sound, and full motion video. And two, the manufacturer had to be planning system upgrades in order to insure that future information acceleration system design enhancements could be implemented.

Three different platforms were considered, DEC Microvax, IBM Personal Computer, and the Apple Macintosh. Each platform satisfied the necessary criteria. The DEC platform was the first considered. It

was being used by Project Athena at MIT. The system used by Athena included a sophisticated laserdisc by Panasonic and MIT developed software, MUSE. The DEC solution had four limitations. First, each full system cost approximately \$30,000. This price was prohibitive since multiple systems would have to be purchased for data collection. Two, it seemed likely that in the future neither DEC nor DEC third party suppliers would focus a lot of energy on multimedia hardware and software. Third, the Panasonic laserdisc player used a proprietary format which as a result would limit overall system flexibility. Fourth, the software was not designed for producing "user-friendly" interfaces, hence, significant time would be required for this effort.

The IBM platform was considered next. It provided solutions to most of the DEC system limitations. It was priced at approximately \$14,000. IBM had stated an interest in improving its personal computers in the area of multimedia. In addition, the platform was flexible enough to allow for the use of any type laserdisc player. However, the IBM system shared one limitation with the DEC system. Software that supported higher level programming for quicker development, and "user-friendly"

interfacing was not available.

The third system considered was the Apple Macintosh. This system was clearly the best for the information acceleration design requirements. The total system cost was just under \$10,000. Apple and third party suppliers had been producing multimedia hardware and software. Multimedia had become a prominent part of Apple's strategy. At the time, a number of multimedia hardware and software tools were being announced and introduced. The Macintosh was designed for "user-friendliness," easier programming, and graphical interfacing. The Apple Macintosh platform was selected for developing the information acceleration system.

Specific decisions about which type of hardware and software were made after selecting the Apple Macintosh platform. Obtaining developer status with Apple Computer, Truevision, and Macromind aided the decision process. The advantage of being a developer is that awareness increases about product details and new product developments and it becomes possible to obtain products at significant discounts and in prerelease form. Obtaining software in beta version was critical as it made software development feasible with respect to programming flexibility and delivery time.

Hardware Configuration

The hardware utilized in this version of the information accelerator was a Macintosh II computer, a Truevision NuVista board and Truevision Vidi/o box, a Mitsubishi 13" multisync monitor, Pioneer LD-V4200 laserdisc player, and external loudspeakers (see Figure 10).

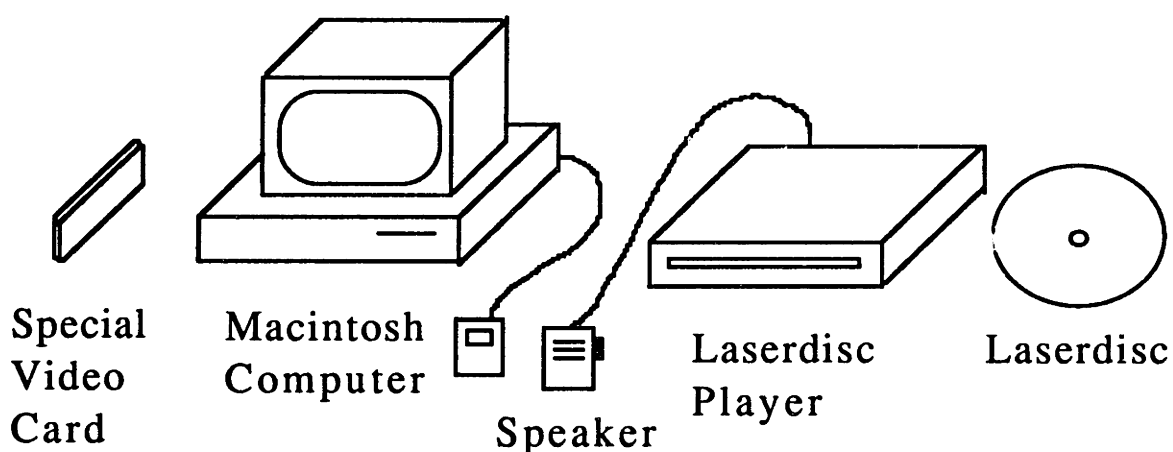


Figure 10 - Hardware Configuration

Software Configuration and Concepts

The development software used was Macromind Director Interactive (a beta version of the later released Macromind Director 2.0), an object oriented language. It was particularly suited for this research because it contained the necessary functions for manipulating graphics and video, and for enacting a surrogate travel

simulation. These functions were central to the development of the information accelerator used in this research.

Graphics presented on the information accelerator were either static or event-driven, and either overlaid or nonoverlaid. A static graphic is one which serves purely a presentation purpose. An event-driven graphic is one which evokes a specific event when interacted with by a subject. Figure 11 provides an example of both types of graphics. The research direction on the screen is a textual-based graphic. It is intended only for presenting the listed research direction. Each menu selection listed below the direction is an event-driven graphic. If any of these menu selections were clicked on by a subject, an event which would enable the subject to search that particular source of information would be invoked.

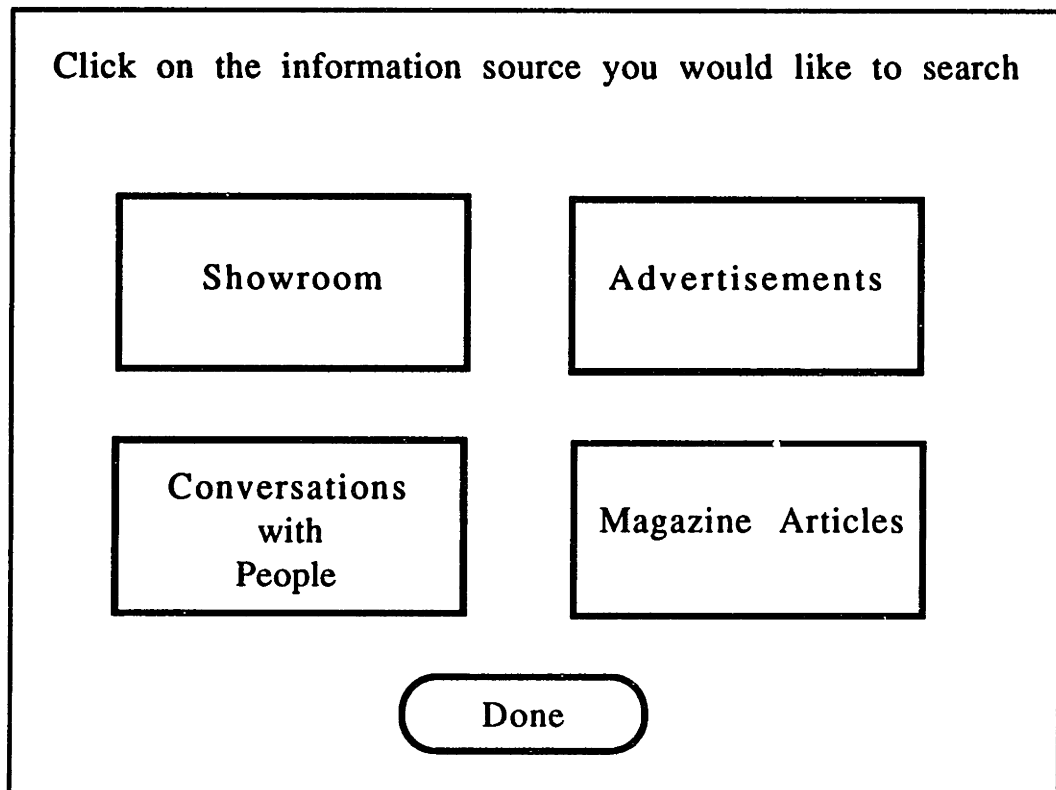


Figure 11 - Example of Static and Event-Driven Graphics

An overlaid graphic is one which is "laid" over a piece of video. A nonoverlaid graphic is not laid over a piece of video. For example, the graphic in Figure 11 is a nonoverlaid graphic. Video is not present along with the graphic. An example of an overlaid graphic is the border and response graphic overlaid on top of the video showroom. (see Figure 12). The significance of an overlay graphic in this research is that it provides a mechanism for interacting with and controlling the video (information).

Surrogate travel is a critical computer science concept used in this research for the express purpose of developing a simulated retail environment (automobile showroom). Surrogate travel is the act of travelling in a nonlocalized environment through the assistance of a mechanism that simulates the localization of that environment.

An early application of this concept was in interactive multimedia studies involving laser videodisc technology (Backer 1981, Backer 1988, Correa 1981, Lippman 1980, Mohl 1982) In one project, the "Aspen Movie Map" (Mohl 1982), one may "walk" through the streets of downtown Aspen Colorado. A user of this system sits in front of a video monitor which transmits video images of the downtown streets of Aspen. An inputting mechanism allows the user to control the direction and speed of travel.

This same concept will be used in simulating travel within a retail environment. Video images of the retail environment will be transmitted to a subject sitting in front of a video monitor. An inputting device will enable the subject to control his/her movement within the retail environment.

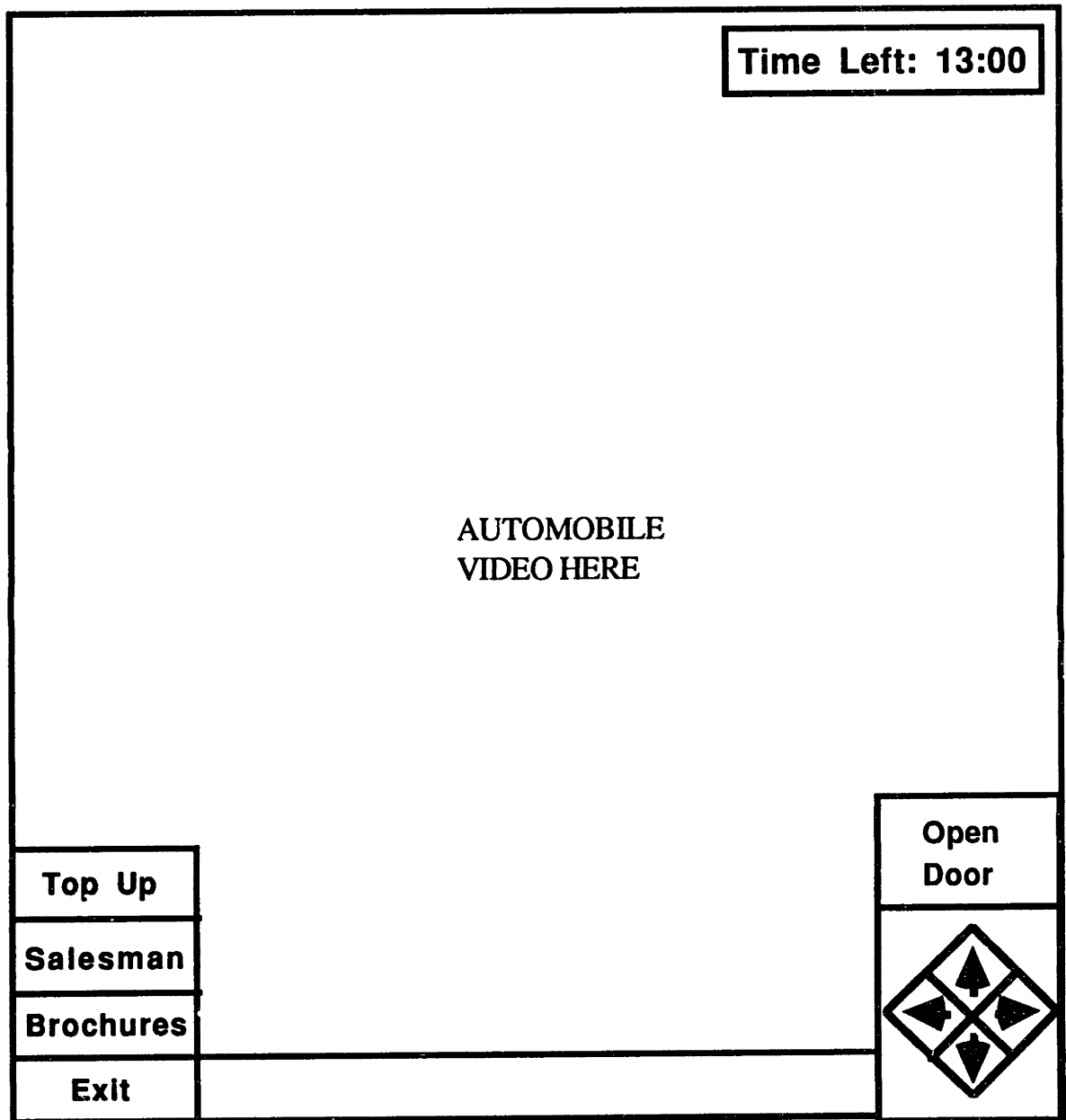


Figure 12 - Example of Overlaid Graphic

Information Source Production

Developing each information source and incorporating them into the information accelerator was nontrivial and time consuming. Development complexity depended on the presentation form of the information source and the availability of the necessary information content. Information sources were composed of text, still photographs, video, video with audio, or some combination of these information types. Text and still photographs were stored digitally on and retrieved for presentation from the computer's hard disk drive. Video, and video with audio were stored on and retrieved for presentation from a laserdisc.

Showroom

The simulated showroom in the information accelerator provided the opportunity of viewing a) the exterior of the automobile by "walking" around it, b) the trunk space storage by "opening" the trunk, the engine by "lifting" the hood, and c) the interior by "getting" inside of the automobile. In addition, a salesperson who would "answer" questions about various automobile features, a brochure, and a manufacturer price-sticker were

available. The showroom source information was either stored in video, video with audio, or digital format. All images of the automobiles were in video format. The salesperson was stored in video with audio format. The brochures and manufacturer price-stickers were stored digitally. The video footage of the automobiles and the salesperson were obtained over three noncontiguous days at the Buick Motor Division located in Flint, Michigan (The Buick Reatta videotaping session was over a two-day contiguous period. The Mazda Rx-7 videotaping session required one day). A professional camera crew was utilized. The salesperson was an actual Buick dealership salesperson from the Boston area.

The exteriors of the automobiles were videotaped while on top of a rotating table which was flush to the floor. A black curtain was used as a backdrop. The exterior views of the automobiles were videotaped from three distances (3, 9, and 15 feet away) as the table was rotated; and 8 different *zoom* shots from 15 feet to 1 foot away were taken of the automobiles (see figure 13).

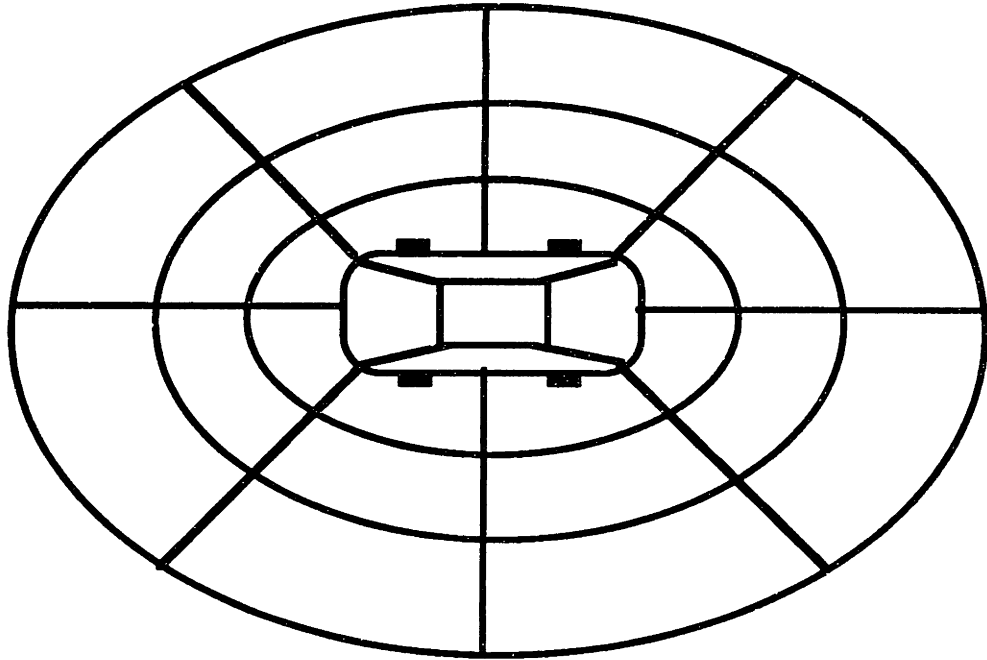


Figure 13 - Automobile Videotape Choreography

This choreography enables consumers to walk around an automobile at any of three distances in either direction, and to approach or move away from the automobile at any of eight different angles. This solution does not allow the consumer to view the automobile from any particular space within a fifteen foot distance of the automobile. However, it does provide reasonable vantage points from which the consumer can view an automobile.

The ideal solution would have involved obtaining video of every space within a desired range of the automobile (in this case 15 feet). Unfortunately, technological limitations made this solution

infeasible. The amount of video required to capture every space around the car is much greater than the storage capacity of a single laserdisc (a laserdisc can hold up to thirty minutes of video and audio). A way around this limitation would be to digitize the video and store it on a hard drive. However, in digital form the video would take up many gigabytes of storage space (thirty minutes of video would take up approximately 27 gigabyte assuming 30 frames per second of video and 500 Kbytes per frame.). In addition, the price of special video hardware and software to display the video in realtime was prohibitive (at least \$35,000).

Video of the interior of each vehicle was also obtained. Video pans were taken of the dashboard from the driver-side door to the passenger-side door and the center console from the stereo and air-conditioning location on the dashboard to the stick-shift.

The exterior and interior video segments of the automobile were stored on the laserdisc.

Word-of-Mouth

Individuals who would consider buying a 2-seat sporty automobile, and would consider spending more than \$20,000 on an automobile were recruited to drive, and evaluate the Buick Reatta or

the Mazda Rx-7. These individuals drove and evaluated only one of the automobiles.

The drive and evaluation procedure consisted of: 1) explaining to each driver that their honest opinions about the vehicle were of interest, 2) familiarizing each driver with the automobile (this included such items as adjusting seats and mirrors, answering questions about feature availability, and explaining feature functionality), 3) having the driver take the automobile out for an evaluation drive (accompanied by an MIT student in the passenger seat), and 4) interviewing the driver about the automobile on first impressions, positive and negative opinions, unexpected surprises, and for whom the automobile would be appropriate.

Sixteen people participated in the drive and evaluation procedure over a three day period. Each person's participation took approximately 1 hour. A professional camera crew was hired to videotape the interviews.

Magazine Articles

All articles from major automobile and consumer magazines were obtained (e.g. Road & Track, Consumer Reports). Unfortunately, articles for each automobile were not available in each publication.

For example, Road & Track had an article about the Mazda Rx-7, but not about the Buick Reatta; similarly, Car & Driver had an article about the Buick Reatta, but not about the Mazda Rx-7. Therefore, articles selected for inclusion in each information acceleration system (Buick Reatta Convertible and Mazda Rx-7 Convertible) had to match by publisher or by writing style and content.

Four articles were selected for each automobile (2 consumer magazine articles and 2 automobile magazine articles) and were "scanned" into the Macromind Director program using a computer scanner. In terms of storage medium, the articles were stored on the computer hard drive, not the laserdisc.

Advertising

Television and magazine print advertisements were obtained from the manufacturer. The print advertisements were the type that would run in magazines such as Newsweek, Time, and Motor Trend. The print advertisements were scanned into the Macromind Director program in a procedure similar to that for the magazine articles. The television advertisements were stored on the laserdisc.

Laserdisc preparation

Producing a laserdisc is a two-step process. First, all video and

audio must be stored in a prescribed manner on a 1" videotape. The 1" videotape needs to contain 2 minutes of color bars, followed by 40 seconds of black, up to 30 minutes of program material (this is the video to be actually displayed), and 30 seconds of black. In addition, a nondrop timecode must be used, and the start and end frames need to be supplied. If any still shots are stored on the tape then a field dominance (one or two) should be specified. This insures the best quality presentation of a still shot. Professional studios were used for editing the video footage (MIT) and preparing the 1" videotape (Target Productions of Charlestown, MA).

In the second step, the 1" videotape is used to actually produce the laserdisc. Either a master laserdisc or a "checkdisc" may be produced. A master laserdisc costs approximately \$3,000 and may be used to make copies at a cost of approximately \$10 each (3M is a major laserdisc manufacturer). Turnaround time is two to three weeks. A checkdisc is not as durable (in theory) as a master laserdisc, cost approximately \$200, and can not be used to produce copies. Turnaround time is one to two days.

This research required 4 Buick Reatta Convertible and 4 Mazda Rx-7 Convertible laserdiscs. The difference in cost between using

copies from a master laserdisc or several checkdiscs were too great to ignore (\$6,080 vs. \$1,600). In addition, the presentation quality was undetectible. Checkdiscs were used and were produced by Magnosound and Video in New York (729 7th Avenue 10019, 212-302-2505, contact was Paul Sterzel).

CHAPTER 6

INFORMATION ACCELERATOR DEMONSTRATION

A significant amount of time and effort in design was devoted to how instructions and information would be presented to subjects and how subjects would interact with the system. Without a carefully thought out design, subjects may have had a difficult time interacting with the system (in fact, many researchers have verbally commented on the typicality of subjects having a difficult time with tasks involving a computer.). In this chapter, a subset of screens from the information acceleration system are presented (see Appendix D for the entire screen sequence) and explained.

The screens can be defined into three groups -- front-end (screens 1 to 16), information acceleration (screens 17 to 28), and back-end (screens 29 to 57). The front-end screens introduce the task and request information about one's prior information search and choice, and consideration set. Search for the new product occurs during the information acceleration phase. Questions about the search experience, and demographics are asked in closing.

Note that subjects did not necessarily view each screen

presented in this demonstration. Subjects made a number of decisions that determined which screens would be viewed. For example, if a subject did not select to read magazine articles during the information acceleration phase, then none of the screens related to reading magazine articles would have been viewed (screens 21.1 and 21.2).

**Please enter the year and model of the car
CAR NAME**

Other
Video

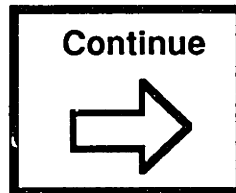
Screen 1 - The administrator places the cursor to the right of the phrase "CAR NAME" and deletes it by backspacing over it. The model and year automobile most recently purchased (by the subject) is typed in this place. This is the only time the keyboard is used. The administrator then clicks the mouse on either "Other" or "Video" depending on whether the subject had been randomly assigned to the real- or video-showroom design cell respectively.

**In approximately which month and year did you buy your
CAR NAME**

MONTH

YEAR

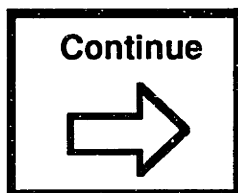
<input type="checkbox"/> January	<input type="checkbox"/> July	<input type="checkbox"/> 1990
<input type="checkbox"/> February	<input type="checkbox"/> August	<input type="checkbox"/> 1989
<input type="checkbox"/> March	<input type="checkbox"/> September	<input type="checkbox"/> 1988
<input type="checkbox"/> April	<input type="checkbox"/> October	<input type="checkbox"/> 1987
<input type="checkbox"/> May	<input type="checkbox"/> November	<input type="checkbox"/> 1986
<input type="checkbox"/> June	<input type="checkbox"/> December	<input type="checkbox"/> Before 1986



Screen 2 - It is explained that participation is self-guided. It is further explained that instructions and questions will appear on the screen, that responses are to be registered by clicking on the desired response box, that responses may be changed by clicking on a different response box, and that after a response is registered to then click on the box containing the word "Continue" in order to continue on to the next screen (The "Continue" box does not appear until a response is registered.). At this point the subject is instructed to proceed at a desired pace, to ask for assistance at any time and then left to complete the task in solitude.

**Prior to purchasing your CAR NAME
had you ever owned a car made by the same
manufacturer?**

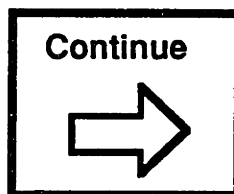
- Yes
- No



Screen 3 - Note that wherever the term "CAR NAME" appears, the model and year of the automobile which was most recently purchased by the subject (this was entered on Screen 1), not the term "CAR NAME" appears.

Which of the sources listed below provided you with information about your CAR NAME, when you were "searching for a new car?" Click on all that apply

- Television Advertisements**
- Magazine Advertisements**
- Newspaper Advertisements**
- Conversations with relatives, friends,etc. (excluding salespeople)**
- Showroom visit**
- Manufacturer Brochures**
- Consumer Magazines**
- Automobile Magazine Articles**

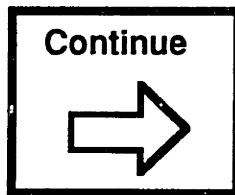


Screen 4 - Each response box associated with each source of information which was used in the previous search experience is clicked on.

**You said that
Television Advertisements
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1-2
- 3-4
- 5-6
- 7-8
- More than 8

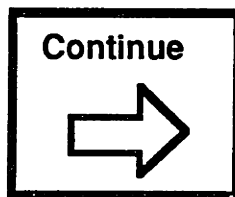


Screen 5.1 - This screen appears only if the "Television Advertisements" response box on Screen 4 was clicked on. Similarly, this screen appears for each source response box on Screen 4 that was clicked on.

**You said that
Television Advertisements
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

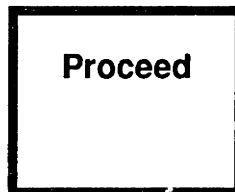


Screen 6.1 - This screen would appear only if the "Television Advertisements" response box on Screen 4 was clicked on. Similarly, this screen appears for each source response box on Screen 4 that was clicked on.

You will be presented with a series of pictures of automobiles. Indicate whether you are familiar with each car. That is, if you have heard of the brand and model shown in the picture, then click on the box containing the word "Familiar," otherwise, click on the box containing the "Unfamiliar."

After selecting a response, click on the box containing the word "Continue." Note that you may change your response after making a selection by clicking on the other box

Click the mouse on the box titled "Proceed" whenever you are ready to proceed with this task

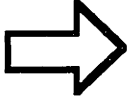


Screen 7 - Each of the 32 automobile "Familiarity Set" screens is presented along with the black and white pictorial stimulus of each automobile (in this demonstration only 1 vehicle is presented. See Appendix E for the others). The pictures were obtained from manufacturer supplied press kit photographs. The originals were in color or black and white and were of varying artistic quality. Each automobile picture is presented in black and white in order to reduce picture quality bias.

Honda Accord Coupe



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

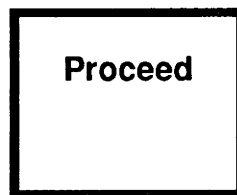
Screen 8.1 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Each automobile which you indicated as being familiar with will be presented to you. Suppose you were going to be in the market for a sporty automobile the next time you buy a new car. Indicate whether you would seriously consider buying each automobile pictured. If you would seriously consider buying the automobile pictured, then click on the box containing the word "Consider," otherwise click on the box containing the words "Not Consider."

After selecting a response, click on the box containing the word "Continue." Note that, as before, you may change your response after making a selection by clicking on the other box.

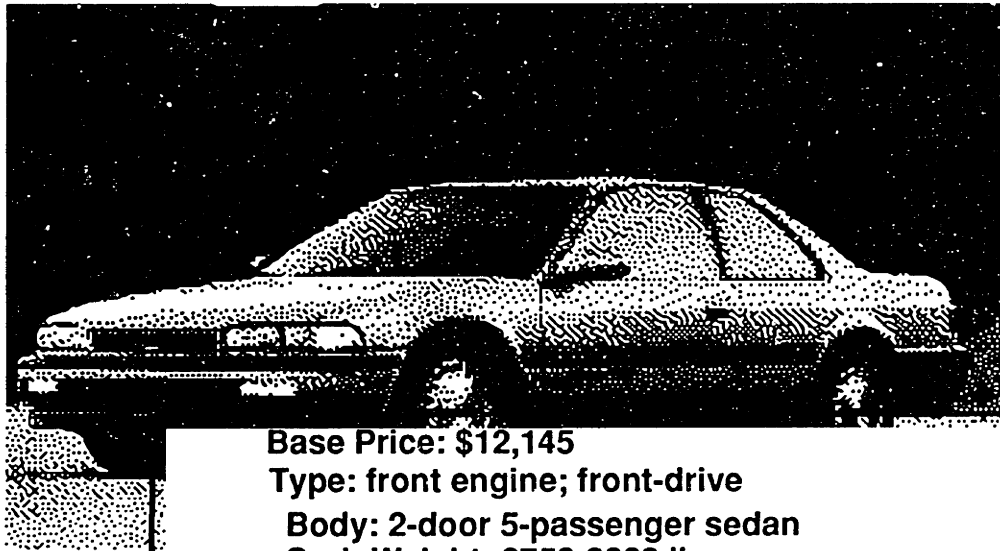
In addition, information about each automobile may be viewed by clicking on the box containing the word "Info."

Click the mouse on the box titled "Proceed" whenever you are ready to proceed with this task.



Screen 9 - "Familiar" vehicles are displayed next. The picture of each vehicle is presented (in this demonstration only 1 vehicle is presented. See Appendix E for the others). In addition, the option exists to inspect basic information ("Info") about an automobile. This information appears on top of a portion of the automobile picture if selected for viewing. For presentation purposes, this information is presented as if selected for viewing.

Honda Accord Coupe



Base Price: \$12,145
Type: front engine; front-drive
Body: 2-door 5-passenger sedan
Curb Weight: 2750-3000 lb
Engine: 2.2-L SOHC 4-in-line, 125-130 hp
Fuel Tank Capacity: 17.0 gal
EPA City MPG: 22-24

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.1 - This screen appears only if the "Familiar" response box on Screen 8.1 was clicked on. The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

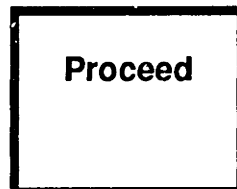
Each automobile you indicated as one you would seriously consider buying will be presented to you. Again, suppose you were going to be in the market for a sporty automobile the next time you buy a new car. Indicate how likely it is that you would buy each automobile by clicking on the scale provided, dragging the red marker, or clicking on the descriptive words alongside the scale. Please call the MIT student before continuing.

After responding, click on the box containing the word "Continue."

You may change your response by clicking on the scale provided, dragging the red marker, or clicking on the descriptive words alongside the scale.

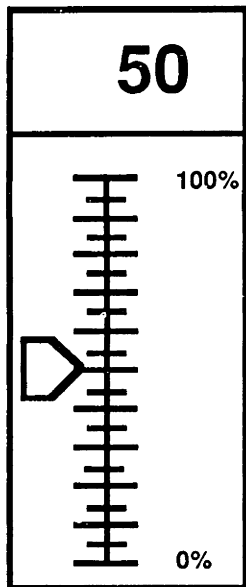
In addition, information about each automobile may be reviewed by clicking on the box containing the word "Infor."

Click the mouse on the box titled "Proceed" whenever you are ready to proceed with this task.




Screen 11 - A screen appears for each "Consider" vehicle. The picture of each vehicle is presented. In addition, the option exists to inspect basic information ("Info") about an automobile. This information appears on top of a portion of the automobile picture if selected for viewing. An administrator (MIT student) explains how to use the probability scale for responding. For demonstration purposes only one screen example is presented. The information available on Screen 12 is similar to that on Screen 10.

Honda Accord Coupe



Certain
Almost Sure
Very Probable
Probable
Good Chance
Fairly Good Chance
Fair Chance
Some Chance
Slight Chance
Very Slight Chance
No Chance

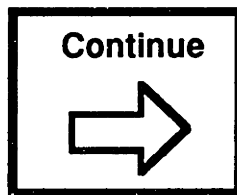
How likely would
you be to
buy this car?

Info		Continue 
------	--	---

Screen 12 - The probability scale appears initially as pictured. A response may be registered in one of three ways: 1) by clicking on a textual descriptor (e.g. Fairly Good Chance), 2) by clicking directly on the scale, or 3) by "dragging" the marker to the desired probability. The probability number selected appears at the top of the scale (e.g. 50).

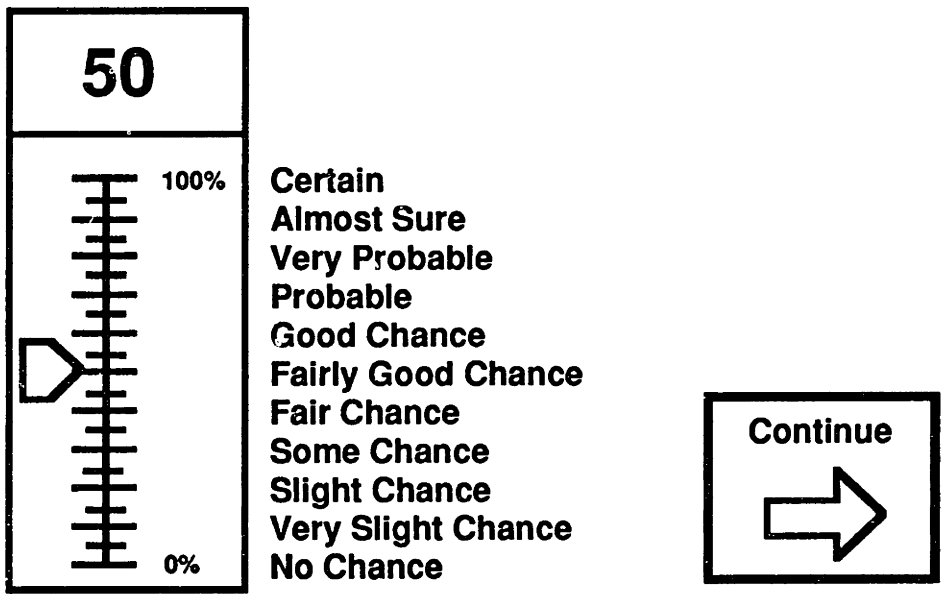
Are there any other sporty automobiles which were not listed here that you would seriously consider buying?

- Yes
- No



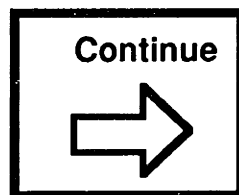
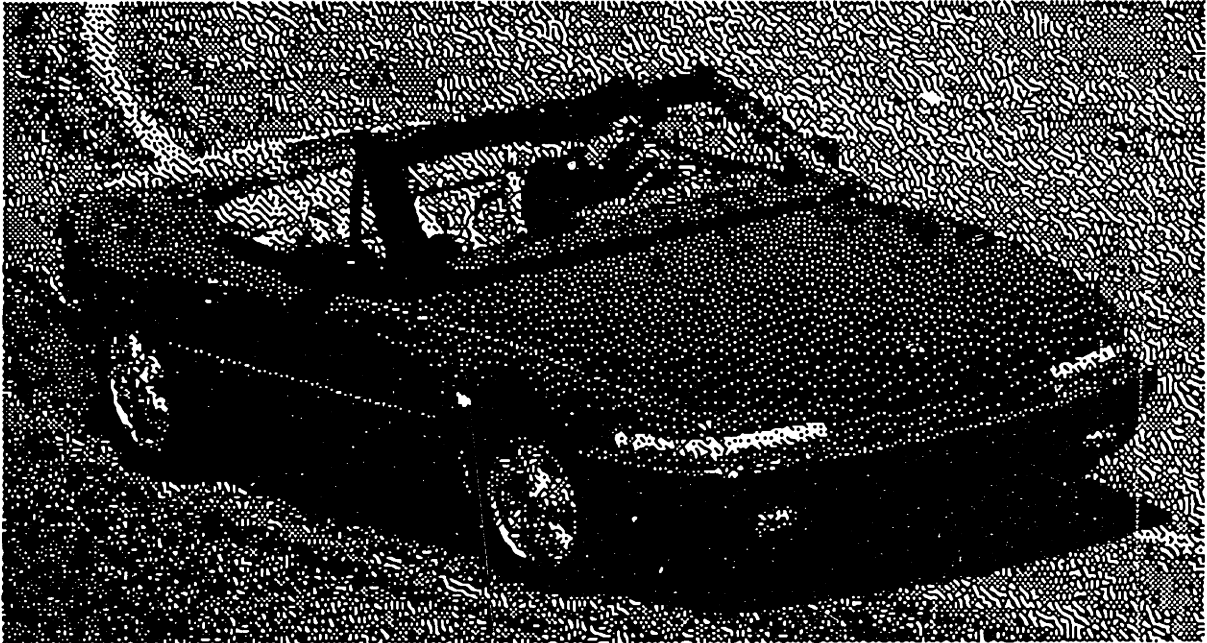
Screen 13 - In this study it was infeasible to present every vehicle available in the marketplace. This question provides the opportunity to register preference for any vehicle not presented.

Of these cars which you would seriously consider buying, how likely would you be to buy the one you most prefer?



Screen 14 - This screen appears only if the "Yes" response box was selected on Screen 13.

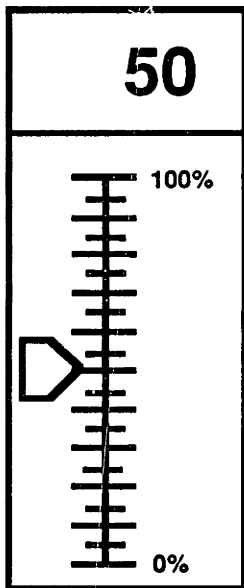
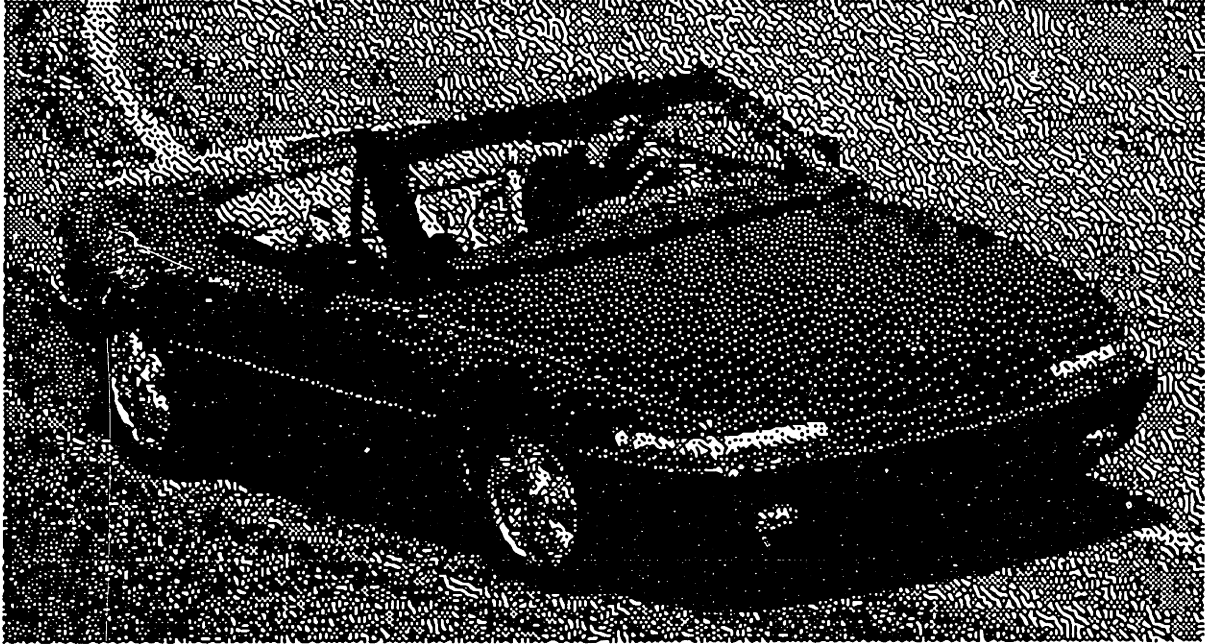
**This is the 1990 Buick Reatta Convertible
It has just been made available for sale.**



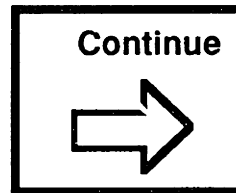
Screen 15 - New concept exposure.

Suppose you were going to be in the market for a sporty automobile the next time you buy a new car.

Given the information you have about the 1990 Buick Reatta Convertible, how likely would you be to buy this car?



- Certain
- Almost Sure
- Very Probable
- Probable
- Good Chance
- Fairly Good Chance
- Fair Chance
- Some Chance
- Slight Chance
- Very Slight Chance
- No Chance

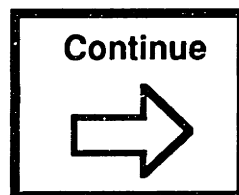


Screen 16 - After concept probability of purchase.

Additional information about the 1990 Buick Reatta Convertible is available to you on this computer search system. A menu of different sources providing information about the Buick Reatta Convertible will be made available to you. To use an information source, simply click on the appropriate box. If assistance is needed at any time, please feel free to call an attendant.

You have 13 minutes to seek information about this automobile. A timer in the upper right corner of the monitor will indicate how much of your allocated search time remains. The timer counts down only while you are using an information source.

Suppose you were going to be in the market for a car like the Buick Reatta Convertible. Search for information about this automobile to an extent you would search for information about any car you were trying to evaluate. You DO NOT have to use all of the allocated time. You should leave the computer search system when you feel you have searched enough about the 1990 Buick Reatta Convertible. Click on the box containing the word "Continue" to begin using the computer search system.



Screen 17 - Either 7, 10, or 13 minute search time allocations dependent upon actual prior search behavior (see Screens 4 and 5.1 - 5.8 and appendix C). The "Information Acceleration" stage is entered after clicking on "Continue" (starting with Screen 19).

Please Wait...

For the next part of the session, you will need to wear the headphones you will find next to the computer. Please put them on now.

Screen 18 - During the clinic four systems were running simultaneously in one room. It was important to minimize distractions and allow each subject to remain as focused as possible on the task at hand. Headphones (walkman type) were used to achieve this aim.

Time Left: 13:00

These are the sources of information available to you

Showroom Visit

**Average Time to Use
4 minutes**

Advertisements

**Average Time to Use
30 seconds per ad**

**Conversations with
People**

**Average Time to Use
2.5 minutes per person**

Magazine Articles

**Average Time to Use
1 minute per article**

Click on me to leave

Please click on the source you would like to use

Screen 19 - This is the "Main Menu" for information search. An information source is selected by clicking on the desired menu choice (box).

Time Left: 13:00

Television Ad

Television Ad

Magazine Ad

Newspaper Ad

**Exit to
Main
Menu**

Screen 20.1 - This screen appears if "Advertisements" from Screen 19 was selected. An advertisement is selected by clicking on the desired box. Return to the "Main Menu" by clicking on the "Exit to Main Menu" box.

Time Left: 13:00

Advertisement

Exit

Screen 20.2 - The magazine or newspaper ad appears on this screen if "Magazine Ad" or "Newspaper Ad" were selected respectively on Screen 20.1. Return to the advertisement menu (Screen 20.1) by clicking on the "Exit" box. The clock is counting down during the showing of an ad.

Time Left: 13:00

STOP

Screen 20.3 - This screen appears if either of the "Television Ad" boxes from Screen 20.1 were selected. The television ad may be stopped at any time by clicking on the "STOP" box. The advertisement menu appears at the completion of the ad presentation (either normally or by user interrupt). The clock is counting down during the playing of a television ad.

Time Left: 13:00

**"Car Rating Guide"
Consumer Magazine**

**Consumer Guide
Article**

**"Motor Trend"
Automobile Magazine**

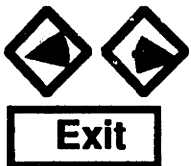
**"Car and Driver"
Automobile Magazine**

**Exit to
Main
Menu**

Screen 21.1 - This screen appears if "Magazine Articles" from Screen 19 is selected. Articles may be selected by clicking on the desired box. Return to the "Main Menu" by clicking on the "Exit to Main Menu" box.

Time Left: 13:00

ARTICLE

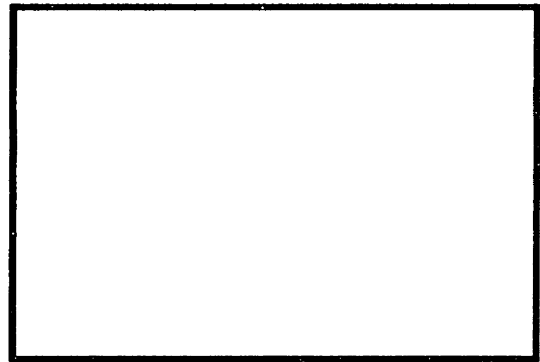


Screen 21.2 - The article selected from the articles menu (Screen 21.1) is presented on the screen one page at a time. An article greater than one page in length, may be paged through by clicking on the appropriate directional arrow box. Return to the articles menu by clicking on the "Exit" box. The clock is counting down during the reading of an article.

Time Left: 13:00



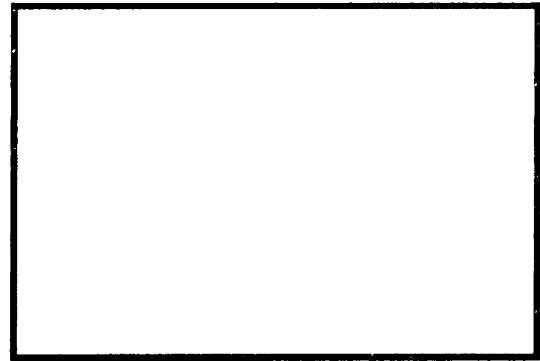
Age: 31
Drives: Toyota Celics
Annual Mileage: 10-15,000



Age: 59
Drives: Buick Park Avenue
Annual Mileage: 8-10,000



Age: 52
Drives: BMW 735i
Annual Mileage: 35-40,000



Age: 42
Drives: Volvo 740 GLE
Annual Mileage: 20-25,000

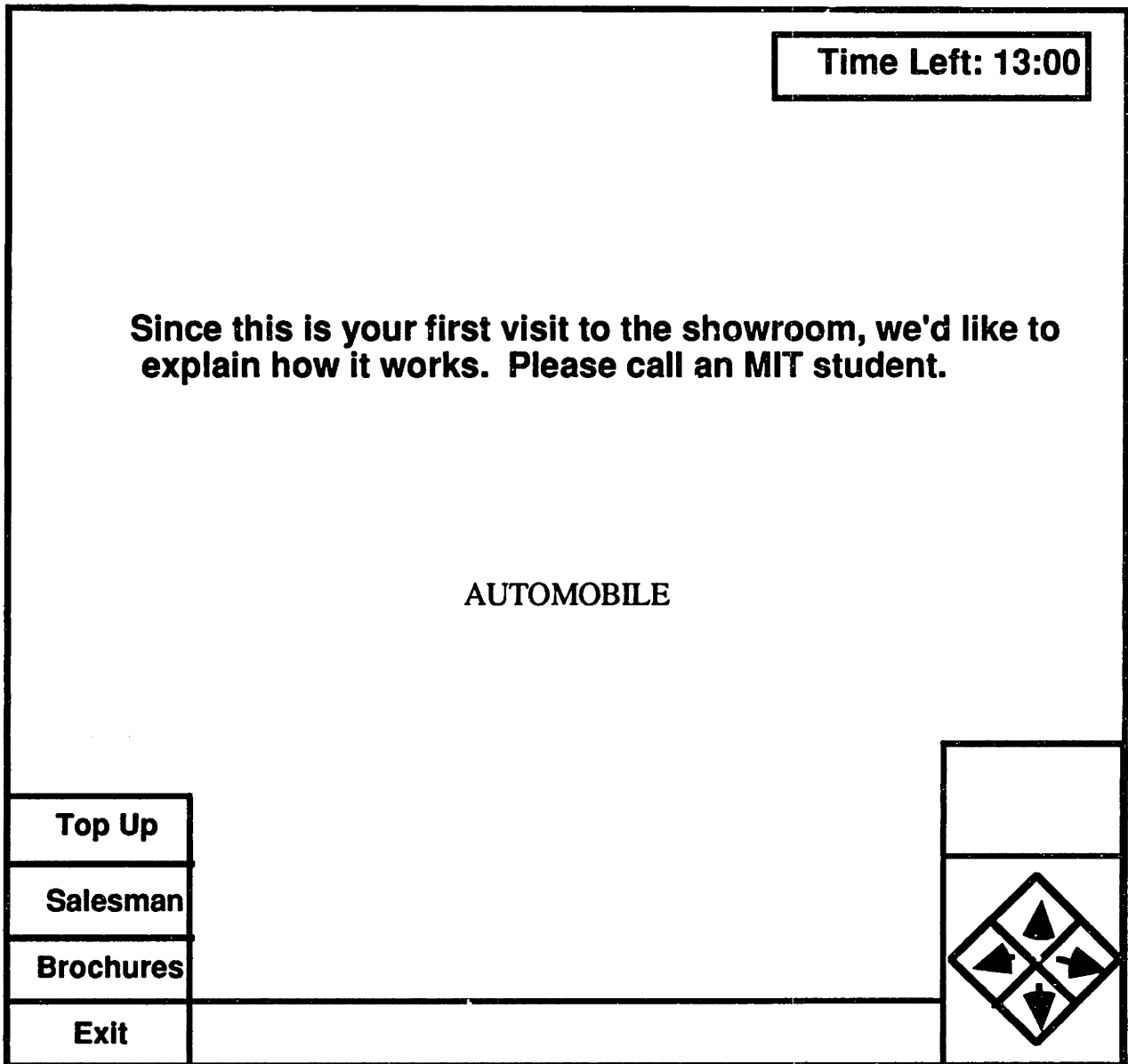
**Exit to
Main
Menu**

Screen 22.1 - This screen appears if "Conversation with People" from Screen 19 was selected. People for conversation are selected by clicking on the desired box. Return to the "Main Menu" by clicking on the "Exit to Main Menu" box.

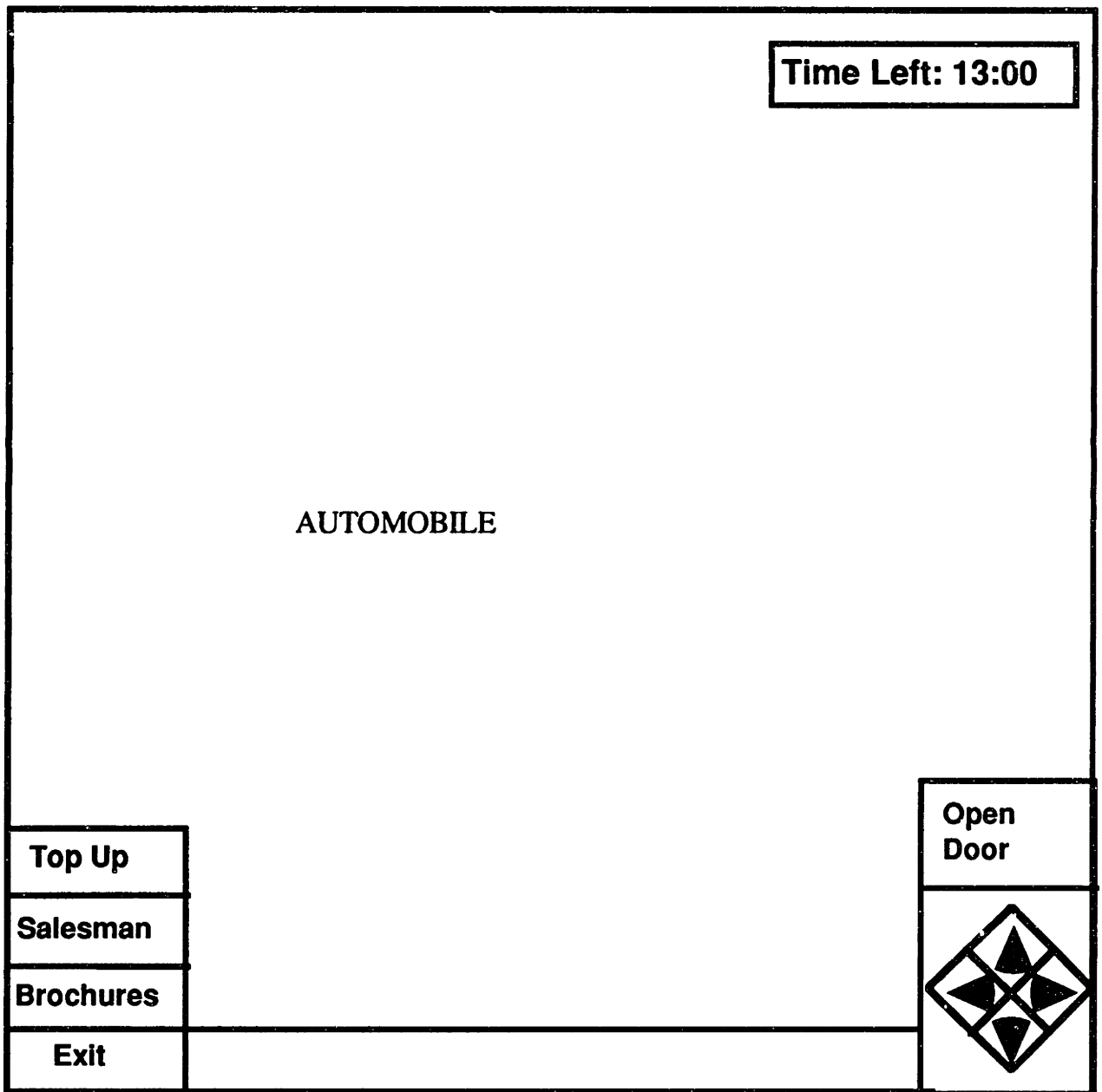
Time Left: 13:00

STOP

Screen 22.2 - This screen appears when any of the individuals from Screen 22.1 are selected. The conversation may be stopped at any time by clicking on the "STOP" box. The conversation menu (Screen 22.1) appears at the completion of the ad presentation (either normally or by user interrupt). The clock is counting down during the playing of a conversation.



Screen 23.1 - This screen appears if "Showroom Visit" from Screen 19 was selected. The administrator explains how to interact with the showroom and then activates the showroom by clicking on the right directional arrow. The clock begins counting down after this. Clicking on the directional arrows enables movement around, towards, or away from the automobile. Clicking on "Top Up" puts the top up on the automobile (the command "Top Down" would then appear in place of "Top Up."). Clicking on "Salesman" enables a conversation with a salesperson (the command "Car" would then appear in place of "Salesman." Clicking on "Car" would return to a mode of viewing the automobile.). Return to the "Main Menu" by clicking on the "Exit" box.



Screen 23.2 - The "Open Door" command appears above the directional arrows when approaching the driver- or passenger-side doors from outside the car. Get inside the car by clicking on "Open Door." The "Get Out" command appears above the directional arrows when approaching the doors from inside the car. Click on "Get Out" in order step out of the car. Similarly, when approaching the hood or trunk from outside or inside the car, the commands "Open Hood," "Close Hood," or "Open Trunk," "Close Trunk" respectively appear.

Time Left: 13:00

Car	Engine	Suspension	Safety	Warranty	Tilt Column	Finish	Anti Theft
Brochures	Brakes	Transmission	Mileage	Corrosion	Climate Control	Options	Conv Top
Exit		Steering	Pricing		Cruise Control	Auto sound	

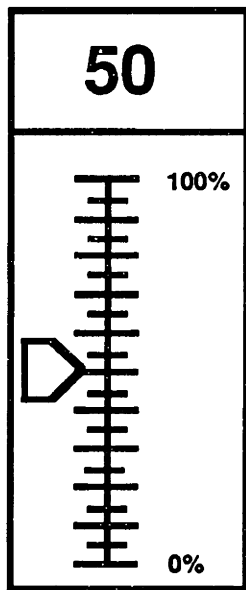
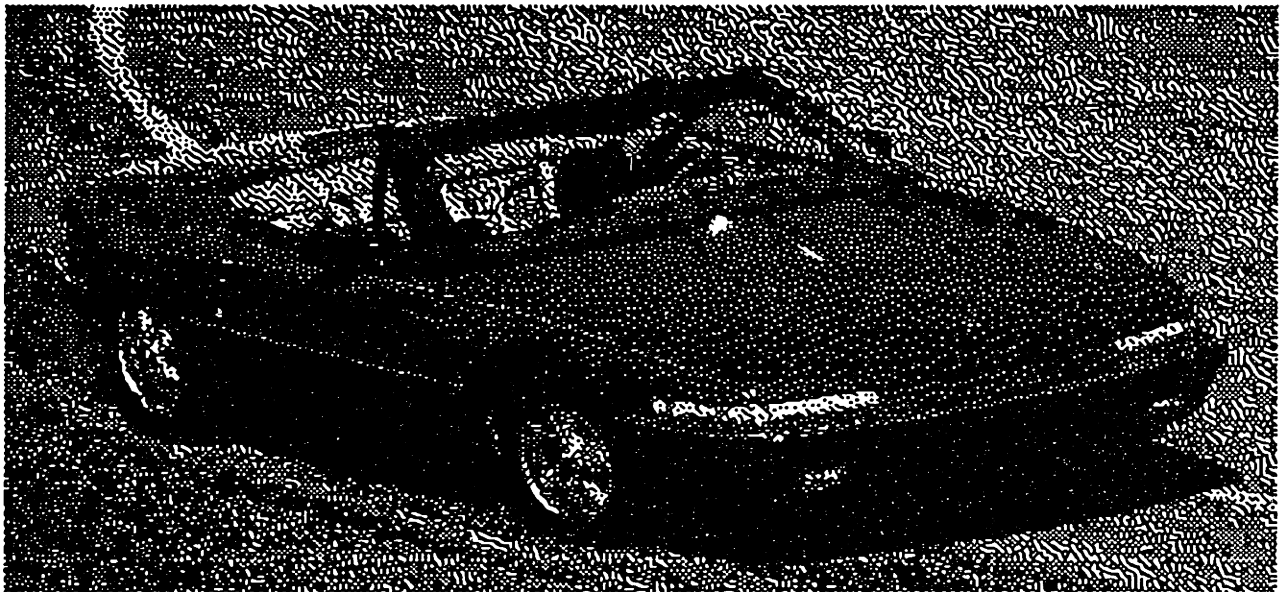
Screen 23.3 - This screen appears when "Salesman" on screens 23.1 or 23.2 is clicked on. The salesperson describes the feature when the associated command box is clicked on.

Time Left: 13:00	
Reatta Brochure	Price Sticker
Salesman	
Car	
Exit	

Screen 23.4 - This screen appears when "Brochures" on screens 23.1, 23.2, or 23.3 is clicked on. The brochure or price sticker may be viewed by clicking on "Reatta Brochure" or "Price Sticker," respectively.

Time Left: 13:00

Given the information you have about the 1990 Buick Reatta Convertible and what you know about automobiles, if you would like to change how likely you are to buy the 1990 Buick Reatta Convertible, adjust the scale value by clicking on another value or by dragging the red pointer to another value; otherwise click on the box containing the word "Continue." If you adjust the scale value, click on the box containing the word "Continue" in order to return to the menu.



- Certain**
- Almost Sure**
- Very Probable**
- Probable**
- Good Chance**
- Fairly Good Chance**
- Fair Chance**
- Some Chance**
- Slight Chance**
- Very Slight Chance**
- No Chance**

Continue

Screen 24 - This screen appears after exiting any information source in

order to return to the "Main Menu. After clicking on "Continue," the "Main Menu" (Screen 19) appears.

Time Left: 13:00

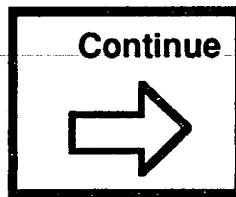
These are the sources of information available to you

Showroom Visit	Advertisements
Are you sure you are done?	
<input type="button" value="Yes"/> <input type="button" value="No"/>	
Conversations with People Average Time to Use 2.5 minutes per person	Magazine Articles Average Time to Use 1 minute per article
<input type="button" value="Click on me to leave"/>	

Please click on the source you would like to use

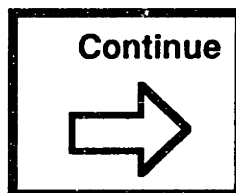
Screen 25 - This screen appears when clicking on the "Click on me to leave" command. Confirmation is requested for completing search in the event that the "Click on me to leave" command is selected inadvertently.

Sorry, but you seem to have run out of time. Please click on "Continue" to go on.



Screen 26 - This screen appears if the search time allocation runs down to zero. The next phase of the clinic commences after this (unless the showroom was not searched - see Screen 27).

You have randomly been selected to receive a "free" dealer showroom visit. You may spend as much or as little time as you desire in the showroom. Click on the box containing the word "Continue" to go to the dealer showroom.



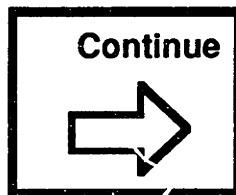
Screen 27 - This screen appears if the "Showroom Visit" has not been selected prior to completing search (either by choice or running out of time).

Please call the MIT student and he will escort you to the showroom.

Attendant: Please enter the amount of time the subject has left

Minutes:

Seconds:



Screen 28 - This screen appears only when visiting the "Real" showroom (i.e. under the real showroom condition). After visiting the showroom, the administrator enters the amount of remaining search time (time spent searching in showroom subtracted from the remaining time allocation prior to visiting showroom) and then clicks on "Continue." Screen 24 appears next.

CHAPTER 7

ASSESSING THE REALISM OF THE SIMULATED SHOWROOM

One objective in this study is performing an initial methodological validation, specifically, assessing the realism of a simulated (video) retail experience. It is hypothesized that a simulated retail experience will have the same effect on probability of purchase as that of a real retail experience. If this hypothesis is supported, it suggests that a simulated retail experience could serve as a valid surrogate to a real retail experience in the context of a new product search dynamic and forecasting system. The specific type of retail outlet used in this study was an automobile showroom.

An automobile showroom was defined to contain a new product automobile, a salesperson, and manufacturer produced literature (i.e. a brochure, and a manufacturer sticker. The sticker is a government required label attached to a new automobile providing a breakdown of the automobile's features and price.). The salesperson provided information on attributes typically of interest to consumers (see Chapter 6, Screen 23.3 for list of attributes).

The structure and content of both types of showroom were

controlled for similarity in types and amount of information available and environment. The same automobile, salesperson, and manufacturer literature were used in each type of showroom. The physical environment was controlled to appear similar in both showroom conditions. In addition, items within both types of showrooms were juxtaposed similarly.

Before discussing the specific statistical test for accepting or rejecting the hypothesis, the hypothesized relationship between the simulated and real showroom is presented. Let $\Delta_I = P_I'' - P_I'$ where P_I' and P_I'' are the purchase probabilities for the vehicle before and after searching showroom type I and where $I \in \{\text{Simulated, Real}\}$. That is, Δ_S (short for $\Delta_{\text{Simulated}}$) represents the change in probability of purchase due to searching the simulated showroom and Δ_R (short for Δ_{Real}) represents the change in probability of purchase due to searching the real showroom.

Let $\Delta_{IC} = \Delta_I$ for a specific brand where $C \in \{\text{Reatta, Rx-7}\}$. That is, $\Delta_{S,\text{Reatta}}$ and $\Delta_{S,\text{Rx-7}}$ represent the change in probability of purchase due to searching the simulated showroom for the Reatta and the Rx-7, respectively; and $\Delta_{R,\text{Reatta}}$ and $\Delta_{R,\text{Rx-7}}$ represent the change in

probability of purchase due to searching the real showroom for the Reatta and the Rx-7, respectively.

The ANOVA $Y_{ICJ} = \nu + \alpha_I + \beta_C + \alpha\beta_{IC} + \epsilon_{IC}$ where Y_{ICJ} is the change in purchase intent for showroom I and automobile C is used to test this relationship. A one-way ANOVA of Δ on the type of showroom is not a complete enough test. Other details inherent in the clinic manipulations and in the information acceleration based methodology need to be taken into consideration in constructing the necessary statistical tests.

Subjects searched a showroom containing either a Reatta (test vehicle) or an Rx-7 (control vehicle). One reason for using this test-control design was that less consideration would be given to the rival hypothesis of "luck of the draw", should the results appear to support the hypothesis of interest. Assessing the relationship between the two types of showrooms with two different stimuli is a stronger test than one with only a single stimulus. This test takes into consideration that two different stimuli were used.

Of interest is whether $\Delta_{S,Reatta} = \Delta_{R,Reatta}$ and $\Delta_{S,Rx-7} = \Delta_{R,Rx-7}$. This is different from a simple consideration of whether $\Delta_S = \Delta_R$. Note that

$\Delta_S = \Delta_R$ may be written as $\Delta_{S,Reatta} + \Delta_{S,Rx-7} = \Delta_{R,Reatta} + \Delta_{R,Rx-7}$. Testing this expanded equation may result in falsely accepting the hypothesis, even when assuming that any error in estimation equals 0. For example, suppose that $\Delta_{S,Reatta} = \Delta_{R,Rx-7} = X$ and that $\Delta_{R,Reatta} = \Delta_{S,Rx-7} = Y, X \neq Y$. In this case, the conclusion would be that $\Delta_S = \Delta_R$ ($\Delta_{S,Reatta} + \Delta_{S,Rx-7} = X + Y = \Delta_{R,Reatta} + \Delta_{R,Rx-7}$). However, in fact, the showrooms are not equivalent. The difference in the stimuli is taken into account when testing whether $\Delta_{S,Reatta} = \Delta_{R,Reatta}$ and $\Delta_{S,Rx-7} = \Delta_{R,Rx-7}$.

The test-control design involving two different stimuli allows for a stronger validation of the methodology because it will indicate also whether the methodology is sensitive to manipulations (and different stimuli). Similarly, the validation is strengthened by inspecting for sensitivity to not only the showroom experience, but also the overall experience. Hence, final probabilities of purchase are tested for similarity with the ANOVA $X_{ICj} = \nu + \alpha_i + \beta_c + \alpha\beta_{iC} + \epsilon_{iCj}$ where X_{iC} is the final probability of purchase (P^F) and α and β are the effects of the showroom type and the automobile type, respectively.

Another potential benefit of the test-control design is that the methodology may still be validated even if the hypothesis about the

simulated showroom is not supported. If a difference in Δ exists between the types of showrooms (i.e., $\Delta_S \neq \Delta_R$) and the difference in the Δ 's is constant and in the same direction for both the test and control automobiles, then the simulated showroom could be calibrated to the real showroom and still serve as a viable surrogate to a real showroom as part of a new product measurement and modeling system.

What Is Expected

To support the hypothesis, two tests will be performed. First, a test will be done to show whether $\Delta_{S,Reatta} = \Delta_{R,Reatta}$ and $\Delta_{S,Rx-7} = \Delta_{R,Rx-7}$ and $\Delta_{S,Reatta} \neq \Delta_{S,Rx-7}$ and $\Delta_{R,Reatta} \neq \Delta_{R,Rx-7}$. Second, a test will be performed to indicate whether the $P^F_{S,Reatta} = P^F_{R,Reatta}$ and $P^F_{S,Rx-7} = P^F_{R,Rx-7}$ and $P^F_{S,Reatta} \neq P^F_{S,Rx-7}$ and $P^F_{R,Reatta} \neq P^F_{R,Rx-7}$.

For the first test it is expected that $\Delta_{S,Reatta} = \Delta_{R,Reatta}$ and $\Delta_{S,Rx-7} = \Delta_{R,Rx-7}$ and $\Delta_{S,Reatta} \neq \Delta_{S,Rx-7}$ and $\Delta_{R,Reatta} \neq \Delta_{R,Rx-7}$ (see figures 14). For the second test, it is expected that $P^F_{S,Reatta} = P^F_{R,Reatta}$ and $P^F_{S,Rx-7} = P^F_{R,Rx-7}$ and $P^F_{S,Reatta} \neq P^F_{S,Rx-7}$ and $P^F_{R,Reatta} \neq P^F_{R,Rx-7}$ (see figure 15).

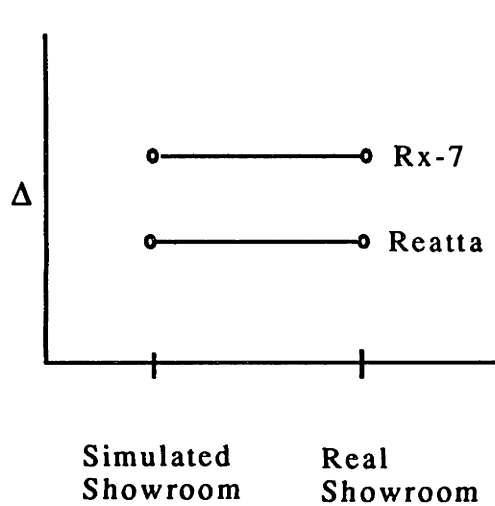


Figure 14 - Hypothesis that simulated = real showroom for Reatta and that the Reatta Rx-7 for change in probability of purchase

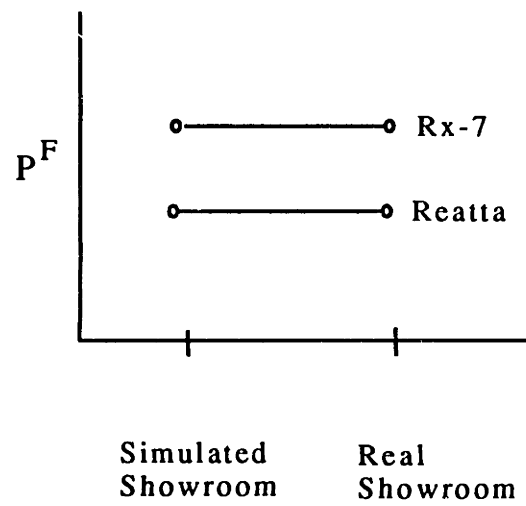


Figure 15 - Hypothesis that simulated = real showroom for Reatta and that the Reatta Rx-7 for final probability of purchase

Hypothesis Tests

Does $\Delta_{S,Reatta} = \Delta_{R,Reatta}$ and $\Delta_{S,Rx-7} = \Delta_{R,Rx-7}$ and

$\Delta_{S,Reatta} \neq \Delta_{S,Rx-7}$ and $\Delta_{R,Reatta} \neq \Delta_{R,Rx-7}$?

The showrooms seem to have the same effect on purchase intent, and the showroom seems to have a greater effect on change for the Rx-7 than the Reatta (see Figure 16). The ANOVA of Δ on showroom-type and on automobile-type (see Table 4) indicates that the difference between the automobiles is statistically significant ($F_{1,173} = 2.974$), and that the difference between the simulated and real showroom is nonsignificant ($F_{1,173} = .050$).

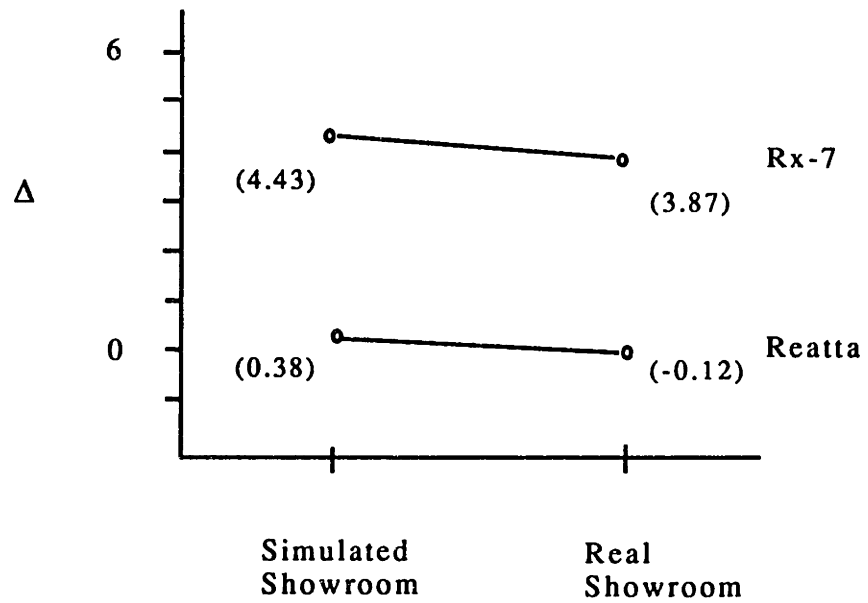


Figure 16 - Actual change in probability of purchase due to showroom visit

<u>Source</u>	<u>Sums of Squares</u>	<u>DF</u>	<u>F</u>
Showroom-Type	11.076	1	.050
Automobile-Type	656.605	1	2.974
2-way Interaction	.033	1	.000
Residual	38193.535	173	

Table 4 - ANOVA of change in probability of purchase on showroom-type and automobile-type

Does $P_{S,Reatta}^F = P_{R,Reatta}^F$ and $P_{S,Rx-7}^F = P_{R,Rx-7}^F$ and

$P_{S,Reatta}^F \neq P_{S,Rx-7}^F$ and $P_{R,Reatta}^F \neq P_{R,Rx-7}^F$?

Final probability of purchase is different for the automobiles (see Figure 17). An interaction effect seems to exist visually, however, it is nonsignificant statistically. The ANOVA on the final probability of P^F on showroom type and automobile (see Table 5) indicates that the vehicles differ in their overall final evaluation ($F_{1,168} = 2.974$) and that the difference between the simulated and real showroom is nonsignificant ($F_{1,168} = 2.974$). Unfortunately for Buick, the Reatta is less likely to be purchased than the Mazda Rx-7.

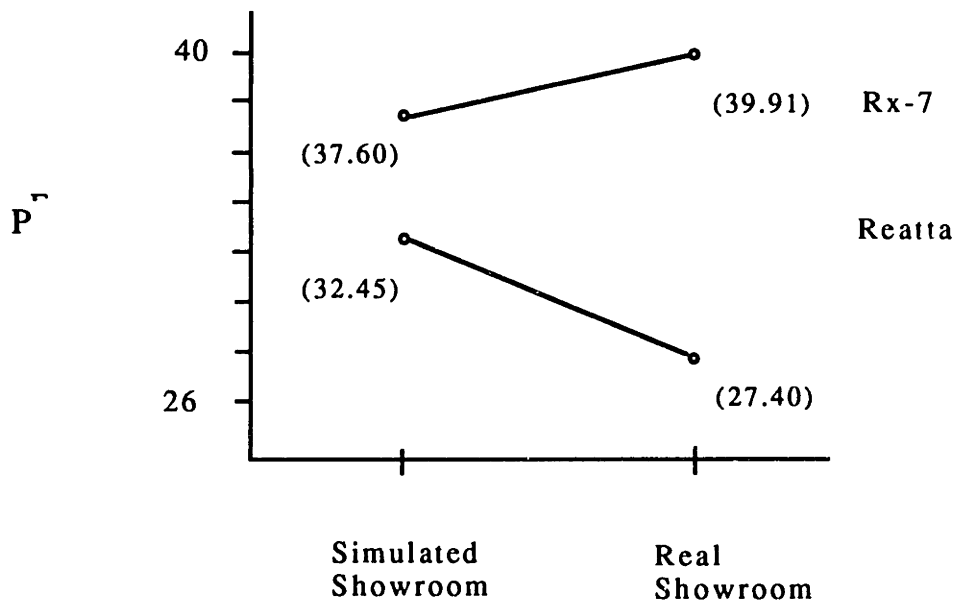


Figure 17 - Actual final probability of purchase

<u>Source</u>	<u>Sums of Squares</u>	<u>DF</u>	<u>F</u>
Showroom-Type	249.475	1	.383
Automobile-Type	2513.345	1	3.857
2-way Interaction	513.079	1	.787
Residual	112725.283	173	

Table 5 - ANOVA of final probability of purchase on showroom type and automobile-type

It would seem that the simulated and real showrooms are similar with respect to effect on probability of purchase and that consumers will have a greater change in their probability of purchase when visiting an Rx-7 showroom than when visiting a Reatta showroom. In addition, it appears that on average the Rx-7 is preferred over the Reatta.

CHAPTER 8

SOURCES, SEQUENCE, AND SEARCH TIME

In this chapter, established information search model variables are analyzed. This analysis identifies significant differences among the information sources and a groundwork is set for building a theoretical information search model.

Information Search Variables

Analysis in chapter seven was on purchase intent and changes in purchase intent. The information accelerator, in accordance with existing information search theory, measured two other important variables of information search -- search sequence and search time.

A Little More On Source Usage

On average, consumers searched 2.45 different sources. The showroom was the most searched information source (see Table 6). Eighty-one percent of the consumers selected to search the showroom. Advertisements were the least searched information source. Only thirty-eight percent of the consumers looked at the advertisements.

Source	Percent Searching Source
Showroom	81%
Articles	65
Interviews	61
Advertisements	38

Table 6 - Percentage of consumers selecting to search a particular information source

Interestingly the aggregate percentage of consumers selecting each source on the information accelerator and in the most recent new car search did not, for the most part, differ (see Table 7). No significant difference was identified between aggregate source selection on the information accelerator and that in the most recent new car search for three of the four sources (paired t-test values for showroom, articles, interviews, and advertisements are $t_{169} = 1.04$, $t_{171} = 0.71$, $t_{170} = 1.88$, $t_{170} = 0.87$ respectively.). Though this does not provide enough evidence for external validity, it seems encouraging.

Source	Percent Searching Source on Info Accelerator	Percent Searching Source on Actual Previous Search
Showroom	81%	77%
Articles	65	68
Interviews	61	53
Advertisements	38	42

Table 7 - Percentage of consumers selecting to search a particular information source on Information Accelerator and in actual previous search

Search Sequence

Consumers self-determined their search behavior. That is, they could self-select which sources to search, the sequence order in which to search, and how long to search. Sixty-five different search sequences were possible, given that consumers had the choice to search a maximum of four different sources in any order desired (searching no sources is considered a search sequence among the 65). For example, one consumer may have searched advertisements first, interviews second, articles third, and showroom fourth. Another consumer's entire search may have consisted of visiting the showroom.

In this study, nearly one-half of the consumers selected the showroom as the first source (see Table 8). Conversely, less than ten percent of the consumers selected advertisements as the first source.

Source	Percent Selecting First
Showroom	48%
Articles	24
Interviews	19
Advertisements	9

Table 8 - First information sources select

Change in Purchase Intent by Source and Sequence

At the end of all information search, a consumer's evaluation of the automobile may have changed or stayed the same. If it changed, it may have become more or less favorable. That is, one's final impressions of the automobile may be greater than or less than one's initial impressions.

Consumers arrived at a more or less favorable evaluation of the automobile in one of three ways. Consumers changed their purchase intent either positive monotonically, negative monotonically or in an "up and down" manner (see Figure 16). The positive monotonic change condition is satisfied when the change in purchase intent

after searching a source is greater than zero for at least one source and greater than or equal to zero for all other sources. Similarly, the negative monotonic change condition is satisfied when the change in purchase intent after searching a source is less than zero for at least one source and less than or equal to zero for all other sources. "Up and down" change is when the change in purchase intent after searching a source is positive for at least one source and is negative for at least one source.

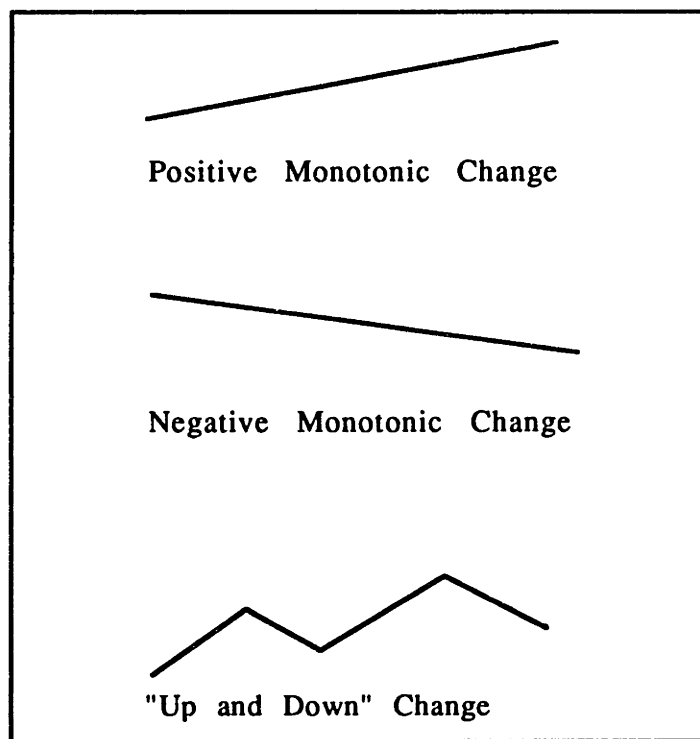


Figure 16 - Examples of positive monotonic, negative monotonic and "up and down" change in purchase intent

Eighty percent of the patterns of change were monotonic for those whose final and initial purchase intents differed. That is, most

of the consumers perceived the information as being either consistently positive or neutral, or consistently negative or neutral.

This suggests that for these eighty percent, the absolute change in purchase intent would be an appropriate unit of analysis for analyzing the source effects on purchase intent. The entire sample was analyzed in a vacuum when using this unit of analysis. An alternative was to analyze separately those whose purchase intent increased monotonically and those whose purchase intent decreased monotonically. However, the sample size was small for those whose purchase intent decreased monotonically, so this was not feasible.

The differences among source effects on purchase intent are significant when using the absolute change in purchase intent as a dependent measure ($F_{3,476} = 9.680$). Showroom has the greatest effect and advertisements have the least effect (see Table 9). Articles and interviews have somewhat similar effects.

Source	Mean Δ
Showroom	8.35
Articles	5.02
Interviews	4.03
Advertisements	1.60

Table 9 - Mean absolute change in purchase intent by information source

The sequence effects on purchase intent are significantly different ($F_{3,456} = 8.846$). The difference between the sequence effect of the second and third source is nonsignificant. Nonetheless, the mean values were expected to be rank ordered differently.

Sequence	Mean Δ
First	8.51
Second	4.01
Third	5.02
Fourth	1.47

Table 10 - Mean absolute change in purchase intent by sequence

Search Time

Consumers self-determined how they would allocate their search time allocation. On average, consumers spent the most amount of time searching the showroom (see Table 11). Consumers allocated the next greatest amount of time to searching interviews. Consumers allocated the least amount of time searching advertisements. The differences in search time among the sources are statistically significant ($F_{3,469} = 48.254$).

Source	Mean Search Time
Showroom	3'24"
Interviews	2'37"
Articles	1'47"
Advertisements	51"

Table 11 - Mean search time by information source

Search time also varies by sequence. Consumers allocated the greatest amount of search time to the first source searched (see Table 12). The mean search time decreases as the sequence increases. The differences in search time among the sequences are statistically significant ($F_{3,450} = 7.448$).

Source	Mean Search Time
First	2'46"
Second	2'39"
Third	2'13"
Fourth	1'25"

Table 12 - Mean search time by sequence

Sources, Search Sequence, Search Time Relationship

The analysis discussed thus far seems to suggest the following:

- 1) the information accelerator is sensitive enough to detect differences among sources and that the information sources do differ;
- 2) the consumer's sensitivity to an information source decreases as the sequence in which an information source is searched increases;
- 3) the amount of search time allocated to an information source decreases as the sequence in which an information source is searched increases.

These three information search phenomena suggest that

consumer search *history* is significant. History is defined as all search behavior prior to the current search behavior. That is, if current search behavior is described as $SB_{t=x}$, then history is $\sum_{t=0}^{x-1} SB$. Search behavior is defined as the selection of an information source for search, the determination of when an information source is searched (i.e. sequence), and the allocation of time to searching an information source.

Different models of search behavior may be formulated depending on the degree of history taken into consideration. The degree of history modeled determines the number of parameters to be estimated. For example, a model of information source value that takes into account all possible sequences of search (e.g., value of showroom when first, when second and preceded by interviews, when second and preceded by articles) requires 64 history parameters. A similar model that takes into account whether a source is searched first or subsequently requires 8 parameters.

As noted above, a significant relationship seems to exist among the source searched, change in purchase intent, and search time. The mean absolute change in purchase intent is greater when a source is searched first than when it is searched subsequently for each source

(see Table 13). Similarly, the mean search time allocated to searching a source is greater when a source is searched first than when it is searched subsequently (see Table 14).

Source	Mean $ \Delta $	
	When Searched First	When Searched Subsequently
Showroom	11.15	5.94
Articles	6.14	4.41
Interviews	7.06	2.87
Advertisements	3.93	0.92
Overall*	8.51	3.88

* significant difference at .01

Table 13 - Mean absolute change in purchase intent by information source and sequence

Source	Mean Search Time	
	When Searched First	When Searched Subsequently
Showroom	3'33"	3'17"
Articles	2'42"	2'36"
Interviews	2'06"	1'36"
Advertisements	52"	51"
Overall*	2'46"	2'15"

* significant difference at .01

Table 14 - Mean search time by information source and sequence

Table 15 provides further evidence of a significant relationship between change in purchase intent and search time in a source. Search time is greater in those instances when the consumer changes purchase intent than when the consumer does not change purchase intent for each of the information sources.

Source	Mean Search Time	
	When $ \Delta > 0$	When $ \Delta = 0$
Showroom	4'11"	3'03"
Interviews	2'56"	2'31"
Articles	2'09"	1'46"
Advertisements	1'01"	50"
All Sources*	3'11"	2'10"

* significant difference at .01

Table 15 - Mean search time by information source and absolute change in purchase intent

The difference in search times between both conditions suggest that a "start-up" cost for searching a source exist, where "start-up" cost is the time one invests in using a source before deriving any value from that source. For example, when talking with someone over the phone, the start-up costs would consist of dialing the

person's phone number, introductory greetings and conversation, and explanation of the product question at hand.

Direction for Model Building

The empirical analyses indicate that change in purchase intent is related to search behavior history -- source searched, sequence of searching a source , and amount of time allocated to searching a source. These findings provide the basis for building an information search based model.

One specific direction is to build a model that relates value of an information source to time allocated to searching a source. The empirical analyses suggest that the functional form of this model should allow for "start-up" costs. In addition, the model should allow for decreasing marginal returns. That is, the amount of new information obtained from an information source is decreasing over the period of time devoted to searching an information source.

In addition, a method for modeling the value of negative information will need to be derived. It is evident that negative information does have value because in most instances consumers do not discontinue their search after encountering an information source which results in a decrease in purchase intent.

If one were to build this model using the measures in this research, a method for relating purchase intent to value would need to be defined. The objectives of this study did not require direct measurement of utility. Hence, such utilities were not measured (see Hauser, Urban, and Weinberg (1992) for a proposed model).

CHAPTER 9

SHOWROOM BEHAVIOR AND SEARCH TIME

The discussion comparing the simulated and real showrooms in chapter seven focused on the resulting changes in purchase intent due to showroom search behavior. The focus in this chapter is on the details of the showroom search behavior. Search behavior is compared between the simulated and the real showroom at three different levels.

Showroom Behavior

Consumers exhibit many behaviors within a showroom. These behaviors are classified into three categories of detail -- overall, microlevel I, and microlevel II.

Overall

In this study, a measure of overall behavior within the showroom is total search time.

Microlevel I

Consumers exhibited any or all of three types of behavior when searching in the showroom. At a general level (as discussed in

Chapter 8), consumers self-selected information sources, the sequence in which they searched them, and the amount of time allocated to viewing a source. Similarly, at a showroom source specific level (microlevel I), consumers self-selected which showroom activities to perform and the amount of time to allocate to each of these activities. Consumers viewed the automobile, spoke with a salesperson, and read manufacturer produced literature.

Microlevel II

Microlevel II behaviors are detailed components of microlevel I behaviors. Measuring these behaviors should provide more detailed diagnostic information about consumer search behavior. Microlevel II behaviors measured are amount of time inside the automobile, amount of time outside the automobile, number of questions asked of the salesperson, and specific questions asked of the salesperson.

Expectations

The likelihood of identifying differences when comparing the simulated and real showrooms should increase as the level of detail increases. However, behavior at a more detailed level should, at least, partially explain for differences in behavior at a less detailed

level.

Showroom Total Search Time

A measure of overall behavior is the amount of time allocated to searching the showroom. Is the amount of time allocated to showroom search behavior similar for both the simulated and the real showroom?

Mean showroom time is detailed in Table 16. The difference in total showroom search time between the simulated and real showrooms is not significantly different overall ($F_{1,166} = 0.021$) and the difference between automobiles is significant ($F_{1,166} = 3.878$). However, the interaction effect is significant ($F_{1,166} = 4.259$).

		Showroom		
		Simulated	Real	
Auto	Reatta	3' 00"	3' 29"	3' 10"
	Rx7	4' 09"	3' 13"	3' 48"
		3' 25"	3' 23"	3' 24"

Table 16 - Showroom Mean Total Search Time

Possible nonrandom differences among the groups are considered in order to explain for the differences in showroom

search time among the groups. Plausible explanatory variables considered but which did not explain significantly for the differences (i.e. used as covariates in ANOVA runs but did not explain interaction effect) are initial time allocation (it was hypothesized that a greater initial allocation would result in a greater amount of search time in the showroom), remaining-search-time prior to entering the showroom (similar hypothesis as that for initial time allocation), and sequence order in which showroom was searched (it was hypothesized that the earlier the showroom was searched, the greater the amount of time allocated to the showroom).

A variable which seems to partially explain for the differences is whether the showroom visit was "free". Consumers that did not select to search the showroom were given the opportunity to visit the showroom. No hypotheses were made about what would occur in these instances. It could be argued that consumers would spend more time in the showroom (more than those who were time constrained) because of the relaxed (none) time constraint. On the other hand, one could argue that consumers would spend less time in the showroom due to lack of interest (else they would have selected the showroom).

Therefore, consumers who did not select to search the showroom were excluded from the showroom time analysis (incidentally, this variable had no effect on purchase intent which was discussed in an earlier chapter, nor does it effect detailed search which is discussed later in this chapter). Mean showroom search time is detailed in Table 17. The difference in showroom types is nonsignificant ($F_{1,135} = 0.769$). The difference in automobiles is significant ($F_{1,135} = 5.207$). And, the interaction effect is now nearly significant ($F_{1,135} = 1.996$). The results are not as significant as if initial hypotheses were made with regard to this covariate. However, whether one experiences a "free" showroom visit seems to partially explain for the differences (When "free" showroom was run as a covariate for the entire sample, the F statistic for the interaction effect was still significant at the .10 level, but not at the .05 level -- $F_{1,165}$ -- and the covariate was significant ($FF_{1,165} = 15.344$)).

		Showroom		
		Simulated	Real	
Auto	Reatta	3' 12"	3' 41"	3' 23"
	Rx7	4' 21"	3' 48"	4' 10"
		3' 39"	3' 44"	3' 41"

Table 17 - Showroom Mean Total Search Time

Showroom Micro Search Time

Micro Level I

Consumers allocated their search time to the showroom activities of viewing the car, talking with a salesperson, and reading manufacturer produced literature. Of interest is inspecting how consumers allocated their search time among these activities and comparing the simulated and real showroom with respect to the search time distribution.

Consumers allocated nearly all of their time to viewing the automobile and talking with the salesperson (see Table 17). The most time was spent viewing the car. Little time was allocated to reading the manufacturer produced literature (i.e. brochure and the

sticker).

SHOWROOM ACTIVITIE

		Viewing Automobile	Talking with Salesperson	Reading Manufacture Literature
REA TTA	Video	.6247	.2572	.1164
	Real	.5621	.4367	.0011
RX7	Video	.6129	.3235	.0636
	Real	.5397	.4603	.0000

Table 18 - Mean proportion of time allocated to showroom activities

For the most part, consumers in both types of showrooms allocated their time similarly. The rank ordering of the showroom activities by mean proportion is the same under both showroom conditions. The difference in proportions for viewing the automobile is not statistically significant for the Reatta ($t_{105} = 1.04$) or the RX7 ($t_{61} = 1.00$).

However, the differences in proportion of time allocated to talking with the salesperson and reading manufacture produced literature between the simulated and real showrooms are statistically significant (given the correlation between the

proportions, it is not surprising that the differences are significant for both activities rather than for just one of them). Something in the nature of the showrooms is different enough to cause consumers to allocate approximately 40% of their showroom search time differently.

Why did consumers read the manufacturer produced literature less in the real showroom than in the simulated showroom? And, why did consumers talk with the salesperson less in the simulated showroom than in the real showroom? (Again, given the correlation between the proportions for these two activities, answering one of these questions, in essence, answers the other.)

First, it is not totally surprising that none of the consumers visiting the real showroom read the brochure during their visit. The brochure is an item that consumers generally take with them when leaving a showroom. In fact, when listening to the audiotape of the verbal protocols (the description of what consumers were doing in the real showroom), some consumers did request a brochure just before exiting. These individuals were informed that a brochure was not available for taking out of the showroom (the brochure in the real showroom was the only one available), however, they could

remain and read the one in the showroom. Each person declined this offer. The number that requested the brochure upon exiting is unknown. The only behavior recorded with respect to the brochure was the reading of the brochure.

So, why did 26.8% of Reatta consumers and 15.0% of RX7 consumers that visited the video showroom select to read the brochure? It appears that the presentation format of the video showroom biased consumers to select reading the brochure. A subtle difference in the simulated and the real showroom is evident. In the simulated showroom, command boxes for selecting "Salesman", and "Brochures" were always visible on the lower left portion of the screen (see Screen 23.1). When consumers in the simulated showroom talked with the salesperson, the grid of feature/question command boxes and the command box for "Brochures" appeared on the lower left portion on the screen (see Screen 23.3).

Consumers searching the real showroom were provided with a laminated card with a grid of feature/question command boxes (the exact same grid of feature/question command boxes as in the simulated showroom.) and were instructed to limit their questions to those indicated on the card. However, the card included only the

feature/question command boxes. The command box "Brochures" was not on the card (though they were told verbally that a brochure and price sticker were available for viewing).

With respect to the price sticker, it was not placed on the automobile window in either showroom (in reality a sticker is typically visible on a window of an automobile). The sticker in the real showroom was labeled and placed (next to the brochure) on a table near the automobile. This was done to best control for similarities between the real and simulated showroom. Since, it was technically infeasible to place the sticker on the window of the automobile in the simulated showroom, the sticker was not placed on the window of the automobile in the real showroom (thousands of video frames would need to be graphically manipulated in order to make the sticker available on the automobile window in the simulated showroom. Alternatively, if the sticker were placed on the automobile during the video shoot and were to be accessible by clicking on the sticker, the computer program would still need contingency statements for every different video frame (i.e. position of the automobile).

None of the Reatta consumers and one of the RX7 consumer

read the sticker. Consumers likely did not select to read the sticker in the real showroom because a sticker stimulus for reading the sticker was not salient (either on the automobile or on the laminated card with the feature/question grid). It was confirmed in conversations with actual salespeople that consumers rarely ask to see the sticker for an automobile if it is not visible (e.g., when all the windows are down on a convertible automobile). It seems that consumers compensated for the invisible sticker by either questioning the salesperson about information typically available on a sticker (i.e. standard/optional equipment and price) or would read the sticker on a similar automobile on the lot that had the sticker visible. The latter option was not possible in this study. It seems plausible that consumers may have done the former.

Apparently, the presentation format in the simulated showroom also biased consumers to read the sticker (26,8% of Reatta consumers and 22.5% of RX7 consumers visiting the simulated showroom read the price sticker). If a consumer selected the command box "Brochures," the command box for reading the sticker was clearly visible (see Screen 23.4).

Microlevel II

In this section, more detailed showroom behavior with respect to viewing the automobile and talking with the salesperson is discussed.

Outside And Inside The Automobile

Consumers allocated a significantly greater proportion of their time to viewing the outside of the automobile than the inside of the automobile (see Table 18). However, the differences between the simulated and real showroom are significant for both proportion of time allocated to viewing the inside of the automobile ($t_{168} = 4.72$) and proportion of time allocated to viewing the outside of the automobile ($t_{168} = 4.72$). (Again, the two proportions are correlated, so it is not surprising that significant differences exist for both, given that a significant difference is identified for at least one of them.)

		View	
		Inside	Outside
Show Room	Simulated	.1128	.8872
	Real	.3131	.6869

Table 19 - Proportion of auto viewing allocated to viewing the inside and the outside of the automobile

I suspect these differences were due to time required for and ease in getting inside the automobile. In the real showroom, consumers could make a direct path to the automobile door, and were familiar with the behavior necessary to get inside the automobile. In the simulated showroom, consumers had to traverse a limited set of somewhat indirect paths in order to arrive at the door (see Figure 13). Arriving at the door required more time in the simulated showroom than in the real showroom. Since the time necessary for approaching the door is considered time spent outside the automobile, this may partially explain for the differences.

Another partial explanation is that getting inside the automobile in the simulated showroom may not have been as easy to perform as in the real showroom (even though each consumer visiting the simulated showroom was given explicit directions on how to interact with the simulated showroom) or as "inviting" ("OPEN DOOR," the command which appears for getting inside the automobile, may have been less "inviting."). I recall some individuals requiring assistance on how to walk around and get inside the automobile in the simulated showroom. This never occurred in the real showroom.

Supporting this explanation is the fact that differences exist in

the percentage of people viewing the trunk and the engine for the two types of showrooms (see Table 19). In the real showroom, consumers selecting to view the engine or trunk would proceed directly to the appropriate part of the car and request that the salesperson open the hood or trunk. In the simulated showroom, one would have to follow one of the somewhat indirect paths to the engine or the trunk in order to view the engine or the trunk, respectively. Consumers in the real showroom opened and viewed the engine and the trunk more often than those in the simulated showroom (consumers probably viewed the trunk more often because the rear of the automobile was facing the showroom entrance.). Behaviors involving consumers "opening" a part of the automobile (i.e. opening the door to get inside, opening the engine hood, and opening the trunk lid) were different in the real and simulated showroom.

		View	
		Engine	Trunk
Show Room	Simulated	.0901	.2072
	Real	.4091	.5455

Table 20 - Proportion viewing the engine and the trunk

Talking With The Salesperson

Did consumers ask the same questions in both the simulated and real showroom? Earlier analysis suggests that this is not the case, as it was identified that consumers allocated a greater proportion of their time to talking with the salesperson in the real showroom than in the simulated showroom. Well, consumers did ask significantly more questions of the salesperson in the real showroom than in the simulated showroom (5.2 versus 3.9). Hence, it is impossible that they asked the same questions on average.

In light of this, it is still of interest to determine the similarity of salesperson questioning between consumers in the simulated and real showrooms. What can be considered is whether, on average, consumers placed a similar level of importance on each salesperson

question.

To determine this, each salesperson question was assigned a rank order based on the proportion of consumers asking the question of the salesperson (see Table 20). Analysis for each vehicle was performed independently as it has been determined that the vehicles are different.

Questions	Reatta		Rx-7	
	<u>Simulated</u>	<u>Real</u>	<u>Simulated</u>	<u>Real</u>
Anti-theft	.0857	.1622	.3750	.0000
Autosound	.1429	.3243	.3250	.2609
Brakes	.1714	.2432	.3250	.0870
Climate Control	.0571	.2162	.1000	.1304
Convertible Top	.1286	.4865	.2250	.3913
Corrosion	.0571	.1892	.1500	.0870
Cruise Control	.0286	.0541	.0750	.0870
Engine	.4143	.6757	.4750	.6522
Finish	.1429	.1829	.1250	.1304
Mileage	.3000	.3784	.3750	.4783
Options	.2429	.4865	.4000	.4783
Price	.4000	.7027	.5250	.5652
Safety	.2714	.2162	.3750	.0870
Steering	.1000	.1351	.2250	.0870
Suspension	.1286	.2162	.2500	.1739
Tilt-wheel	.0429	.0541	.1250	.0870
Transmission	.2286	.5405	.2250	.4348
Warranty	.2571	.4324	.5500	.1739

Table 21 - Proportion of consumers asking each question of the salesperson

Spearman correlations for both automobiles suggests that the importance of salesperson questions was similar between consumers visiting the simulated and the real showrooms. The correlations are .7893 (significant at $p < .01$) for the Reatta and .4757 (significant at $p < .05$) for the Rx-7.

Significance of Differences In Behavior

It is important to point out that even given the differences in

microlevel behavior (and the suggested bias in the simulated showroom presentation format) between the simulated and real showroom, changes in purchase intent were still not different. The modeling of the simulated showroom was robust enough such that information obtained in it was not different from that obtained in the real showroom. It seems likely that consumers in the real showroom may have compensated for the perceptually unavailable manufacturer produced literature by directing questions to the salesperson.

In more general terms, perhaps it does not matter how consumers obtain information in the showroom, but just that they receive specific items or levels of information. Some consumers may obtain desired information from the salesperson. Some consumers may obtain desired information from manufacturer produced literature, and yet others may obtain all of their information by viewing and inspecting the automobile. Naturally, some consumers may obtain information using a combination of these sources.

Sources of information within the showroom may be substitutes for each other. A spheroid relationship may exist between information level (time) and how information is obtained

(that is different vectors of information search may result in obtaining the same level of information). Future research should be designed to better understand microlevel search behavior.

CHAPTER 10

CONCLUSIONS, LIMITATIONS, AND FUTURE RESEARCH

Conclusions

Several tasks were carried out in this research. An overall framework for developing preproduction forecasting models was defined. An information-acceleration-based measurement methodology was defined, developed, and partially validated in a field study. Observed consumer search behavior on an information acceleration system was described. The empirical findings of consumer search behavior suggest the building of a model that relates information source value to information search time.

The information acceleration system functioned. Measures critical for building forecasting models were computer automated (e.g., purchase intent). The accelerator enabled the requirements of the framework -- information source presentation, consumer information search, and measurement of observed consumer search related behavior.

The information accelerator was partially validated. The

information accelerator automobile showroom seems to be a valid surrogate for an "actual" showroom. Assuming further validation of the information accelerator, this suggests that, in the future, it may be possible to evaluate products still in the design stage before production commitment using an information-acceleration-based methodology. In addition, modifications to product designs based on consumer response could be more easily be carried out and resubmitted for additional consumer evaluation.

A relationship between change in purchase intent and consumer search behavior seems to exist. The first information source searched has the greatest effect on purchase intent, and the last information source has the least effect on purchase intent. Similarly, the greatest amount of search time is allocated to the first information source searched. The least amount of search time is allocated to the last information source searched.

This suggests that it is critical to understand where the consumer is in the search process. It seems that the greatest opportunity to influence the consumer is in the earliest stages of search and that it becomes more difficult to influence the consumer the later that consumer is in the search process.

For automobiles, the information sources have different effects on purchase intent. The showroom has the largest effect.

Advertisements have the smallest effect.

From a research perspective, this study proposes new directions for researchers. The information accelerator has the potential to operationalize critical variables and procedures heretofore considered impossible. In addition, the information accelerator may make it possible to study the potential effects innovative information systems on consumer behavior. This may lead to exciting new discoveries.

Limitations

This research has several limitations:

- Only one product category of a durable good, automobile, was tested in this study. Other durable good product categories need to be tested.
- Only one brand was available for search. It would have been a more realistic simulation had all brands of a consumer's consideration set been available for search.
- The valence of the information available from information sources was positive in all design cells. Granted, some

consumers perceived some of this information as a being negative. Nonetheless, a research design with both positive and negative information design cells would be valuable.

- Only one source of information was simulated and compared to its counterpart in actual form. Tests should be conducted on the other types of information sources.

Future Research

Both traditional and new-path-breaking research have the potential to benefit from using information acceleration. Traditional research will use the information accelerator system in its current, or perhaps in a slightly improved, technical form for delving deeper into currently popular main-stream paths of research. Information acceleration is viewed as a "technology," not as a theory. It is a "tool" to be used for advancing understanding because of its advantages in stimuli presentation and measurement. Unto itself it does not advance knowledge in marketing thought.

New-path-breaking research considers information acceleration beyond its technical exterior. This research focuses on the potential for gaining significant marketing insight into an information society where revolutionary changes in information technology are

occurring. Information acceleration is a theoretical catalyst for pushing down new roads of investigation in not only marketing, but also Information Technology (IT, also known as Management Information Systems -- MIS), and Organizational Behavior. It breaks ground in addressing issues of how society perceives, interacts with, and may benefit from novel information and communication forms.

Traditional Research

Those investigating traditional research will consider the use of the information accelerator, the computer system "tool," to advance established streams of research in marketing. Four areas of research which can greatly benefit from the use of the information accelerator are the new product development process for durable goods, information search, consumer retail shopping behavior, and salesperson effectiveness.

New Product Development Process For Durable Goods

The next logical step in this stream of research is to build preproduction forecasting models which integrate the dynamics of the consideration set, information search, own firm and competitive firm(s) new product concepts, own firm and competitive firm(s) new product marketing strategies, choice, and future environment.

Future environment is the change in conditions in the future state (relative to the current state) relevant to the consideration and choice of the new product concept(s). Foreseeable future state conditions which may affect the consideration and choice of the new product concept(s) need to be modeled. The future state may include significant items other than economic conditions.

For example, suppose a forecast is to be developed for an electric automobile to be introduced in 1995. This is a realistic situation to consider given that 1) numerous firms are currently displaying electric vehicle prototypes or announcing launch commitments for the next few years (e.g., Chrysler's TEvan, Nissan's ZEV, General Motors' Impact) and 2) legislation passed in California mandates 2% of all new automobiles to be zero-emission vehicles (that is, they emit zero air pollutants into the air during use) by the year 1998. Future state conditions which would need to be modeled are knowledge about electric vehicles, infrastructure for electric vehicles, pollution, and automobile and pollution legislation.

Further, modeling these phenomena based on industry or managerial judgement may be inadequate. What may be required is to obtain individual consumer reaction to changes in state conditions.

This may be done through the multimedia environment of the information accelerator. Information about the future state conditions may be presented in a newspaper, magazine, or television format. In addition, this information may be presented from various perspectives. For example, it may be presented from the perspective of legislators, automobile manufacturers, and environmentalists.

Another research opportunity is to implement conjoint analysis in an information accelerator environment. Two viable approaches may be taken. A straight forward approach would be to modify the conjoint task with the improved stimuli capability of the information accelerator. That is, present a product concept, whether by attribute or by composite, in a visual or audio format rather than in a textual format. For example, in an automobile conjoint task where stimuli are presented in a textual format, preference for, say, halogen or regular headlights may be requested along with some textual description of each type of headlighting system. In an information accelerator environment, the appearance and performance of each headlighting system may be presented.

Another approach for implementing the conjoint task is to extend the list of attributes. This extended list would include more

than just new product physical attributes and price. It would include items that are also perceived to define the new product. For example, image (e.g., advertisements) or type of salesperson (or sales approach) also define the product. Utilities for various types of image or salespersons could certainly be estimated and are as important to understand at the earliest stages of the new product development process as are the new product physical attribute utilities.

In fact, a conjoint task could incorporate and estimate utilities for information sources (or perhaps each of the 4-p's) as well as physical attributes for a new product. The rationale for estimating these utilities is that they are important attributes for managers to understand when developing a new product concept.

Information Search

Information acceleration has the potential to contribute to learning about information search, from both a modeling and experimental perspective. The computer-based multimedia approach of an information accelerator can allow for sophisticated measurement, information simulation, and consumer information search behavior, that in some cases have been, heretofore difficult to

perform.

Potential exists to further knowledge about information search through direct observation of consumer information search behavior in a controlled environment.

Researchers have begun to use information acceleration.

A model of information value and search cost based on data generated by an information accelerator has been developed (Hauser, Urban and Weinberg 1992).

Research on interpersonal conversations (a.k.a. word-of-mouth) has the potential to benefit from the use of an information accelerator. It is of interest to understand why interpersonal conversations about products take place and how they affect search and choice behavior. Some conditions under which research on interpersonal conversations may be performed are as follows: taking place before or after purchase, being solicited or unsolicited, being with an expert or nonexpert, being in varying amounts, being in varying degrees of agreement with previously obtained information, being the only or one of many sources for information, and being with individuals of varying degrees of similarity.

Consumer Retail Shopping Behavior

The information accelerator has the potential to make it easier to study consumer shopping behavior in retail outlets. The retail outlet simulated in this study makes it possible to investigate some details of consumer behavior in an automobile showroom. However, it is conceivable that other types of retail outlets may be simulated and subsequently studied.

Research may focus on retail outlets offering 1) full product lines of a single brand in a single product category (e.g., single manufacturer automobile dealerships - South Shore Buick), 2) full product lines of multiple brands in a single product category (e.g., multiple manufacturer automobile showroom - Wellesley Buick-Mazda-Volkswagen), 3) full product lines of a single brand in multiple product categories (e.g., single manufacturer product stores - IBM Product Center, The Gap, The Nike Store), and 4) full product lines of multiple brands in multiple product categories (e.g., supermarkets). In addition, research need not be limited to conventional single store retail outlets. The potential exists to learn more about retail outlets which would be typically cumbersome to investigate, such as shopping malls, warehouse stores, and hypermarkets. Pushing the envelope even further, it is conceivable to

study retail shopping behavior in shopping districts, or complete geographical areas. The ability to perform these types of studies will be linked to the power of the computers and technology employed.

The task in each of the cases above, research questions aside, is to extend the simulation model. The model(s) will have to include additional products, brands, and perhaps stores. Differences in the way various types of products are presented, examined, and sold will also have to be modeled.

Salesperson Effectiveness

It seems possible to study optimal sales behavior for various types of consumers and sales situations. With the information accelerator it may soon become possible to simulate different salesperson behaviors in different situations, and different types of consumers. Salesperson effectiveness could be studied under various types of conditions. Conditions which could be manipulated are salesperson approach (e.g., hard or soft sell), firm objective (e.g., sales, profit), consumer unit (e.g., individual, family), consumer characteristics (e.g., expertise, price sensitivity), and retail environment (e.g., budget, high-rent).

New Path-Breaking Research

One vision of the future is that technology will play a more significant role in societal behavior. The information society will be informed, communicate, and interact in radically new ways utilizing technology that will begin to take hold in the latter part of the 1990's (Kurzweil 1990). Computers will be more powerful and have broader capabilities. Fiber optic telephone lines will be common. High-definition television (HDTV) will begin to appear. The use of these technologies will result in significant changes in information and communication.

Common data types for computers may correspond to the human senses of sight, sound, smell, touch, and perhaps taste (for cookbook lovers). Insights about human behavior may improve due to analysis of variables with data types directly related to human response.

Firms such as Apple Computer, AT&T, and IBM are working on these new technologies. And along with groups like the MIT Media Lab they are discussing how these technologies will be used. However, these discussions are mostly technical in nature. The business community needs to begin thinking now about the

opportunities these developments will have for managerial practice. Similarly, great opportunities for marketing academics exist to explore a topic that has the potential to become a significant area of research and where understanding is limited.

In the next five to ten years information-based technologies with the potential to dramatically alter consumer and organizational behavior will be introduced to society. Researchers should consider studying the impact, both benefit and detriment, of such innovations. The knowledge gained about these technologies before they are introduced might aid society during the adoption phase.

Research Questions

How will consumer behavior be affected by new emerging technologies? The quality, quantity, and access to information will increase. Details about products and companies will be available at the touch of a button. Company direct and third-party information servers will manage this type of information. The information will be accessible just about anywhere. Personal communicators will keep us in touch with the home, office, computers, stores, etc. How will consumers respond to these new technologies? How should consumers use (optimally) these new technologies? What types of

new behavior will be identified? Similarly, what types of behaviors will remain unchanged or cease to exist?

How will technology change the way consumers become aware of, search, evaluate, perceive, and chose products? Perhaps, all of these phases will be performed by a personal computer that is programmed to make appropriate product choices based on owner profiles.

How will firms communicate information about their products? How will they maintain or modify product perceptions? Network advertising may decrease as firms use information tools to accurately target specific individuals. Consumers may have more direct contact with firms as "informational distance" decreases (that is, the ease and immediacy with which two objects can communicate and transfer information).

How will organizational behavior be affected by these new technologies? How will they be adopted? How will they be used? How can they be adopted and used optimally?

Taking A "Spin" On The Information Accelerator

To Answer These Questions

Information acceleration was designed to address this type of

research agenda. The future can be modeled and simulated in an information accelerator. Behavioral observations of consumer's taking a "spin" on the information accelerator will be analyzed to answer research questions related to the impact of technology in the future.

Information Acceleration System Improvements

The information acceleration system developed in 1989 was state-of-the-art at that time. Today, multimedia and, to a lesser extent, laserdisc are commonly used in computer solution applications. The computer-based system for research may be advanced in several ways in order to be considered at the "frontier" once again.

Digital System

Video and audio may be stored in digital rather than analog form. This has several advantages. A laserdisc player and the production of laserdiscs will no longer be necessary. Speed with which video or audio may be displayed will be faster because it will be based on access speed of a computer hard-drive rather than that of a laserdisc player. Information may be manipulated and modified (say for experimental purposes) when stored in digital format. Video

and audio may be easily duplicated for use on additional systems.

The current disadvantage is that video and audio require a lot of disk space. For example, a single frame of video requires approximately one-half megabyte of disk space (can easily be greater for a more detailed image). Space requirements may be extremely large when considering that one second of video consists of 30 frames (one second requires approximately 15 megabyte of hard-drive space.). A current solution to this disadvantage is compression/decompression algorithms.

Compression/Decompression Algorithms

Compression/Decompression software allows for more economical storage and retrieval of video. The concept is clever. A digital video image is broken down into a unit format known as pixels. Some pixels are likely to be "similar" in color. Rather than store each similar pixel (that is each part of the image that is similar in color), only one pixel along with information on where each similar pixel is located in the image is stored. When an image is requested for viewing, it is decompressed (reconstructed) and displayed.

Video images may be compressed up to 1/100 of their actual storage requirements. However, the degree to which one compresses

an image is correlated with the similarity between the original image and the decompressed image. That is, the more an image is compressed the lower the quality of the decompressed image (relative to the original).

New sophisticated algorithms are being developed which improve the quality of the decompressed image. These algorithms use complex mathematical functions. Great advances in compression/decompression algorithms are on the near horizon.

These advances will be critical. A disadvantage in decompression is the time required to display an image on the screen. This is not a problem for very small images (e.g., a 3" by 3" image). However, large images (e.g., those that take up an entire 13" monitor) of a full-motion sequence can not be accessed and displayed quickly enough.

An analogous procedure is used for compression/decompression of audio. In addition, issues for compression/decompression of audio are similar to those for video.

Number Of Alternatives For Search

In this research only one brand-category alternative was available for search. In the future, methods should be devised for

making multiple alternatives available.

Virtual Reality

Virtual reality has been popularized over the last four years. It has great potential for use in the development of an information accelerator. It offers two distinct advantages of the current technological approach. First, the virtual reality environment is three-dimensional. Second, objects within a virtual reality environment may be manipulated tactilely.

Imagine studying supermarket shopping behavior where the consumer enters the supermarket, selects a shopping cart, strolls the aisles, hears the soft music, etc. while in reality never leaving the experimental lab. This seems to be possible with virtual reality.

Interacting With Previous Or Simultaneous Users

Wouldn't it be interesting if users on an information accelerator system could interact, via the system, with other current users or access data produced by previous users? This function could become a type of interpersonal conversation. It could also enable a simulation of group dynamics, such as the diffusion process.

Design

The ability to perform product design or redesign in the

information accelerator would be a great advantage. This would offer insight into consumers design interests.

It would be interesting to compare designing thoughts of lead users to non-lead users. Perhaps, findings will suggest that different designs be developed for each group. Lead user opinion may suggest subsequent redesign for non-lead users.

Another advantage of this feature would be to modify the product during test. Initial field clinics may suggest a product redesign would be optimal. With the design feature, the optimal redesign could be entered into the system, and then sent out for test in follow-up clinics, or perhaps in an on-going clinic.

Link Up To Managerial Decision Support

One of the objectives of the information accelerator is to aid managerial decision making. Data generated from this study were manipulated (e.g., cleaned, sorted) and analyzed at MIT. The analysis for the managerial presentation took four months. That means, General Motor management had to wait four months before they could act on the results.

The waiting time could be reduced if data from clinics could be downloaded immediately into a managerial decision support system.

Initially, the decision support system (DSS) would serve as a database manager. Managers would download data from the DSS to and perform analyses on their own desktop PC's. Ultimately, the DSS would be equipped with a full set of tools and packaged models for analysis.

In Closing

In this research a new methodology based on the concept of information acceleration was defined and developed for producing preproduction forecasts for durable goods. The methodology was partially validated, consumer search behavior for durable goods was described, and a relationship between search behavior and information source value was noted. Opportunities for using information acceleration to advance established streams of research and to initiate new streams of research were discussed. The crystal ball suggests that research in marketing will benefit greatly from information acceleration.

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Appendix A

Automobile list used by R.L. Polk in supplying mailing list

Acura Integra
Acura Legend Coupe
Alfa Romeo Spider
BMW 3-series
Chevrolet Camaro
Chrysler LeBaron Convertible
Ford Mustang
Ford Mustang Convertible
Honda Prelude
Mazda MX-5 Miata
Mazda RX-7
Nissan 300ZX
Pontiac Firebird
Subaru XT
Subaru XT6
Toyota Celica
Toyota MR2
Toyota Supra

Appendix B

Introductory letter mailed to potential participants*

April xx, 1990

Dear

I am writing to ask you for your help in a research study being conducted at the MIT Sloan School of Management. Professor Glen L. Urban, Deputy Dean of the Sloan School, is directing this study on "how consumers make new car buying decisions." This is a scientific study for research purposes only. No attempt will be made to sell any products.

You have been selected randomly from a group of registered new car buyers for the years 1988-1990 as a potential participant in the study. The study itself would involve showing you various items of information about cars and getting your impressions on what you see. It would take approximately 1 hour of your time to participate.

All of your comments would be held strictly confidential and our research will not report any individual data. The research report will be made available to all participants in the study.

The study will take place between May 12-24 at a research facility in Dedham. I will call you within the next few days to explain the study and to describe the benefits of participating in it. I apologize for any inconvenience this letter or my phone call may cause.

If you have any questions, please call me at (617) 253-0159.

Sincerely Yours,

Bruce D. Weinberg
Doctoral Candidate in Management
MIT Sloan School

* Printed on MIT stationery.

Appendix C

Search Time Allocation Algorithm

The objective of the search time algorithm is to translate search time from a previous automobile search experience into a information accelerator time equivalent.

An information accelerator time equivalent for each type of search activity was based on a pre-test of the information accelerator system and judgement. An information accelerator time equivalent for source_x is defined as the "typical" time required to search source_x. These equivalents are in the Time equation (unit is seconds) below (e.g., the information accelerator time required to watch a tv ad is 30 seconds -- this is how long it takes to view a tv ad on the information accelerator).

Search for the most previous automobile purchased represented previous automobile search. This assumption was made because only one vehicle would be available for search on the information accelerator. Consumers were allocated one of three levels of search time (7, 10, or 13 minutes) based on their previous automobile search.

$$\begin{aligned} \text{Time} = & (\# \text{ of tv ads viewed} + \# \text{ of car magazines read}) * 30 \\ & + (\# \text{ of newspaper ads read}) * 5 \\ & + (\# \text{ of magazine ads read}) * 15 \\ & + (\# \text{ of conversations with people}) * 120 \\ & + (\# \text{ of brochures read} + \# \text{ of consumer reports read}) * 60 \\ & + (\# \text{ of dealer visits}) * 240. \end{aligned}$$

$$\begin{aligned} \text{Search_Time_Allocation} = & 7' \quad \text{if Time} < 510 \\ & 10' \quad \text{if } 510 \leq \text{Time} < 690 \\ & 13' \quad \text{otherwise.} \end{aligned}$$

The elements in the equation for Time were limited with respect to the availability of those items for search on the information acceleration system (e.g., only two tv ads were available on the system). The upper-bounds are as follows:

- # of tv ads viewed: 2
- # of car magazines read: 3

of newspaper ads read: 1
of magazine ads read: 1
of conversations with people: 4
of brochures read: 1
of consumer reports read: 1
of dealer visits: 1

Appendix D
Information Acceleration Screens

**Please enter the year and model of the car
CAR NAME**

Other
Video

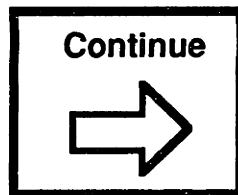
Screen 1 - The administrator places the cursor to the right of the phrase "CAR NAME" and deletes it by backspacing over it. The model and year automobile most recently purchased (by the subject) is typed in this place. This is the only time the keyboard is used. The administrator then clicks the mouse on either "Other" or "Video" depending on whether the subject had been randomly assigned to the real- or video-showroom design cell respectively.

In approximately which month and year did you buy your
CAR NAME

MONTH

YEAR

- | | | |
|-----------------------------------|------------------------------------|--------------------------------------|
| <input type="checkbox"/> January | <input type="checkbox"/> July | <input type="checkbox"/> 1990 |
| <input type="checkbox"/> February | <input type="checkbox"/> August | <input type="checkbox"/> 1989 |
| <input type="checkbox"/> March | <input type="checkbox"/> September | <input type="checkbox"/> 1988 |
| <input type="checkbox"/> April | <input type="checkbox"/> October | <input type="checkbox"/> 1987 |
| <input type="checkbox"/> May | <input type="checkbox"/> November | <input type="checkbox"/> 1986 |
| <input type="checkbox"/> June | <input type="checkbox"/> December | <input type="checkbox"/> Before 1986 |

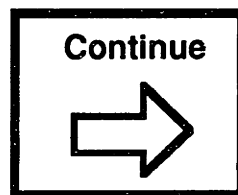


Screen 2 - It is explained that participation is self-guided. It is further explained that instructions and questions will appear on the screen, that responses are to be registered by clicking on the desired response box, that responses may be changed by clicking on a different response box, and that after a response is registered to then click on the box containing the word "Continue" in order to continue on to the next screen (The "Continue" box does not appear until a response is registered.). At this point the subject is instructed to proceed at a desired pace, to ask for assistance at any time and then left to complete the task in solitude.

**Prior to purchasing your CAR NAME
had you ever owned a car made by the same
manufacturer?**

Yes

No



Screen 3 - Note that wherever the term "CAR NAME" appears, the model and year of the automobile which was most recently purchased by the subject (this was entered on Screen 1), not the term "CAR NAME" appears.

Which of the sources listed below provided you with information about your CAR NAME, when you were "searching for a new car?" Click on all that apply

- Television Advertisements**
- Magazine Advertisements**
- Newspaper Advertisements**
- Conversations with relatives, friends,etc. (excluding salespeople)**
- Showroom visit**
- Manufacturer Brochures**
- Consumer Magazines**
- Automobile Magazine Articles**

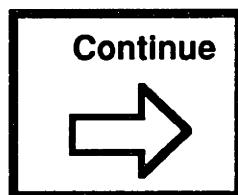


Screen 4 - Each response box associated with each source of information which was used in the previous search experience is clicked on.

**You said that
Television Advertisements
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1-2
- 3-4
- 5-6
- 7-8
- More than 8

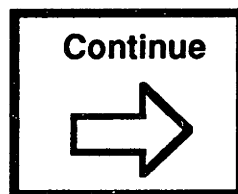


Screen 5.1 - This screen appears only if the "Television Advertisements" response box on Screen 4 was clicked on.

**You said that
Magazine Advertisements
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1-2
- 3-4
- 5-6
- 7-8
- More than 8

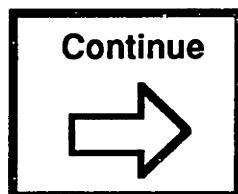


Screen 5.2 - This screen appears only if the "Magazine Advertisements" response box on Screen 4 was clicked on.

**You said that
Newspaper Advertisements
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1-2
- 3-4
- 5-6
- 7-8
- More than 8

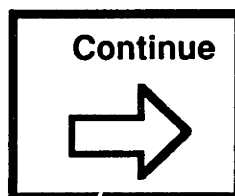


Screen 5.3 - This screen appears only if the "Newspaper Advertisements" response box on Screen 4 was clicked on.

**You said that
Conversations with relatives, friends,etc. (excluding salespeople)
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1-2
- 3-4
- 5-6
- 7-8
- More than 8

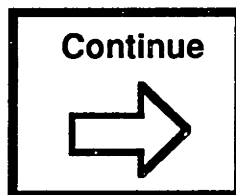


Screen 5.4 - This screen appears only if the "Conversations with relatives, friends,etc.(excluding salespeople)" response box on Screen 4 was clicked on.

**You said that
Showroom visit
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1
- 2
- 3
- 4
- More than 4

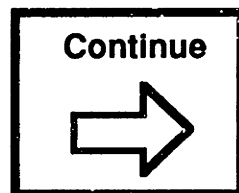


Screen 5.5 - This screen appears only if the "Showroom visit" response box on Screen 4 was clicked on.

**You said that
Manufacturer Brochures
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1
- 2
- 3
- 4
- More than 4

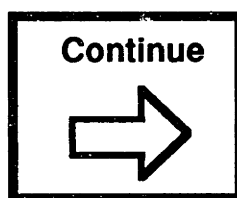


Screen 5.6 - This screen appears only if the "Manufacturer Brochures" response box on Screen 4 was clicked on.

**You said that
Consumer Magazines
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1
- 2
- 3
- 4
- More than 4

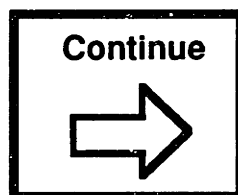


Screen 5.7 - This screen would appear only if the "Consumer Magazines" response box on Screen 4 was clicked on.

**You said that
Automobile Magazine Articles
provided you with information about the CAR NAME**

Approximately how many times did you use this source?

- 1
- 2
- 3
- 4
- More than 4

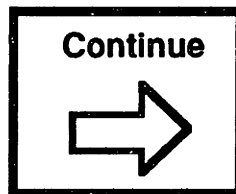


Screen 5.8 - This screen would appear only if the "Automobile Magazine Articles" response box on Screen 4 was clicked on.

**You said that
Television Advertisements
provided you with information about the CAR NAME**

**How Influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

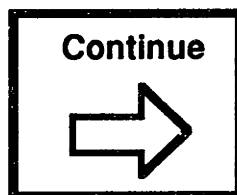


Screen 6.1 - This screen would appear only if the "Television Advertisements" response box on Screen 4 was clicked on.

**You said that
Magazine Advertisements
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential**
- 6 Influential**
- 5 Somewhat Influential**
- 4 Neither Influential nor Uninfluential**
- 3 Somewhat Uninfluential**
- 2 Uninfluential**
- 1 Extremely Uninfluential**

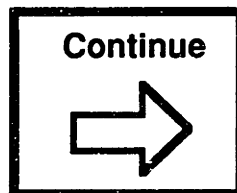


Screen 6.2 - This screen would appear only if the "Magazine Advertisements" response box on Screen 4 was clicked on.

**You said that
Newspaper Advertisements
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

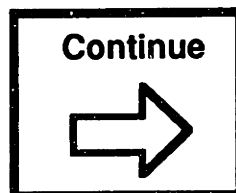


Screen 6.3 - This screen would appear only if the "Newspaper Advertisements" response box on Screen 4 was clicked on.

**You said that
Conversations with relatives, friends, etc. (excluding salespeople)
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

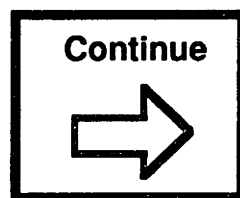


Screen 6.4 - This screen would appear only if the "Conversations with relatives, friends, etc. (excluding salespeople)" response box on Screen 4 was clicked on.

**You said that
Showroom visit
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

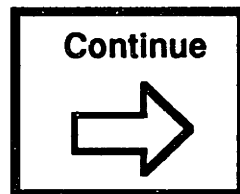


Screen 6.5 - This screen would appear only if the "Showroom visit" response box on Screen 4 was clicked on.

**You said that
Manufacturer Brochures
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

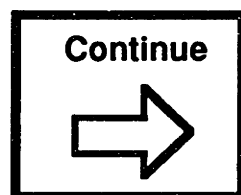


Screen 6.6 - This screen would appear only if the "Manufacturer Brochures" response box on Screen 4 was clicked on.

**You said that
Consumer Magazines
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

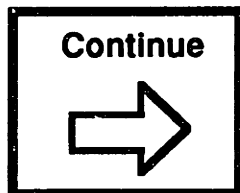


Screen 6.7 - This screen would appear only if the "Consumer Magazines" response box on Screen 4 was clicked on.

**You said that
Automobile Magazine Articles
provided you with information about the CAR NAME**

**How influential was this source on your evaluation of your CAR
NAME**

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential

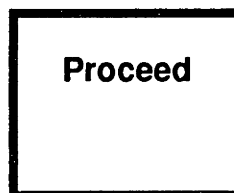


Screen 6.8 - This screen would appear only if the "Automobile Magazine Articles" response box on Screen 4 was clicked on.

You will be presented with a series of pictures of automobiles. Indicate whether you are familiar with each car. That is, if you have heard of the brand and model shown in the picture, then click on the box containing the word "Familiar," otherwise, click on the box containing the "Unfamiliar."

After selecting a response, click on the box containing the word "Continue." Note that you may change your response after making a selection by clicking on the other box

Click the mouse on the box titled "Proceed" whenever you are ready to proceed with this task




Screen 7 - Each of the 32 automobile "Familiarity Set" screens is presented below along with the black and white pictorial stimulus of each automobile. The pictures were obtained from manufacturer supplied press kit photographs. The originals were in color or black and white and were of varying artistic quality. Each automobile picture is presented in black and white in order to reduce picture quality bias

Honda Accord Coupe



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.1 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

BMW 3-Series

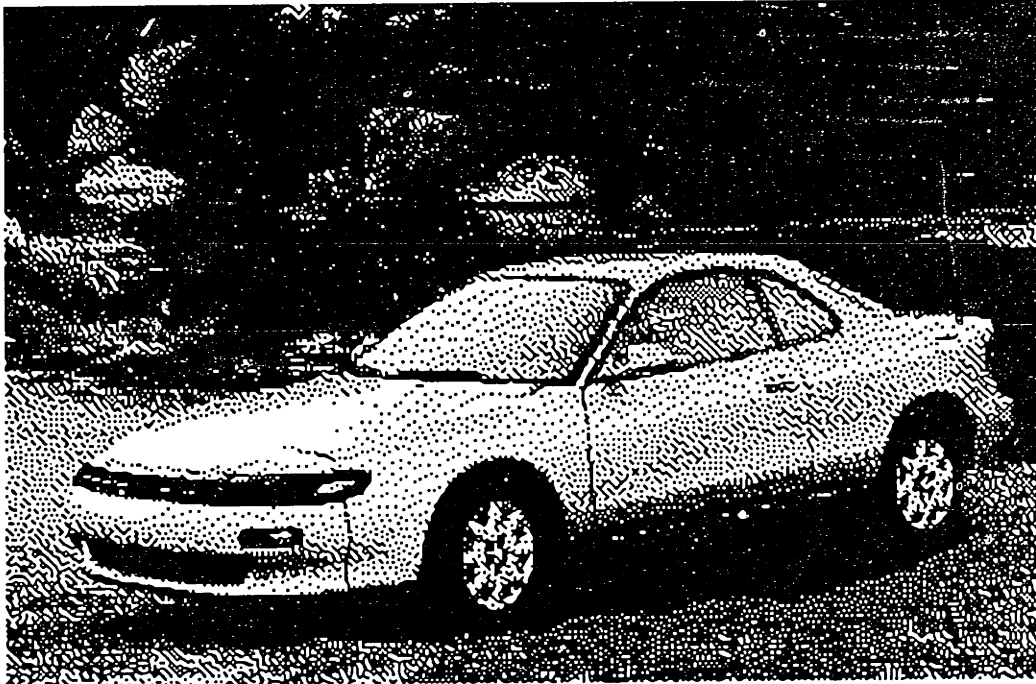


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.2 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Toyota Celica

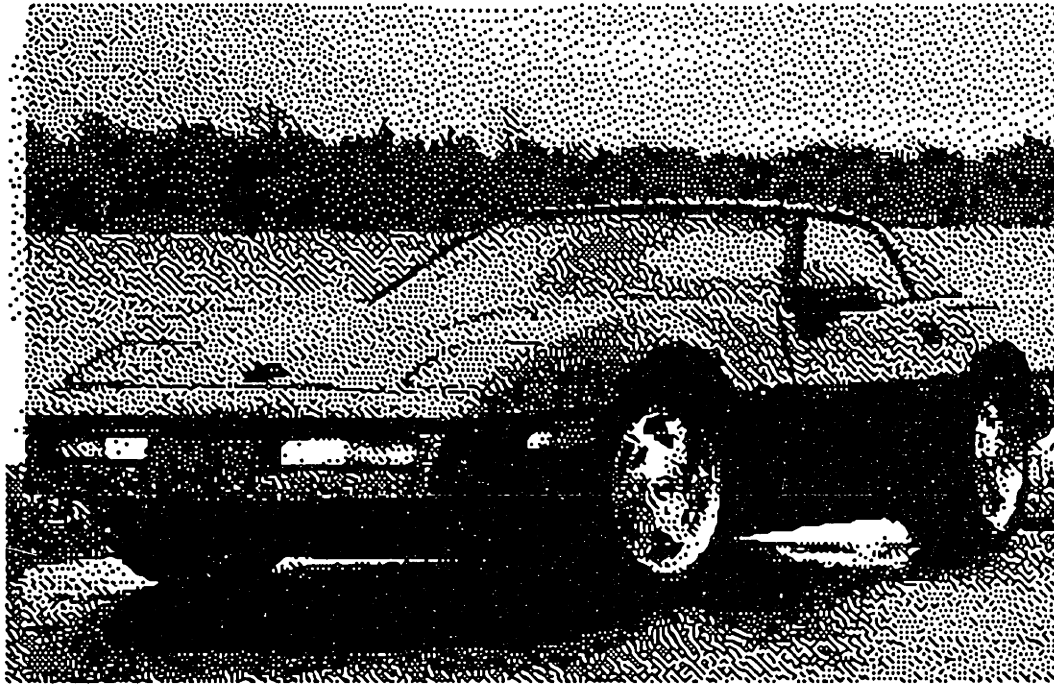


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.3 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Chevrolet Corvette Convertible

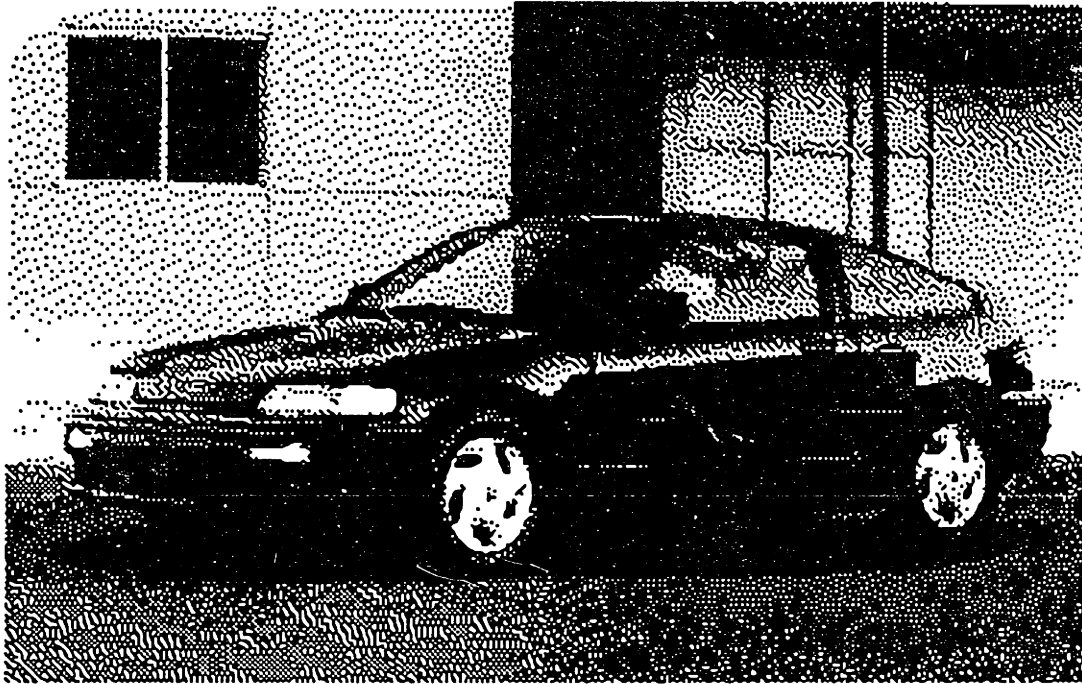


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.4 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Honda CRX

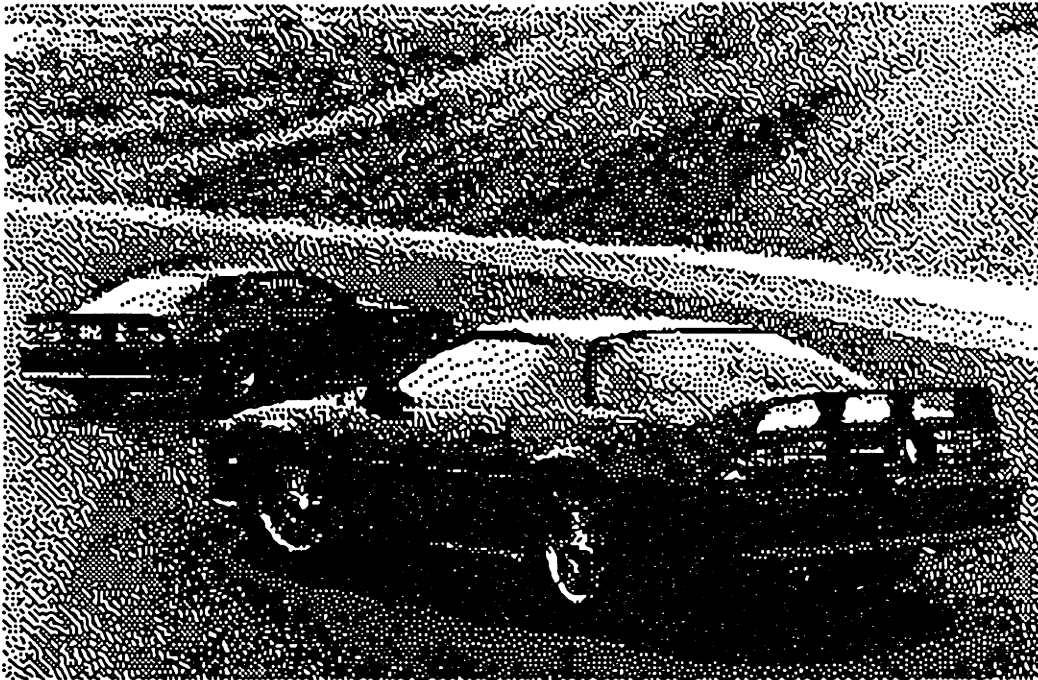


Are you familiar with this automobile?

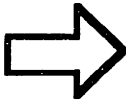
Familiar	Continue
Unfamiliar	➔

Screen 8.5 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Chevrolet Camaro

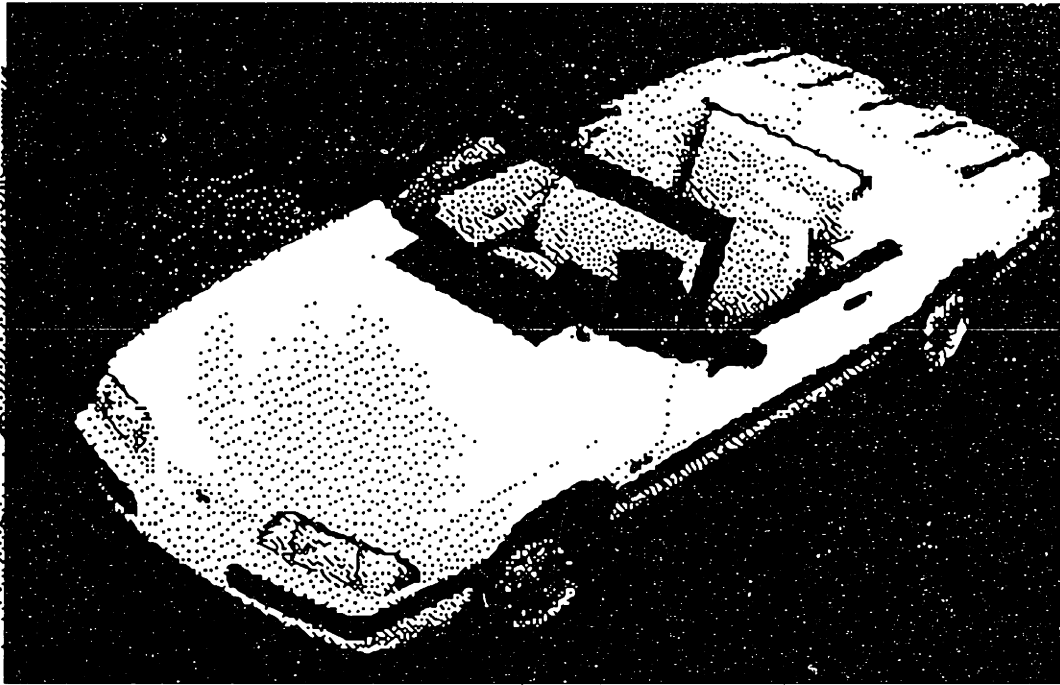


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.6 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Ford Mustang Convertible



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.7 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Ford Probe



Are you familiar with this automobile?


Familiar	Continue
Unfamiliar	➔

Screen 8.8 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Saab 900 Turbo Convertible

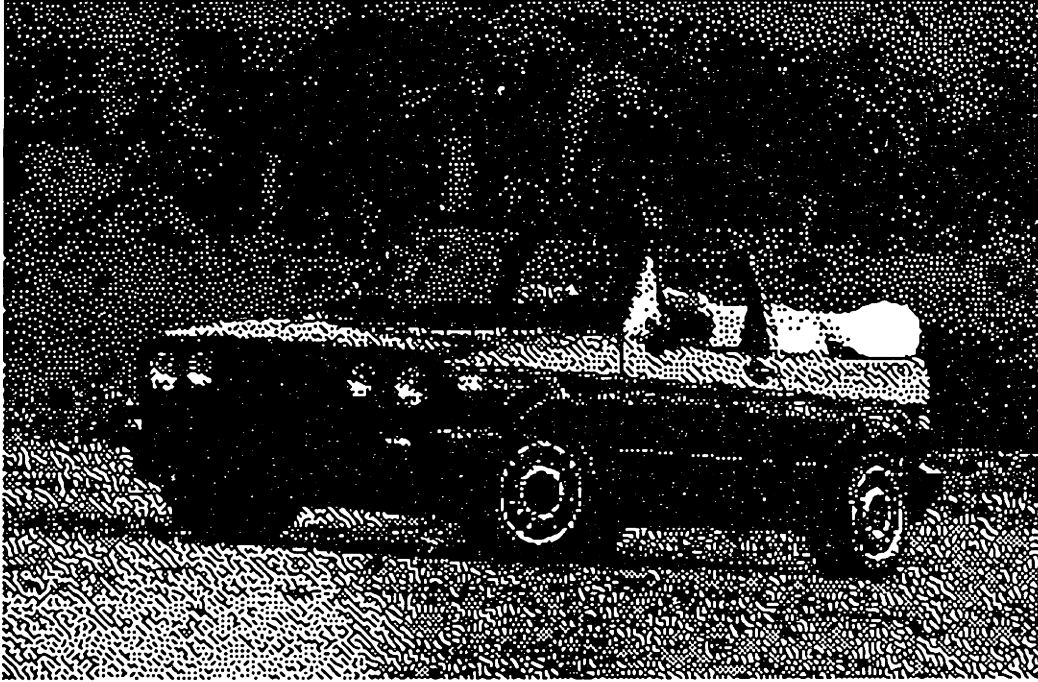


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.9 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Volkswagon Cabriolet



Are you familiar with this automobile?

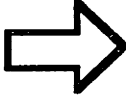
Familiar	Continue
Unfamiliar	➔

Screen 8.10 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Mercedes Benz 300SL/500SL

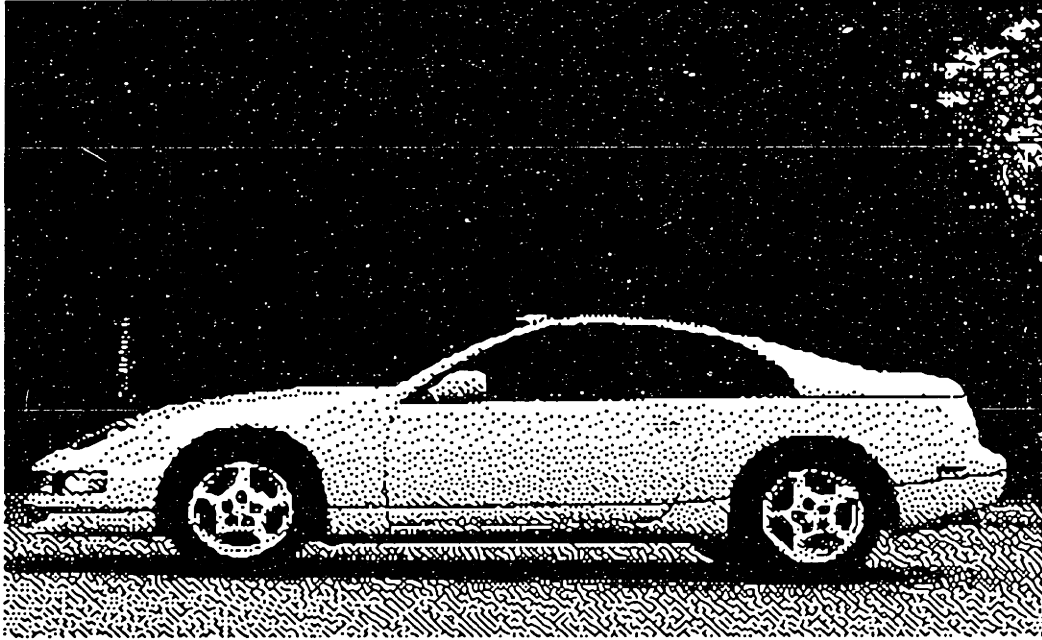


Are you familiar with this automobile?


Familiar	Continue
Unfamiliar	

Screen 8.11 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Nissan 300ZX



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.12 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Acura Legend Coupe

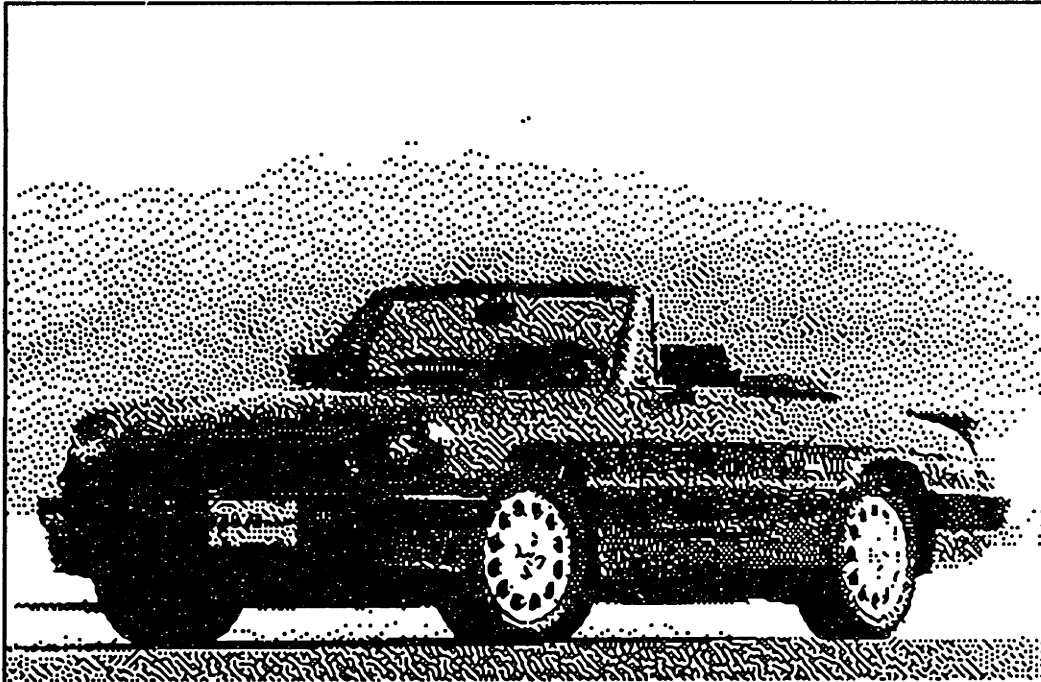


Are you familiar with this automobile?

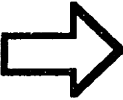
Familiar	Continue
Unfamiliar	➔

Screen 8.13 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Alfa Romeo Spider Veloce

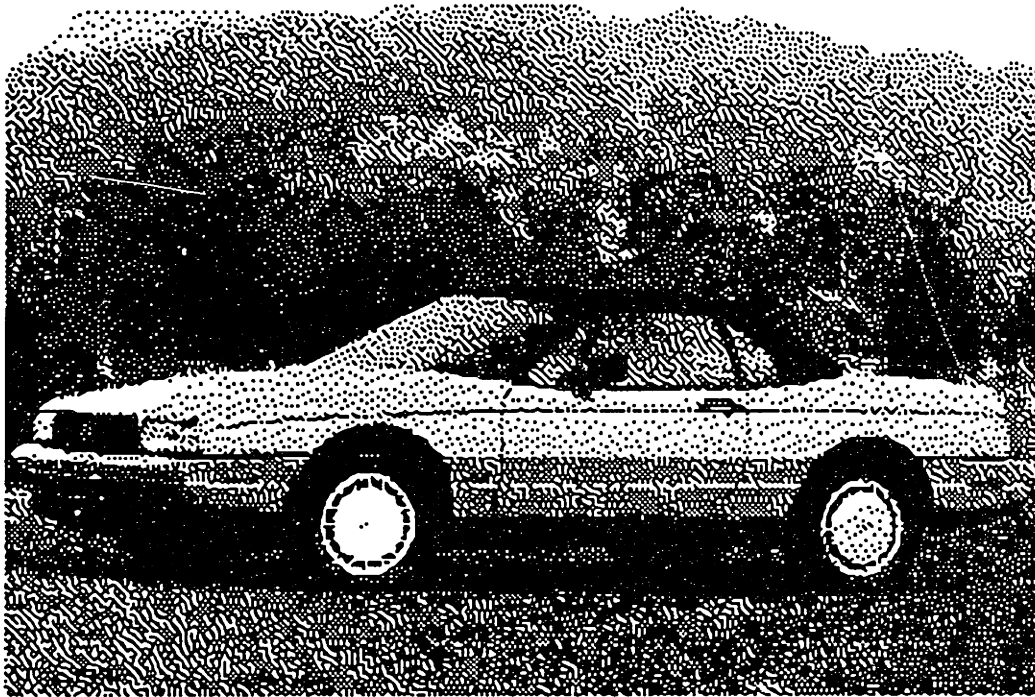


Are you familiar with this automobile?

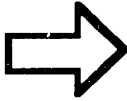
Familiar	Continue
Unfamiliar	

Screen 8.14 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Cadillac Allante

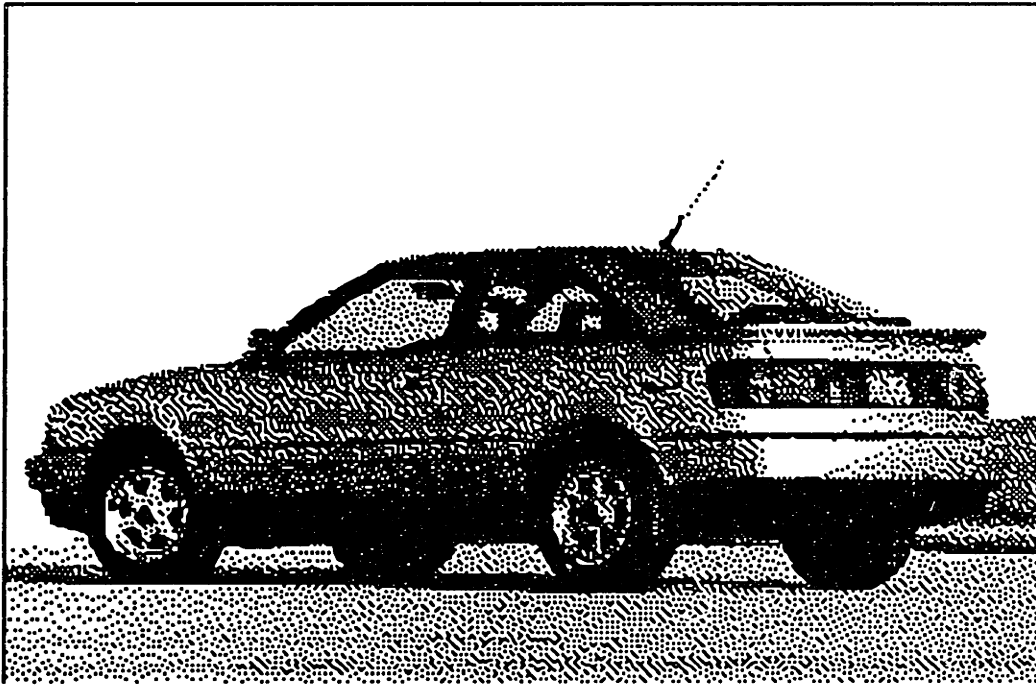


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.15 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Audi Quattro Coupe

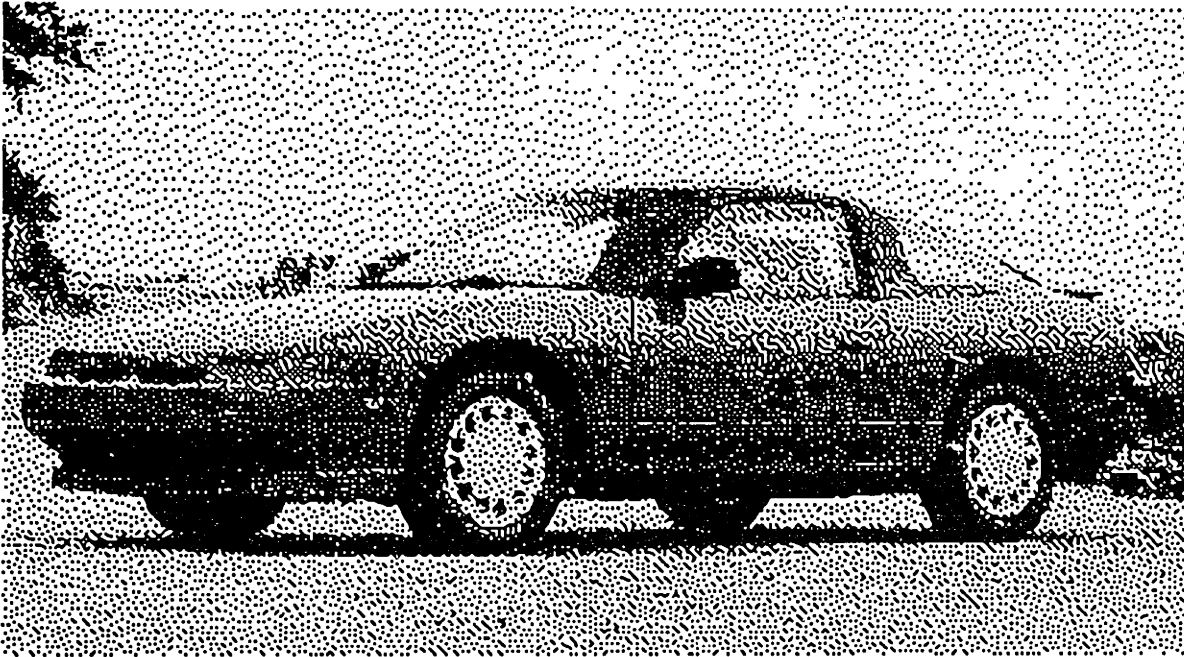


Are you familiar with this automobile?

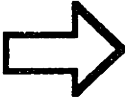
Familiar	Continue
Unfamiliar	➔

Screen 8.16 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Nissan 240SX



Are you familiar with this automobile?

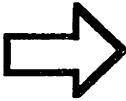
Familiar	Continue
Unfamiliar	

Screen 8.17 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Mazda RX-7 Convertible

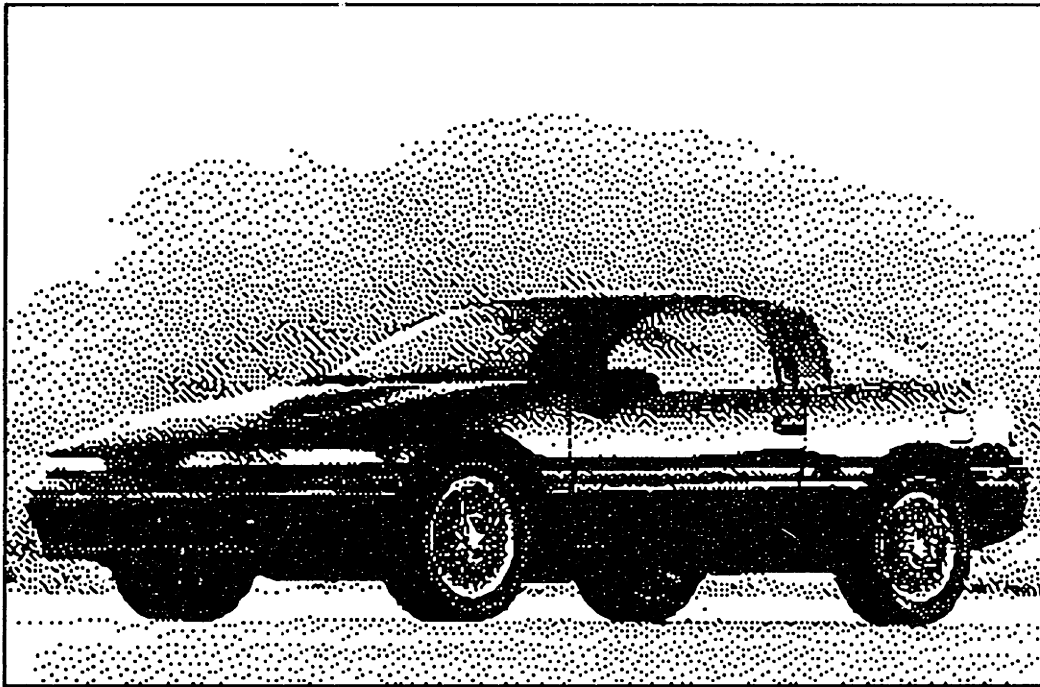


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.18 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Eagle Talon

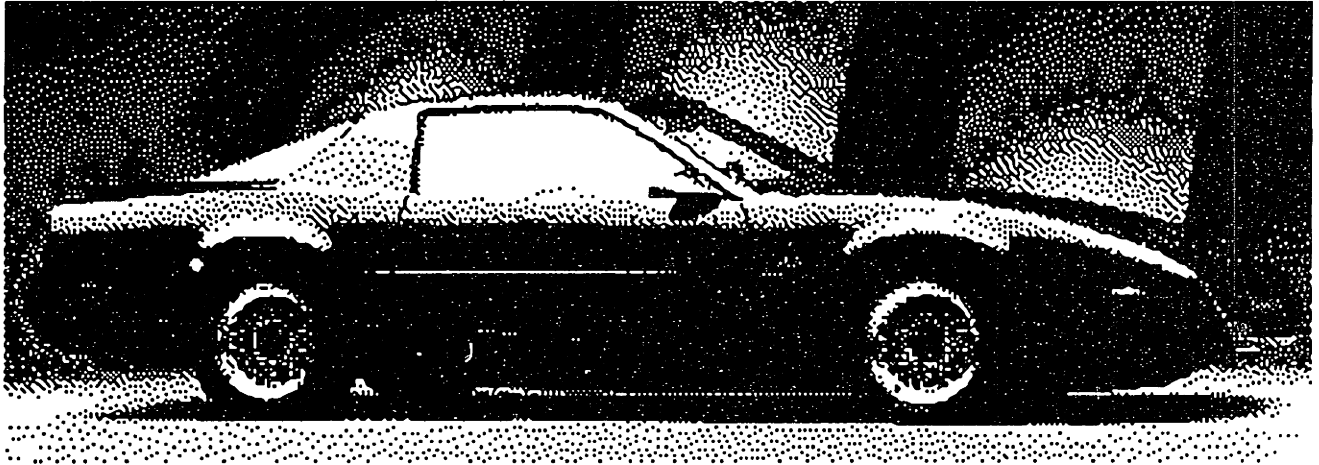


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.19 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Pontiac Firebird



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.20 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Subaru XT

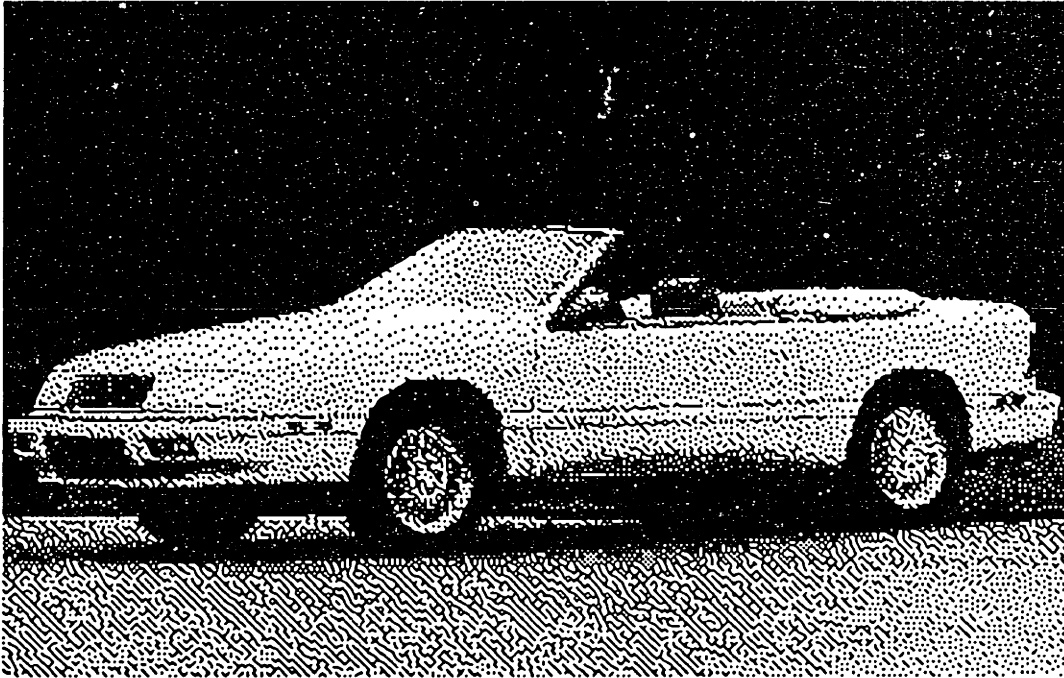


Are you familiar with this automobile?


Familiar	Continue
Unfamiliar	➔

Screen 8.21 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Chrysler LeBaron Convertible



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.22 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Jaguar XJS Convertible

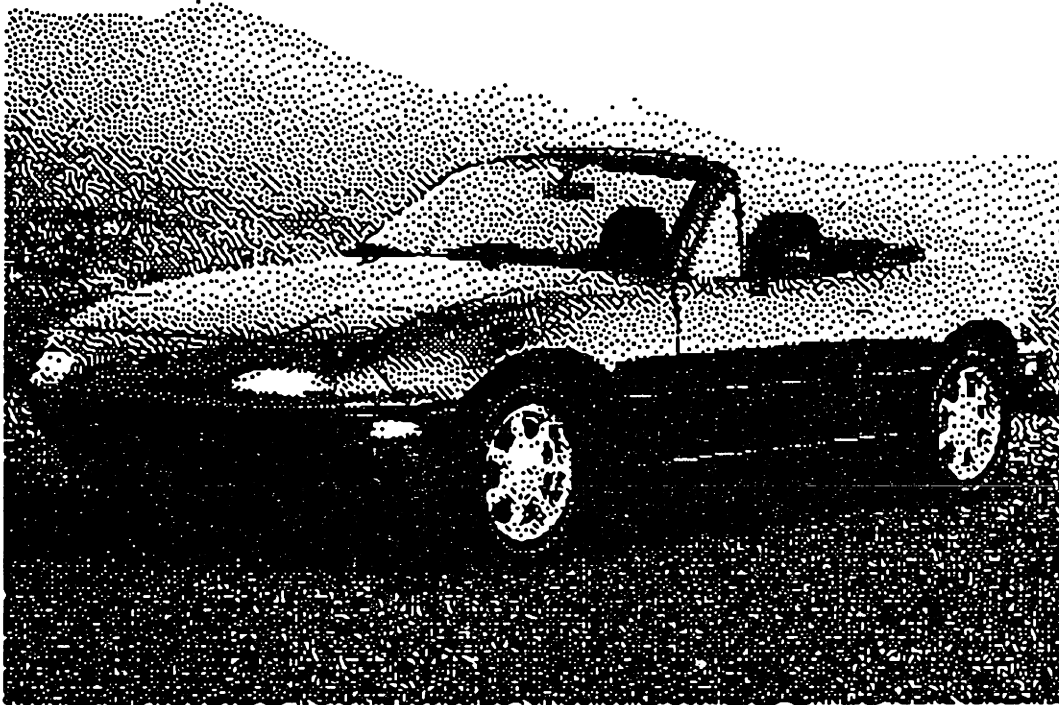


Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.23 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Mazda MX-5 Miata



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.24 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Toyota MR-2



Are you familiar with this automobile?


Familiar	Continue
Unfamiliar	➔

Screen 8.25 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Plymouth Laser



Are you familiar with this automobile?


Familiar	Continue
Unfamiliar	

Screen 8.26 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Porsche 911

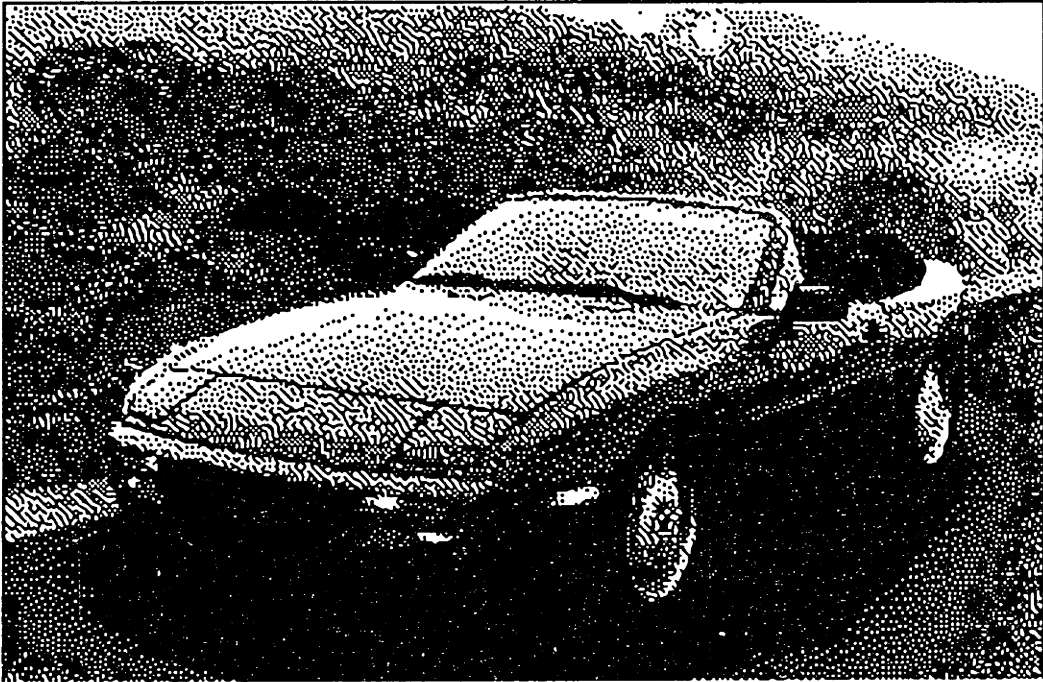


Are you familiar with this automobile?


Familiar	Continue
Unfamiliar	

Screen 8.27 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Porsche 944 Cabriolet

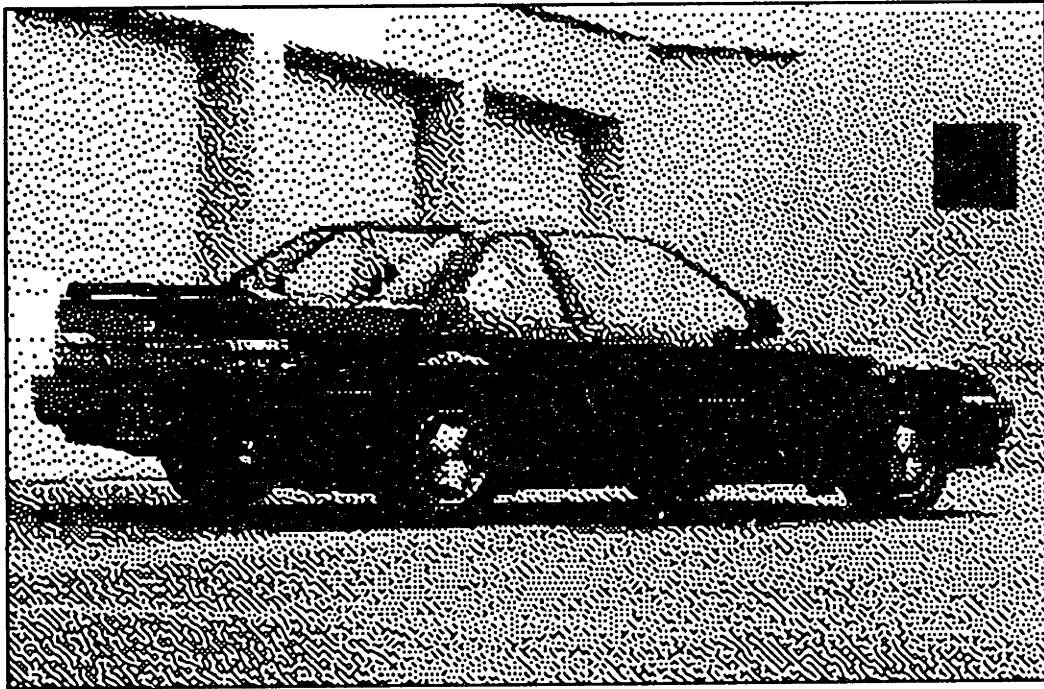


Are you familiar with this automobile?

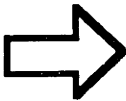
Familiar	Continue
Unfamiliar	

Screen 8.28 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Honda Prelude



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	

Screen 8.29 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Toyota Supra



Are you familiar with this automobile?

Familiar	Continue ➔
Unfamiliar	

Screen 8.30 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Ford Thunderbird



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

Screen 8.31 - The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Volkswagon Corrado



Are you familiar with this automobile?

Familiar	Continue
Unfamiliar	➔

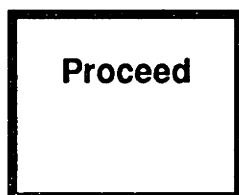
Screen 8.32 - The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Each automobile which you indicated as being familiar with will be presented to you. Suppose you were going to be in the market for a sporty automobile the next time you buy a new car. Indicate whether you would seriously consider buying each automobile pictured. If you would seriously consider buying the automobile pictured, then click on the box containing the word "Consider," otherwise click on the box containing the words "Not Consider."

After selecting a response, click on the box containing the word "Continue." Note that, as before, you may change your response after making a selection by clicking on the other box.

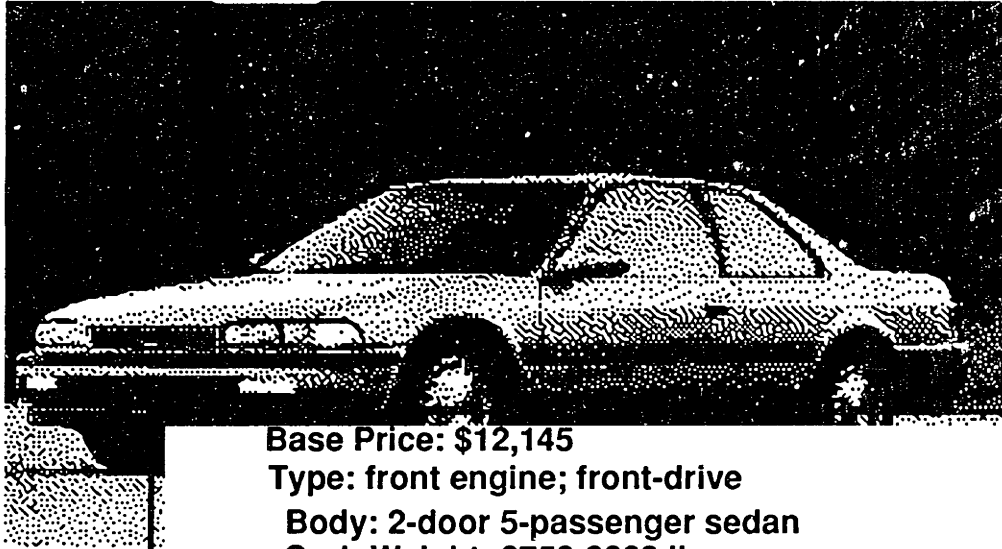
In addition, information about each automobile may be viewed by clicking on the box containing the word "Info."

Click the mouse on the box titled "Proceed" whenever you are ready to proceed with this task.



Screen 9 - Of the next 32 screens (screens 10.1 - 10.32), only those corresponding with "Familiar" vehicles are displayed. The picture of each vehicle is presented. In addition, the option exists to inspect basic information ("Info") about an automobile. This information appears on top of a portion of the automobile picture if selected for viewing. For presentation purposes, this information is presented as if selected for viewing.

Honda Accord Coupe



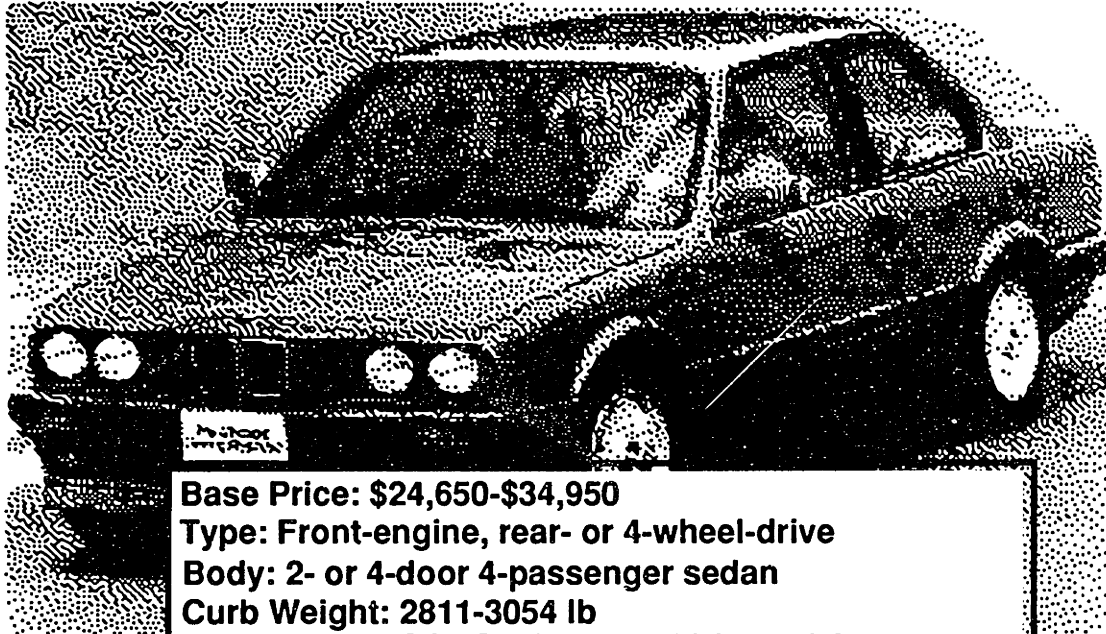
Base Price: \$12,145
Type: front engine; front-drive
Body: 2-door 5-passenger sedan
Curb Weight: 2750-3000 lb
Engine: 2.2-L SOHC 4-in-line, 125-130 hp
Fuel Tank Capacity: 17.0 gal
EPA City MPG: 22-24

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.1 - This screen appears only if the "Familiar" response box on Screen 8.1 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

BMW 3-Series



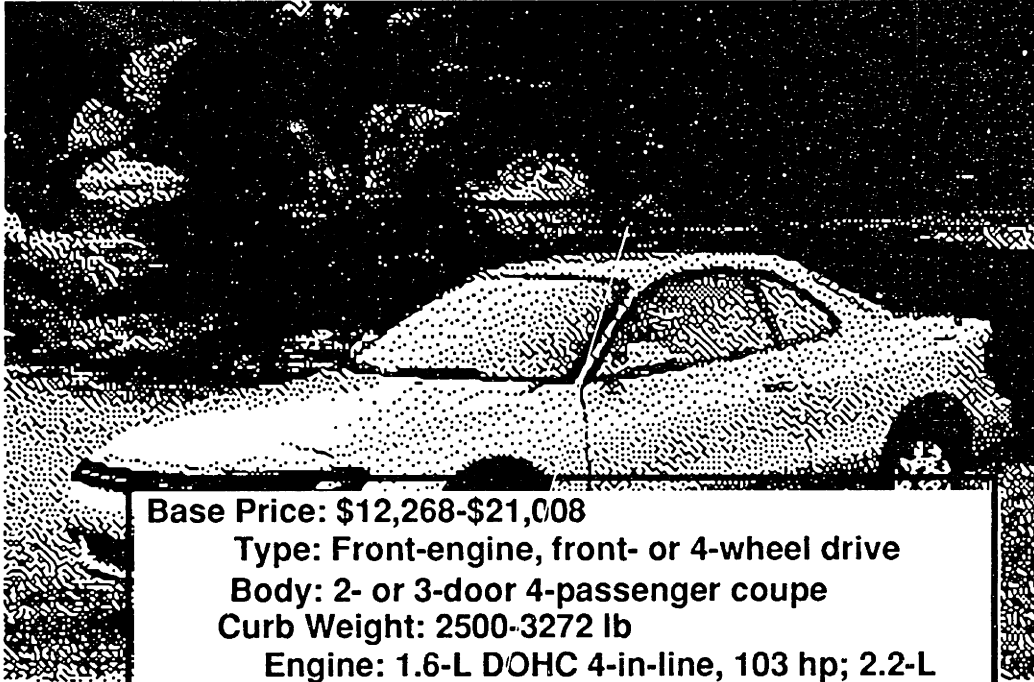
Base Price: \$24,650-\$34,950
Type: Front-engine, rear- or 4-wheel-drive
Body: 2- or 4-door 4-passenger sedan
Curb Weight: 2811-3054 lb
**Engine: 2.5-L SOHC 6-in-line, 168 hp; 2.3-L
DOHC 4-in-line, 192 hp**
Fuel Tank Capacity: 14.5-16.4 gal
EPA City MPG: 17-18

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.2 - This screen appears only if the "Familiar" response box on Screen 8.2 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Toyota Celica



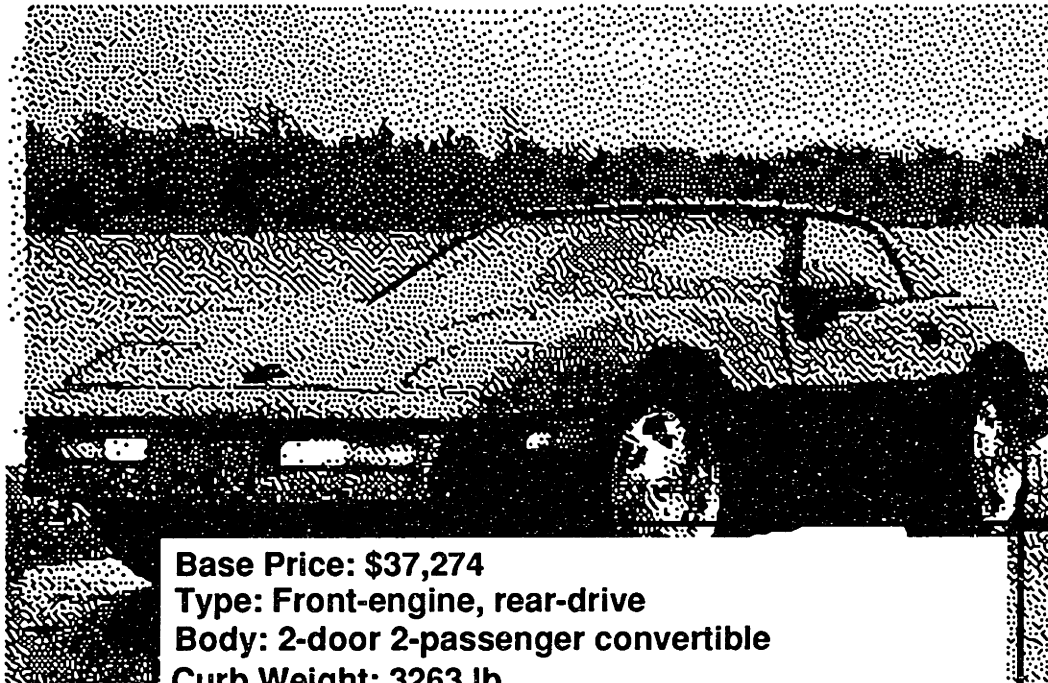
Base Price: \$12,268-\$21,008
Type: Front-engine, front- or 4-wheel drive
Body: 2- or 3-door 4-passenger coupe
Curb Weight: 2500-3272 lb
**Engine: 1.6-L DOHC 4-in-line, 103 hp; 2.2-L
4-in-line 130 hp; 2.0-L turbo
intercooled 4-in-line, 200 hp**
Fuel Tank Capacity: 15.9 gal
EPA City MPG: 19-26

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.3 - This screen appears only if the "Familiar" response box on Screen 8.3 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Chevrolet Corvette Convertible



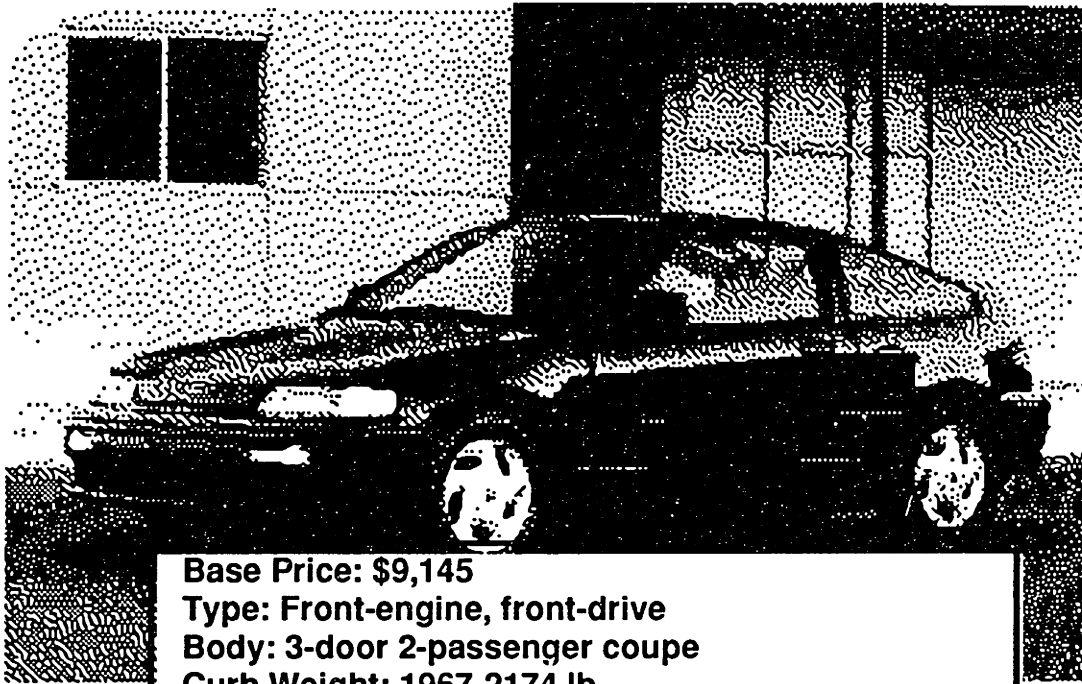
Base Price: \$37,274
Type: Front-engine, rear-drive
Body: 2-door 2-passenger convertible
Curb Weight: 3263 lb
Engine: 5.7-L V8, 245 hp; 5.7-L V8, 250 hp
Fuel Tank Capacity: 20 gal
EPA City MPG: 16

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.4 - This screen appears only if the "Familiar" response box on Screen 8.4 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Honda CRX



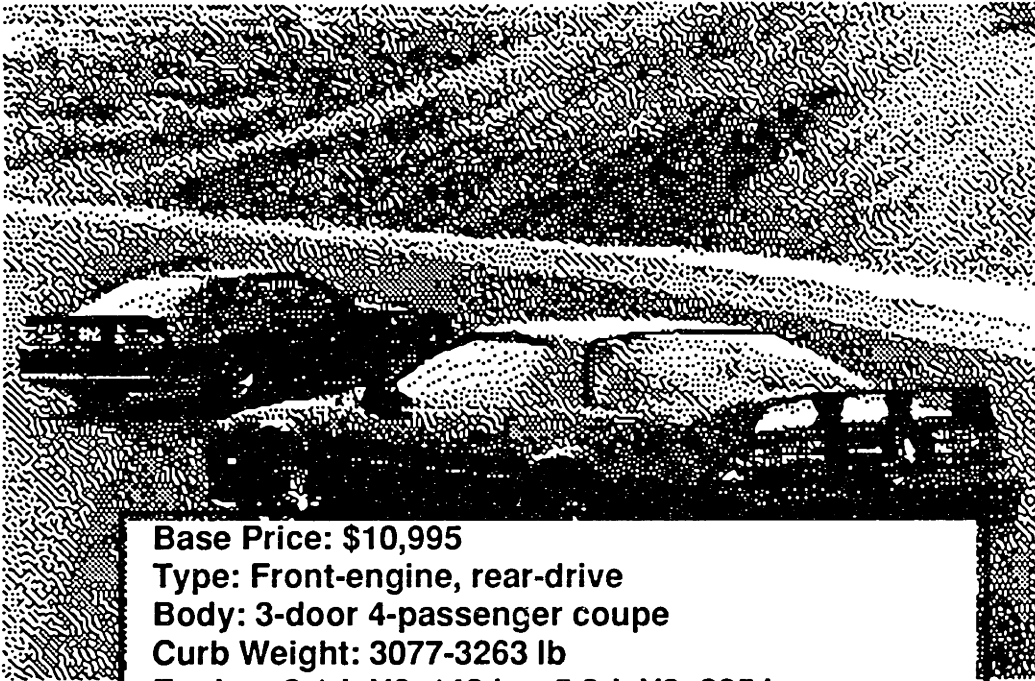
Base Price: \$9,145
Type: Front-engine, front-drive
Body: 3-door 2-passenger coupe
Curb Weight: 1967-2174 lb
Engine: 1.5-L SOHC 4-in-line, 62 hp; 1.5-L SOHC 4-in-line, 92 hp; 1.6-L SOHC 4-in-line, 108 hp
Fuel Tank Capacity: 10.6-11.9 gal
EPA City MPG: 28-49

Would you seriously consider buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.5 - This screen appears only if the "Familiar" response box on Screen 8.5 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Chevrolet Camaro



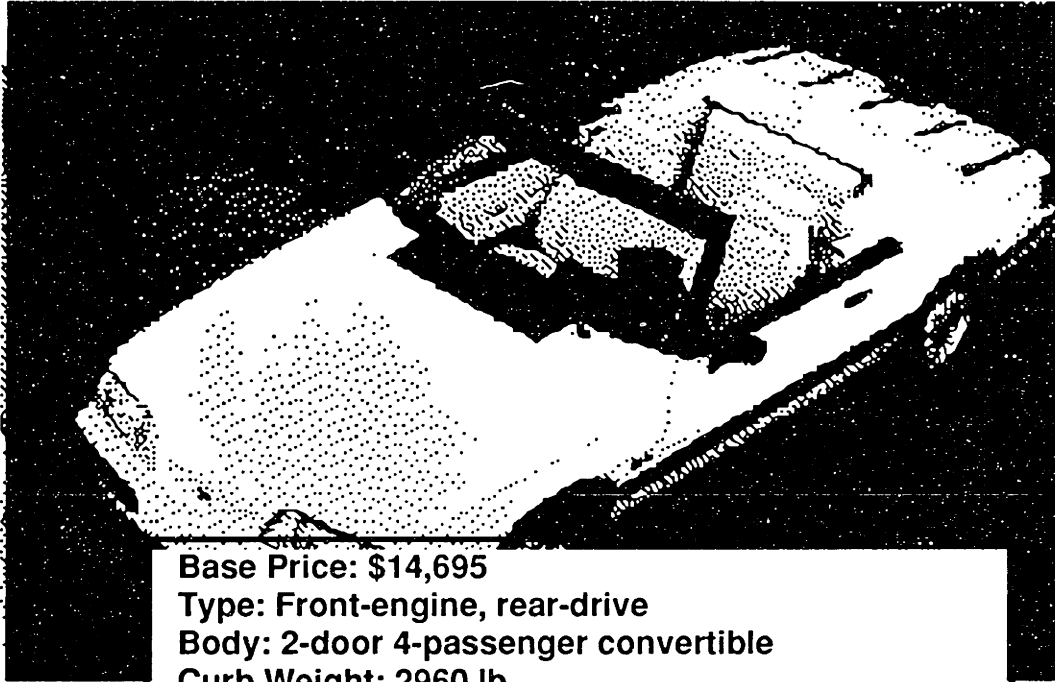
Base Price: \$10,995
Type: Front-engine, rear-drive
Body: 3-door 4-passenger coupe
Curb Weight: 3077-3263 lb
Engine: 3.1-L V6, 140 hp; 5.0-L V8, 225 hp;
5.7-L V8, 235 hp
Fuel Tank Capacity: 20 gal
EPA City MPG: 16-18

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.6 - This screen appears only if the "Familiar" response box on Screen 8.6 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Ford Mustang Convertible



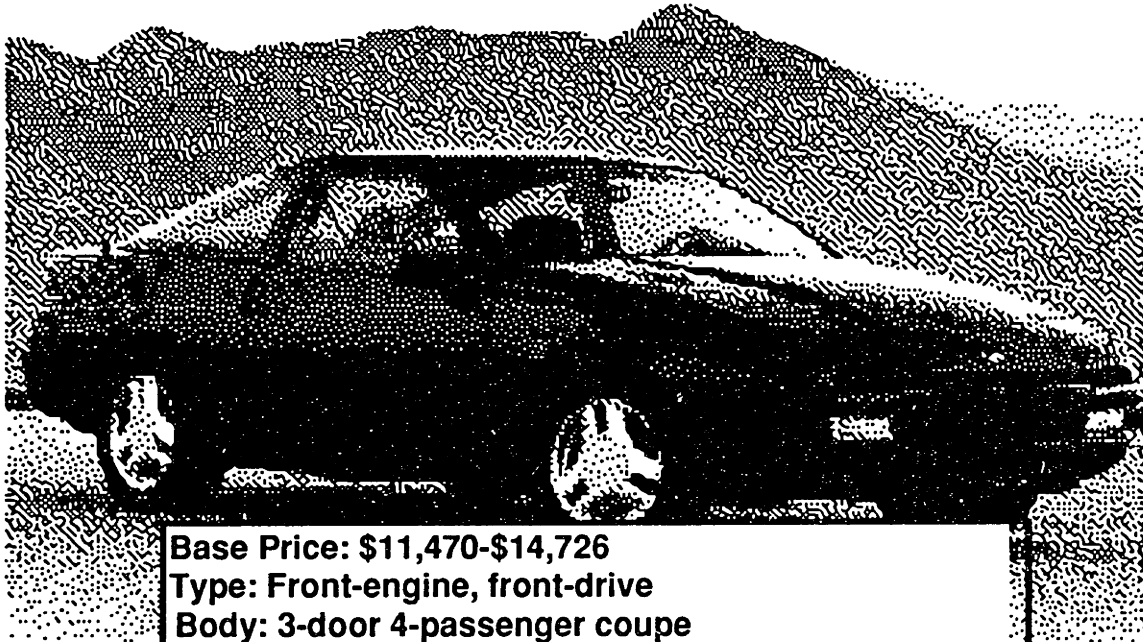
Base Price: \$14,695
Type: Front-engine, rear-drive
Body: 2-door 4-passenger convertible
Curb Weight: 2960 lb
Engine: 2.3-L SOHC 4-in-line, 88 hp; 4.9-L V8,
225 hp
Fuel Tank Capacity: 15.4 gal
EPA City MPG: 17-23

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

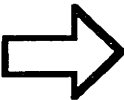
Screen 10.7 - This screen appears only if the "Familiar" response box on Screen 8.7 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Ford Probe



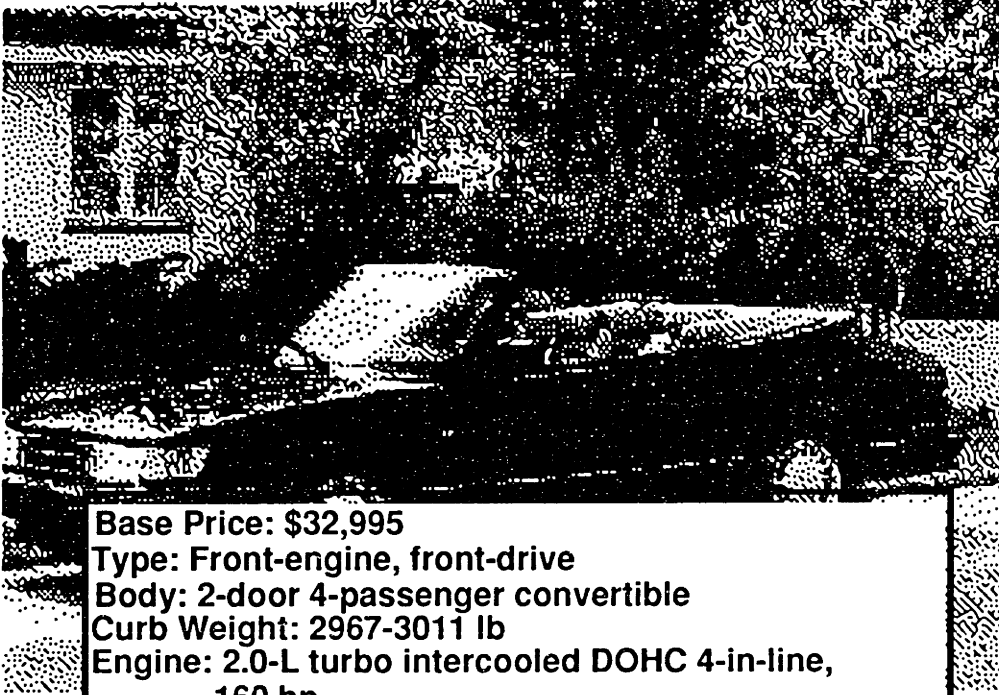
Base Price: \$11,470-\$14,726
Type: Front-engine, front-drive
Body: 3-door 4-passenger coupe
Curb Weight: 2731 lb
**Engine: 2.2-L SOHC 4-in-line, 110 hp; 3.0L V6
140 hp; 2.2-L SOHC turbo/intercool
4-in-line, 145 hp**
Fuel Tank Capacity: 15.1 gal
EPA City MPG: 19-24

Would you seriously consider
buying this automobile?

Info	Consider	Continue 
	Not Consider	

Screen 10.8 - This screen appears only if the "Familiar" response box on Screen 8.8 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Saab 900 Turbo Convertible



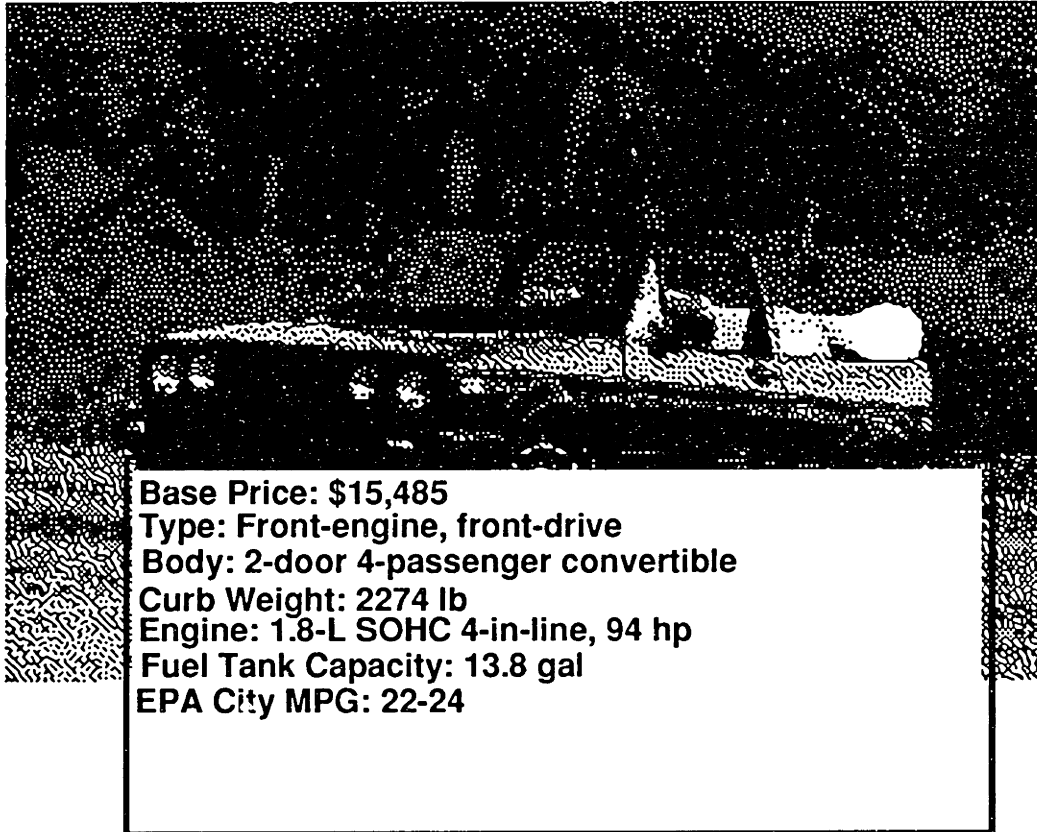
Base Price: \$32,995
Type: Front-engine, front-drive
Body: 2-door 4-passenger convertible
Curb Weight: 2967-3011 lb
Engine: 2.0-L turbo intercooled DOHC 4-in-line, 160 hp
Fuel Tank Capacity: 18 gal
EPA City MPG: 18-21

Would you seriously consider buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.9 - This screen appears only if the "Familiar" response box on Screen 8.9 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Volkswagon Cabriolet

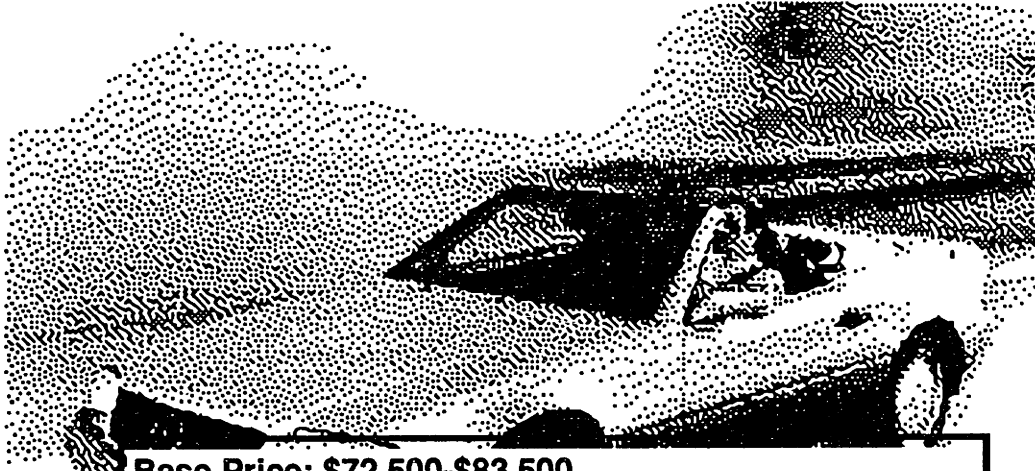


Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.10 - This screen appears only if the "Familiar" response box on Screen 8.10 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Mercedes Benz 300SL/500SL



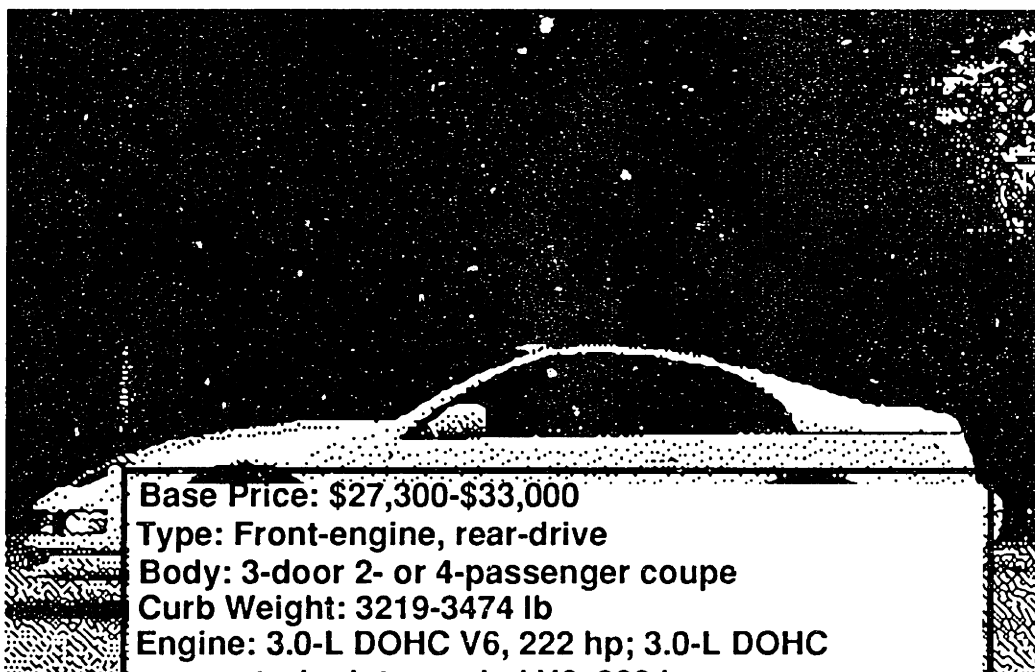
Base Price: \$72,500-\$83,500
Type: Front-engine, rear-drive
Body: 2-door 2-passenger convertible
Curb Weight: 4000-4200 lb
Engine: 3.0-L DOHC 6-in-line, 228 hp; 5.0-L DOHC V8, 322 hp
Fuel Tank Capacity: 21.1 gal
EPA City MPG: 14-15

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.11 - This screen appears only if the "Familiar" response box on Screen 8.11 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Nissan 300ZX



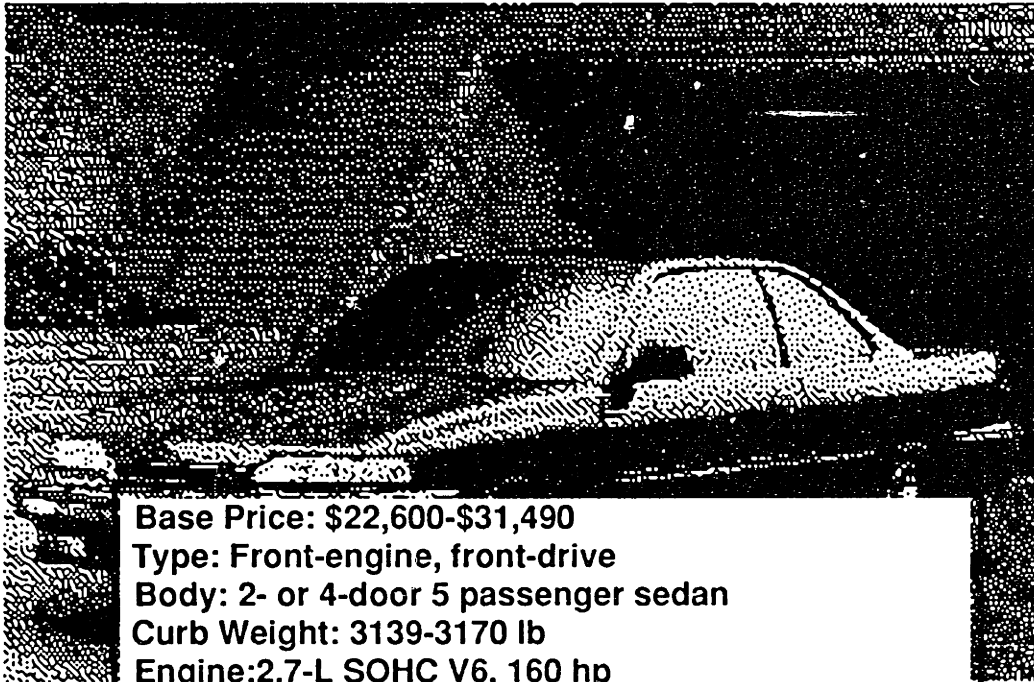
Base Price: \$27,300-\$33,000
Type: Front-engine, rear-drive
Body: 3-door 2- or 4-passenger coupe
Curb Weight: 3219-3474 lb
Engine: 3.0-L DOHC V6, 222 hp; 3.0-L DOHC turbo intercooled V6, 300 hp
Fuel Tank Capacity: 18.7 gal
EPA City MPG: 18-19

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.12 - This screen appears only if the "Familiar" response box on Screen 8.12 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Acura Legend Coupe



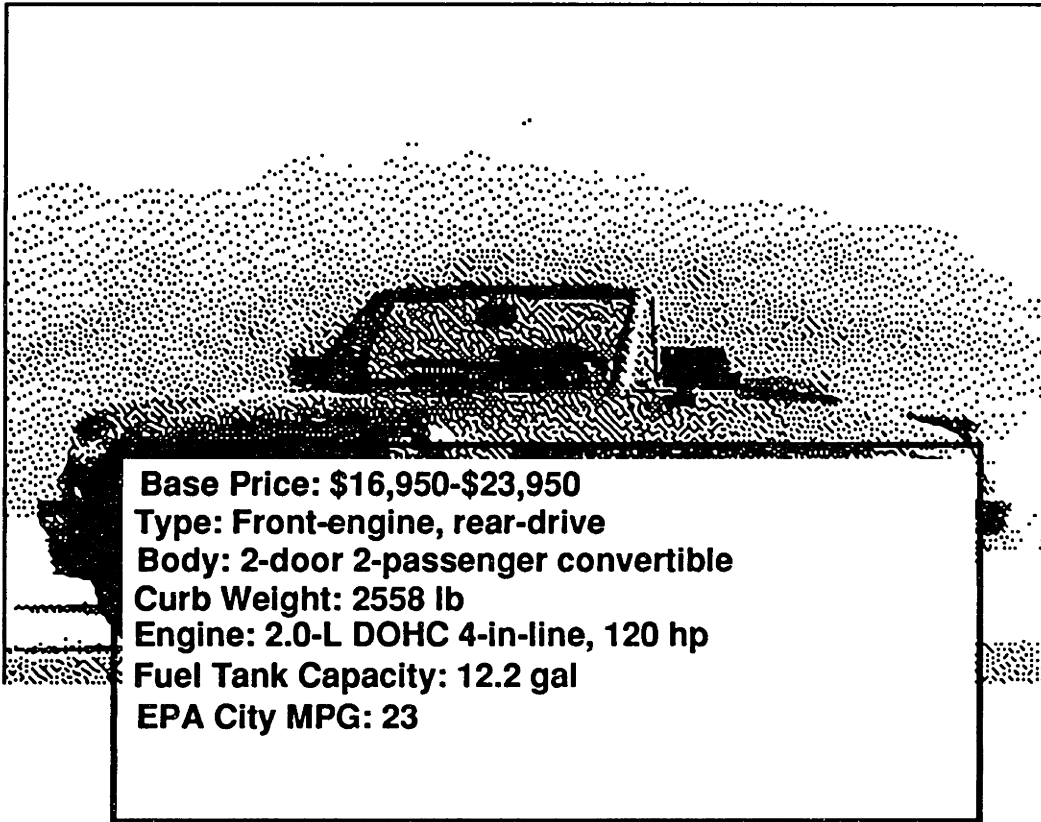
Base Price: \$22,600-\$31,490
Type: Front-engine, front-drive
Body: 2- or 4-door 5 passenger sedan
Curb Weight: 3139-3170 lb
Engine: 2.7-L SOHC V6, 160 hp
Fuel Tank Capacity: 18 gal
EPA City MPG: 18-19

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.13 - This screen appears only if the "Familiar" response box on Screen 8.13 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Alfa Romeo Spider Veloce

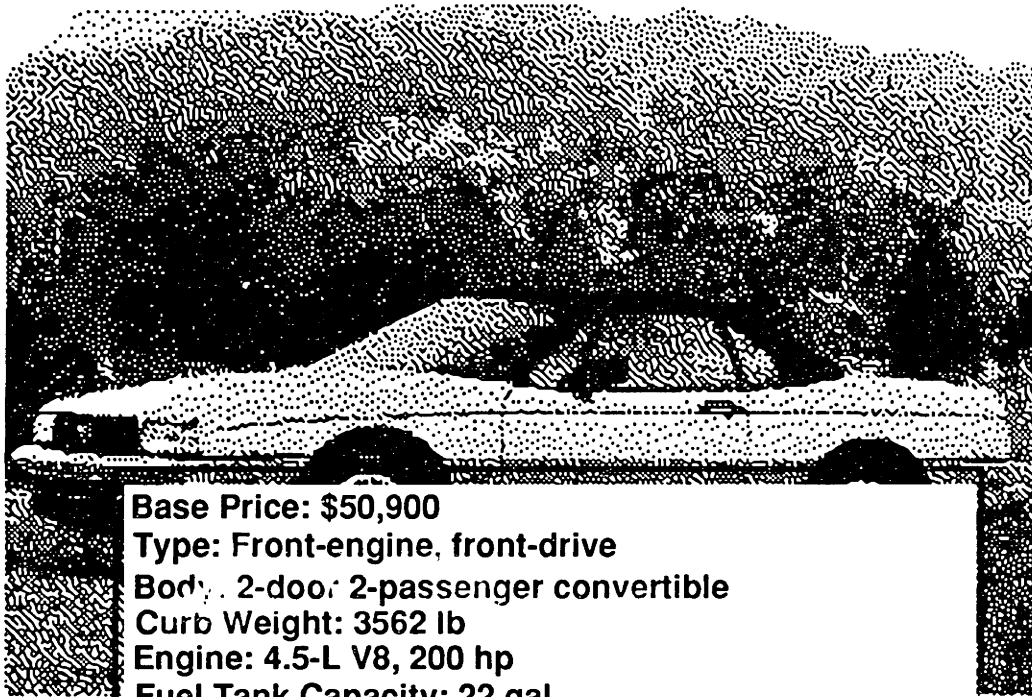


Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.14 - This screen appears only if the "Familiar" response box on Screen 8.14 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Cadillac Allante



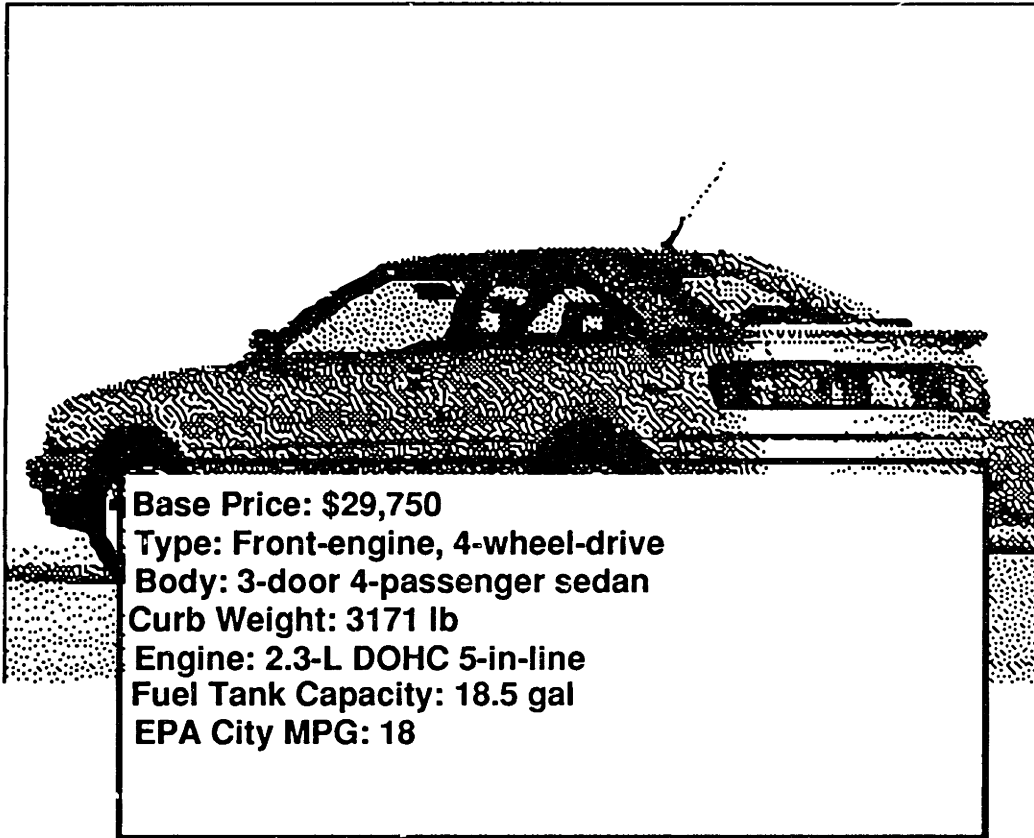
Base Price: \$50,900
Type: Front-engine, front-drive
Body: 2-door, 2-passenger convertible
Curb Weight: 3562 lb
Engine: 4.5-L V8, 200 hp
Fuel Tank Capacity: 22 gal
EPA City MPG: 15

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.15 - This screen appears only if the "Familiar" response box on Screen 8.15 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Audi Quattro Coupe

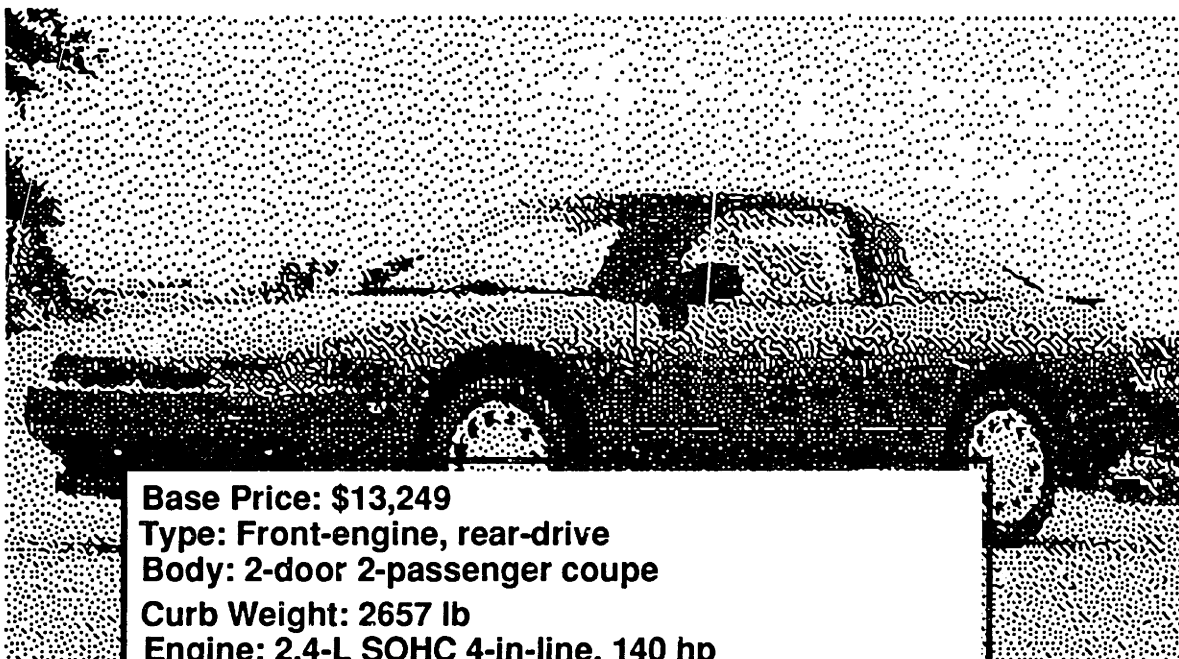


Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

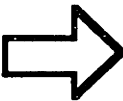
Screen 10.16 - This screen appears only if the "Familiar" response box on Screen 8.16 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Nissan 240SX



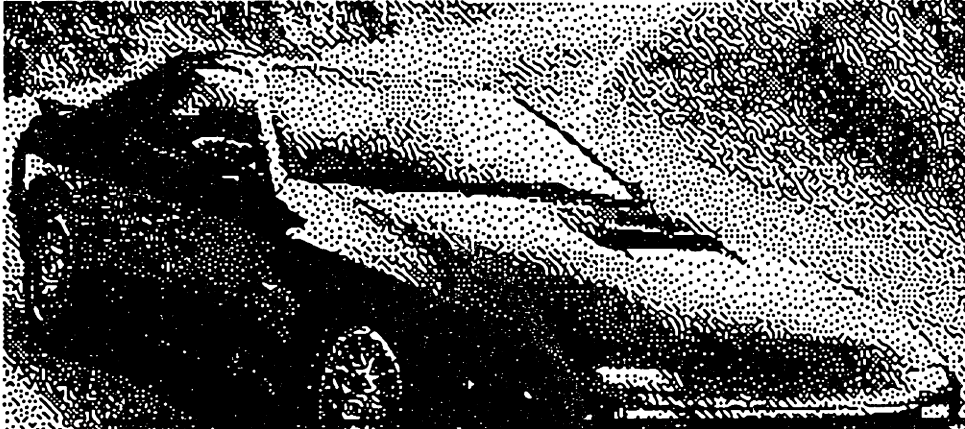
Base Price: \$13,249
Type: Front-engine, rear-drive
Body: 2-door 2-passenger coupe
Curb Weight: 2657 lb
Engine: 2.4-L SOHC 4-in-line, 140 hp
Fuel Tank Capacity: 15.9 gal
EPA City MPG: 20

Would you seriously consider
buying this automobile?

Info	Consider	Continue 
	Not Consider	

Screen 10.17 - This screen appears only if the "Familiar" response box on Screen 8.17 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Mazda RX-7 Convertible



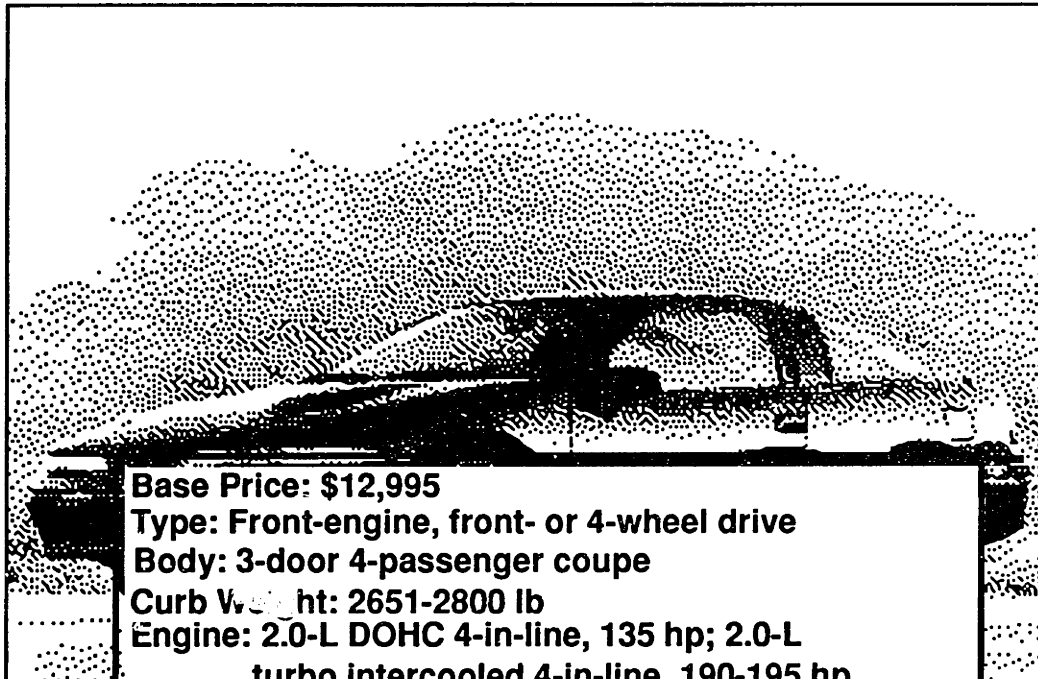
Base Price: \$26,530
Type: Front-engine, rear-drive
Body: 2-door 2-passenger convertible
Curb Weight: 3000 lb
Engine: 1.3-L 2-rotor Wankel, 160 hp
Fuel Tank Capacity: 16.6 gal
EPA City MPG: 17

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.18 - This screen appears only if the "Familiar" response box on Screen 8.18 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Eagle Talon



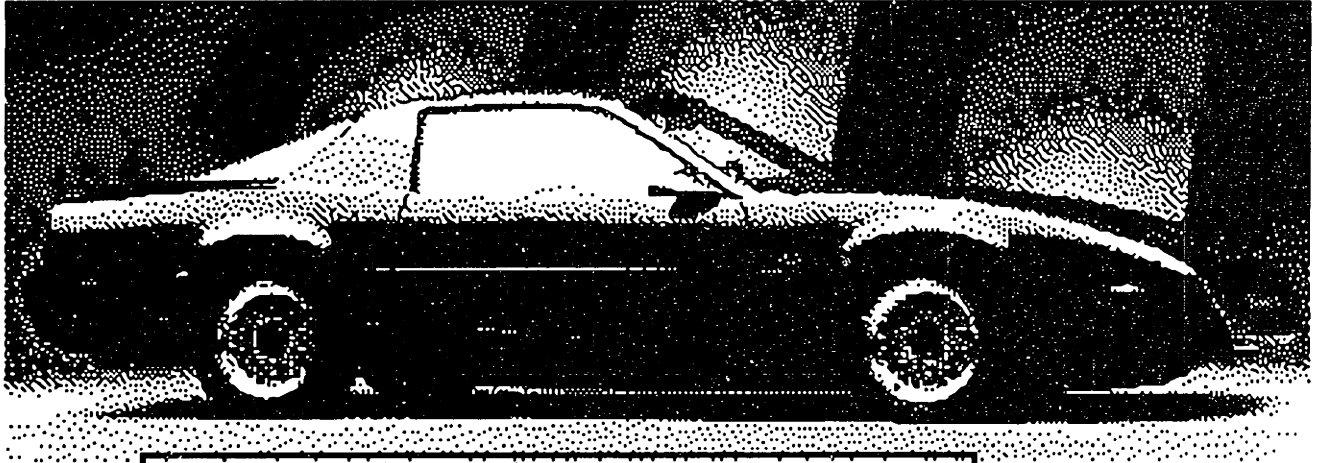
Base Price: \$12,995
Type: Front-engine, front- or 4-wheel drive
Body: 3-door 4-passenger coupe
Curb Weight: 2651-2800 lb
Engine: 2.0-L DOHC 4-in-line, 135 hp; 2.0-L turbo intercooled 4-in-line, 190-195 hp
Fuel Tank Capacity: 15.9 gal
EPA City MPG: 20-22

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.19 - This screen appears only if the "Familiar" response box on Screen 8.19 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Pontiac Firebird



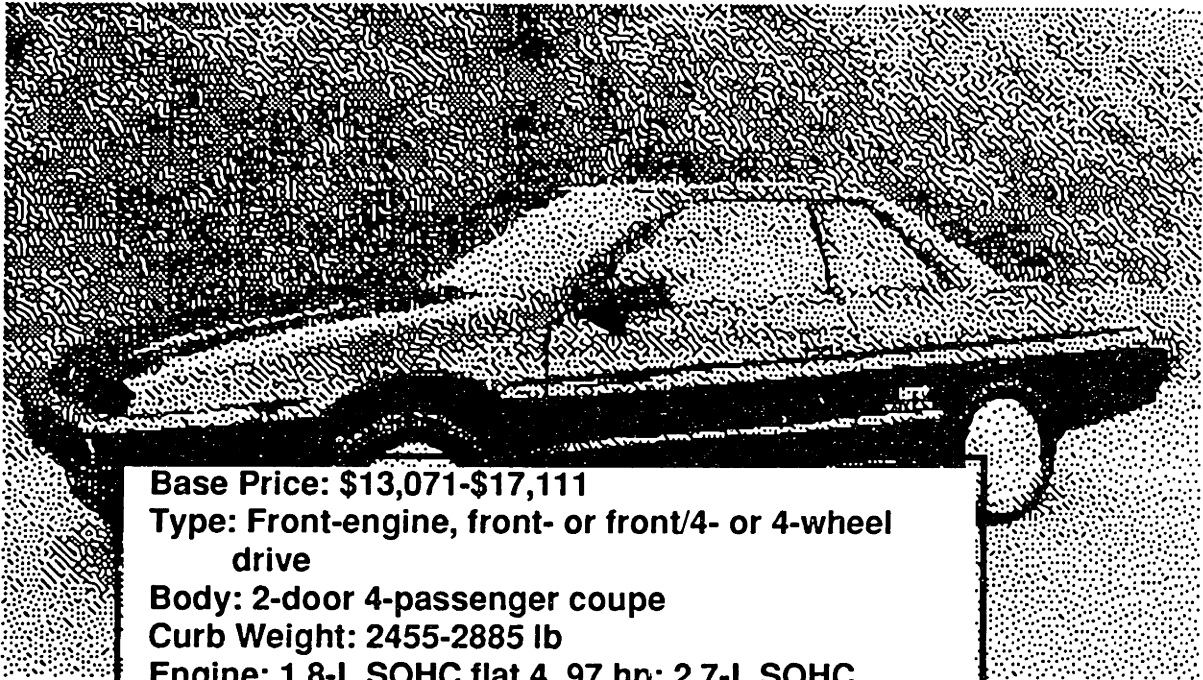
Base Price: \$11,759-\$23,759
Type: Front-engine, rear-drive
Body: 2-door 4-passenger coupe
Curb Weight: 3210-3510 lb
Engine: 3.1-L V6, 140 hp; 5.0-L V8 170 hp;
5.0-L V8, 200 hp; 5.0-L V8, 225 hp;
5.0-L V8, 235 hp
Fuel Tank Capacity: 15.5 gal
EPA City MPG: 16-19

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.20 - This screen appears only if the "Familiar" response box on Screen 8.20 was clicked on. The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Subaru XT



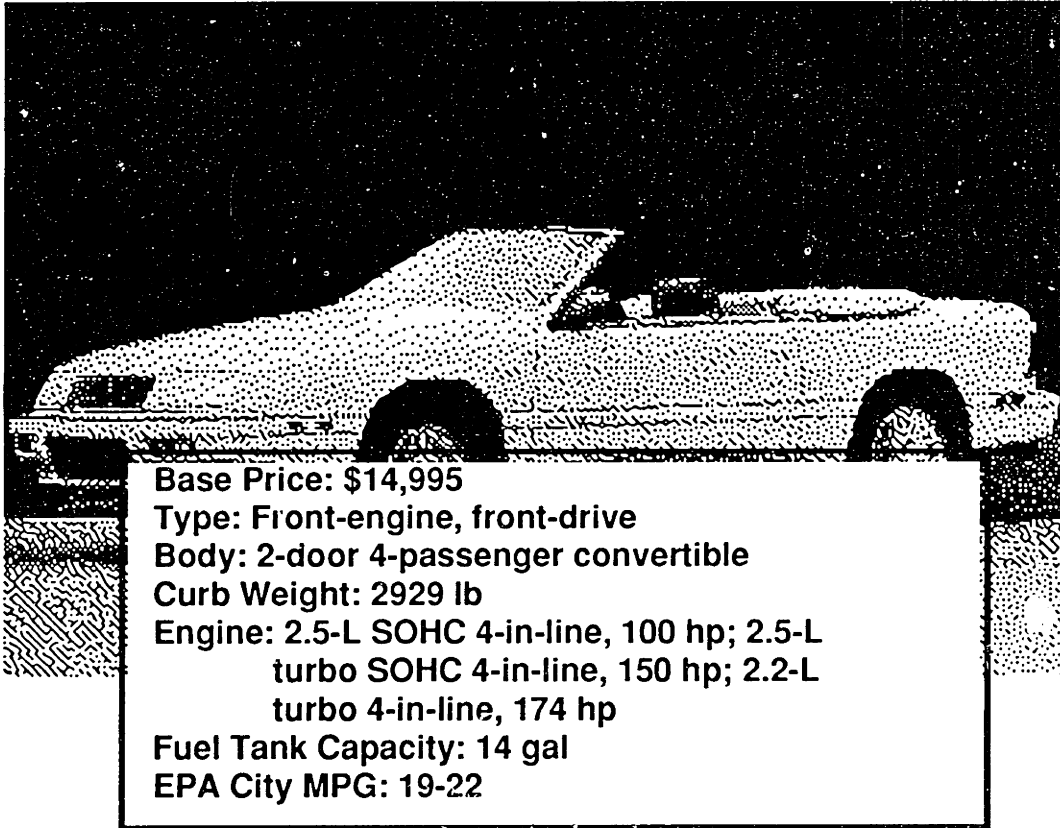
Base Price: \$13,071-\$17,111
Type: Front-engine, front- or front/4- or 4-wheel drive
Body: 2-door 4-passenger coupe
Curb Weight: 2455-2885 lb
Engine: 1.8-L SOHC flat 4, 97 hp; 2.7-L SOHC flat 6, 145 hp
Fuel Tank Capacity: 15.9 gal
EPA City MPG: 18-25

Would you seriously consider buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.21 - This screen appears only if the "Familiar" response box on Screen 8.21 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Chrysler LeBaron Convertible

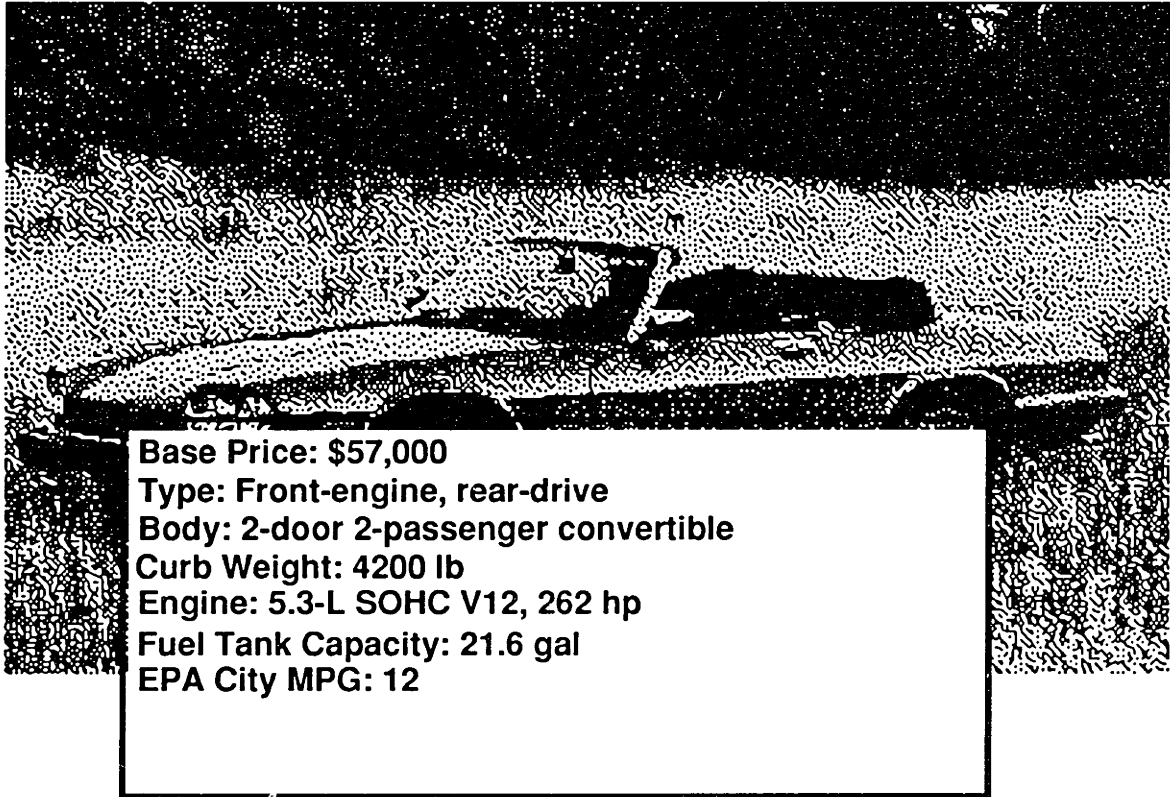


Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.22 - This screen appears only if the "Familiar" response box on Screen 8.22 was clicked on. The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Jaguar XJS Convertible



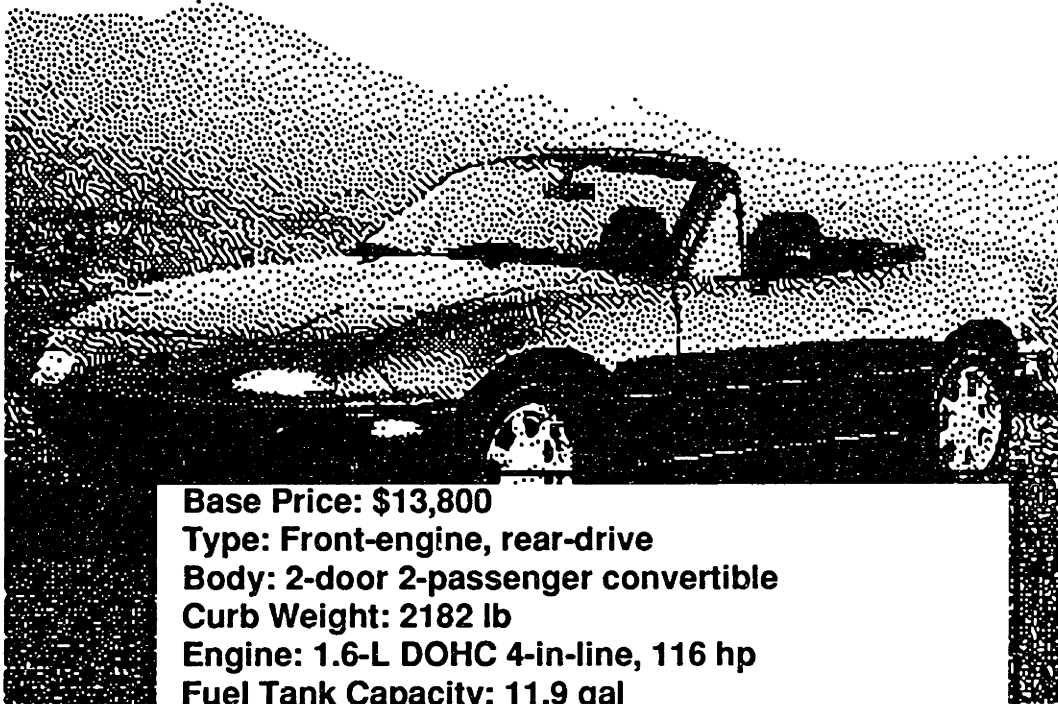
Base Price: \$57,000
Type: Front-engine, rear-drive
Body: 2-door 2-passenger convertible
Curb Weight: 4200 lb
Engine: 5.3-L SOHC V12, 262 hp
Fuel Tank Capacity: 21.6 gal
EPA City MPG: 12

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.23 - This screen appears only if the "Familiar" response box on Screen 8.23 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Mazda MX-5 Miata



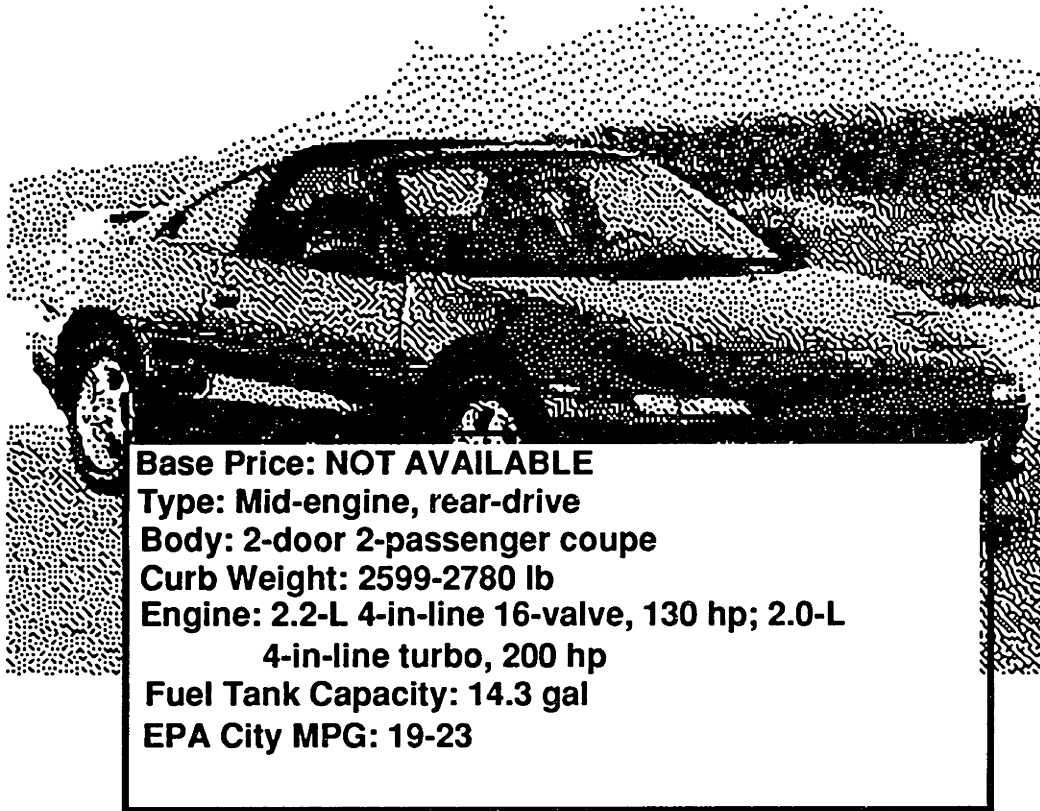
Base Price: \$13,800
Type: Front-engine, rear-drive
Body: 2-door 2-passenger convertible
Curb Weight: 2182 lb
Engine: 1.6-L DOHC 4-in-line, 116 hp
Fuel Tank Capacity: 11.9 gal
EPA City MPG: 25

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.24 - This screen appears only if the "Familiar" response box on Screen 8.24 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Toyota MR-2



Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.25 - This screen appears only if the "Familiar" response box on Screen 8.25 was clicked on. The response box highlites upon selection. The "Continue" box is shaded until a response box is selected.

Plymouth Laser



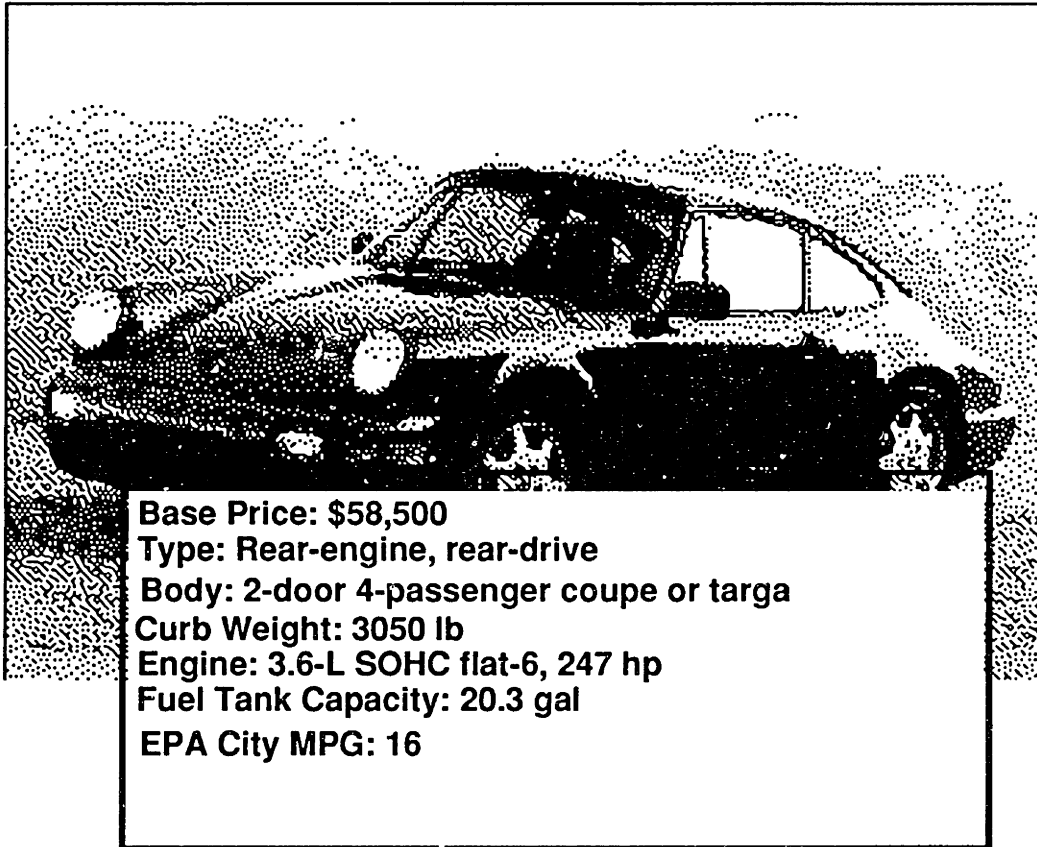
Base Price: \$10,855-\$13,905
Type: Front-engine, front-drive
Body: 2-door 4-passenger coupe
Curb Weight: 2524-2745 lb
Engine: 1.8-L SOHC 4-in-line, 92 hp; 2.0-L DOHC 4-in-line, 135 hp; 2.0-L turbo intercooled, 190 hp
Fuel Tank Capacity: 15.9 gal
EPA City MPG: 22-23

Would you seriously consider buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.26 - This screen appears only if the "Familiar" response box on Screen 8.26 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Porsche 911

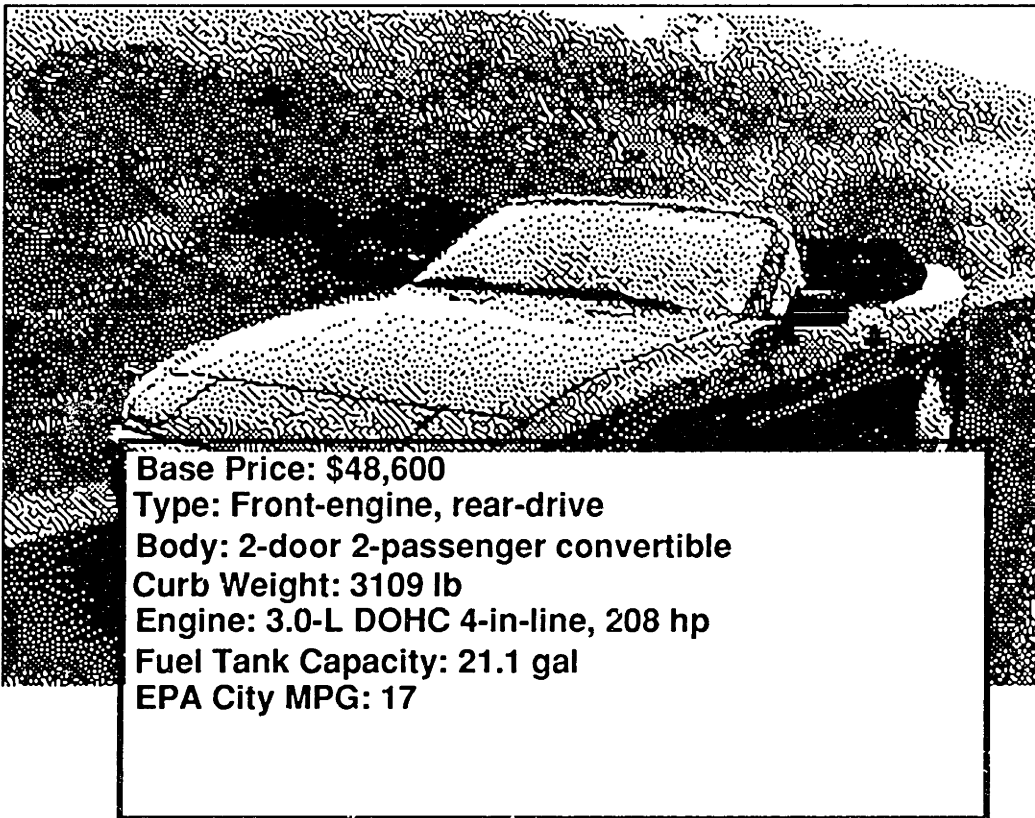


Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.27 - This screen appears only if the "Familiar" response box on Screen 8.27 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Porsche 944 Cabriolet

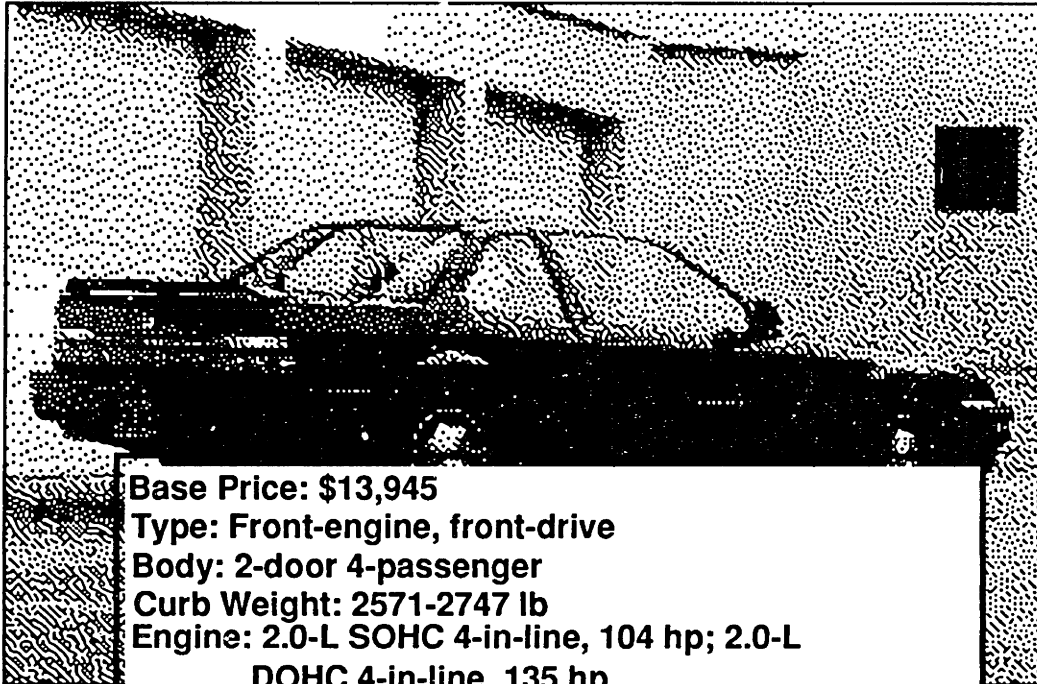


Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.28 - This screen appears only if the "Familiar" response box on Screen 8.28 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Honda Prelude



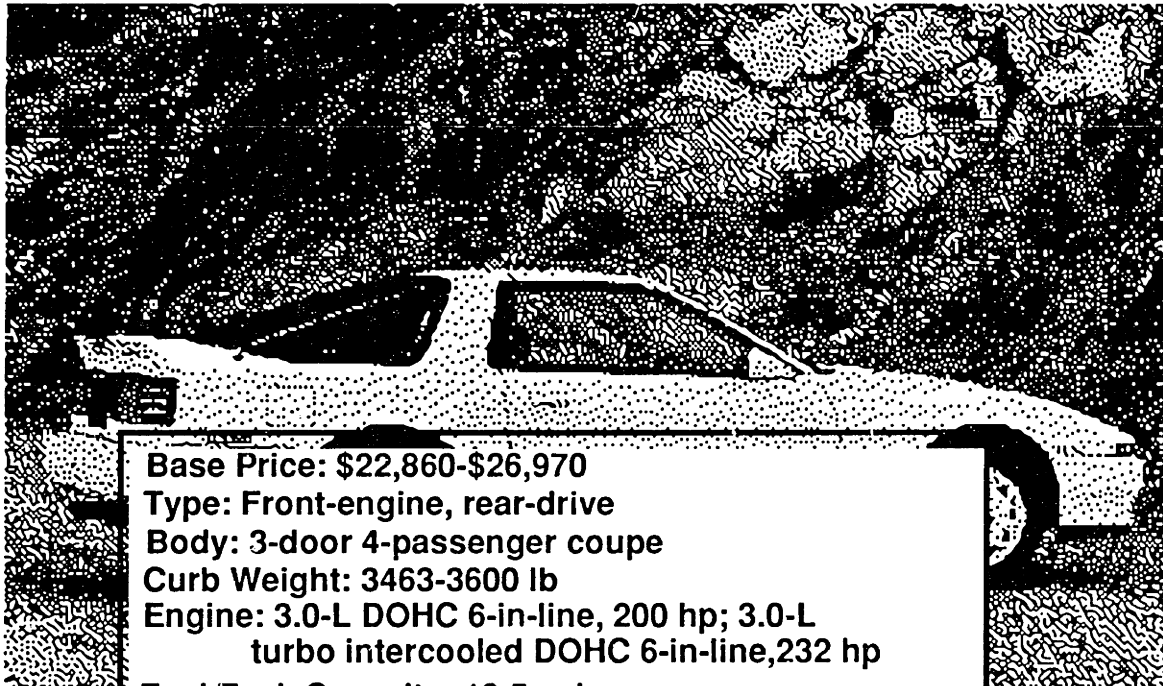
Base Price: \$13,945
Type: Front-engine, front-drive
Body: 2-door 4-passenger
Curb Weight: 2571-2747 lb
Engine: 2.0-L SOHC 4-in-line, 104 hp; 2.0-L
DOHC 4-in-line, 135 hp
Fuel Tank Capacity: 15.9 gal
EPA City MPG: 20-23

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.29 - This screen appears only if the "Familiar" response box on Screen 8.29 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Toyota Supra



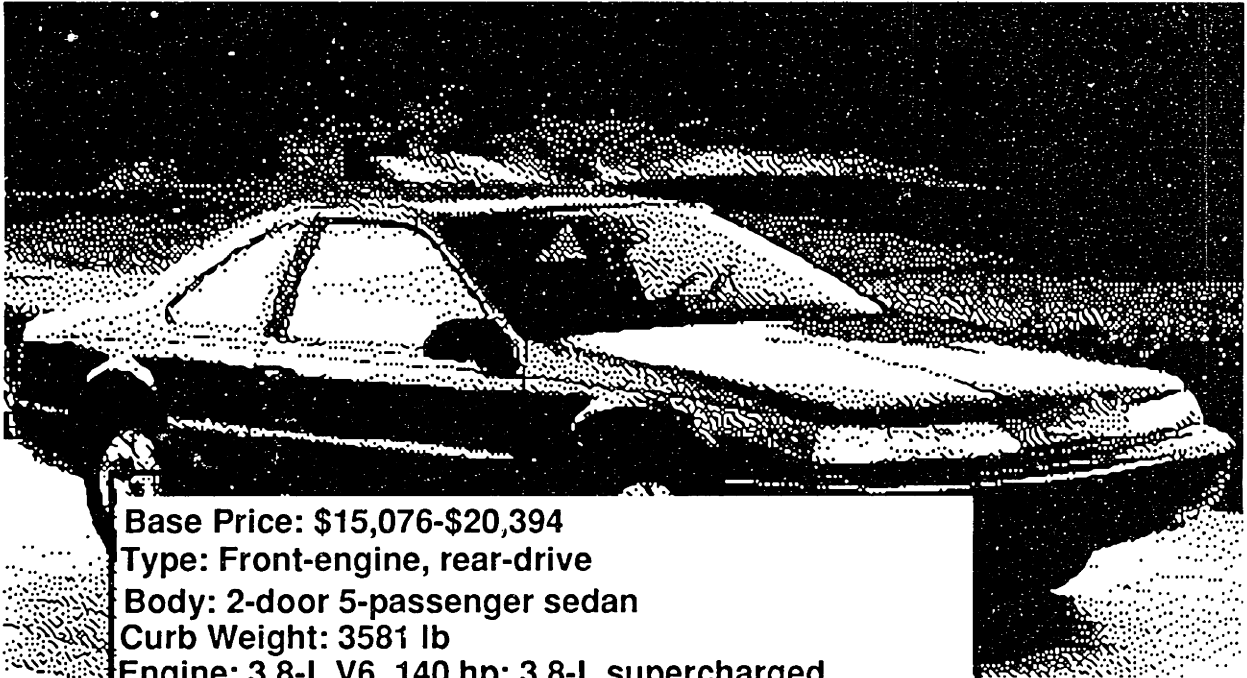
Base Price: \$22,860-\$26,970
Type: Front-engine, rear-drive
Body: 3-door 4-passenger coupe
Curb Weight: 3463-3600 lb
Engine: 3.0-L DOHC 6-in-line, 200 hp; 3.0-L
turbo intercooled DOHC 6-in-line, 232 hp
Fuel Tank Capacity: 18.5 gal
EPA City MPG: 17-18

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

Screen 10.30 - This screen appears only if the "Familiar" response box on Screen 8.30 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Ford Thunderbird



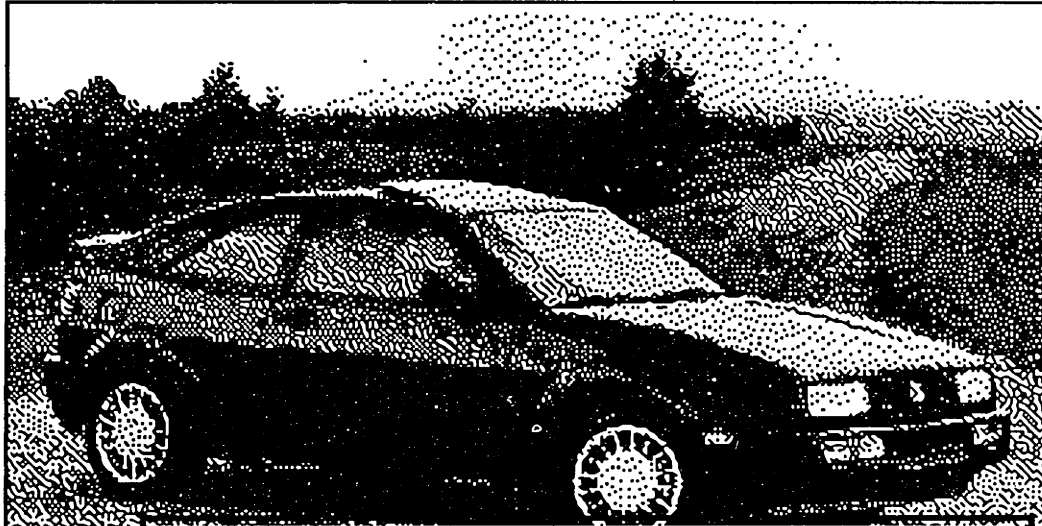
Base Price: \$15,076-\$20,394
Type: Front-engine, rear-drive
Body: 2-door 5-passenger sedan
Curb Weight: 3581 lb
Engine: 3.8-L V6, 140 hp; 3.8-L supercharged
intercooled V6, 210 hp
Fuel Tank Capacity: 19 gal
EPA City MPG: 17-19

Would you seriously consider
buying this automobile?

Info	Consider	Continue ➔
	Not Consider	

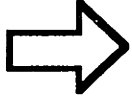
Screen 10.31 - This screen appears only if the "Familiar" response box on Screen 8.31 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

Volkswagon Corrado



Base Price: \$17,990
Type: Front-engine, front-drive
Body: 3-door 4-passenger coupe
Curb Weight: 2660 lb
Engine: 1.8-L supercharged intercooled SOHC
4-in-line, 158 hp
Fuel Tank Capacity: 14.5 gal
EPA City MPG: 21

Would you seriously consider
buying this automobile?

Info	Consider	Continue 
	Not Consider	

Screen 10.32 - This screen appears only if the "Familiar" response box on Screen 8.32 was clicked on. The response box highlights upon selection. The "Continue" box is shaded until a response box is selected.

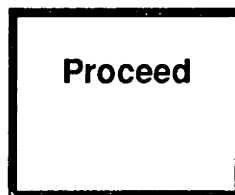
Each automobile you indicated as one you would seriously consider buying will be presented to you. Again, suppose you were going to be in the market for a sporty automobile the next time you buy a new car. Indicate how likely it is that you would buy each automobile by clicking on the scale provided, dragging the red marker, or clicking on the descriptive words alongside the scale. Please call the MIT student before continuing.

After responding, click on the box containing the word "Continue."

You may change your response by clicking on the scale provided, dragging the red marker, or clicking on the descriptive words alongside the scale.

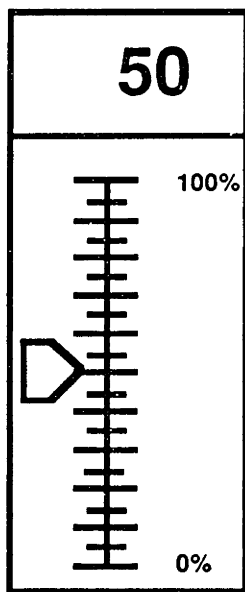
In addition, information about each automobile may be reviewed by clicking on the box containing the word "Infor."

Click the mouse on the box titled "Proceed" whenever you are ready to proceed with this task.



Screen 11 - A screen appears for each "Consider" vehicle. The picture of each vehicle is presented. In addition, the option exists to inspect basic information ("Info") about an automobile. This information appears on top of a portion of the automobile picture if selected for viewing. An administrator (MIT student) explains how to use the probability scale for responding. For demonstration purposes only one screen example is presented. The information available on Screen 12 is similar to that on Screen 10.

Honda Accord Coupe



Certain
Almost Sure
Very Probable
Probable
Good Chance
Fairly Good Chance
Fair Chance
Some Chance
Slight Chance
Very Slight Chance
No Chance

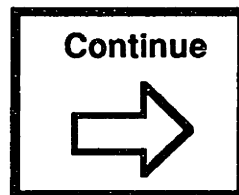
How likely would
you be to
buy this car?

Info		Continue ➔
------	--	---------------

Screen 12 - The probability scale appears initially as pictured. A response may be registered in one of three ways: 1) by clicking on a textual descriptor (e.g. Fairly Good Chance), 2) by clicking directly on the scale, or 3) by "dragging" the marker to the desired probability. The probability number selected appears at the top of the scale (e.g. 50).

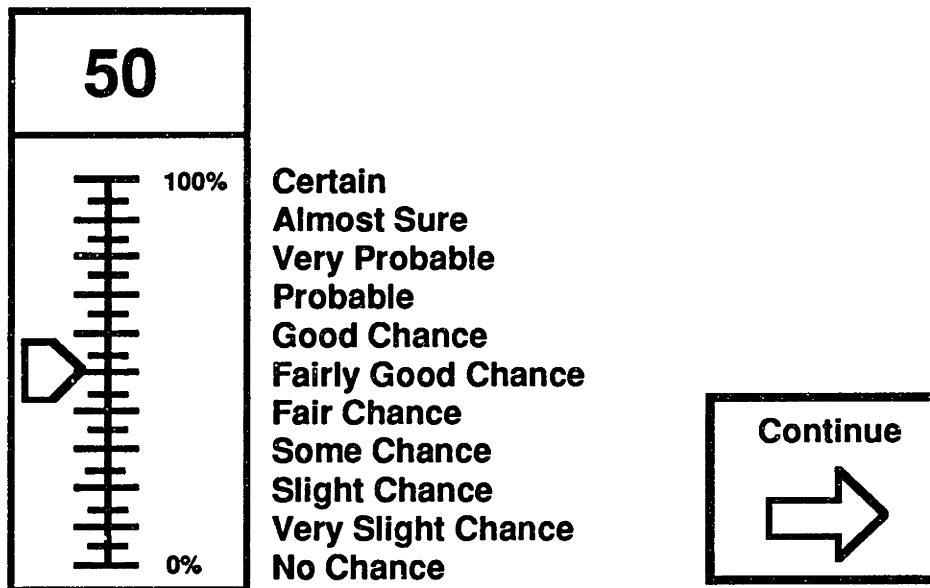
Are there any other sporty automobiles which were not listed here that you would seriously consider buying?

- Yes
- No



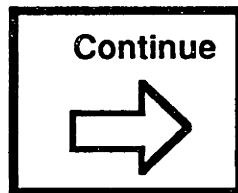
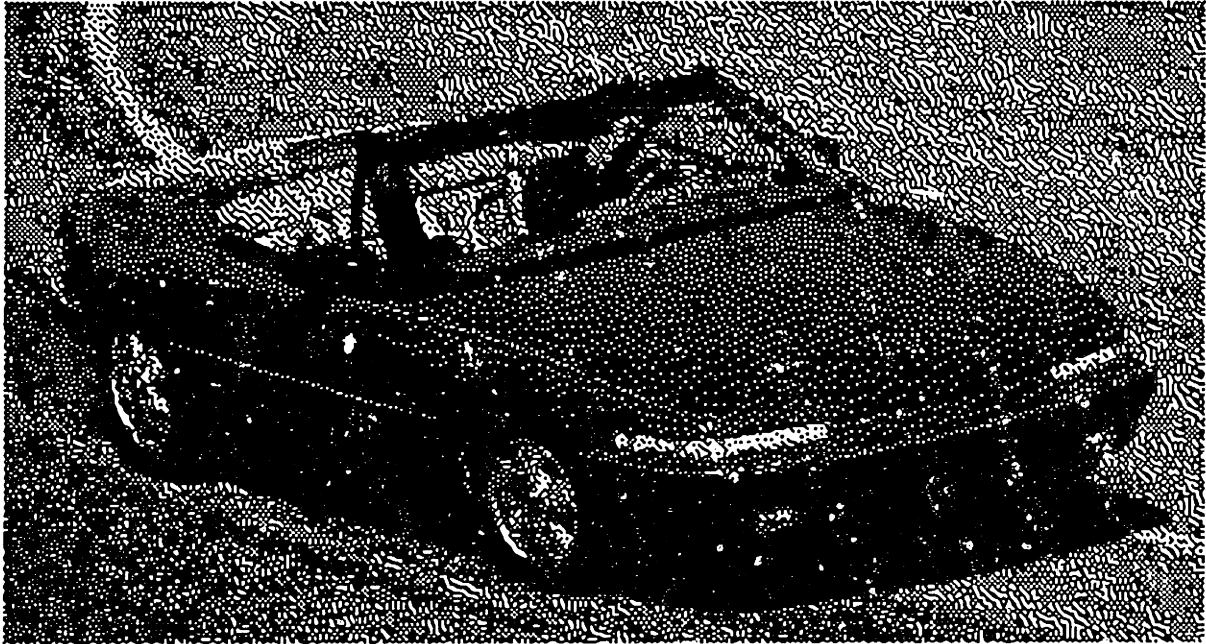
Screen 13 - In this study it was infeasible to present every vehicle available in the marketplace. This question provides the opportunity to register preference for any vehicle not presented.

Of these cars which you would seriously consider buying, how likely would you be to buy the one you most prefer?



Screen 14 - This screen appears only if the "Yes" response box was selected on Screen 13.

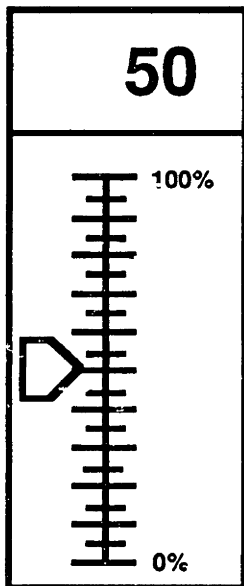
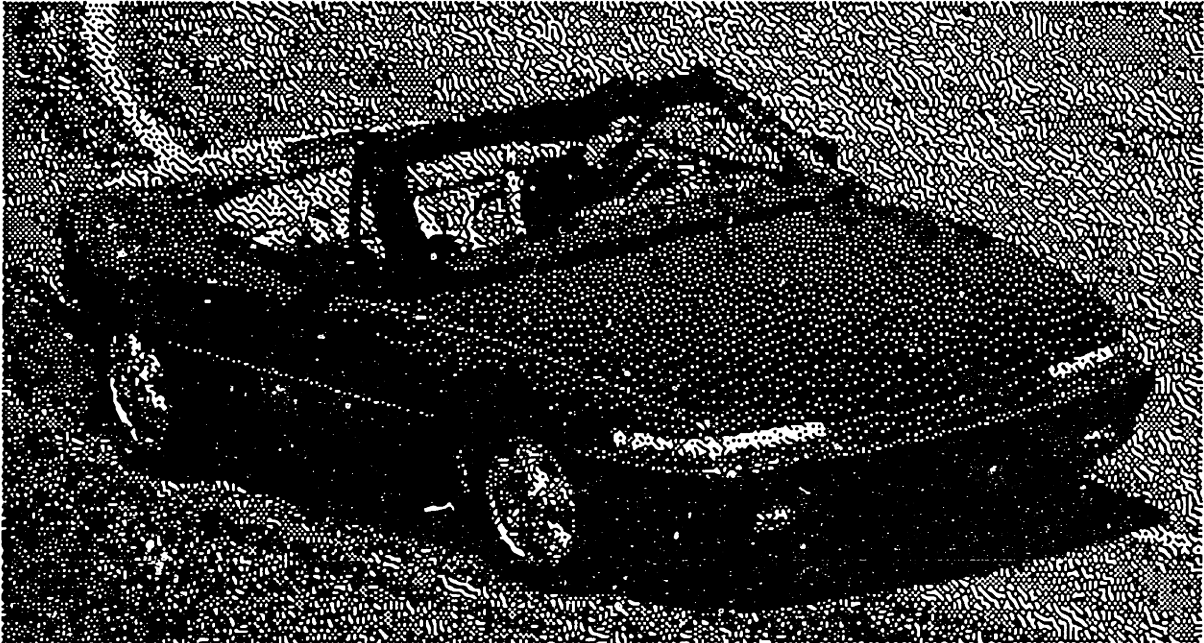
**This is the 1990 Buick Reatta Convertible
It has just been made available for sale.**



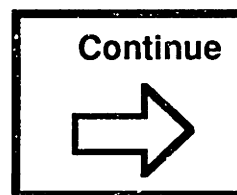
Screen 15 - New concept exposure.

Suppose you were going to be in the market for a sporty automobile the next time you buy a new car.

Given the information you have about the 1990 Buick Reatta Convertible, how likely would you be to buy this car?



Certain
Almost Sure
Very Probable
Probable
Good Chance
Fairly Good Chance
Fair Chance
Some Chance
Slight Chance
Very Slight Chance
No Chance

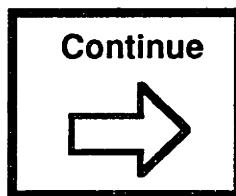


Screen 16 - After concept probability of purchase.

Additional information about the 1990 Buick Reatta Convertible is available to you on this computer search system. A menu of different sources providing information about the Buick Reatta Convertible will be made available to you. To use an information source, simply click on the appropriate box. If assistance is needed at any time, please feel free to call an attendant.

You have 13 minutes to seek information about this automobile. A timer in the upper right corner of the monitor will indicate how much of your allocated search time remains. The timer counts down only while you are using an information source.

Suppose you were going to be in the market for a car like the Buick Reatta Convertible. Search for information about this automobile to an extent you would search for information about any car you were trying to evaluate. You DO NOT have to use all of the allocated time. You should leave the computer search system when you feel you have searched enough about the 1990 Buick Reatta Convertible. Click on the box containing the word "Continue" to begin using the computer search system.



Screen 17 - Either 7, 10, or 13 minute search time allocations dependent upon actual prior search behavior (see Screens 4 and 5.1 - 5.8 and appendix C). The "Information Acceleration" stage is entered after clicking on "Continue" (starting with Screen 19).

Please Wait...

For the next part of the session, you will need to wear the headphones you will find next to the computer. Please put them on now.

Screen 18 - During the clinic four systems were running simultaneously in one room. It was important to minimize distractions and allow each subject to remain as focused as possible on the task at hand. Headphones (walkman type) were used to achieve this aim.

Time Left: 13:00

These are the sources of information available to you

Showroom Visit

**Average Time to Use
4 minutes**

Advertisements

**Average Time to Use
30 seconds per ad**

**Conversations with
People**

**Average Time to Use
2.5 minutes per person**

Magazine Articles

**Average Time to Use
1 minute per article**

Click on me to leave

Please click on the source you would like to use

Screen 19 - This is the "Main Menu" for information search. An information source is selected by clicking on the desired menu choice (box).

Time Left: 13:00

Television Ad

Television Ad

Magazine Ad

Newspaper Ad

**Exit to
Main
Menu**

Screen 20.1 - This screen appears if "Advertisements" from Screen 19 was selected. An advertisement is selected by clicking on the desired box. Return to the "Main Menu" by clicking on the "Exit to Main Menu" box.

Time Left: 13:00

Advertisement

Exit

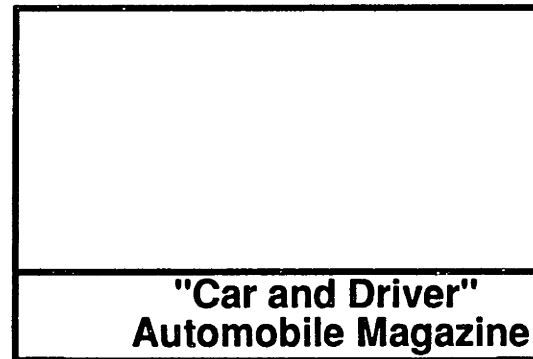
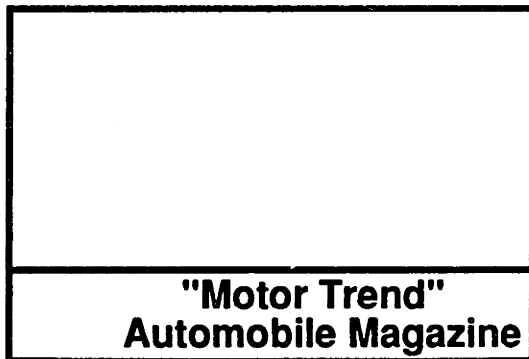
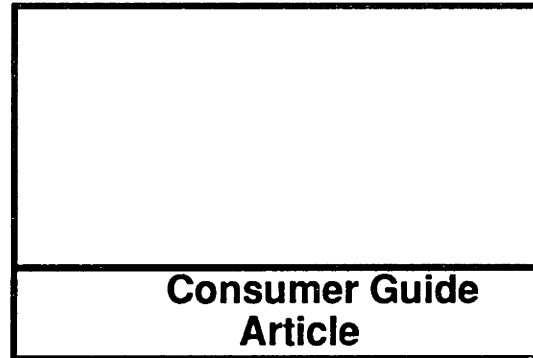
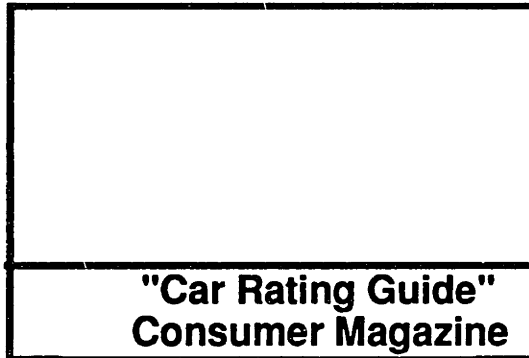
Screen 20.2 - The magazine or newspaper ad appears on this screen if "Magazine Ad" or "Newspaper Ad" were selected respectively on Screen 20.1. Return to the advertisement menu (Screen 20.1) by clicking on the "Exit" box. The clock is counting down during the showing of an ad.

Time Left: 13:00

STOP

Screen 20.3 - This screen appears if either of the "Television Ad" boxes from Screen 20.1 were selected. The television ad may be stopped at any time by clicking on the "STOP" box. The advertisement menu appears at the completion of the ad presentation (either normally or by user interrupt). The clock is counting down during the playing of a television ad.

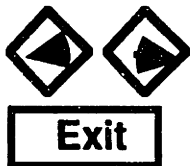
Time Left: 13:00



Screen 21.1 - This screen appears if "Magazine Articles" from Screen 19 is selected. Articles may be selected by clicking on the desired box. Return to the "Main Menu" by clicking on the "Exit to Main Menu" box.

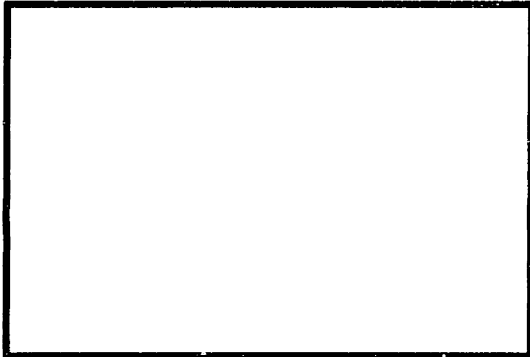
Time Left: 13:00

ARTICLE

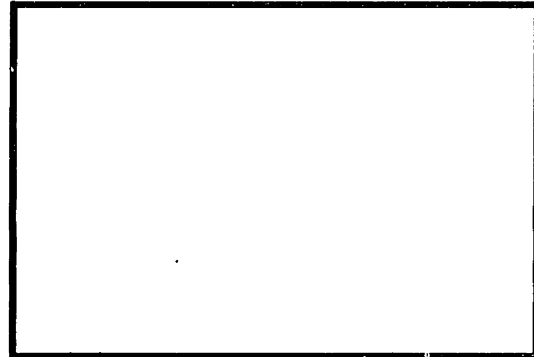


Screen 21.2 - The article selected from the articles menu (Screen 21.1) is presented on the screen one page at a time. An article greater than one page in length, may be paged through by clicking on the appropriate directional arrow box. Return to the articles menu by clicking on the "Exit" box. The clock is counting down during the reading of an article.

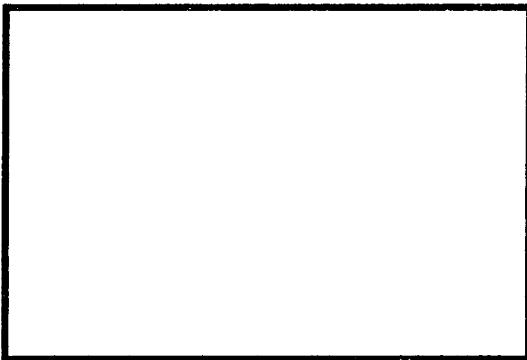
Time Left: 13:00



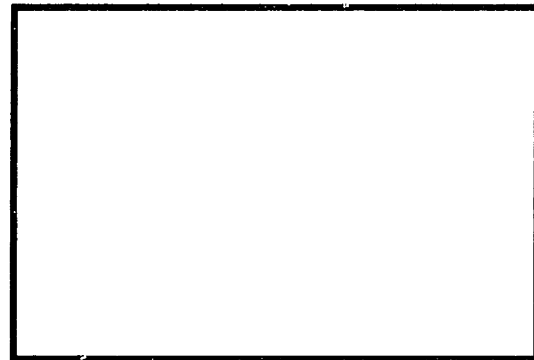
Age: 31
Drives: Toyota Celics
Annual Mileage: 10-15,000



Age: 59
Drives: Buick Park Avenue
Annual Mileage: 8-10,000



Age: 52
Drives: BMW 735i
Annual Mileage: 35-40,000



Age: 42
Drives: Volvo 740 GLE
Annual Mileage: 20-25,000

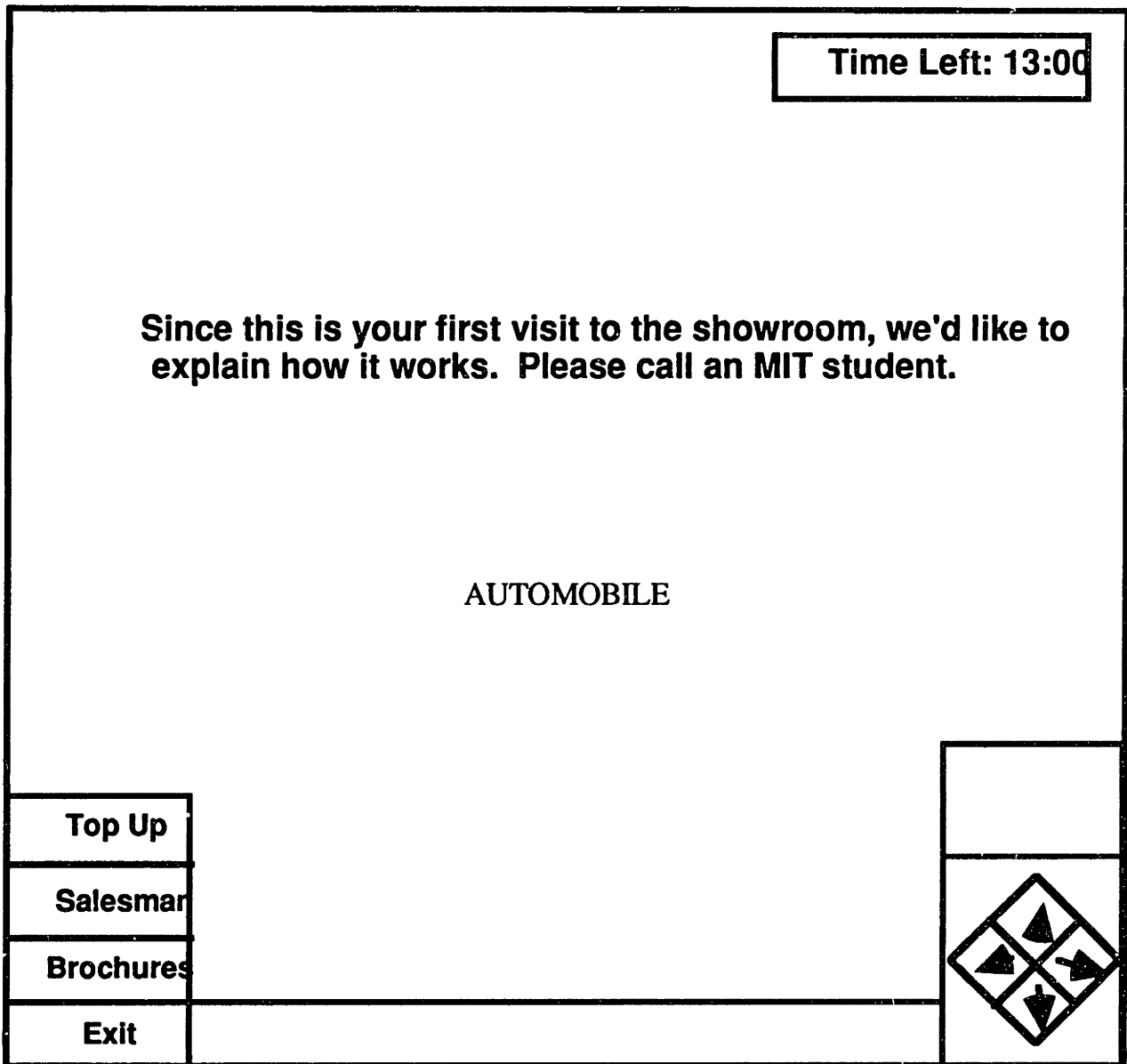
**Exit to
Main
Menu**

Screen 22.1 - This screen appears if "Conversation with People" from Screen 19 was selected. People for conversation are selected by clicking on the desired box. Return to the "Main Menu" by clicking on the "Exit to Main Menu" box.

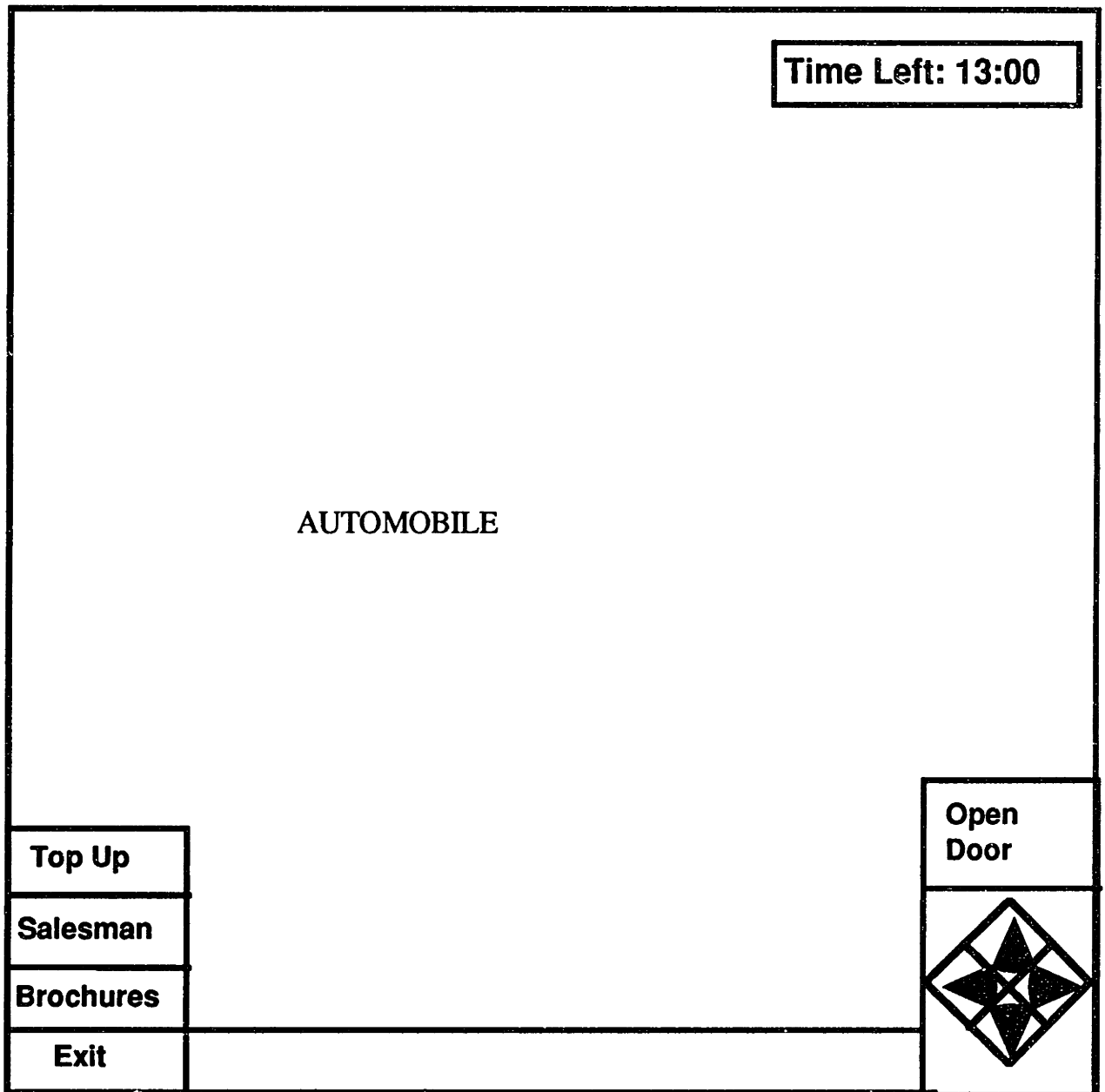
Time Left: 13:00

STOP

Screen 22.2 - This screen appears when any of the individuals from Screen 22.1 are selected. The conversation may be stopped at any time by clicking on the "STOP" box. The conversation menu (Screen 22.1) appears at the completion of the ad presentation (either normally or by user interrupt). The clock is counting down during the playing of a conversation.



Screen 23.1 - This screen appears if "Showroom Visit" from Screen 19 was selected. The administrator explains how to interact with the showroom and then activates the showroom by clicking on the right directional arrow. The clock begins counting down after this. Clicking on the directional arrows enables movement around, towards, or away from the automobile. Clicking on "Top Up" puts the top up on the automobile (the command "Top Down" would then appear in place of "Top Up."). Clicking on "Salesman" enables a conversation with a salesperson (the command "Car" would then appear in place of "Salesman." Clicking on "Car" would return to a mode of viewing the automobile.). Return to the "Main Menu" by clicking on the "Exit" box.

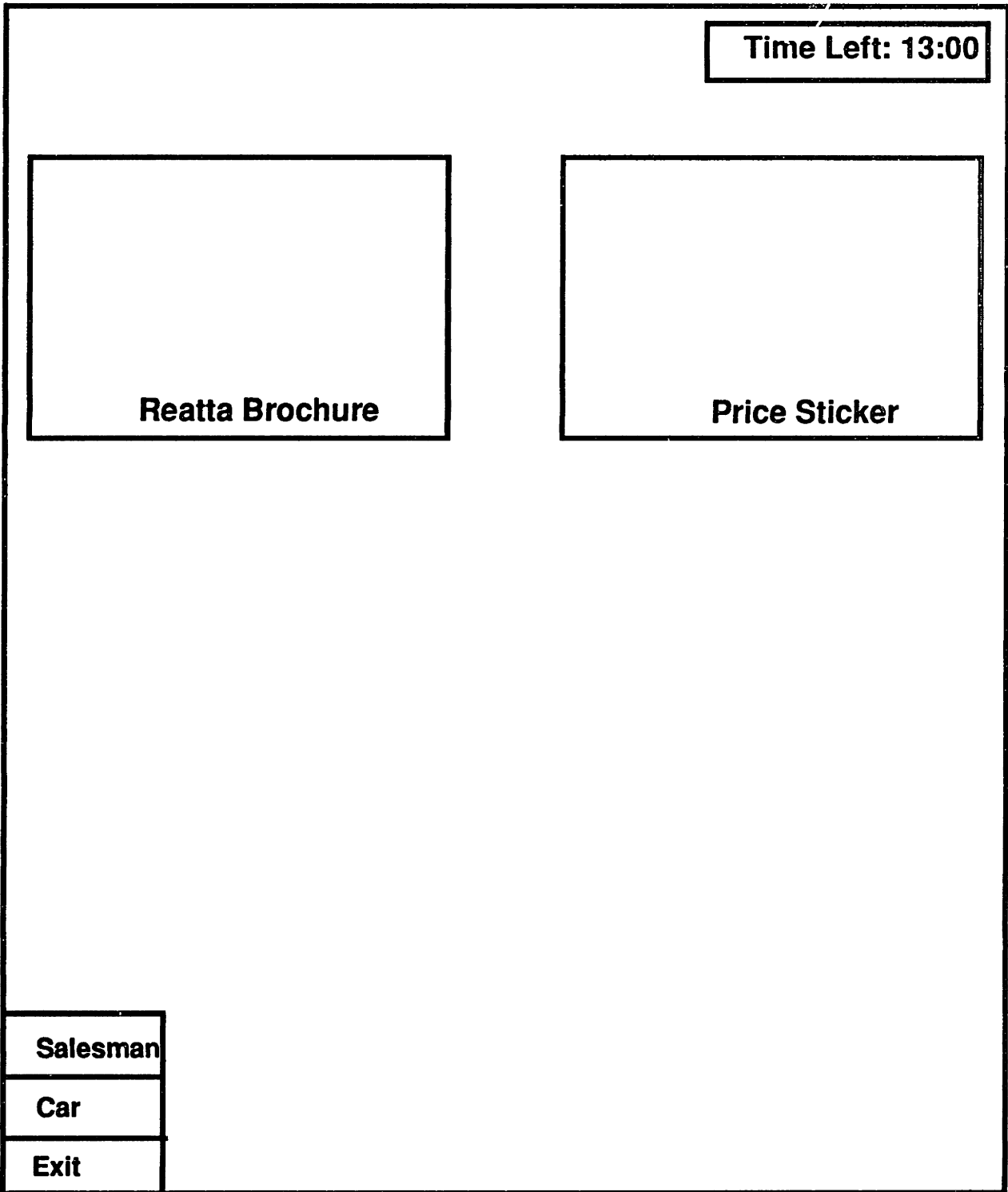


Screen 23.2 - The "Open Door" command appears above the directional arrows when approaching the driver- or passenger-side doors from outside the car. Get inside the car by clicking on "Open Door." The "Get Out" command appears above the directional arrows when approaching the doors from inside the car. Click on "Get Out" in order step out of the car. Similarly, when approaching the hood or trunk from outside or inside the car, the commands "Open Hood," "Close Hood," or "Open Trunk," "Close Trunk" respectively appear.

Time Left: 13:00

Car	Engine	Suspension	Safety	Warranty	Tilt Column	Finish	Anti Theft
Brochures	Brakes	Transmission	Mileage	Corrosion	Climate Control	Options	Conv Top
Exit		Steering	Pricing		Cruise Control	Auto sound	

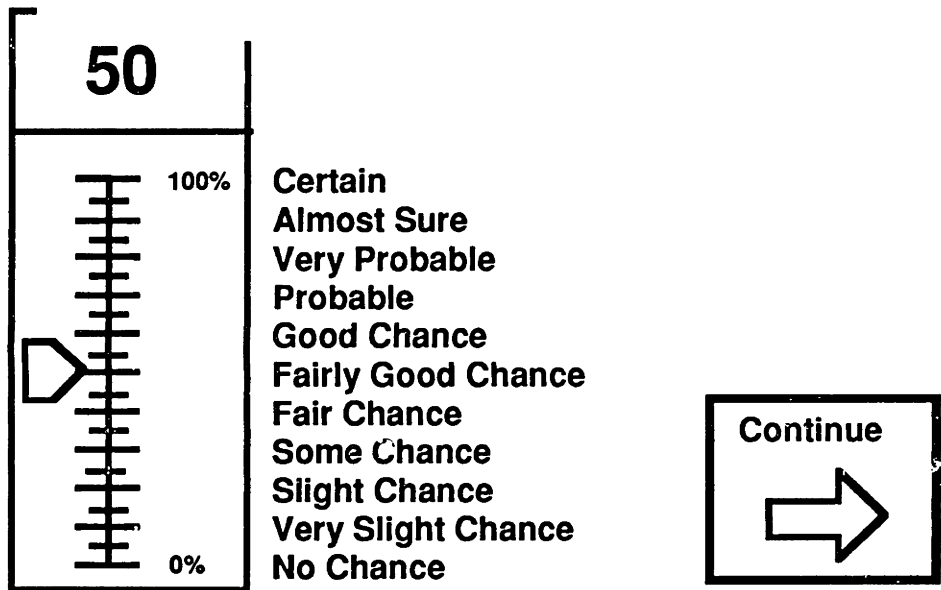
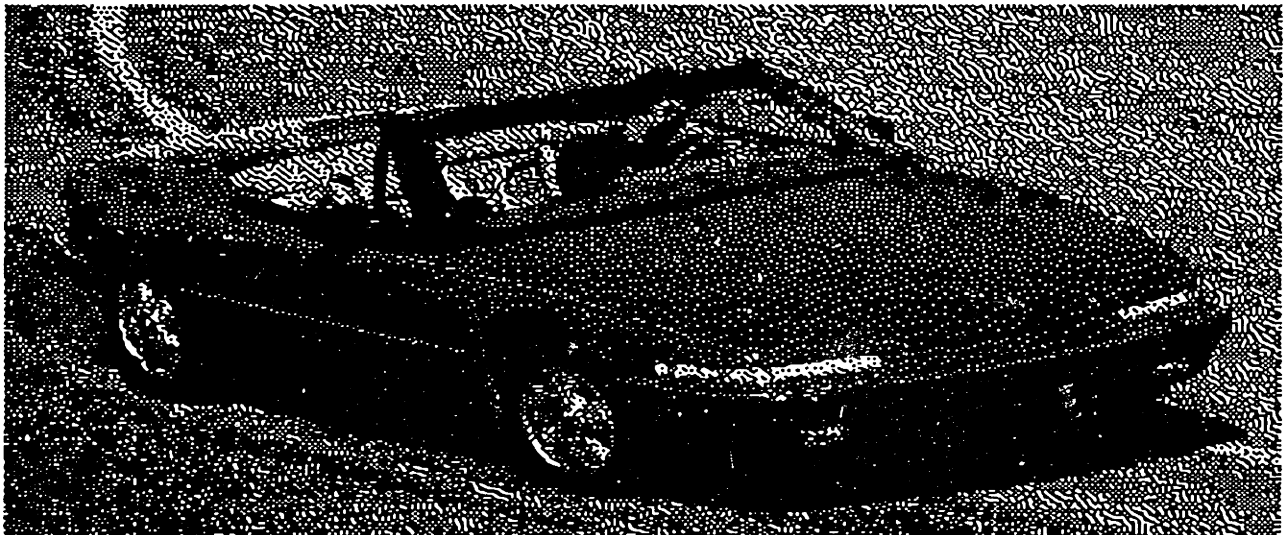
Screen 23.3 - This screen appears when "Salesman" on screens 23.1 or 23.2 is clicked on. The salesperson describes the feature when the associated command box is clicked on.



Screen 23.4 - This screen appears when "Brochures" on screens 23.1, 23.2, or 23.3 is clicked on. The brochure or price sticker may be viewed by clicking on "Reatta Brochure" or "Price Sticker" respectively

Time Left: 13:00

Given the information you have about the 1990 Buick Reatta Convertible and what you know about automobiles, if you would like to change how likely you are to buy the 1990 Buick Reatta Convertible, adjust the scale value by clicking on another value or by dragging the red pointer to another value; otherwise click on the box containing the word "Continue." If you adjust the scale value, click on the box containing the word "Continue" in order to return to the menu.



Screen 24 - This screen appears after exiting any information source in order to return to the "Main Menu. After clicking on "Continue," the "Main Menu" (Screen 19) appears.

Time Left: 13:00

These are the sources of information available to you

Showroom Visit

Advertisements

Are you sure you are done?

Yes

No

**Conversations with
People**

**Average Time to Use
2.5 minutes per person**

Magazine Articles

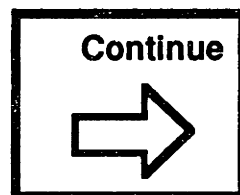
**Average Time to Use
1 minute per article**

Click on me to leave

Please click on the source you would like to use

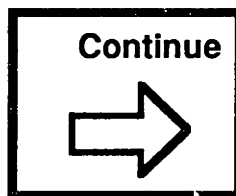
Screen 25 - This screen appears when clicking on the "Click on me to leave" command. Confirmation is requested for completing search in the event that the "Click on me to leave" command is selected inadvertently.

Sorry, but you seem to have run out of time. Please click on "Continue" to go on.



Screen 26 - This screen appears if the search time allocation runs down to zero. The next phase of the clinic commences after this (unless the showroom was not searched - see Screen 27).

You have randomly been selected to receive a "free" dealer showroom visit. You may spend as much or as little time as you desire in the showroom. Click on the box containing the word "Continue" to go to the dealer showroom.



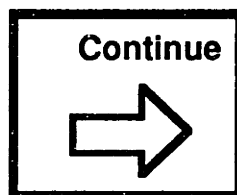
Screen 27 - This screen appears if the "Showroom Visit" has not been selected prior to completing search (either by choice or running out of time).

Please call the MIT student and he will escort you to the showroom.

Attendant: Please enter the amount of time the subject has left

Minutes:

Seconds:

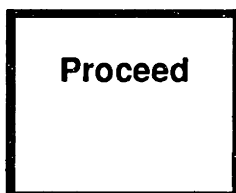


Screen 28 - This screen appears only when visiting the "Real" showroom (i.e. under the real showroom condition). After visiting the showroom, the administrator enters the amount of remaining search time (time spent searching in showroom subtracted from the remaining time allocation prior to visiting showroom) and then clicks on "Continue." Screen 24 appears next.

Each automobile for which you earlier indicated a likelihood of buying will be presented to you.

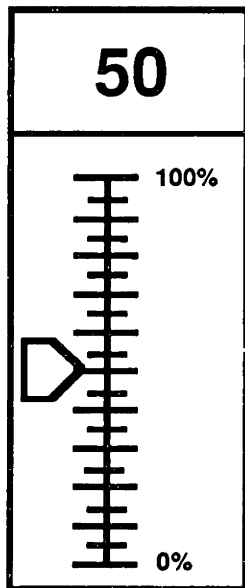
If you would like to change how likely you would be to buy the automobile, adjust the scale value by clicking on another value on the scale provided, dragging the red marker, or clicking on the descriptive words alongside the scale; otherwise, click on the box containing the word "Continue." If you adjust the scale value, click on the box containing the word "Continue" afterwards.

Click the mouse on the box marked "Proceed" to proceed with this task.



Screen 29

Honda Accord Coupe



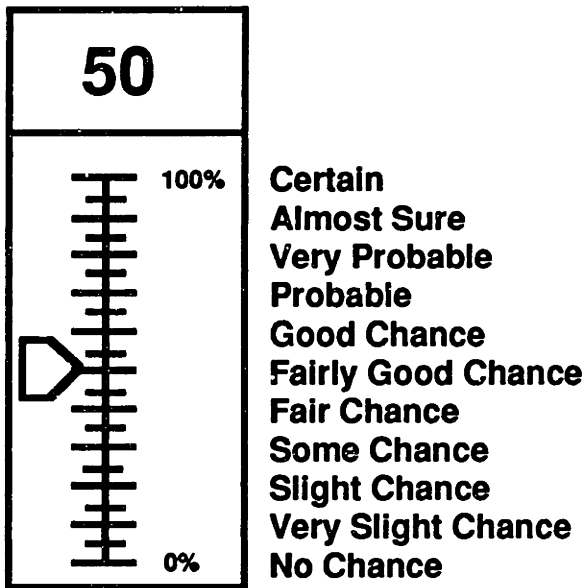
Certain
Almost Sure
Very Probable
Probable
Good Chance
Fairly Good Chance
Fair Chance
Some Chance
Slight Chance
Very Slight Chance
No Chance

If you would like to change how likely you would be to buy the automobile; adjust the scale value; otherwise, click on the box containing the word "Continue."

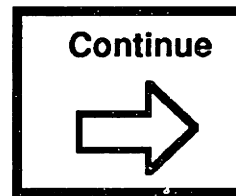
Info		Continue 
------	--	---

Screen 30 - This screen appears for each consideration set automobile that appeared on Screen 12.

Recall earlier when you said there were other automobiles you would seriously consider buying that were not listed. You indicated how likely you would be to buy the most preferred among these other cars.



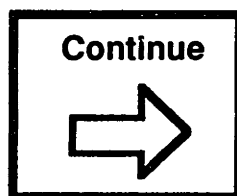
If you would like to change how likely you would be to buy the automobile; adjust the scale value; otherwise, click on the box containing the word "Continue."



Screen 31 - This screen appears if the "Yes" response box on Screen 13 was clicked on. The probability of purchase from Screen 14 may be modified on this screen..

How influential were the Television Advertisements on your evaluation of the 1990 Buick Reatta Convertible? If you did not use the source, please click on "Did Not Use It."

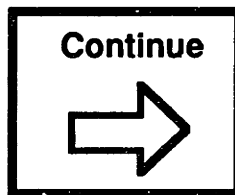
- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It



Screen 32

How influential were the Magazine Advertisements on your evaluation of the 1990 Buick Reatta Convertible? If you did not use the source, please click on "Did Not Use It."

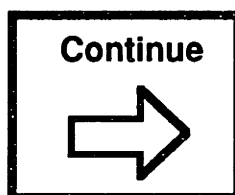
- 7 Extremely Influential**
- 6 Influential**
- 5 Somewhat Influential**
- 4 Neither Influential nor Uninfluential**
- 3 Somewhat Uninfluential**
- 2 Uninfluential**
- 1 Extremely Uninfluential**
- Did Not Use It**



Screen 33

How influential were the Newspaper Advertisements on your evaluation of the 1990 Buick Reatta Convertible? If you did not use the source, please click on "Did Not Use It."

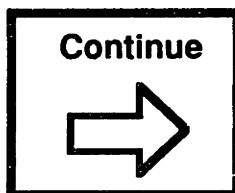
- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It



Screen 34

How influential were the Conversations With People on your evaluation of the 1990 Buick Reatta Convertible? If you did not use the source, please click on "Did Not Use It."

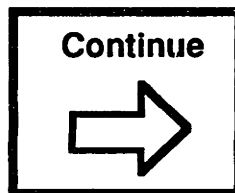
- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It



Screen 35

**How influential were the Showroom Visits
on your evaluation of the 1990 Buick Reatta Convertible? If you
did not use the source, please click on "Did Not Use It."**

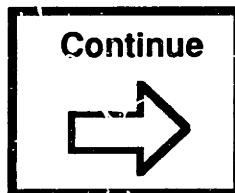
- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It



Screen 36

**How influential were the Automobile Salespersons
on your evaluation of the 1990 Buick Reatta Convertible? If you
did not use the source, please click on "Did Not Use It."**

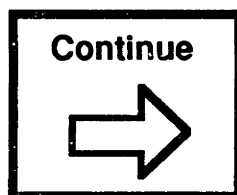
- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It



Screen 37

**How influential were the Manufacturer Brochures
on your evaluation of the 1990 Buick Reatta Convertible? If you
did not use the source, please click on "Did Not Use It."**

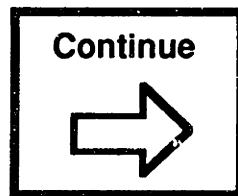
- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It



Screen 38

How influential were the Consumer Magazine Articles on your evaluation of the 1990 Buick Reatta Convertible? If you did not use the source, please click on "Did Not Use It."

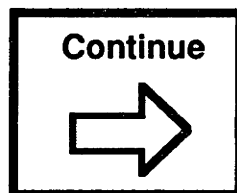
- 7 Extremely Influential**
- 6 Influential**
- 5 Somewhat Influential**
- 4 Neither Influential nor Uninfluential**
- 3 Somewhat Uninfluential**
- 2 Uninfluential**
- 1 Extremely Uninfluential**
- Did Not Use It**



Screen 39

How influential were the Automobile Magazine Articles on your evaluation of the 1990 Buick Reatta Convertible? If you did not use the source, please click on "Did Not Use It."

- 7 Extremely Influential
- 6 Influential
- 5 Somewhat Influential
- 4 Neither Influential nor Uninfluential
- 3 Somewhat Uninfluential
- 2 Uninfluential
- 1 Extremely Uninfluential
- Did Not Use It

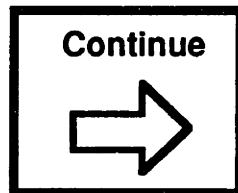


Screen 40

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The computer search system was easy to use

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

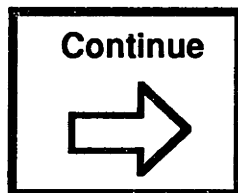


Screen 41

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The overall search experience was realistic

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

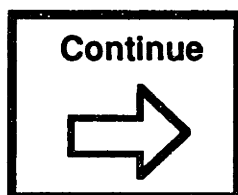


Screen 42

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The information provided was realistic

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

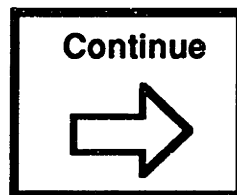


Screen 43

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The conversation sources were believable.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

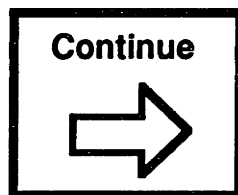


Screen 44

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The information provided was useful.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

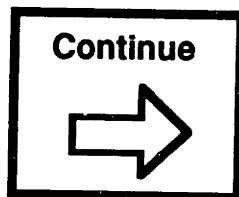


Screen 45

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The computer search system would be useful as a shopping tool.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

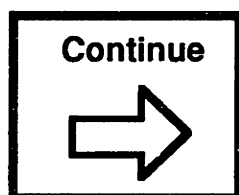


Screen 46

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

Enough search time was allocated to me.

- 7 Strongly Agree**
- 6 Agree**
- 5 Somewhat Agree**
- 4 Neither Agree nor Disagree**
- 3 Somewhat Disagree**
- 2 Disagree**
- 1 Extremely Disagree**

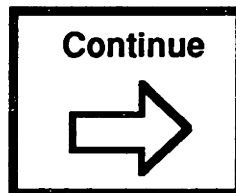


Screen 47

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The information provided by the showroom visit was useful.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

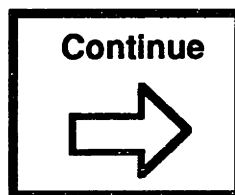


Screen 48

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

The information provided by the conversation sources was positive.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

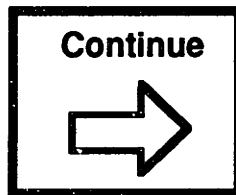


Screen 49

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

I am knowledgeable about automobiles.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

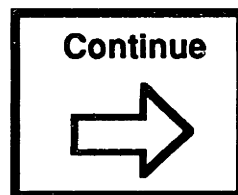


Screen 50

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

I enjoy shopping for a new automobile.

- 7 Strongly Agree**
- 6 Agree**
- 5 Somewhat Agree**
- 4 Neither Agree nor Disagree**
- 3 Somewhat Disagree**
- 2 Disagree**
- 1 Extremely Disagree**

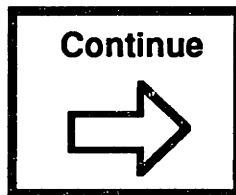


Screen 51

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

I keep up to date on the latest new car introductions.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree

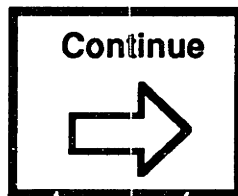


Screen 52

Indicate the extent to which you agree or disagree with the following statement about the computer search system.

I am an expert on automobiles.

- 7 Strongly Agree
- 6 Agree
- 5 Somewhat Agree
- 4 Neither Agree nor Disagree
- 3 Somewhat Disagree
- 2 Disagree
- 1 Extremely Disagree



Screen 53

On average, how many hours do you drive per week?

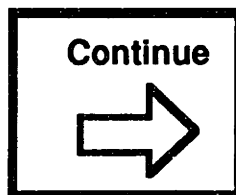
- less than 7 7-13 14-20 21-27 more than 27

On average, how many miles do you drive per year?

- less than 12,000 12,000-23,999 24,000-35,999 more than 35,999

On average, how many automobile magazines do you read per month?

- less than 1 1 2 3 4 more than 4



Screen 54

On average, how many automobile articles from publications other than automobile magazines (e.g. newspaper, consumer magazines) do you read per month?

- less than 1 1 2 3 4 more than 4

What is your gender?

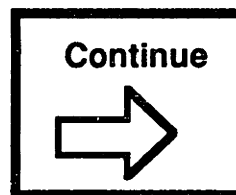
- Male Female

What is your marital status?

- Married Single

What is your age?

- less than 25 25-34 35-44 45-54 55-64
- more than 64



Screen 55 - The "Continue" box appears when this screen appears indicating that it is possible to continue on to the next screen without responding to the questions. The intent is to respect subject privacy and anonymity to the greatest extent.

What is your annual income?

- less than \$20,000 \$20,000-\$39,999 \$40,000-\$59,999
 \$60,000-\$79,999 \$80,000-\$99,999 more than \$99,999

What is the highest educational level you have obtained?

- high school some college undergraduate degree
 graduate degree



Screen 56 - The "Continue" box appears when this screen appears indicating that it is possible to continue on to the next screen without responding to the questions. The intent is to respect subject privacy and anonymity to the greatest extent.

**Thank you for participating in the new product evaluation study.
Please call the MIT student to indicate that you have completed
your participation**



Screen 57

Appendix E

Database

Respondent identifier

Presourpurchase intent (valid raneg 0 - 100; otherwise missing)

Postsource purchase intent (valid raneg 0 - 100; otherwise missing)

Firstsource Searched (1 = showroom, 2 = interviews, 3 = articles, 4 = ads, -9 = missing, 0 = not applicable)

Second source searched (1 = showroom, 2 = interviews, 3 = articles, 4 = ads, -9 = missing, 0 = not applicable)

Third source searched (1 = showroom, 2 = interviews, 3 = articles, 4 = ads, -9 = missing, 0 = not applicable)

Fourth source searched (1 = showroom, 2 = interviews, 3 = articles, 4 = ads, -9 = missing, 0 = not applicable)

Fifth source searched (1 = showroom, 2 = interviews, 3 = articles, 4 = ads, -9 = missing, 0 = not applicable)

Sixth source searched (1 = showroom, 2 = interviews, 3 = articles, 4 = ads, -9 = missing, 0 = not applicable)

Time allocation

61.00	52.00	60.00	2.00	1.00	3.00	.00	.00
.00	1020.00						
61.00	60.00	70.00	2.00	1.00	3.00	.00	.00
.00	1020.00						
61.00	70.00	71.00	2.00	1.00	3.00	.00	.00
.00	1020.00						
62.00	.00	.00	3.00	2.00	1.00	4.00	.00
.00	720.00						
62.00	.00	5.00	3.00	2.00	1.00	4.00	.00
.00	720.00						
62.00	5.00	5.00	3.00	2.00	1.00	4.00	.00
.00	720.00						
62.00	5.00	5.00	3.00	2.00	1.00	4.00	.00
.00	720.00						
63.00	2.00	2.00	3.00	1.00	.00	.00	.00
.00	1020.00						
63.00	2.00	18.00	3.00	1.00	.00	.00	.00
.00	1020.00						
64.00	31.00	31.00	1.00	2.00	1.00	3.00	.00
.00	1020.00						

64.00	31.00	31.00	1.00	2.00	1.00	3.00	.00
.00	1020.00						
64.00	31.00	31.00	1.00	2.00	1.00	3.00	.00
.00	1020.00						
64.00	31.00	31.00	1.00	2.00	1.00	3.00	.00
.00	1020.00						
65.00	71.00	61.00	2.00	1.00	.00	.00	.00
.00	1020.00						
65.00	61.00	81.00	2.00	1.00	.00	.00	.00
.00	1020.00						
66.00	57.00	57.00	1.00	2.00	4.00	.00	.00
.00	1020.00						
66.00	57.00	57.00	1.00	2.00	4.00	.00	.00
.00	1020.00						
66.00	57.00	57.00	1.00	2.00	4.00	.00	.00
.00	1020.00						
67.00	24.00	24.00	2.00	3.00	1.00	.00	.00
.00	1020.00						
67.00	24.00	24.00	2.00	3.00	1.00	.00	.00
.00	1020.00						
67.00	24.00	24.00	2.00	3.00	1.00	.00	.00
.00	1020.00						
68.00	10.00	19.00	4.00	2.00	1.00	.00	.00
.00	480.00						
68.00	19.00	19.00	4.00	2.00	1.00	.00	.00
.00	480.00						
68.00	19.00	19.00	4.00	2.00	1.00	.00	.00
.00	480.00						
69.00	.00	22.00	1.00	2.00	3.00	3.00	4.00
.00	1080.00						
69.00	22.00	22.00	1.00	2.00	3.00	3.00	4.00
.00	1080.00						
69.00	22.00	22.00	1.00	2.00	3.00	3.00	4.00
.00	1080.00						
69.00	22.00	22.00	1.00	2.00	3.00	3.00	4.00
.00	1080.00						
69.00	22.00	32.00	1.00	2.00	3.00	3.00	4.00
.00	1080.00						
71.00	63.00	54.00	1.00	2.00	3.00	4.00	.00
.00	780.00						
71.00	54.00	54.00	1.00	2.00	3.00	4.00	.00
.00	780.00						
71.00	54.00	53.00	1.00	2.00	3.00	4.00	.00

.00	780.00						
71.00	53.00	53.00	1.00	2.00	3.00	4.00	.00
.00	780.00						
72.00	43.00	43.00	2.00	1.00	3.00	.00	.00
.00	420.00						
72.00	43.00	43.00	2.00	1.00	3.00	.00	.00
.00	420.00						
72.00	43.00	43.00	2.00	1.00	3.00	.00	.00
.00	420.00						
73.00	1.00	10.00	3.00	2.00	1.00	4.00	.00
.00	420.00						
73.00	10.00	10.00	3.00	2.00	1.00	4.00	.00
.00	420.00						
73.00	10.00	5.00	3.00	2.00	1.00	4.00	.00
.00	420.00						
73.00	5.00	5.00	3.00	2.00	1.00	4.00	.00
.00	420.00						
74.00	29.00	1.00	1.00	.00	.00	.00	.00
.00	420.00						
77.00	68.00	48.00	2.00	3.00	1.00	4.00	2.00
.00	600.00						
77.00	48.00	42.00	2.00	3.00	1.00	4.00	2.00
.00	600.00						
77.00	42.00	46.00	2.00	3.00	1.00	4.00	2.00
.00	600.00						
77.00	46.00	46.00	2.00	3.00	1.00	4.00	2.00
.00	600.00						
77.00	46.00	46.00	2.00	3.00	1.00	4.00	2.00
.00	600.00						
78.00	24.00	62.00	2.00	3.00	1.00	.00	.00
.00	780.00						
78.00	62.00	52.00	2.00	3.00	1.00	.00	.00
.00	780.00						
78.00	52.00	52.00	2.00	3.00	1.00	.00	.00
.00	780.00						
79.00	41.00	41.00	1.00	4.00	2.00	.00	.00
.00	420.00						
79.00	41.00	41.00	1.00	4.00	2.00	.00	.00
.00	420.00						
79.00	41.00	41.00	1.00	4.00	2.00	.00	.00
.00	420.00						
81.00	11.00	34.00	1.00	.00	.00	.00	.00
.00	780.00						

82.00	11.00	11.00	1.00	2.00	3.00	.00	.00
.00	420.00						
82.00	11.00	11.00	1.00	2.00	3.00	.00	.00
.00	420.00						
82.00	11.00	21.00	1.00	2.00	3.00	.00	.00
.00	420.00						
83.00	23.00	23.00	4.00	2.00	3.00	1.00	.00
.00	780.00						
83.00	23.00	23.00	4.00	2.00	3.00	1.00	.00
.00	780.00						
83.00	23.00	34.00	4.00	2.00	3.00	1.00	.00
.00	780.00						
83.00	34.00	34.00	4.00	2.00	3.00	1.00	.00
.00	780.00						
84.00	34.00	34.00	2.00	1.00	3.00	.00	.00
.00	600.00						
84.00	34.00	50.00	2.00	1.00	3.00	.00	.00
.00	600.00						
84.00	50.00	4.00	2.00	1.00	3.00	.00	.00
.00	600.00						
85.00	61.00	29.00	2.00	1.00	3.00	.00	.00
.00	780.00						
85.00	29.00	46.00	2.00	1.00	3.00	.00	.00
.00	780.00						
85.00	46.00	59.00	2.00	1.00	3.00	.00	.00
.00	780.00						
86.00	12.00	20.00	2.00	1.00	.00	.00	.00
.00	420.00						
86.00	20.00	20.00	2.00	1.00	.00	.00	.00
.00	420.00						
87.00	12.00	14.00	2.00	1.00	.00	.00	.00
.00	420.00						
87.00	14.00	23.00	2.00	1.00	.00	.00	.00
.00	420.00						
88.00	.00	.00	1.00	.00	.00	.00	.00
.00	420.00						
89.00	31.00	31.00	3.00	1.00	.00	.00	.00
.00	420.00						
89.00	31.00	31.00	3.00	1.00	.00	.00	.00
.00	420.00						
91.00	62.00	34.00	1.00	4.00	2.00	.00	.00
.00	420.00						
91.00	34.00	34.00	1.00	4.00	2.00	.00	.00

.00	420.00						
91.00	34.00	34.00	1.00	4.00	2.00	.00	.00
.00	420.00						
92.00	43.00	43.00	3.00	1.00	.00	.00	.00
.00	420.00						
92.00	43.00	48.00	3.00	1.00	.00	.00	.00
.00	420.00						
93.00	88.00	76.00	1.00	.00	.00	.00	.00
.00	420.00						
94.00	39.00	39.00	1.00	4.00	.00	.00	.00
.00	420.00						
94.00	39.00	39.00	1.00	4.00	.00	.00	.00
.00	420.00						
95.00	18.00	30.00	2.00	3.00	1.00	.00	.00
.00	420.00						
95.00	30.00	33.00	2.00	3.00	1.00	.00	.00
.00	420.00						
95.00	33.00	33.00	2.00	3.00	1.00	.00	.00
.00	420.00						
96.00	21.00	80.00	1.00	3.00	2.00	.00	.00
.00	780.00						
96.00	80.00	70.00	1.00	3.00	2.00	.00	.00
.00	780.00						
96.00	70.00	70.00	1.00	3.00	2.00	.00	.00
.00	780.00						
97.00	25.00	25.00	4.00	1.00	.00	.00	.00
.00	600.00						
97.00	25.00	25.00	4.00	1.00	.00	.00	.00
.00	600.00						
98.00	11.00	25.00	1.00	4.00	3.00	2.00	2.00
.00	420.00						
98.00	25.00	25.00	1.00	4.00	3.00	2.00	2.00
.00	420.00						
98.00	25.00	25.00	1.00	4.00	3.00	2.00	2.00
.00	420.00						
98.00	25.00	25.00	1.00	4.00	3.00	2.00	2.00
.00	420.00						
98.00	25.00	25.00	1.00	4.00	3.00	2.00	2.00
.00	420.00						
99.00	19.00	.00	3.00	2.00	1.00	4.00	2.00
3.00	780.00						
99.00	.00	.00	3.00	2.00	1.00	4.00	2.00
3.00	780.00						

99.00	.00	.00	3.00	2.00	1.00	4.00	2.00
3.00	780.00						
99.00	.00	.00	3.00	2.00	1.00	4.00	2.00
3.00	780.00						
99.00	.00	.00	3.00	2.00	1.00	4.00	2.00
3.00	780.00						
99.00	.00	.00	3.00	2.00	1.00	4.00	2.00
3.00	780.00						
610.00	50.00	66.00	2.00	1.00	3.00	.00	.00
.00	1080.00						
610.00	66.00	40.00	2.00	1.00	3.00	.00	.00
.00	1080.00						
610.00	40.00	32.00	2.00	1.00	3.00	.00	.00
.00	1080.00						
611.00	50.00	50.00	4.00	1.00	.00	.00	.00
.00	360.00						
611.00	50.00	30.00	4.00	1.00	.00	.00	.00
.00	360.00						
612.00	19.00	1.00	1.00	.00	.00	.00	.00
.00	360.00						
613.00	29.00	29.00	2.00	2.00	4.00	3.00	1.00
3.00	720.00						
613.00	29.00	29.00	2.00	2.00	4.00	3.00	1.00
3.00	720.00						
613.00	29.00	29.00	2.00	2.00	4.00	3.00	1.00
3.00	720.00						
613.00	29.00	29.00	2.00	2.00	4.00	3.00	1.00
3.00	720.00						
613.00	29.00	29.00	2.00	2.00	4.00	3.00	1.00
3.00	720.00						
613.00	29.00	13.00	2.00	2.00	4.00	3.00	1.00
3.00	720.00						
614.00	.00	.00	1.00	.00	.00	.00	.00
.00	720.00						
615.00	78.00	40.00	3.00	1.00	.00	.00	.00
.00	720.00						
615.00	40.00	40.00	3.00	1.00	.00	.00	.00
.00	720.00						
616.00	50.00	50.00	1.00	2.00	3.00	4.00	1.00
.00	720.00						
616.00	50.00	50.00	1.00	2.00	3.00	4.00	1.00
.00	720.00						
616.00	50.00	54.00	1.00	2.00	3.00	4.00	1.00

.00	720.00						
616.00	54.00	54.00	1.00	2.00	3.00	4.00	1.00
.00	720.00						
616.00	54.00	54.00	1.00	2.00	3.00	4.00	1.00
.00	720.00						
617.00	.00	.00	1.00	.00	.00	.00	.00
.00	720.00						
618.00	59.00	59.00	3.00	2.00	1.00	4.00	.00
.00	1320.00						
618.00	59.00	59.00	3.00	2.00	1.00	4.00	.00
.00	1320.00						
618.00	59.00	59.00	3.00	2.00	1.00	4.00	.00
.00	1320.00						
618.00	59.00	59.00	3.00	2.00	1.00	4.00	.00
.00	1320.00						
619.00	32.00	32.00	2.00	1.00	.00	.00	.00
.00	780.00						
619.00	32.00	32.00	2.00	1.00	.00	.00	.00
.00	780.00						
620.00	77.00	77.00	3.00	4.00	2.00	1.00	1.00
.00	780.00						
620.00	77.00	77.00	3.00	4.00	2.00	1.00	1.00
.00	780.00						
620.00	77.00	77.00	3.00	4.00	2.00	1.00	1.00
.00	780.00						
620.00	77.00	77.00	3.00	4.00	2.00	1.00	1.00
.00	780.00						
620.00	77.00	77.00	3.00	4.00	2.00	1.00	1.00
.00	780.00						
621.00	50.00	54.00	1.00	3.00	2.00	4.00	.00
.00	1080.00						
621.00	54.00	58.00	1.00	3.00	2.00	4.00	.00
.00	1080.00						
621.00	58.00	45.00	1.00	3.00	2.00	4.00	.00
.00	1080.00						
621.00	45.00	57.00	1.00	3.00	2.00	4.00	.00
.00	1080.00						
622.00	4.00	4.00	1.00	2.00	.00	.00	.00
.00	480.00						
622.00	4.00	4.00	1.00	2.00	.00	.00	.00
.00	480.00						
623.00	28.00	10.00	3.00	2.00	1.00	.00	.00
.00	360.00						

623.00	10.00	22.00	3.00	2.00	1.00	.00	.00
.00	360.00						
623.00	22.00	22.00	3.00	2.00	1.00	.00	.00
.00	360.00						
624.00	6.00	33.00	3.00	1.00	.00	.00	.00
.00	360.00						
624.00	33.00	33.00	3.00	1.00	.00	.00	.00
.00	360.00						
625.00	23.00	23.00	2.00	3.00	4.00	2.00	1.00
.00	540.00						
625.00	23.00	43.00	2.00	3.00	4.00	2.00	1.00
.00	540.00						
625.00	43.00	43.00	2.00	3.00	4.00	2.00	1.00
.00	540.00						
625.00	43.00	43.00	2.00	3.00	4.00	2.00	1.00
.00	540.00						
625.00	43.00	43.00	2.00	3.00	4.00	2.00	1.00
.00	540.00						
626.00	69.00	69.00	2.00	4.00	3.00	1.00	.00
.00	540.00						
626.00	69.00	69.00	2.00	4.00	3.00	1.00	.00
.00	540.00						
626.00	69.00	69.00	2.00	4.00	3.00	1.00	.00
.00	540.00						
626.00	69.00	69.00	2.00	4.00	3.00	1.00	.00
.00	540.00						
631.00	20.00	.00	1.00	.00	.00	.00	.00
.00	420.00						
632.00	22.00	.00	3.00	1.00	2.00	.00	.00
.00	420.00						
632.00	.00	.00	3.00	1.00	2.00	.00	.00
.00	420.00						
632.00	.00	.00	3.00	1.00	2.00	.00	.00
.00	420.00						
633.00	1.00	1.00	1.00	3.00	.00	.00	.00
.00	420.00						
633.00	1.00	1.00	1.00	3.00	.00	.00	.00
.00	420.00						
634.00	55.00	55.00	3.00	2.00	1.00	.00	.00
.00	420.00						
634.00	55.00	55.00	3.00	2.00	1.00	.00	.00
.00	420.00						
634.00	55.00	60.00	3.00	2.00	1.00	.00	.00

.00	420.00						
635.00	2.00	2.00	1.00	2.00	.00	.00	.00
.00	420.00						
635.00	2.00	2.00	1.00	2.00	.00	.00	.00
.00	420.00						
636.00	31.00	9.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
636.00	9.00	9.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
636.00	9.00	9.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
636.00	9.00	9.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
637.00	1.00	1.00	3.00	1.00	.00	.00	.00
.00	420.00						
637.00	1.00	1.00	3.00	1.00	.00	.00	.00
.00	420.00						
638.00	71.00	72.00	1.00	.00	.00	.00	.00
.00	780.00						
639.00	11.00	11.00	2.00	1.00	3.00	.00	.00
.00	420.00						
639.00	11.00	11.00	2.00	1.00	3.00	.00	.00
.00	420.00						
639.00	11.00	40.00	2.00	1.00	3.00	.00	.00
.00	420.00						
640.00	50.00	50.00	1.00	.00	.00	.00	.00
.00	720.00						
641.00	33.00	51.00	1.00	3.00	.00	.00	.00
.00	720.00						
641.00	51.00	51.00	1.00	3.00	.00	.00	.00
.00	720.00						
642.00	58.00	80.00	1.00	.00	.00	.00	.00
.00	720.00						
643.00	8.00	14.00	3.00	2.00	1.00	.00	.00
.00	1020.00						
643.00	14.00	31.00	3.00	2.00	1.00	.00	.00
.00	1020.00						
643.00	31.00	31.00	3.00	2.00	1.00	.00	.00
.00	1020.00						
644.00	59.00	59.00	2.00	3.00	1.00	2.00	.00
.00	1020.00						
644.00	59.00	59.00	2.00	3.00	1.00	2.00	.00
.00	1020.00						

644.00	59.00	59.00	2.00	3.00	1.00	2.00	.00
.00	1020.00						
644.00	59.00	59.00	2.00	3.00	1.00	2.00	.00
.00	1020.00						
645.00	40.00	40.00	3.00	2.00	1.00	.00	.00
.00	720.00						
645.00	40.00	40.00	3.00	2.00	1.00	.00	.00
.00	720.00						
645.00	40.00	40.00	3.00	2.00	1.00	.00	.00
.00	720.00						
646.00	60.00	60.00	3.00	1.00	.00	.00	.00
.00	1320.00						
646.00	60.00	60.00	3.00	1.00	.00	.00	.00
.00	1320.00						
648.00	17.00	17.00	3.00	4.00	1.00	.00	.00
.00	480.00						
648.00	17.00	17.00	3.00	4.00	1.00	.00	.00
.00	480.00						
648.00	17.00	17.00	3.00	4.00	1.00	.00	.00
.00	480.00						
649.00	31.00	19.00	1.00	3.00	2.00	.00	.00
.00	780.00						
649.00	19.00	19.00	1.00	3.00	2.00	.00	.00
.00	780.00						
649.00	19.00	19.00	1.00	3.00	2.00	.00	.00
.00	780.00						
650.00	.00	.00	3.00	4.00	1.00	.00	.00
.00	780.00						
650.00	.00	.00	3.00	4.00	1.00	.00	.00
.00	780.00						
650.00	.00	.00	3.00	4.00	1.00	.00	.00
.00	780.00						
651.00	24.00	24.00	3.00	1.00	2.00	4.00	1.00
3.00	780.00						
651.00	24.00	24.00	3.00	1.00	2.00	4.00	1.00
3.00	780.00						
651.00	24.00	24.00	3.00	1.00	2.00	4.00	1.00
3.00	780.00						
651.00	24.00	24.00	3.00	1.00	2.00	4.00	1.00
3.00	780.00						
651.00	24.00	24.00	3.00	1.00	2.00	4.00	1.00
3.00	780.00						
651.00	24.00	24.00	3.00	1.00	2.00	4.00	1.00

3.00 780.00							
652.00 23.00	23.00	1.00	.00	.00	.00	.00	.00
.00 780.00							
653.00 20.00	20.00	1.00	3.00	2.00	4.00		.00
.00 1080.00							
653.00 20.00	20.00	1.00	3.00	2.00	4.00		.00
.00 1080.00							
653.00 20.00	20.00	1.00	3.00	2.00	4.00		.00
.00 1080.00							
653.00 20.00	20.00	1.00	3.00	2.00	4.00		.00
.00 1080.00							
654.00 69.00	68.00	4.00	2.00	1.00	.00		.00
.00 480.00							
654.00 68.00	80.00	4.00	2.00	1.00	.00		.00
.00 480.00							
654.00 80.00	80.00	4.00	2.00	1.00	.00		.00
.00 480.00							
655.00 50.00	89.00	1.00	.00	.00	.00		.00
.00 480.00							
656.00 19.00	.00	1.00	2.00	.00	.00		.00
.00 480.00							
656.00 .00	.00	1.00	2.00	.00	.00		.00
.00 480.00							
657.00 50.00	11.00	1.00	3.00	2.00	.00		.00
.00 480.00							
657.00 11.00	11.00	1.00	3.00	2.00	.00		.00
.00 480.00							
657.00 11.00	11.00	1.00	3.00	2.00	.00		.00
.00 480.00							
658.00 10.00	10.00	1.00	2.00	3.00	.00		.00
.00 780.00							
658.00 10.00	24.00	1.00	2.00	3.00	.00		.00
.00 780.00							
658.00 24.00	24.00	1.00	2.00	3.00	.00		.00
.00 780.00							
659.00 42.00	42.00	1.00	2.00	3.00	3.00		4.00
2.00 780.00							
659.00 42.00	42.00	1.00	2.00	3.00	3.00		4.00
2.00 780.00							
659.00 42.00	42.00	1.00	2.00	3.00	3.00		4.00
2.00 780.00							
659.00 42.00	42.00	1.00	2.00	3.00	3.00		4.00
2.00 780.00							

659.00	42.00	42.00	1.00	2.00	3.00	3.00	4.00
2.00	780.00						
659.00	42.00	45.00	1.00	2.00	3.00	3.00	4.00
2.00	780.00						
660.00	4.00	5.00	3.00	1.00	.00	.00	.00
.00	360.00						
660.00	5.00	1.00	3.00	1.00	.00	.00	.00
.00	360.00						
661.00	.00	.00	2.00	1.00	.00	.00	.00
.00	360.00						
661.00	.00	.00	2.00	1.00	.00	.00	.00
.00	360.00						
662.00	13.00	13.00	4.00	1.00	2.00	4.00	3.00
.00	360.00						
662.00	13.00	26.00	4.00	1.00	2.00	4.00	3.00
.00	360.00						
662.00	26.00	46.00	4.00	1.00	2.00	4.00	3.00
.00	360.00						
662.00	46.00	53.00	4.00	1.00	2.00	4.00	3.00
.00	360.00						
662.00	53.00	53.00	4.00	1.00	2.00	4.00	3.00
.00	360.00						
663.00	10.00	10.00	4.00	2.00	3.00	1.00	.00
.00	540.00						
663.00	10.00	10.00	4.00	2.00	3.00	1.00	.00
.00	540.00						
663.00	10.00	.00	4.00	2.00	3.00	1.00	.00
.00	540.00						
663.00	.00	.00	4.00	2.00	3.00	1.00	.00
.00	540.00						
665.00	20.00	20.00	1.00	.00	.00	.00	.00
.00	420.00						
666.00	8.00	8.00	3.00	2.00	3.00	4.00	1.00
.00	420.00						
666.00	8.00	8.00	3.00	2.00	3.00	4.00	1.00
.00	420.00						
666.00	8.00	8.00	3.00	2.00	3.00	4.00	1.00
.00	420.00						
666.00	8.00	8.00	3.00	2.00	3.00	4.00	1.00
.00	420.00						
666.00	8.00	2.00	3.00	2.00	3.00	4.00	1.00
.00	420.00						
667.00	19.00	39.00	1.00	.00	.00	.00	.00

.00	420.00						
668.00	29.00	42.00	2.00	3.00	2.00	1.00	.00
.00	420.00						
668.00	42.00	42.00	2.00	3.00	2.00	1.00	.00
.00	420.00						
668.00	42.00	42.00	2.00	3.00	2.00	1.00	.00
.00	420.00						
668.00	42.00	22.00	2.00	3.00	2.00	1.00	.00
.00	420.00						
669.00	18.00	38.00	1.00	.00	.00	.00	.00
.00	360.00						
670.00	5.00	5.00	1.00	.00	.00	.00	.00
.00	720.00						
671.00	10.00	14.00	1.00	2.00	3.00	.00	.00
.00	720.00						
671.00	14.00	20.00	1.00	2.00	3.00	.00	.00
.00	720.00						
671.00	20.00	20.00	1.00	2.00	3.00	.00	.00
.00	720.00						
672.00	1.00	8.00	3.00	1.00	2.00	.00	.00
.00	540.00						
672.00	8.00	8.00	3.00	1.00	2.00	.00	.00
.00	540.00						
672.00	8.00	39.00	3.00	1.00	2.00	.00	.00
.00	540.00						
673.00	.00	.00	1.00	.00	.00	.00	.00
.00	420.00						
710.00	5.00	5.00	1.00	3.00	4.00	.00	.00
.00	780.00						
710.00	5.00	2.00	1.00	3.00	4.00	.00	.00
.00	780.00						
710.00	2.00	2.00	1.00	3.00	4.00	.00	.00
.00	780.00						
711.00	.00	.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
711.00	.00	.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
711.00	.00	.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
711.00	.00	.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
712.00	.00	.00	1.00	.00	.00	.00	.00
.00	420.00						

713.00	56.00	79.00	1.00	2.00	.00	.00	.00
.00	420.00						
713.00	79.00	79.00	1.00	2.00	.00	.00	.00
.00	420.00						
714.00	2.00	2.00	3.00	1.00	.00	.00	.00
.00	420.00						
714.00	2.00	2.00	3.00	1.00	.00	.00	.00
.00	420.00						
715.00	52.00	21.00	1.00	3.00	4.00	2.00	.00
.00	420.00						
715.00	21.00	21.00	1.00	3.00	4.00	2.00	.00
.00	420.00						
715.00	21.00	21.00	1.00	3.00	4.00	2.00	.00
.00	420.00						
715.00	21.00	21.00	1.00	3.00	4.00	2.00	.00
.00	420.00						
716.00	11.00	11.00	1.00	.00	.00	.00	.00
.00	420.00						
717.00	4.00	5.00	1.00	.00	.00	.00	.00
.00	420.00						
718.00	36.00	36.00	3.00	1.00	4.00	.00	.00
.00	420.00						
718.00	36.00	48.00	3.00	1.00	4.00	.00	.00
.00	420.00						
718.00	48.00	48.00	3.00	1.00	4.00	.00	.00
.00	420.00						
719.00	12.00	43.00	1.00	2.00	.00	.00	.00
.00	420.00						
719.00	43.00	43.00	1.00	2.00	.00	.00	.00
.00	420.00						
720.00	12.00	24.00	1.00	.00	.00	.00	.00
.00	600.00						
721.00	57.00	66.00	3.00	1.00	.00	.00	.00
.00	420.00						
721.00	66.00	66.00	3.00	1.00	.00	.00	.00
.00	420.00						
722.00	.00	.00	1.00	3.00	.00	.00	.00
.00	420.00						
722.00	.00	.00	1.00	3.00	.00	.00	.00
.00	420.00						
723.00	50.00	64.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
723.00	64.00	78.00	1.00	4.00	2.00	3.00	.00

.00	420.00						
723.00	78.00	81.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
723.00	81.00	82.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
724.00	51.00	23.00	1.00	4.00	3.00	.00	.00
.00	420.00						
724.00	23.00	23.00	1.00	4.00	3.00	.00	.00
.00	420.00						
724.00	23.00	32.00	1.00	4.00	3.00	.00	.00
.00	420.00						
725.00	40.00	40.00	3.00	2.00	1.00	.00	.00
.00	420.00						
725.00	40.00	40.00	3.00	2.00	1.00	.00	.00
.00	420.00						
725.00	40.00	29.00	3.00	2.00	1.00	.00	.00
.00	420.00						
726.00	4.00	70.00	1.00	3.00	2.00	4.00	.00
.00	780.00						
726.00	70.00	73.00	1.00	3.00	2.00	4.00	.00
.00	780.00						
726.00	73.00	71.00	1.00	3.00	2.00	4.00	.00
.00	780.00						
726.00	71.00	74.00	1.00	3.00	2.00	4.00	.00
.00	780.00						
727.00	50.00	50.00	2.00	3.00	1.00	4.00	.00
.00	600.00						
727.00	50.00	41.00	2.00	3.00	1.00	4.00	.00
.00	600.00						
727.00	41.00	21.00	2.00	3.00	1.00	4.00	.00
.00	600.00						
727.00	21.00	21.00	2.00	3.00	1.00	4.00	.00
.00	600.00						
728.00	39.00	50.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
728.00	50.00	50.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
728.00	50.00	50.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
728.00	50.00	50.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
729.00	43.00	54.00	1.00	.00	.00	.00	.00
.00	420.00						

730.00	2.00	2.00	1.00	2.00	4.00	.00	.00
.00	420.00						
730.00	2.00	2.00	1.00	2.00	4.00	.00	.00
.00	420.00						
730.00	2.00	2.00	1.00	2.00	4.00	.00	.00
.00	420.00						
731.00	1.00	1.00	3.00	4.00	1.00	.00	.00
.00	600.00						
731.00	1.00	1.00	3.00	4.00	1.00	.00	.00
.00	600.00						
731.00	1.00	1.00	3.00	4.00	1.00	.00	.00
.00	600.00						
732.00	4.00	25.00	2.00	3.00	1.00	.00	.00
.00	600.00						
732.00	25.00	3.00	2.00	3.00	1.00	.00	.00
.00	600.00						
732.00	3.00	2.00	2.00	3.00	1.00	.00	.00
.00	600.00						
733.00	.00	.00	1.00	3.00	2.00	3.00	.00
.00	420.00						
733.00	.00	.00	1.00	3.00	2.00	3.00	.00
.00	420.00						
733.00	.00	.00	1.00	3.00	2.00	3.00	.00
.00	420.00						
733.00	.00	.00	1.00	3.00	2.00	3.00	.00
.00	420.00						
734.00	1.00	.00	3.00	1.00	.00	.00	.00
.00	420.00						
734.00	.00	.00	3.00	1.00	.00	.00	.00
.00	420.00						
735.00	19.00	19.00	2.00	3.00	1.00	.00	.00
.00	600.00						
735.00	19.00	19.00	2.00	3.00	1.00	.00	.00
.00	600.00						
735.00	19.00	19.00	2.00	3.00	1.00	.00	.00
.00	600.00						
736.00	19.00	19.00	3.00	1.00	.00	.00	.00
.00	780.00						
736.00	19.00	12.00	3.00	1.00	.00	.00	.00
.00	780.00						
737.00	11.00	20.00	1.00	.00	.00	.00	.00
.00	420.00						
738.00	32.00	6.00	4.00	3.00	1.00	.00	.00

.00	780.00						
738.00	6.00	2.00	4.00	3.00	1.00	.00	.00
.00	780.00						
738.00	2.00	2.00	4.00	3.00	1.00	.00	.00
.00	780.00						
810.00	50.00	51.00	2.00	1.00	.00	.00	.00
.00	600.00						
810.00	51.00	23.00	2.00	1.00	.00	.00	.00
.00	600.00						
811.00	51.00	42.00	2.00	1.00	.00	.00	.00
.00	420.00						
811.00	42.00	42.00	2.00	1.00	.00	.00	.00
.00	420.00						
812.00	2.00	2.00	2.00	1.00	.00	.00	.00
.00	420.00						
812.00	2.00	2.00	2.00	1.00	.00	.00	.00
.00	420.00						
813.00	2.00	2.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
813.00	2.00	2.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
813.00	2.00	3.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
813.00	3.00	3.00	1.00	4.00	2.00	3.00	.00
.00	420.00						
814.00	11.00	19.00	1.00	2.00	.00	.00	.00
.00	420.00						
814.00	19.00	19.00	1.00	2.00	.00	.00	.00
.00	420.00						
815.00	18.00	40.00	1.00	4.00	.00	.00	.00
.00	420.00						
815.00	40.00	39.00	1.00	4.00	.00	.00	.00
.00	420.00						
816.00	37.00	37.00	4.00	1.00	2.00	.00	.00
.00	600.00						
816.00	37.00	51.00	4.00	1.00	2.00	.00	.00
.00	600.00						
816.00	51.00	51.00	4.00	1.00	2.00	.00	.00
.00	600.00						
817.00	.00	.00	1.00	.00	.00	.00	.00
.00	420.00						
818.00	81.00	81.00	3.00	1.00	.00	.00	.00
.00	420.00						

818.00	81.00	81.00	3.00	1.00	.00	.00	.00
.00	420.00						
819.00	57.00	37.00	2.00	3.00	1.00	.00	.00
.00	420.00						
819.00	37.00	37.00	2.00	3.00	1.00	.00	.00
.00	420.00						
819.00	37.00	66.00	2.00	3.00	1.00	.00	.00
.00	420.00						
820.00	99.00	100.00	4.00	2.00	1.00	.00	.00
.00	420.00						
820.00	100.00	100.00	4.00	2.00	1.00	.00	.00
.00	420.00						
820.00	100.00	100.00	4.00	2.00	1.00	.00	.00
.00	420.00						
821.00	1.00	11.00	1.00	2.00	3.00	.00	.00
.00	420.00						
821.00	11.00	11.00	1.00	2.00	3.00	.00	.00
.00	420.00						
821.00	11.00	11.00	1.00	2.00	3.00	.00	.00
.00	420.00						
822.00	51.00	48.00	1.00	2.00	.00	.00	.00
.00	420.00						
822.00	48.00	51.00	1.00	2.00	.00	.00	.00
.00	420.00						
823.00	50.00	12.00	3.00	2.00	1.00	.00	.00
.00	420.00						
823.00	12.00	12.00	3.00	2.00	1.00	.00	.00
.00	420.00						
823.00	12.00	12.00	3.00	2.00	1.00	.00	.00
.00	420.00						
824.00	12.00	19.00	2.00	1.00	.00	.00	.00
.00	420.00						
824.00	19.00	19.00	2.00	1.00	.00	.00	.00
.00	420.00						
825.00	40.00	55.00	1.00	3.00	2.00	.00	.00
.00	420.00						
825.00	55.00	55.00	1.00	3.00	2.00	.00	.00
.00	420.00						
825.00	55.00	55.00	1.00	3.00	2.00	.00	.00
.00	420.00						
826.00	94.00	94.00	1.00	.00	.00	.00	.00
.00	480.00						
827.00	29.00	29.00	1.00	3.00	2.00	.00	.00

.00	780.00						
827.00	29.00	29.00	1.00	3.00	2.00	.00	.00
.00	780.00						
827.00	29.00	29.00	1.00	3.00	2.00	.00	.00
.00	780.00						
828.00	20.00	20.00	1.00	3.00	2.00	.00	.00
.00	1080.00						
828.00	20.00	20.00	1.00	3.00	2.00	.00	.00
.00	1080.00						
828.00	20.00	44.00	1.00	3.00	2.00	.00	.00
.00	1080.00						
829.00	11.00	11.00	3.00	1.00	2.00	.00	.00
.00	540.00						
829.00	11.00	11.00	3.00	1.00	2.00	.00	.00
.00	540.00						
829.00	11.00	11.00	3.00	1.00	2.00	.00	.00
.00	540.00						
830.00	50.00	63.00	1.00	.00	.00	.00	.00
.00	360.00						
831.00	52.00	52.00	4.00	2.00	1.00	3.00	.00
.00	360.00						
831.00	52.00	52.00	4.00	2.00	1.00	3.00	.00
.00	360.00						
831.00	52.00	33.00	4.00	2.00	1.00	3.00	.00
.00	360.00						
831.00	33.00	33.00	4.00	2.00	1.00	3.00	.00
.00	360.00						
832.00	50.00	50.00	3.00	4.00	1.00	.00	.00
.00	780.00						
832.00	50.00	50.00	3.00	4.00	1.00	.00	.00
.00	780.00						
832.00	50.00	41.00	3.00	4.00	1.00	.00	.00
.00	780.00						
833.00	41.00	41.00	1.00	2.00	1.00	3.00	4.00
.00	780.00						
833.00	41.00	41.00	1.00	2.00	1.00	3.00	4.00
.00	780.00						
833.00	41.00	50.00	1.00	2.00	1.00	3.00	4.00
.00	780.00						
833.00	50.00	37.00	1.00	2.00	1.00	3.00	4.00
.00	780.00						
833.00	37.00	37.00	1.00	2.00	1.00	3.00	4.00
.00	780.00						

834.00	20.00	20.00	4.00	1.00	3.00	.00	.00
.00	780.00						
834.00	20.00	60.00	4.00	1.00	3.00	.00	.00
.00	780.00						
834.00	60.00	75.00	4.00	1.00	3.00	.00	.00
.00	780.00						
835.00	38.00	38.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
835.00	38.00	55.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
835.00	55.00	64.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
835.00	64.00	64.00	3.00	1.00	2.00	4.00	.00
.00	780.00						
836.00	76.00	76.00	3.00	2.00	1.00	.00	.00
.00	780.00						
836.00	76.00	69.00	3.00	2.00	1.00	.00	.00
.00	780.00						
836.00	69.00	69.00	3.00	2.00	1.00	.00	.00
.00	780.00						
837.00	28.00	20.00	4.00	3.00	1.00	.00	.00
.00	420.00						
837.00	20.00	20.00	4.00	3.00	1.00	.00	.00
.00	420.00						
837.00	20.00	20.00	4.00	3.00	1.00	.00	.00
.00	420.00						
838.00	57.00	57.00	2.00	1.00	.00	.00	.00
.00	420.00						
838.00	57.00	70.00	2.00	1.00	.00	.00	.00
.00	420.00						
839.00	29.00	10.00	1.00	.00	.00	.00	.00
.00	420.00						
840.00	2.00	2.00	1.00	4.00	2.00	3.00	2.00
.00	780.00						
840.00	2.00	2.00	1.00	4.00	2.00	3.00	2.00
.00	780.00						
840.00	2.00	17.00	1.00	4.00	2.00	3.00	2.00
.00	780.00						
840.00	17.00	17.00	1.00	4.00	2.00	3.00	2.00
.00	780.00						
840.00	17.00	27.00	1.00	4.00	2.00	3.00	2.00
.00	780.00						
910.00	53.00	69.00	1.00	2.00	4.00	3.00	.00

.00	420.00						
910.00	69.00	69.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
910.00	69.00	69.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
910.00	69.00	67.00	1.00	2.00	4.00	3.00	.00
.00	420.00						
911.00	20.00	70.00	1.00	4.00	3.00	2.00	.00
.00	420.00						
911.00	70.00	70.00	1.00	4.00	3.00	2.00	.00
.00	420.00						
911.00	70.00	70.00	1.00	4.00	3.00	2.00	.00
.00	420.00						
911.00	70.00	75.00	1.00	4.00	3.00	2.00	.00
.00	420.00						
912.00	36.00	36.00	2.00	4.00	3.00	1.00	2.00
.00	420.00						
912.00	36.00	36.00	2.00	4.00	3.00	1.00	2.00
.00	420.00						
912.00	36.00	51.00	2.00	4.00	3.00	1.00	2.00
.00	420.00						
912.00	51.00	51.00	2.00	4.00	3.00	1.00	2.00
.00	420.00						
912.00	51.00	51.00	2.00	4.00	3.00	1.00	2.00
.00	420.00						
913.00	.00	.00	2.00	1.00	4.00	3.00	.00
.00	780.00						
913.00	.00	33.00	2.00	1.00	4.00	3.00	.00
.00	780.00						
913.00	33.00	33.00	2.00	1.00	4.00	3.00	.00
.00	780.00						
913.00	33.00	33.00	2.00	1.00	4.00	3.00	.00
.00	780.00						
914.00	25.00	16.00	2.00	4.00	3.00	1.00	3.00
.00	420.00						
914.00	16.00	16.00	2.00	4.00	3.00	1.00	3.00
.00	420.00						
914.00	16.00	22.00	2.00	4.00	3.00	1.00	3.00
.00	420.00						
914.00	22.00	22.00	2.00	4.00	3.00	1.00	3.00
.00	420.00						
914.00	22.00	22.00	2.00	4.00	3.00	1.00	3.00
.00	420.00						

915.00	13.00	21.00	3.00	3.00	1.00	.00	.00
.00	420.00						
915.00	21.00	21.00	3.00	3.00	1.00	.00	.00
.00	420.00						
915.00	21.00	32.00	3.00	3.00	1.00	.00	.00
.00	420.00						
916.00	40.00	50.00	1.00	3.00	.00	.00	.00
.00	420.00						
916.00	50.00	30.00	1.00	3.00	.00	.00	.00
.00	420.00						
917.00	12.00	12.00	1.00	3.00	2.00	.00	.00
.00	420.00						
917.00	12.00	32.00	1.00	3.00	2.00	.00	.00
.00	420.00						
917.00	32.00	32.00	1.00	3.00	2.00	.00	.00
.00	420.00						
918.00	47.00	33.00	4.00	3.00	1.00	.00	.00
.00	420.00						
918.00	33.00	33.00	4.00	3.00	1.00	.00	.00
.00	420.00						
918.00	33.00	2.00	4.00	3.00	1.00	.00	.00
.00	420.00						
919.00	80.00	47.00	1.00	4.00	.00	.00	.00
.00	420.00						
919.00	47.00	46.00	1.00	4.00	.00	.00	.00
.00	420.00						
920.00	20.00	23.00	3.00	1.00	2.00	4.00	.00
.00	420.00						
920.00	23.00	25.00	3.00	1.00	2.00	4.00	.00
.00	420.00						
920.00	25.00	25.00	3.00	1.00	2.00	4.00	.00
.00	420.00						
920.00	25.00	25.00	3.00	1.00	2.00	4.00	.00
.00	420.00						
921.00	64.00	72.00	3.00	2.00	1.00	.00	.00
.00	420.00						
921.00	72.00	69.00	3.00	2.00	1.00	.00	.00
.00	420.00						
921.00	69.00	42.00	3.00	2.00	1.00	.00	.00
.00	420.00						
922.00	9.00	29.00	1.00	3.00	4.00	.00	.00
.00	420.00						
922.00	29.00	29.00	1.00	3.00	4.00	.00	.00

.00	420.00						
922.00	29.00	29.00	1.00	3.00	4.00	.00	.00
.00	420.00						
923.00	82.00	82.00	1.00	.00	.00	.00	.00
.00	420.00						
6100.00	40.00	50.00	3.00	2.00	1.00	.00	.00
.00	420.00						
6100.00	50.00	50.00	3.00	2.00	1.00	.00	.00
.00	420.00						
6100.00	50.00	50.00	3.00	2.00	1.00	.00	.00
.00	420.00						
6101.00	70.00	70.00	4.00	1.00	.00	.00	.00
.00	420.00						
6101.00	70.00	70.00	4.00	1.00	.00	.00	.00
.00	420.00						
7102.00	34.00	29.00	1.00	3.00	2.00	.00	.00
.00	420.00						
7102.00	29.00	29.00	1.00	3.00	2.00	.00	.00
.00	420.00						
7102.00	29.00	29.00	1.00	3.00	2.00	.00	.00
.00	420.00						
7103.00	33.00	12.00	3.00	2.00	1.00	.00	.00
.00	600.00						
7103.00	12.00	35.00	3.00	2.00	1.00	.00	.00
.00	600.00						
7103.00	35.00	.00	3.00	2.00	1.00	.00	.00
.00	600.00						
7104.00	65.00	65.00	1.00	3.00	.00	.00	.00
.00	420.00						
7104.00	65.00	65.00	1.00	3.00	.00	.00	.00
.00	420.00						
7105.00	51.00	70.00	3.00	4.00	1.00	.00	.00
.00	420.00						
7105.00	70.00	70.00	3.00	4.00	1.00	.00	.00
.00	420.00						
7105.00	70.00	70.00	3.00	4.00	1.00	.00	.00
.00	420.00						

Respondent Identifier

Time allocated to searching first source (-999 = not applicable)

Time allocated to searching first source (-999 = not applicable)

Time allocated to searching first source (-999 = not applicable)

Time allocated to searching first source (-999 = not applicable)

Time allocated to searching first source (-999 = not applicable)
 Time allocated to searching first source (-999 = not applicable)
 Automobile Searched (0 = Reatta, 1 = Rx-7)
 Treatment (0 = Video Showroom, 1 = Real Showroom)
 Free Showroom Visit (0 = No, 1 = Yes)
 Time Limit (0 = did not use full time allocation, 1 = used full time allocation)

61.00	70.00	46.00	100.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
61.00	70.00	46.00	100.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
61.00	70.00	46.00	100.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
62.00	128.00	333.00	201.00	46.00	-999.00	-999.00	.00
.00	.00	.00					
62.00	128.00	333.00	201.00	46.00	-999.00	-999.00	.00
.00	.00	.00					
62.00	128.00	333.00	201.00	46.00	-999.00	-999.00	.00
.00	.00	.00					
62.00	128.00	333.00	201.00	46.00	-999.00	-999.00	.00
.00	.00	.00					
63.00	123.00	210.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
63.00	123.00	210.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
64.00	127.00	94.00	85.00	159.00	-999.00	-999.00	.00
.00	.00	.00					
64.00	127.00	94.00	85.00	159.00	-999.00	-999.00	.00
.00	.00	.00					
64.00	127.00	94.00	85.00	159.00	-999.00	-999.00	.00
.00	.00	.00					
64.00	127.00	94.00	85.00	159.00	-999.00	-999.00	.00
.00	.00	.00					
65.00	109.00	244.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
65.00	109.00	244.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
66.00	328.00	378.00	29.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
66.00	328.00	378.00	29.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					

66.00	328.00	378.00	29.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
67.00	120.00	58.00	127.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
67.00	120.00	58.00	127.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
67.00	120.00	58.00	127.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
68.00	38.00	74.00	142.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
68.00	38.00	74.00	142.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
68.00	38.00	74.00	142.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
69.00	247.00	161.00	33.00	19.00	72.00	-999.00	.00
.00	.00	.00					
69.00	247.00	161.00	33.00	19.00	72.00	-999.00	.00
.00	.00	.00					
69.00	247.00	161.00	33.00	19.00	72.00	-999.00	.00
.00	.00	.00					
69.00	247.00	161.00	33.00	19.00	72.00	-999.00	.00
.00	.00	.00					
69.00	247.00	161.00	33.00	19.00	72.00	-999.00	.00
.00	.00	.00					
71.00	-9.00	218.00	90.00	60.00	-999.00	-999.00	.00
1.00	.00	.00					
71.00	-9.00	218.00	90.00	60.00	-999.00	-999.00	.00
1.00	.00	.00					
71.00	-9.00	218.00	90.00	60.00	-999.00	-999.00	.00
1.00	.00	.00					
71.00	-9.00	218.00	90.00	60.00	-999.00	-999.00	.00
1.00	.00	.00					
72.00	106.00	332.00	102.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
72.00	106.00	332.00	102.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
72.00	106.00	332.00	102.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
73.00	228.00	110.00	172.00	30.00	-999.00	-999.00	.00
1.00	.00	1.00					
73.00	228.00	110.00	172.00	30.00	-999.00	-999.00	.00
1.00	.00	1.00					
73.00	228.00	110.00	172.00	30.00	-999.00	-999.00	.00

1.00	.00	1.00					
73.00	228.00	110.00	172.00	30.00	-999.00	-999.00	.00
1.00	.00	1.00					
74.00	-9.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
77.00	239.00	195.00	120.00	44.00	121.00	-999.00	.00
1.00	.00	1.00					
77.00	239.00	195.00	120.00	44.00	121.00	-999.00	.00
1.00	.00	1.00					
77.00	239.00	195.00	120.00	44.00	121.00	-999.00	.00
1.00	.00	1.00					
77.00	239.00	195.00	120.00	44.00	121.00	-999.00	.00
1.00	.00	1.00					
77.00	239.00	195.00	120.00	44.00	121.00	-999.00	.00
1.00	.00	1.00					
78.00	342.00	126.00	11.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
78.00	342.00	126.00	11.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
78.00	342.00	126.00	11.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
79.00	155.00	105.00	270.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
79.00	155.00	105.00	270.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
79.00	155.00	105.00	270.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
81.00	525.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	.00					
82.00	171.00	166.00	83.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
82.00	171.00	166.00	83.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
82.00	171.00	166.00	83.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
83.00	120.00	193.00	71.00	350.00	-999.00	-999.00	1.00
.00	.00	.00					
83.00	120.00	193.00	71.00	350.00	-999.00	-999.00	1.00
.00	.00	.00					
83.00	120.00	193.00	71.00	350.00	-999.00	-999.00	1.00
.00	.00	.00					
83.00	120.00	193.00	71.00	350.00	-999.00	-999.00	1.00

.00	.00	.00					
84.00	134.00	128.00	53.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
84.00	134.00	128.00	53.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
84.00	134.00	128.00	53.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
85.00	262.00	373.00	145.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
85.00	262.00	373.00	145.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
85.00	262.00	373.00	145.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
86.00	255.00	367.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	1.00	.00					
86.00	255.00	367.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	1.00	.00					
87.00	420.00	67.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	1.00	1.00					
87.00	420.00	67.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	1.00	1.00					
88.00	420.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	1.00					
89.00	98.00	291.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
89.00	98.00	291.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
91.00	130.00	74.00	200.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
91.00	130.00	74.00	200.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
91.00	130.00	74.00	200.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
92.00	91.00	267.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
92.00	91.00	267.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
93.00	130.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
1.00	.00	.00					
94.00	182.00	111.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					

94.00	182.00	111.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
95.00	187.00	90.00	16.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
95.00	187.00	90.00	16.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
95.00	187.00	90.00	16.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
96.00	368.00	444.00	88.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
96.00	368.00	444.00	88.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
96.00	368.00	444.00	88.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
97.00	30.00	39.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
97.00	30.00	39.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
98.00	136.00	34.00	79.00	278.00	13.00	-999.00	1.00
1.00	.00	1.00					
98.00	136.00	34.00	79.00	278.00	13.00	-999.00	1.00
1.00	.00	1.00					
98.00	136.00	34.00	79.00	278.00	13.00	-999.00	1.00
1.00	.00	1.00					
98.00	136.00	34.00	79.00	278.00	13.00	-999.00	1.00
1.00	.00	1.00					
98.00	136.00	34.00	79.00	278.00	13.00	-999.00	1.00
1.00	.00	1.00					
99.00	101.00	45.00	368.00	28.00	239.00	71.00	1.00
1.00	.00	.00					
99.00	101.00	45.00	368.00	28.00	239.00	71.00	1.00
1.00	.00	.00					
99.00	101.00	45.00	368.00	28.00	239.00	71.00	1.00
1.00	.00	.00					
99.00	101.00	45.00	368.00	28.00	239.00	71.00	1.00
1.00	.00	.00					
99.00	101.00	45.00	368.00	28.00	239.00	71.00	1.00
1.00	.00	.00					
610.00	99.00	140.00	100.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
610.00	99.00	140.00	100.00	-999.00	-999.00	-999.00	.00

.00	.00	.00					
610.00	99.00	140.00	100.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
611.00	25.00	335.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
611.00	25.00	335.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
612.00	312.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00							
.00	.00	.00					
613.00	37.00	40.00	50.00	139.00	345.00	72.00	.00
.00	.00	.00					
613.00	37.00	40.00	50.00	139.00	345.00	72.00	.00
.00	.00	.00					
613.00	37.00	40.00	50.00	139.00	345.00	72.00	.00
.00	.00	.00					
613.00	37.00	40.00	50.00	139.00	345.00	72.00	.00
.00	.00	.00					
613.00	37.00	40.00	50.00	139.00	345.00	72.00	.00
.00	.00	.00					
613.00	37.00	40.00	50.00	139.00	345.00	72.00	.00
.00	.00	.00					
614.00	52.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
615.00	62.00	68.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
615.00	62.00	68.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
616.00	259.00	118.00	199.00	57.00	9.00	-999.00	.00
.00	.00	.00					
616.00	259.00	118.00	199.00	57.00	9.00	-999.00	.00
.00	.00	.00					
616.00	259.00	118.00	199.00	57.00	9.00	-999.00	.00
.00	.00	.00					
616.00	259.00	118.00	199.00	57.00	9.00	-999.00	.00
.00	.00	.00					
616.00	259.00	118.00	199.00	57.00	9.00	-999.00	.00
.00	.00	.00					
617.00	16.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
618.00	363.00	387.00	206.00	59.00	-999.00	-999.00	.00
.00	.00	.00					
618.00	363.00	387.00	206.00	59.00	-999.00	-999.00	.00

.00	.00	.00					
618.00	363.00	387.00	206.00	59.00	-999.00	-999.00	.00
.00	.00	.00					
618.00	363.00	387.00	206.00	59.00	-999.00	-999.00	.00
.00	.00	.00					
619.00	179.00	267.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
619.00	179.00	267.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
620.00	71.00	65.00	9.00	270.00	-9.00	-999.00	.00
.00	.00	.00					
620.00	71.00	65.00	9.00	270.00	-9.00	-999.00	.00
.00	.00	.00					
620.00	71.00	65.00	9.00	270.00	-9.00	-999.00	.00
.00	.00	.00					
620.00	71.00	65.00	9.00	270.00	-9.00	-999.00	.00
.00	.00	.00					
620.00	71.00	65.00	9.00	270.00	-9.00	-999.00	.00
.00	.00	.00					
621.00	83.00	126.00	306.00	62.00	-999.00	-999.00	.00
.00	.00	.00					
621.00	83.00	126.00	306.00	62.00	-999.00	-999.00	.00
.00	.00	.00					
621.00	83.00	126.00	306.00	62.00	-999.00	-999.00	.00
.00	.00	.00					
621.00	83.00	126.00	306.00	62.00	-999.00	-999.00	.00
.00	.00	.00					
622.00	125.00	54.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
622.00	125.00	54.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
623.00	80.00	197.00	83.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
623.00	80.00	197.00	83.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
623.00	80.00	197.00	83.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
624.00	221.00	139.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
624.00	221.00	139.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
625.00	136.00	122.00	15.00	24.00	149.00	-999.00	.00
.00	1.00	.00					

625.00	136.00	122.00	15.00	24.00	149.00	-999.00	.00
.00	1.00	.00					
625.00	136.00	122.00	15.00	24.00	149.00	-999.00	.00
.00	1.00	.00					
625.00	136.00	122.00	15.00	24.00	149.00	-999.00	.00
.00	1.00	.00					
625.00	136.00	122.00	15.00	24.00	149.00	-999.00	.00
.00	1.00	.00					
626.00	322.00	25.00	49.00	142.00	-999.00	-999.00	.00
.00	.00	.00					
626.00	322.00	25.00	49.00	142.00	-999.00	-999.00	.00
.00	.00	.00					
626.00	322.00	25.00	49.00	142.00	-999.00	-999.00	.00
.00	.00	.00					
626.00	322.00	25.00	49.00	142.00	-999.00	-999.00	.00
.00	.00	.00					
631.00	121.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00							
1.00	.00	.00					
632.00	130.00	154.00	136.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
632.00	130.00	154.00	136.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
632.00	130.00	154.00	136.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
633.00	59.00	30.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
633.00	59.00	30.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
634.00	220.00	149.00	51.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
634.00	220.00	149.00	51.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
634.00	220.00	149.00	51.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
635.00	108.00	154.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
635.00	108.00	154.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
636.00	108.00	142.00	59.00	111.00	-999.00	-999.00	.00
.00	.00	1.00					
636.00	108.00	142.00	59.00	111.00	-999.00	-999.00	.00
.00	.00	1.00					

636.00	108.00	142.00	59.00	111.00	-999.00	-999.00	.00
.00	.00	1.00					
636.00	108.00	142.00	59.00	111.00	-999.00	-999.00	.00
.00	.00	1.00					
637.00	158.00	121.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
637.00	158.00	121.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
638.00	1.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
639.00	73.00	270.00	77.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
639.00	73.00	270.00	77.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
639.00	73.00	270.00	77.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
640.00	99.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
641.00	418.00	213.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
641.00	418.00	213.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
642.00	150.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
643.00	210.00	261.00	156.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
643.00	210.00	261.00	156.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
643.00	210.00	261.00	156.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
644.00	157.00	122.00	225.00	118.00	-999.00	-999.00	.00
.00	.00	.00					
644.00	157.00	122.00	225.00	118.00	-999.00	-999.00	.00
.00	.00	.00					
644.00	157.00	122.00	225.00	118.00	-999.00	-999.00	.00
.00	.00	.00					
644.00	157.00	122.00	225.00	118.00	-999.00	-999.00	.00
.00	.00	.00					
645.00	60.00	89.00	201.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
645.00	60.00	89.00	201.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					

645.00	60.00	89.00	201.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
646.00	178.00	375.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
646.00	178.00	375.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
648.00	41.00	55.00	187.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
648.00	41.00	55.00	187.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
648.00	41.00	55.00	187.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
649.00	177.00	191.00	322.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
649.00	177.00	191.00	322.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
649.00	177.00	191.00	322.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
650.00	25.00	5.00	155.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
650.00	25.00	5.00	155.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
650.00	25.00	5.00	155.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
651.00	48.00	153.00	26.00	42.00	15.00	140.00	.00
.00	.00	.00					
651.00	48.00	153.00	26.00	42.00	15.00	140.00	.00
.00	.00	.00					
651.00	48.00	153.00	26.00	42.00	15.00	140.00	.00
.00	.00	.00					
651.00	48.00	153.00	26.00	42.00	15.00	140.00	.00
.00	.00	.00					
651.00	48.00	153.00	26.00	42.00	15.00	140.00	.00
.00	.00	.00					
652.00	10.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
653.00	498.00	64.00	130.00	6.00	-999.00	-999.00	.00
.00	.00	.00					
653.00	498.00	64.00	130.00	6.00	-999.00	-999.00	.00
.00	.00	.00					
653.00	498.00	64.00	130.00	6.00	-999.00	-999.00	.00

.00	.00	.00						
653.00	498.00	64.00	130.00	6.00	-999.00	-999.00	.00	
.00	.00	.00						
654.00	70.00	190.00	196.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
654.00	70.00	190.00	196.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
654.00	70.00	190.00	196.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
655.00	272.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
656.00	27.00	58.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
656.00	27.00	58.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
657.00	189.00	38.00	272.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
657.00	189.00	38.00	272.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
657.00	189.00	38.00	272.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
658.00	153.00	231.00	153.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
658.00	153.00	231.00	153.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
658.00	153.00	231.00	153.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
659.00	459.00	182.00	80.00	14.00	6.00	36.00	.00	
.00	.00	.00						
659.00	459.00	182.00	80.00	14.00	6.00	36.00	.00	
.00	.00	.00						
659.00	459.00	182.00	80.00	14.00	6.00	36.00	.00	
.00	.00	.00						
659.00	459.00	182.00	80.00	14.00	6.00	36.00	.00	
.00	.00	.00						
659.00	459.00	182.00	80.00	14.00	6.00	36.00	.00	
.00	.00	.00						
660.00	50.00	13.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	1.00	.00						
660.00	50.00	13.00	-999.00	-999.00	-999.00	-999.00	.00	

.00	1.00	.00						
661.00	121.00	155.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	1.00	.00						
661.00	121.00	155.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	1.00	.00						
662.00	42.00	177.00	106.00	25.00	12.00	-999.00	.00	
.00	.00	.00						
662.00	42.00	177.00	106.00	25.00	12.00	-999.00	.00	
.00	.00	.00						
662.00	42.00	177.00	106.00	25.00	12.00	-999.00	.00	
.00	.00	.00						
662.00	42.00	177.00	106.00	25.00	12.00	-999.00	.00	
.00	.00	.00						
662.00	42.00	177.00	106.00	25.00	12.00	-999.00	.00	
.00	.00	.00						
663.00	53.00	181.00	78.00	27.00	-999.00	-999.00	.00	
.00	1.00	.00						
663.00	53.00	181.00	78.00	27.00	-999.00	-999.00	.00	
.00	1.00	.00						
663.00	53.00	181.00	78.00	27.00	-999.00	-999.00	.00	
.00	1.00	.00						
663.00	53.00	181.00	78.00	27.00	-999.00	-999.00	.00	
.00	1.00	.00						
665.00	371.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	.00	.00						
666.00	198.00	158.00	39.00	25.00	162.00	-999.00	.00	
.00	1.00	1.00						
666.00	198.00	158.00	39.00	25.00	162.00	-999.00	.00	
.00	1.00	1.00						
666.00	198.00	158.00	39.00	25.00	162.00	-999.00	.00	
.00	1.00	1.00						
666.00	198.00	158.00	39.00	25.00	162.00	-999.00	.00	
.00	1.00	1.00						
667.00	442.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00	
.00	.00	1.00						
668.00	95.00	73.00	60.00	181.00	-999.00	-999.00	.00	
.00	.00	.00						
668.00	95.00	73.00	60.00	181.00	-999.00	-999.00	.00	
.00	.00	.00						

668.00	95.00	73.00	60.00	181.00	-999.00	-999.00	.00
.00	.00	.00					
668.00	95.00	73.00	60.00	181.00	-999.00	-999.00	.00
.00	.00	.00					
669.00	360.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	.00	1.00					
670.00	40.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
671.00	169.00	240.00	123.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
671.00	169.00	240.00	123.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
671.00	169.00	240.00	123.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
672.00	67.00	90.00	162.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
672.00	67.00	90.00	162.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
672.00	67.00	90.00	162.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
673.00	235.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
710.00	239.00	194.00	63.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
710.00	239.00	194.00	63.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
710.00	239.00	194.00	63.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
711.00	120.00	329.00	237.00	82.00	-999.00	-999.00	.00
1.00	.00	.00					
711.00	120.00	329.00	237.00	82.00	-999.00	-999.00	.00
1.00	.00	.00					
711.00	120.00	329.00	237.00	82.00	-999.00	-999.00	.00
1.00	.00	.00					
711.00	120.00	329.00	237.00	82.00	-999.00	-999.00	.00
1.00	.00	.00					
712.00	-9.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
713.00	407.00	133.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
713.00	407.00	133.00	-999.00	-999.00	-999.00	-999.00	.00

1.00	.00	.00					
714.00	17.00	-9.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
714.00	17.00	-9.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
715.00	276.00	172.00	77.00	15.00	-999.00	-999.00	.00
1.00	.00	1.00					
715.00	276.00	172.00	77.00	15.00	-999.00	-999.00	.00
1.00	.00	1.00					
715.00	276.00	172.00	77.00	15.00	-999.00	-999.00	.00
1.00	.00	1.00					
715.00	276.00	172.00	77.00	15.00	-999.00	-999.00	.00
1.00	.00	1.00					
716.00	-9.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
717.00	-9.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
718.00	43.00	204.00	68.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
718.00	43.00	204.00	68.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
718.00	43.00	204.00	68.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
719.00	182.00	358.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
719.00	182.00	358.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
720.00	316.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
721.00	213.00	326.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
721.00	213.00	326.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
722.00	122.00	62.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
722.00	122.00	62.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
723.00	257.00	106.00	.00	.00	-999.00	-999.00	.00
1.00	.00	.00					
723.00	257.00	106.00	.00	.00	-999.00	-999.00	.00
1.00	.00	.00					
723.00	257.00	106.00	.00	.00	-999.00	-999.00	.00

1.00	.00	.00					
723.00	257.00	106.00	.00	.00	-999.00	-999.00	.00
1.00	.00	.00					
724.00	130.00	62.00	153.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
724.00	130.00	62.00	153.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
724.00	130.00	62.00	153.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
725.00	136.00	249.00	154.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
725.00	136.00	249.00	154.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
725.00	136.00	249.00	154.00	-999.00	-999.00	-999.00	.00
1.00	.00	1.00					
726.00	163.00	183.00	163.00	101.00	-999.00	-999.00	.00
1.00	.00	.00					
726.00	163.00	183.00	163.00	101.00	-999.00	-999.00	.00
1.00	.00	.00					
726.00	163.00	183.00	163.00	101.00	-999.00	-999.00	.00
1.00	.00	.00					
726.00	163.00	183.00	163.00	101.00	-999.00	-999.00	.00
1.00	.00	.00					
727.00	200.00	185.00	216.00	59.00	-999.00	-999.00	.00
1.00	.00	.00					
727.00	200.00	185.00	216.00	59.00	-999.00	-999.00	.00
1.00	.00	.00					
727.00	200.00	185.00	216.00	59.00	-999.00	-999.00	.00
1.00	.00	.00					
727.00	200.00	185.00	216.00	59.00	-999.00	-999.00	.00
1.00	.00	.00					
728.00	143.00	52.00	216.00	129.00	-999.00	-999.00	.00
1.00	.00	1.00					
728.00	143.00	52.00	216.00	129.00	-999.00	-999.00	.00
1.00	.00	1.00					
728.00	143.00	52.00	216.00	129.00	-999.00	-999.00	.00
1.00	.00	1.00					
728.00	143.00	52.00	216.00	129.00	-999.00	-999.00	.00
1.00	.00	1.00					
729.00	130.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
730.00	130.00	60.00	35.00	-999.00	-999.00	-999.00	.00

1.00	.00	.00					
730.00	130.00	60.00	35.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
730.00	130.00	60.00	35.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
731.00	70.00	29.00	500.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
731.00	70.00	29.00	500.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
731.00	70.00	29.00	500.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
732.00	238.00	59.00	30.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
732.00	238.00	59.00	30.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
732.00	238.00	59.00	30.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
733.00	261.00	68.00	132.00	51.00	-999.00	-999.00	.00
1.00	.00	.00					
733.00	261.00	68.00	132.00	51.00	-999.00	-999.00	.00
1.00	.00	.00					
733.00	261.00	68.00	132.00	51.00	-999.00	-999.00	.00
1.00	.00	.00					
733.00	261.00	68.00	132.00	51.00	-999.00	-999.00	.00
1.00	.00	.00					
734.00	55.00	289.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
734.00	55.00	289.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
735.00	104.00	80.00	177.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
735.00	104.00	80.00	177.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
735.00	104.00	80.00	177.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
736.00	158.00	321.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
736.00	158.00	321.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
737.00	456.00	-999.00	-999.00	-999.00	-999.00	-999.00	.00
1.00	.00	.00					
738.00	65.00	102.00	99.00	-999.00	-999.00	-999.00	.00

1.00	1.00	.00					
738.00	65.00	102.00	99.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
738.00	65.00	102.00	99.00	-999.00	-999.00	-999.00	.00
1.00	1.00	.00					
810.00	256.00	289.00	-999.00	-999.00	-999.00	-999.00	
1.00	.00	.00					
810.00	256.00	289.00	-999.00	-999.00	-999.00	-999.00	
1.00	.00	.00					
811.00	64.00	149.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
811.00	64.00	149.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
812.00	126.00	146.00	-999.00	-999.00	-999.00	-999.00	
1.00	.00	.00					
812.00	126.00	146.00	-999.00	-999.00	-999.00	-999.00	
1.00	.00	.00					
813.00	267.00	23.00	111.00	29.00	-999.00	-999.00	1.00
.00	.00	1.00					
813.00	267.00	23.00	111.00	29.00	-999.00	-999.00	1.00
.00	.00	1.00					
813.00	267.00	23.00	111.00	29.00	-999.00	-999.00	1.00
.00	.00	1.00					
813.00	267.00	23.00	111.00	29.00	-999.00	-999.00	1.00
.00	.00	1.00					
814.00	394.00	26.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
814.00	394.00	26.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
815.00	212.00	60.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
815.00	212.00	60.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
816.00	72.00	507.00	21.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
816.00	72.00	507.00	21.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
816.00	72.00	507.00	21.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					

817.00	35.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	1.00	.00					
818.00	96.00	138.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
818.00	96.00	138.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
819.00	.00	.00	420.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
819.00	.00	.00	420.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
819.00	.00	.00	420.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
820.00	23.00	122.00	265.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
820.00	23.00	122.00	265.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
820.00	23.00	122.00	265.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
821.00	228.00	91.00	41.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
821.00	228.00	91.00	41.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
821.00	228.00	91.00	41.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
822.00	138.00	.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
822.00	138.00	.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
823.00	101.00	319.00	187.00	-999.00	-999.00	-999.00	
1.00							
.00	1.00	1.00					
823.00	101.00	319.00	187.00	-999.00	-999.00	-999.00	
1.00							
.00	1.00	1.00					
823.00	101.00	319.00	187.00	-999.00	-999.00	-999.00	
1.00							
.00	1.00	1.00					
824.00	150.00	290.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	1.00					
824.00	150.00	290.00	-999.00	-999.00	-999.00	-999.00	
1.00							

.00	.00	1.00					
825.00	358.00	55.00	26.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
825.00	358.00	55.00	26.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
825.00	358.00	55.00	26.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
826.00	480.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	1.00					
827.00	129.00	74.00	181.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
827.00	129.00	74.00	181.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
827.00	129.00	74.00	181.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
828.00	87.00	61.00	86.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
828.00	87.00	61.00	86.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
828.00	87.00	61.00	86.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
829.00	103.00	63.00	310.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
829.00	103.00	63.00	310.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
829.00	103.00	63.00	310.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
830.00	128.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	.00					
831.00	67.00	108.00	86.00	16.00	-999.00	-999.00	1.00
.00	.00	.00					
831.00	67.00	108.00	86.00	16.00	-999.00	-999.00	1.00
.00	.00	.00					
831.00	67.00	108.00	86.00	16.00	-999.00	-999.00	1.00
.00	.00	.00					
831.00	67.00	108.00	86.00	16.00	-999.00	-999.00	1.00
.00	.00	.00					
832.00	101.00	22.00	218.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
832.00	101.00	22.00	218.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					

832.00	101.00	22.00	218.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
833.00	147.00	256.00	122.00	244.00	21.00	-999.00	1.00
.00	.00	1.00					
833.00	147.00	256.00	122.00	244.00	21.00	-999.00	1.00
.00	.00	1.00					
833.00	147.00	256.00	122.00	244.00	21.00	-999.00	1.00
.00	.00	1.00					
833.00	147.00	256.00	122.00	244.00	21.00	-999.00	1.00
.00	.00	1.00					
834.00	28.00	241.00	47.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
834.00	28.00	241.00	47.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
834.00	28.00	241.00	47.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					
835.00	143.00	457.00	137.00	43.00	-999.00	-999.00	1.00
.00	.00	1.00					
835.00	143.00	457.00	137.00	43.00	-999.00	-999.00	1.00
.00	.00	1.00					
835.00	143.00	457.00	137.00	43.00	-999.00	-999.00	1.00
.00	.00	1.00					
835.00	143.00	457.00	137.00	43.00	-999.00	-999.00	1.00
.00	.00	1.00					
836.00	196.00	438.00	146.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
836.00	196.00	438.00	146.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
836.00	196.00	438.00	146.00	-999.00	-999.00	-999.00	1.00
.00	.00	1.00					
837.00	57.00	41.00	82.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
837.00	57.00	41.00	82.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
837.00	57.00	41.00	82.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
838.00	186.00	234.00	-999.00	-999.00	-999.00	-999.00	1.00
.00	.00	.00					

.00	.00	.00					
838.00	186.00	234.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	.00					
839.00	387.00	-999.00	-999.00	-999.00	-999.00	-999.00	
1.00							
.00	.00	.00					
840.00	312.00	90.00	246.00	44.00	43.00	-999.00	1.00
.00	.00	.00					
840.00	312.00	90.00	246.00	44.00	43.00	-999.00	1.00
.00	.00	.00					
840.00	312.00	90.00	246.00	44.00	43.00	-999.00	1.00
.00	.00	.00					
840.00	312.00	90.00	246.00	44.00	43.00	-999.00	1.00
.00	.00	.00					
840.00	312.00	90.00	246.00	44.00	43.00	-999.00	1.00
.00	.00	.00					
910.00	130.00	225.00	71.00	71.00	-999.00	-999.00	1.00
1.00	.00	.00					
910.00	130.00	225.00	71.00	71.00	-999.00	-999.00	1.00
1.00	.00	.00					
910.00	130.00	225.00	71.00	71.00	-999.00	-999.00	1.00
1.00	.00	.00					
910.00	130.00	225.00	71.00	71.00	-999.00	-999.00	1.00
1.00	.00	.00					
911.00	398.00	67.00	23.00	52.00	-999.00	-999.00	1.00
1.00	.00	.00					
911.00	398.00	67.00	23.00	52.00	-999.00	-999.00	1.00
1.00	.00	.00					
911.00	398.00	67.00	23.00	52.00	-999.00	-999.00	1.00
1.00	.00	.00					
911.00	398.00	67.00	23.00	52.00	-999.00	-999.00	1.00
1.00	.00	.00					
912.00	162.00	53.00	79.00	158.00	97.00	-999.00	1.00
1.00	.00	1.00					
912.00	162.00	53.00	79.00	158.00	97.00	-999.00	1.00
1.00	.00	1.00					
912.00	162.00	53.00	79.00	158.00	97.00	-999.00	1.00
1.00	.00	1.00					
912.00	162.00	53.00	79.00	158.00	97.00	-999.00	1.00
1.00	.00	1.00					
912.00	162.00	53.00	79.00	158.00	97.00	-999.00	1.00
1.00	.00	1.00					

913.00	135.00	599.00	65.00	59.00	-999.00	-999.00	1.00
1.00	.00	.00					
913.00	135.00	599.00	65.00	59.00	-999.00	-999.00	1.00
1.00	.00	.00					
913.00	135.00	599.00	65.00	59.00	-999.00	-999.00	1.00
1.00	.00	.00					
913.00	135.00	599.00	65.00	59.00	-999.00	-999.00	1.00
1.00	.00	.00					
914.00	101.00	45.00	18.00	146.00	29.00	-999.00	1.00
1.00	.00	.00					
914.00	101.00	45.00	18.00	146.00	29.00	-999.00	1.00
1.00	.00	.00					
914.00	101.00	45.00	18.00	146.00	29.00	-999.00	1.00
1.00	.00	.00					
914.00	101.00	45.00	18.00	146.00	29.00	-999.00	1.00
1.00	.00	.00					
914.00	101.00	45.00	18.00	146.00	29.00	-999.00	1.00
1.00	.00	.00					
915.00	183.00	89.00	228.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
915.00	183.00	89.00	228.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
915.00	183.00	89.00	228.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
916.00	130.00	90.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
916.00	130.00	90.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
917.00	141.00	109.00	133.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
917.00	141.00	109.00	133.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
917.00	141.00	109.00	133.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
918.00	17.00	22.00	30.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
918.00	17.00	22.00	30.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
918.00	17.00	22.00	30.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					

919.00	275.00	13.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
919.00	275.00	13.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
920.00	57.00	175.00	264.00	43.00	-999.00	-999.00	1.00
1.00	.00	1.00					
920.00	57.00	175.00	264.00	43.00	-999.00	-999.00	1.00
1.00	.00	1.00					
920.00	57.00	175.00	264.00	43.00	-999.00	-999.00	1.00
1.00	.00	1.00					
920.00	57.00	175.00	264.00	43.00	-999.00	-999.00	1.00
1.00	.00	1.00					
921.00	218.00	58.00	181.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
921.00	218.00	58.00	181.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
921.00	218.00	58.00	181.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
922.00	206.00	127.00	11.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
922.00	206.00	127.00	11.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
922.00	206.00	127.00	11.00	-999.00	-999.00	-999.00	1.00
1.00	.00	.00					
923.00	8.00	-999.00	-999.00	-999.00	-999.00	-999.00	1.00
1.00	1.00	.00					
6100.00	96.00	104.00	142.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
6100.00	96.00	104.00	142.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
6100.00	96.00	104.00	142.00	-999.00	-999.00	-999.00	.00
.00	.00	.00					
6101.00	70.00	316.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
6101.00	70.00	316.00	-999.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
7102.00	122.00	204.00	171.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					
7102.00	122.00	204.00	171.00	-999.00	-999.00	-999.00	.00
.00	1.00	.00					

7102.00	122.00	204.00	171.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7103.00	139.00	212.00	263.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7103.00	139.00	212.00	263.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7103.00	139.00	212.00	263.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7104.00	243.00	186.00	-999.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7104.00	243.00	186.00	-999.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7105.00	224.00	110.00	205.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7105.00	224.00	110.00	205.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			
7105.00	224.00	110.00	205.00	-999.00	-999.00	-999.00
.00	1.00	.00	.00			

Respondent Identifier

Influence of tv ad in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of magazine ad in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of newspaper ad in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of personal conversations in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of showroom in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of manufacturer brochures in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of consumer magazines in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of automagazines in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

Influence of previous experience with brand in most recent auto search (1-7 range, 1 = least influence, 7 = most influence, -999 = did not use source)

61.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00		
-999.00								
-999.00	-9.00							
61.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00		
-999.00								
-999.00	-9.00							
61.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00		
-999.00								
-999.00	-9.00							
62.00	-999.00	-999.00	-999.00	-999.00	5.00	5.00	5.00	
5.00	7.00							
62.00	-999.00	-999.00	-999.00	-999.00	5.00	5.00	5.00	
5.00	7.00							
62.00	-999.00	-999.00	-999.00	-999.00	5.00	5.00	5.00	
5.00	7.00							
62.00	-999.00	-999.00	-999.00	-999.00	5.00	5.00	5.00	
5.00	7.00							
63.00	-999.00	-999.00	2.00	5.00	7.00	6.00	7.00	
-999.00	-999.00							
63.00	-999.00	-999.00	2.00	5.00	7.00	6.00	7.00	
-999.00	-999.00							
64.00	6.00	-999.00	-999.00	-999.00	7.00	-999.00	5.00	
-999.00	4.00							
64.00	6.00	-999.00	-999.00	-999.00	7.00	-999.00	5.00	
-999.00	4.00							
64.00	6.00	-999.00	-999.00	-999.00	7.00	-999.00	5.00	
-999.00	4.00							
64.00	6.00	-999.00	-999.00	-999.00	7.00	-999.00	5.00	
-999.00	4.00							
65.00	-999.00	-999.00	-999.00	-999.00	-9.00	-999.00		
-999.00								
-999.00	-999.00							

65.00	-999.00	-999.00	-999.00	-999.00	-9.00	-999.00	
-999.00							
-999.00	-999.00						
66.00	-999.00	-999.00	-999.00	5.00	5.00	-999.00	-999.00
-999.00	6.00						
66.00	-999.00	-999.00	-999.00	5.00	5.00	-999.00	-999.00
-999.00	6.00						
66.00	-999.00	-999.00	-999.00	5.00	5.00	-999.00	-999.00
-999.00	6.00						
67.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	-9.00						
67.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	-9.00						
67.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	-9.00						
68.00	-999.00	6.00	-999.00	6.00	7.00	6.00	-999.00
-999.00	-999.00						
68.00	-999.00	6.00	-999.00	6.00	7.00	6.00	-999.00
-999.00	-999.00						
68.00	-999.00	6.00	-999.00	6.00	7.00	6.00	-999.00
-999.00	-999.00						
69.00	-999.00	-999.00	5.00	-999.00	7.00	5.00	7.00
-999.00	7.00						
69.00	-999.00	-999.00	5.00	-999.00	7.00	5.00	7.00
-999.00	7.00						
69.00	-999.00	-999.00	5.00	-999.00	7.00	5.00	7.00
-999.00	7.00						
69.00	-999.00	-999.00	5.00	-999.00	7.00	5.00	7.00
-999.00	7.00						
71.00	5.00	5.00	-999.00	6.00	7.00	7.00	-999.00
-999.00	-999.00						
71.00	5.00	5.00	-999.00	6.00	7.00	7.00	-999.00
-999.00	-999.00						
71.00	5.00	5.00	-999.00	6.00	7.00	7.00	-999.00
-999.00	-999.00						
71.00	5.00	5.00	-999.00	6.00	7.00	7.00	-999.00
-999.00	-999.00						
72.00	-999.00	-999.00	-999.00	7.00	5.00	-999.00	-999.00

5.00	-999.00						
72.00	-999.00	-999.00	-999.00	7.00	5.00	-999.00	-999.00
5.00	-999.00						
72.00	-999.00	-999.00	-999.00	7.00	5.00	-999.00	-999.00
5.00	-999.00						
73.00	-999.00	2.00	2.00	5.00	7.00	-999.00	7.00
4.00	-999.00						
73.00	-999.00	2.00	2.00	5.00	7.00	-999.00	7.00
4.00	-999.00						
73.00	-999.00	2.00	2.00	5.00	7.00	-999.00	7.00
4.00	-999.00						
73.00	-999.00	2.00	2.00	5.00	7.00	-999.00	7.00
4.00	-999.00						
74.00	-999.00	-999.00	-999.00	-999.00	6.00	-999.00	
-999.00							
-999.00	5.00						
77.00	-999.00	-999.00	5.00	-999.00	6.00	-999.00	7.00
5.00	7.00						
77.00	-999.00	-999.00	5.00	-999.00	6.00	-999.00	7.00
5.00	7.00						
77.00	-999.00	-999.00	5.00	-999.00	6.00	-999.00	7.00
5.00	7.00						
77.00	-999.00	-999.00	5.00	-999.00	6.00	-999.00	7.00
5.00	7.00						
77.00	-999.00	-999.00	5.00	-999.00	6.00	-999.00	7.00
5.00	7.00						
78.00	-999.00	-999.00	4.00	7.00	5.00	5.00	-999.00
5.00	-999.00						
78.00	-999.00	-999.00	4.00	7.00	5.00	5.00	-999.00
5.00	-999.00						
78.00	-999.00	-999.00	4.00	7.00	5.00	5.00	-999.00
5.00	-999.00						
79.00	6.00	-999.00	-999.00	5.00	5.00	-999.00	-999.00
6.00	7.00						
79.00	6.00	-999.00	-999.00	5.00	5.00	-999.00	-999.00
6.00	7.00						
79.00	6.00	-999.00	-999.00	5.00	5.00	-999.00	-999.00
6.00	7.00						
81.00	5.00	5.00	-999.00	-999.00	6.00	6.00	7.00
7.00	6.00						
82.00	2.00	5.00	5.00	6.00	6.00	-999.00	-999.00
-999.00	-999.00						
82.00	2.00	5.00	5.00	6.00	6.00	-999.00	-999.00

-999.00	-999.00							
82.00	2.00	5.00	5.00	6.00	6.00	-999.00	-999.00	
-999.00	-999.00							
83.00	-999.00	5.00	-999.00	6.00	6.00	7.00	7.00	
-999.00	6.00							
83.00	-999.00	5.00	-999.00	6.00	6.00	7.00	7.00	
-999.00	6.00							
83.00	-999.00	5.00	-999.00	6.00	6.00	7.00	7.00	
-999.00	6.00							
83.00	-999.00	5.00	-999.00	6.00	6.00	7.00	7.00	
-999.00	6.00							
84.00	-999.00	-999.00	-999.00	5.00	5.00	-999.00	7.00	
6.00	7.00							
84.00	-999.00	-999.00	-999.00	5.00	5.00	-999.00	7.00	
6.00	7.00							
84.00	-999.00	-999.00	-999.00	5.00	5.00	-999.00	7.00	
6.00	7.00							
85.00	-999.00	-999.00	-999.00	7.00	7.00	6.00	5.00	
-999.00	-999.00							
85.00	-999.00	-999.00	-999.00	7.00	7.00	6.00	5.00	
-999.00	-999.00							
85.00	-999.00	-999.00	-999.00	7.00	7.00	6.00	5.00	
-999.00	-999.00							
86.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00		
-999.00								
-999.00	7.00							
86.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00		
-999.00								
-999.00	7.00							
87.00	-999.00	-999.00	-999.00	-999.00	7.00	-999.00		
-999.00								
-999.00	-999.00							
87.00	-999.00	-999.00	-999.00	-999.00	7.00	-999.00		
-999.00								
-999.00	-999.00							
88.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00		
-999.00								
7.00	-999.00							
89.00	-999.00	-999.00	-999.00	4.00	-999.00	4.00	6.00	
6.00	7.00							
89.00	-999.00	-999.00	-999.00	4.00	-999.00	4.00	6.00	
6.00	7.00							

91.00	-999.00	-999.00	-999.00	6.00	-999.00	-999.00		
-999.00								
-999.00	6.00							
91.00	-999.00	-999.00	-999.00	6.00	-999.00	-999.00		
-999.00								
-999.00	6.00							
91.00	-999.00	-999.00	-999.00	6.00	-999.00	-999.00		
-999.00								
-999.00	6.00							
92.00	-999.00	-999.00	-999.00	7.00	7.00	7.00	7.00	
-999.00	-999.00							
92.00	-999.00	-999.00	-999.00	7.00	7.00	7.00	7.00	
-999.00	-999.00							
93.00	-999.00	-999.00	-999.00	-999.00	7.00	-999.00		
-999.00								
-999.00	7.00							
94.00	-999.00	-999.00	6.00	-999.00	7.00	-999.00	6.00	
-999.00	7.00							
94.00	-999.00	-999.00	6.00	-999.00	7.00	-999.00	6.00	
-999.00	7.00							
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6.00	7.00						
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6.00	7.00						
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-999.00	7.00						
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7.00	-999.00						
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-999.00	7.00						
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7.00	-999.00						
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7.00	-999.00						
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7.00	-999.00						
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710.00	5.00	5.00	-999.00	7.00	7.00	5.00	5.00
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5.00	-999.00						
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7.00	-999.00						

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7.00	-999.00						
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-999.00	5.00						
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-999.00	-999.00						
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-999.00	-999.00						

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732.00	4.00	4.00	-999.00	6.00	5.00	5.00	7.00
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5.00	3.00						

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816.00	5.00	-999.00	7.00	6.00	7.00	-999.00	6.00
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816.00	5.00	-999.00	7.00	6.00	7.00	-999.00	6.00
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820.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
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820.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
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825.00	-999.00	-999.00	-999.00	3.00	-999.00	6.00	-999.00
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832.00	4.00	4.00	3.00	-999.00	6.00	4.00	6.00
6.00	-999.00						
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833.00	5.00	-999.00	5.00	-999.00	7.00	6.00	6.00
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833.00	5.00	-999.00	5.00	-999.00	7.00	6.00	6.00
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5.00	-999.00						
840.00	-999.00	-999.00	-999.00	6.00	6.00	5.00	6.00
5.00	-999.00						
840.00	-999.00	-999.00	-999.00	6.00	6.00	5.00	6.00
5.00	-999.00						
840.00	-999.00	-999.00	-999.00	6.00	6.00	5.00	6.00
5.00	-999.00						
910.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	7.00						
910.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	7.00						
910.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	7.00						
910.00	-999.00	-999.00	-999.00	-999.00	5.00	-999.00	
-999.00							
-999.00	7.00						
911.00	-999.00	-999.00	-999.00	4.00	6.00	-999.00	-999.00
6.00	7.00						
911.00	-999.00	-999.00	-999.00	4.00	6.00	-999.00	-999.00

6.00	7.00						
911.00	-999.00	-999.00	-999.00	4.00	6.00	-999.00	-999.00
6.00	7.00						
911.00	-999.00	-999.00	-999.00	4.00	6.00	-999.00	-999.00
6.00	7.00						
912.00	5.00	5.00	-999.00	7.00	6.00	-999.00	-999.00
-999.00	-999.00						
912.00	5.00	5.00	-999.00	7.00	6.00	-999.00	-999.00
-999.00	-999.00						
912.00	5.00	5.00	-999.00	7.00	6.00	-999.00	-999.00
-999.00	-999.00						
912.00	5.00	5.00	-999.00	7.00	6.00	-999.00	-999.00
-999.00	-999.00						
912.00	5.00	5.00	-999.00	7.00	6.00	-999.00	-999.00
-999.00	-999.00						
913.00	-999.00	-999.00	-999.00	-999.00	6.00	5.00	5.00
6.00	7.00						
913.00	-999.00	-999.00	-999.00	-999.00	6.00	5.00	5.00
6.00	7.00						
913.00	-999.00	-999.00	-999.00	-999.00	6.00	5.00	5.00
6.00	7.00						
913.00	-999.00	-999.00	-999.00	-999.00	6.00	5.00	5.00
6.00	7.00						
914.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
-9.00	-9.00						
914.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
-9.00	-9.00						
914.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
-9.00	-9.00						
914.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
-9.00	-9.00						
914.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00	-9.00
-9.00	-9.00						
915.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00
7.00							
-999.00	-999.00						
915.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00
7.00							
-999.00	-999.00						
915.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00	-999.00
7.00							
-999.00	-999.00						
916.00	4.00	5.00	-999.00	5.00	-999.00	-999.00	-999.00

-999.00	-999.00						
916.00	4.00	5.00	-999.00	5.00	-999.00	-999.00	-999.00
-999.00	-999.00						
917.00	-999.00	-999.00	2.00	-999.00	7.00	-999.00	5.00
-999.00	2.00						
917.00	-999.00	-999.00	2.00	-999.00	7.00	-999.00	5.00
-999.00	2.00						
917.00	-999.00	-999.00	2.00	-999.00	7.00	-999.00	5.00
-999.00	2.00						
918.00	-999.00	-999.00	-999.00	-999.00	4.00	-999.00	
-999.00							
5.00	6.00						
918.00	-999.00	-999.00	-999.00	-999.00	4.00	-999.00	
-999.00							
5.00	6.00						
918.00	-999.00	-999.00	-999.00	-999.00	4.00	-999.00	
-999.00							
5.00	6.00						
919.00	-999.00	-999.00	-999.00	-999.00	3.00	-999.00	6.00
-999.00	7.00						
919.00	-999.00	-999.00	-999.00	-999.00	3.00	-999.00	6.00
-999.00	7.00						
920.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	7.00
7.00	-999.00						
920.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	7.00
7.00	-999.00						
920.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	7.00
7.00	-999.00						
920.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	7.00
7.00	-999.00						
921.00	-999.00	-999.00	-999.00	-999.00	6.00	-999.00	
-999.00							
-999.00	-999.00						
921.00	-999.00	-999.00	-999.00	-999.00	6.00	-999.00	
-999.00							
-999.00	-999.00						
921.00	-999.00	-999.00	-999.00	-999.00	6.00	-999.00	
-999.00							
-999.00	-999.00						
922.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	6.00
-999.00	-999.00						
922.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	6.00
-999.00	-999.00						

922.00	-999.00	-999.00	-999.00	5.00	6.00	-999.00	6.00
-999.00	-999.00						
923.00	-999.00	-999.00	-999.00	7.00	-999.00	-999.00	
-999.00							
-999.00	-999.00						
6100.00	-999.00	-999.00	-999.00	7.00	7.00	5.00	7.00
4.00	-999.00						
6100.00	-999.00	-999.00	-999.00	7.00	7.00	5.00	7.00
4.00	-999.00						
6100.00	-999.00	-999.00	-999.00	7.00	7.00	5.00	7.00
4.00	-999.00						
6101.00	5.00	-999.00	-999.00	-999.00	6.00	-999.00	
-999.00							
-999.00	7.00						
6101.00	5.00	-999.00	-999.00	-999.00	6.00	-999.00	
-999.00							
-999.00	7.00						
7102.00	-999.00	-999.00	-999.00	-999.00	7.00	6.00	7.00
-999.00	7.00						
7102.00	-999.00	-999.00	-999.00	-999.00	7.00	6.00	7.00
-999.00	7.00						
7102.00	-999.00	-999.00	-999.00	-999.00	7.00	6.00	7.00
-999.00	7.00						
7103.00	-999.00	-999.00	-999.00	6.00	6.00	4.00	-999.00
6.00	7.00						
7103.00	-999.00	-999.00	-999.00	6.00	6.00	4.00	-999.00
6.00	7.00						
7103.00	-999.00	-999.00	-999.00	6.00	6.00	4.00	-999.00
6.00	7.00						
7104.00	-999.00	-999.00	-999.00	-999.00	-999.00	7.00	
-999.00							
-999.00	5.00						
7104.00	-999.00	-999.00	-999.00	-999.00	-999.00	7.00	
-999.00							
-999.00	5.00						
7105.00	-999.00	6.00	-999.00	5.00	6.00	-999.00	-999.00
6.00	5.00						
7105.00	-999.00	6.00	-999.00	5.00	6.00	-999.00	-999.00
6.00	5.00						
7105.00	-999.00	6.00	-999.00	5.00	6.00	-999.00	-999.00
6.00	5.00						

Respondent Identifier

Time inside auto
 Time outside auto
 Time talking with salesperson while inside auto
 Time talking with salesperson while outside auto
 Time spent looking at brochure
 Time spent looking at sticker
 Looked at engine (0 = No, 1 = Yes)
 Looked in trunk (0 = No, 1 = Yes)
 Asked salesperson about anti-theft system (0= No, 1 = Yes)
 Asked salesperson about autosound system (0= No, 1 = Yes)
 Asked salesperson about brakes system (0= No, 1 = Yes)
 Asked salesperson about climate control (0= No, 1 = Yes)
 Asked salesperson about convertible top (0= No, 1 = Yes)
 Asked salesperson about corrosion (0= No, 1 = Yes)
 Asked salesperson about cruise control (0= No, 1 = Yes)
 Asked salesperson about engine (0= No, 1 = Yes)
 Asked salesperson about finish (0= No, 1 = Yes)
 Asked salesperson about miles per gallon (0= No, 1 = Yes)
 Asked salesperson about options (0= No, 1 = Yes)
 Asked salesperson about price (0= No, 1 = Yes)
 Asked salesperson about safety (0= No, 1 = Yes)
 Asked salesperson about steering (0= No, 1 = Yes)
 Asked salesperson about suspension (0= No, 1 = Yes)
 Asked salesperson about tilt-wheel (0= No, 1 = Yes)
 Asked salesperson about transmission (0= No, 1 = Yes)
 Asked salesperson about warranty (0= No, 1 = Yes)

61.00	.00	46.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
62.00	87.00	58.00	.00	56.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
1.00	.00	1.00	.00	1.00	1.00	.00	.00
1.00	.00	.00					
63.00	66.00	66.00	.00	24.00	19.00	35.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	1.00	1.00	.00	.00
.00	.00	1.00					
64.00	.00	54.00	.00	73.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	1.00	.00	.00	1.00	1.00	.00	.00
.00	.00	1.00					

64.00	.00	79.00	.00	6.00	.00	.00	1.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
65.00	81.00	66.00	.00	28.00	23.00	46.00	.00
.00	1.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
.00	.00	.00					
66.00	.00	114.00	.00	214.00	.00	.00	.00
.00	.00	1.00	1.00	1.00	1.00	.00	1.00
1.00	1.00	1.00	1.00	1.00	.00	.00	1.00
.00	1.00	1.00					
67.00	.00	127.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
68.00	.00	87.00	.00	26.00	21.00	8.00	.00
.00	.00	1.00	.00	.00	.00	.00	.00
.00	.00	.00	1.00	1.00	.00	.00	.00
.00	.00	.00					
69.00	25.00	194.00	.00	28.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	1.00	1.00	1.00	.00	.00
.00	.00	.00					
72.00	16.00	44.00	.00	272.00	.00	.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
.00	.00	1.00	1.00	1.00	1.00	1.00	.00
1.00	1.00	1.00					
73.00	.00	40.00	.00	132.00	.00	.00	1.00
1.00	.00	.00	.00	.00	1.00	.00	.00
1.00	.00	.00	1.00	1.00	1.00	.00	.00
.00	.00	1.00					
77.00	.00	7.00	.00	113.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	1.00					
78.00	1.00	3.00	1.00	6.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	.00	.00					
79.00	44.00	75.00	8.00	27.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	1.00	.00
1.00	.00	1.00	.00	1.00	.00	.00	1.00

.00	1.00	1.00					
81.00	51.00	256.00	.00	218.00	.00	.00	.00
.00	1.00	1.00	.00	.00	.00	.00	1.00
1.00	.00	1.00	1.00	1.00	1.00	.00	.00
.00	.00	1.00					
82.00	.00	99.00	.00	72.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
1.00	.00	.00	1.00	.00	.00	.00	.00
.00	.00	1.00					
83.00	35.00	153.00	.00	162.00	.00	.00	.00
1.00	1.00	.00	1.00	.00	.00	1.00	.00
1.00	.00	1.00	1.00	1.00	1.00	.00	.00
.00	1.00	1.00					
84.00	39.00	89.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
85.00	51.00	163.00	.00	159.00	.00	.00	.00
.00	1.00	1.00	.00	.00	1.00	.00	.00
1.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	.00	1.00					
86.00	.00	83.00	.00	284.00	.00	.00	.00
.00	1.00	1.00	1.00	.00	.00	1.00	.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	.00
.00	1.00	.00					
87.00	.00	67.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
88.00	82.00	41.00	297.00	.00	.00	.00	.00
.00	1.00	1.00	1.00	.00	1.00	1.00	.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
.00	1.00	1.00					
89.00	.00	72.00	.00	219.00	.00	.00	.00
.00	1.00	1.00	1.00	1.00	.00	.00	.00
1.00	1.00	.00	1.00	1.00	1.00	.00	1.00
1.00	1.00	1.00					
91.00	37.00	74.00	12.00	7.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	1.00	.00	.00	1.00
.00	.00	.00					
92.00	.00	20.00	.00	247.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	1.00	.00

1.00	.00	1.00	1.00	.00	1.00	.00	.00
.00	.00	1.00					
93.00	.00	59.00	.00	71.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	1.00	.00	.00	1.00	.00	.00	.00
.00	.00	.00					
94.00	21.00	11.00	149.00	.00	.00	.00	.00
.00	.00	1.00	.00	1.00	.00	.00	1.00
1.00	.00	.00	1.00	1.00	1.00	.00	.00
.00	.00	.00					
95.00	12.00	43.00	40.00	40.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	1.00	.00	.00	.00	.00
.00	.00	1.00					
96.00	20.00	185.00	18.00	144.00	.00	.00	1.00
1.00	.00	.00	.00	.00	1.00	.00	.00
1.00	.00	1.00	.00	1.00	.00	.00	.00
.00	1.00	.00					
97.00	30.00	9.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
98.00	9.00	28.00	50.00	49.00	.00	.00	.00
.00	.00	.00	.00	.00	1.00	.00	.00
.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	1.00	.00					
99.00	123.00	124.00	.00	120.00	.00	.00	1.00
1.00	.00	.00	.00	.00	1.00	.00	.00
1.00	.00	1.00	.00	.00	.00	.00	.00
.00	1.00	.00					
610.00	.00	11.00	.00	129.00	.00	.00	.00
.00	1.00	.00	.00	.00	1.00	.00	.00
.00	1.00	1.00	.00	1.00	1.00	.00	.00
.00	.00	.00					
611.00	.00	97.00	.00	89.00	89.00	60.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	1.00	.00	.00	.00	.00
.00	.00	1.00					
612.00	.00	175.00	.00	29.00	108.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	1.00	.00	.00	.00
.00	.00	1.00					
613.00	.00	117.00	.00	228.00	.00	.00	.00

.00	1.00	.00	.00	1.00	1.00	.00	.00
1.00	1.00	1.00	.00	1.00	1.00	1.00	.00
.00	1.00	1.00					
614.00	.00	52.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
615.00	.00	68.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
616.00	.00	53.00	.00	102.00	71.00	33.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
1.00	1.00	1.00	1.00	1.00	.00	.00	.00
.00	1.00	.00					
616.00	.00	9.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
617.00	.00	16.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
618.00	.00	108.00	.00	98.00	.00	.00	.00
.00	.00	1.00	.00	.00	1.00	.00	.00
1.00	.00	1.00	.00	1.00	1.00	.00	.00
.00	1.00	1.00					
619.00	.00	75.00	.00	118.00	16.00	58.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	1.00	.00	.00	.00	.00	.00	1.00
.00	.00	1.00					
620.00	22.00	110.00	64.00	28.00	10.00	36.00	1.00
.00	.00	.00	1.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
621.00	.00	35.00	.00	48.00	.00	.00	.00
.00	.00	.00	.00	.00	1.00	.00	.00
.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	.00	.00					
622.00	.00	111.00	.00	14.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	.00	.00
.00	.00	.00					

623.00	.00	66.00	.00	17.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	.00	.00
.00	.00	.00					
624.00	73.00	59.00	.00	7.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	1.00	.00	.00
.00	.00	.00					
625.00	.00	70.00	.00	79.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	1.00	.00	.00	1.00	.00	.00
.00	1.00	1.00					
626.00	38.00	104.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
631.00	26.00	29.00	12.00	54.00	.00	.00	1.00
1.00	.00	1.00	.00	1.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	1.00	1.00					
632.00	.00	14.00	.00	97.00	21.00	22.00	.00
.00	.00	.00	.00	.00	.00	1.00	.00
.00	.00	.00	1.00	1.00	.00	.00	1.00
.00	1.00	1.00					
633.00	.00	20.00	.00	.00	.00	39.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
634.00	.00	51.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
635.00	.00	58.00	.00	50.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	.00	.00
.00	.00	.00					
636.00	.00	63.00	.00	45.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
.00	.00	.00					
637.00	13.00	68.00	.00	40.00	.00	.00	1.00
1.00	.00	.00	.00	1.00	1.00	.00	.00
1.00	.00	.00	1.00	1.00	.00	1.00	.00

.00	1.00	.00					
638.00	12.00	21.00	.00	88.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	1.00	1.00	.00	.00	.00
.00	1.00	.00					
639.00	26.00	165.00	.00	79.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	.00	.00	.00	.00	.00
.00	1.00	1.00					
640.00	.00	57.00	.00	42.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	.00	.00	1.00	.00	.00
.00	.00	.00					
641.00	58.00	176.00	.00	114.00	18.00	52.00	.00
.00	1.00	.00	1.00	.00	1.00	.00	.00
1.00	.00	.00	.00	1.00	1.00	.00	.00
.00	.00	.00					
642.00	.00	150.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
643.00	.00	80.00	.00	76.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
1.00	.00	1.00	.00	.00	1.00	1.00	.00
.00	1.00	1.00					
644.00	.00	14.00	.00	108.00	67.00	37.00	.00
.00	.00	1.00	1.00	.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	1.00
.00	1.00	.00					
645.00	.00	91.00	.00	.00	68.00	42.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
646.00	.00	113.00	.00	186.00	6.00	70.00	.00
.00	1.00	.00	1.00	1.00	.00	.00	.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	.00
.00	1.00	1.00					
648.00	.00	122.00	.00	65.00	.00	.00	1.00
.00	.00	.00	.00	1.00	1.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	1.00	.00					
649.00	.00	62.00	.00	115.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00

1.00	1.00	1.00	.00	1.00	1.00	.00	.00
1.00	1.00	1.00					
650.00	.00	9.00	.00	89.00	57.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	.00	1.00	.00	.00	1.00
.00	.00	.00					
651.00	.00	33.00	.00	36.00	42.00	43.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	1.00	1.00	1.00	1.00	.00
.00	.00	.00					
651.00	.00	5.00	.00	10.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	1.00	.00
.00	.00	.00					
652.00	.00	10.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
653.00	105.00	215.00	.00	78.00	35.00	65.00	1.00
1.00	.00	1.00	1.00	.00	.00	.00	.00
1.00	.00	.00	1.00	.00	.00	.00	1.00
.00	1.00	.00					
654.00	.00	60.00	.00	70.00	.00	66.00	.00
.00	.00	1.00	.00	.00	1.00	.00	.00
.00	.00	.00	.00	1.00	.00	.00	.00
.00	1.00	1.00					
655.00	.00	60.00	.00	107.00	.00	105.00	.00
.00	1.00	.00	.00	.00	.00	1.00	.00
1.00	.00	1.00	1.00	1.00	1.00	.00	1.00
.00	.00	.00					
656.00	.00	11.00	.00	16.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	1.00	.00	1.00	.00	.00	.00
.00	.00	.00					
657.00	.00	26.00	.00	142.00	21.00	.00	.00
.00	.00	1.00	.00	.00	.00	.00	.00
1.00	1.00	.00	1.00	1.00	1.00	1.00	1.00
.00	1.00	.00					
658.00	.00	12.00	.00	.00	66.00	75.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
659.00	101.00	262.00	.00	96.00	.00	.00	.00

1.00	.00	1.00	1.00	.00	.00	1.00	.00
1.00	.00	1.00	.00	1.00	1.00	.00	.00
.00	.00	1.00					
660.00	.00	13.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
661.00	.00	155.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
662.00	48.00	129.00	.00	.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
663.00	.00	27.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
665.00	.00	208.00	.00	163.00	.00	.00	.00
.00	.00	1.00	1.00	.00	.00	.00	.00
1.00	.00	.00	1.00	1.00	1.00	.00	.00
.00	.00	.00					
666.00	.00	127.00	.00	35.00	.00	.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
.00	.00	1.00	.00	.00	.00	.00	.00
.00	1.00	1.00					
667.00	54.00	242.00	.00	146.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	1.00	1.00
1.00	1.00	1.00	.00	.00	.00	1.00	1.00
.00	.00	1.00					
668.00	54.00	127.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
669.00	39.00	321.00	.00	.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
670.00	.00	40.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					

671.00	.00	53.00	.00	.00	83.00	33.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
672.00	.00	51.00	.00	39.00	.00	.00	.00
.00	.00	.00	.00	.00	1.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
673.00	78.00	157.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
710.00	53.00	81.00	16.00	89.00	.00	.00	.00
.00	.00	1.00	.00	.00	1.00	.00	.00
1.00	1.00	1.00	.00	1.00	.00	.00	.00
.00	1.00	1.00					
711.00	57.00	160.00	14.00	98.00	.00	.00	.00
1.00	.00	.00	.00	.00	1.00	.00	.00
1.00	.00	1.00	.00	1.00	1.00	.00	.00
.00	.00	1.00					
713.00	75.00	102.00	214.00	16.00	.00	.00	.00
.00	1.00	1.00	1.00	.00	1.00	1.00	.00
1.00	1.00	1.00	.00	1.00	1.00	.00	1.00
.00	.00	1.00					
715.00	.00	57.00	.00	219.00	.00	.00	.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	.00
.00	1.00	1.00	1.00	1.00	.00	.00	.00
.00	1.00	1.00					
718.00	36.00	37.00	.00	131.00	.00	.00	1.00
.00	.00	.00	1.00	.00	1.00	.00	.00
1.00	.00	.00	1.00	1.00	.00	.00	.00
.00	1.00	1.00					
719.00	39.00	27.00	30.00	86.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	.00	.00
1.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	1.00	.00					
720.00	90.00	116.00	48.00	50.00	.00	13.00	1.00
1.00	.00	1.00	1.00	.00	.00	.00	.00
1.00	.00	1.00	.00	.00	.00	1.00	1.00
.00	.00	.00					
721.00	23.00	103.00	8.00	193.00	.00	.00	1.00
1.00	.00	.00	1.00	.00	1.00	1.00	.00
1.00	1.00	.00	.00	.00	1.00	.00	.00

.00	1.00	1.00						
722.00	.00	122.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00						
723.00	.00	97.00	.00	160.00	.00	.00	1.00	
1.00	.00	1.00	.00	.00	1.00	.00	.00	
1.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00						
724.00	65.00	43.00	.00	22.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	1.00	.00	.00	.00	.00
.00	.00	.00						
725.00	39.00	74.00	.00	42.00	.00	.00	1.00	
.00	.00	.00	.00	.00	.00	.00	.00	
1.00	.00	.00	1.00	.00	.00	.00	.00	
.00	.00	.00						
726.00	42.00	86.00	22.00	12.00	.00	.00	.00	.00
1.00	.00	1.00	.00	.00	1.00	.00	.00	
.00	.00	.00	1.00	1.00	.00	.00	.00	
.00	.00	.00						
727.00	49.00	139.00	.00	27.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	1.00	.00	.00	.00	
.00	.00	.00						
728.00	32.00	35.00	41.00	35.00	.00	.00	.00	.00
1.00	1.00	.00	.00	.00	.00	.00	1.00	
1.00	.00	.00	.00	1.00	.00	.00	1.00	
.00	1.00	.00						
729.00	10.00	76.00	4.00	40.00	.00	.00	1.00	
1.00	.00	.00	.00	.00	.00	.00	.00	
1.00	.00	.00	.00	1.00	.00	.00	.00	
.00	.00	.00						
730.00	1.00	30.00	72.00	27.00	.00	.00	.00	.00
1.00	.00	1.00	.00	1.00	1.00	1.00	.00	
.00	.00	1.00	.00	1.00	.00	.00	.00	
.00	1.00	1.00						
731.00	107.00	122.00	49.00	223.00	.00	.00	1.00	
1.00	.00	1.00	.00	1.00	.00	.00	.00	
1.00	.00	.00	.00	.00	.00	.00	.00	
.00	1.00	1.00						
732.00	95.00	45.00	5.00	4.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00	

.00	.00	.00	1.00	.00	.00	.00	.00	
.00	.00	.00						
733.00	17.00	164.00	11.00	59.00	.00	.00	1.00	
.00	.00	.00	.00	.00	.00	.00	.00	
1.00	.00	1.00	.00	1.00	.00	1.00	.00	
1.00	.00	.00						
734.00	55.00	159.00	3.00	72.00	.00	.00	1.00	
1.00	.00	.00	1.00	.00	.00	.00	.00	
1.00	.00	.00	.00	.00	.00	.00	1.00	
.00	1.00	.00						
735.00	63.00	40.00	15.00	60.00	.00	.00	.00	
1.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00	1.00	1.00	.00	.00	.00	
.00	1.00	.00						
736.00	22.00	137.00	68.00	94.00	.00	.00	1.00	
1.00	.00	.00	.00	.00	1.00	.00	.00	
1.00	.00	.00	1.00	1.00	1.00	.00	.00	
.00	1.00	.00						
737.00	48.00	257.00	.00	151.00	.00	.00	1.00	
1.00	.00	.00	.00	1.00	1.00	.00	.00	
1.00	.00	.00	1.00	1.00	.00	1.00	.00	
.00	1.00	.00						
738.00	10.00	17.00	.00	72.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
1.00	.00	.00	1.00	1.00	.00	.00	.00	
.00	1.00	.00						
810.00	58.00	91.00	.00	140.00	.00	.00	.00	
.00	.00	1.00	.00	.00	1.00	.00	.00	
.00	.00	1.00	1.00	1.00	1.00	.00	.00	
.00	.00	1.00						
811.00	43.00	106.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00						
812.00	39.00	107.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00						
813.00	.00	123.00	.00	144.00	.00	.00	.00	
.00	.00	.00	1.00	.00	.00	1.00	.00	
1.00	.00	.00	.00	.00	1.00	1.00	1.00	
1.00	.00	1.00						
814.00	.00	131.00	.00	191.00	.00	72.00	.00	

.00	1.00	1.00	1.00	.00	.00	.00	.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	.00
.00	.00	1.00					
815.00	11.00	81.00	.00	79.00	17.00	25.00	1.00
1.00	1.00	1.00	.00	.00	.00	.00	.00
.00	.00	1.00	.00	.00	1.00	1.00	.00
1.00	.00	1.00					
816.00	26.00	197.00	.00	185.00	50.00	49.00	1.00
1.00	1.00	1.00	1.00	1.00	1.00	.00	.00
1.00	.00	1.00	1.00	1.00	.00	1.00	1.00
.00	.00	1.00					
817.00	.00	35.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
818.00	.00	75.00	.00	.00	39.00	24.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
819.00	.00	156.00	.00	264.00	.00	.00	.00
.00	1.00	1.00	1.00	.00	.00	1.00	.00
1.00	.00	1.00	1.00	1.00	.00	1.00	1.00
1.00	1.00	1.00					
820.00	43.00	179.00	.00	43.00	.00	.00	.00
.00	.00	.00	.00	.00	1.00	.00	.00
.00	.00	.00	.00	1.00	.00	.00	.00
.00	.00	.00					
821.00	47.00	181.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
822.00	.00	138.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
823.00	79.00	108.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
824.00	9.00	116.00	.00	165.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	.00	1.00	1.00	1.00	1.00
.00	1.00	1.00					

825.00	.00	119.00	.00	152.00	74.00	13.00	.00
.00	.00	.00	1.00	.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	.00	1.00
.00	.00	1.00					
826.00	29.00	319.00	.00	132.00	.00	.00	.00
.00	1.00	1.00	1.00	1.00	1.00	.00	.00
.00	1.00	.00	1.00	1.00	1.00	.00	1.00
1.00	.00	1.00					
827.00	.00	38.00	.00	91.00	.00	.00	.00
.00	1.00	.00	.00	.00	.00	1.00	.00
.00	.00	.00	1.00	1.00	1.00	.00	1.00
.00	.00	1.00					
828.00	.00	4.00	.00	83.00	.00	.00	.00
.00	1.00	.00	1.00	.00	.00	.00	.00
1.00	.00	1.00	.00	1.00	1.00	.00	.00
.00	1.00	1.00					
829.00	.00	57.00	.00	6.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
830.00	.00	128.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
831.00	.00	12.00	.00	35.00	13.00	26.00	.00
.00	.00	1.00	.00	.00	1.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
832.00	.00	127.00	.00	91.00	.00	.00	.00
1.00	.00	1.00	.00	.00	.00	.00	1.00
.00	.00	.00	.00	1.00	1.00	.00	.00
.00	.00	.00					
833.00	.00	41.00	.00	106.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	.00	1.00					
833.00	.00	122.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
834.00	62.00	80.00	.00	49.00	.00	50.00	.00
.00	1.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	1.00	.00	.00	.00

.00	.00	1.00						
835.00	193.00	199.00	.00	.00	.00	65.00	.00	
1.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00						
836.00	26.00	120.00	.00	.00	.00	.00	1.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
.00	.00	.00						
837.00	.00	44.00	.00	38.00	.00	.00	.00	
.00	.00	1.00	.00	.00	.00	.00	.00	
.00	.00	1.00	.00	.00	.00	.00	.00	
.00	.00	.00						
838.00	.00	149.00	.00	85.00	.00	.00	.00	
.00	.00	.00	.00	.00	.00	.00	.00	
1.00	.00	1.00	1.00	1.00	.00	.00	.00	
.00	.00	1.00						
839.00	.00	91.00	.00	186.00	110.00	.00	.00	
.00	.00	.00	1.00	.00	1.00	.00	1.00	
1.00	.00	1.00	1.00	.00	.00	1.00	1.00	
.00	1.00	1.00						
840.00	37.00	93.00	.00	126.00	.00	56.00	.00	
.00	1.00	.00	.00	1.00	1.00	.00	.00	
1.00	.00	.00	.00	1.00	1.00	.00	.00	
.00	1.00	1.00						
910.00	19.00	14.00	91.00	7.00	.00	.00	.00	
.00	.00	.00	.00	.00	1.00	.00	.00	
.00	.00	1.00	1.00	1.00	.00	.00	.00	
.00	1.00	.00						
911.00	50.00	105.00	86.00	156.00	.00	.00	1.00	
1.00	.00	1.00	1.00	.00	1.00	.00	.00	
1.00	.00	1.00	1.00	1.00	.00	.00	1.00	
.00	1.00	1.00						
912.00	11.00	63.00	8.00	76.00	.00	.00	.00	
.00	.00	.00	.00	.00	1.00	.00	.00	
1.00	.00	.00	1.00	1.00	.00	.00	.00	
.00	1.00	.00						
913.00	122.00	233.00	70.00	174.00	.00	.00	1.00	
.00	.00	1.00	.00	1.00	1.00	1.00	.00	
1.00	1.00	.00	1.00	.00	.00	1.00	1.00	
.00	1.00	.00						
914.00	42.00	55.00	38.00	10.00	.00	.00	.00	
1.00	.00	1.00	.00	.00	.00	.00	1.00	

.00	.00	1.00	.00	1.00	.00	.00	.00
.00	.00	.00					
915.00	104.00	44.00	79.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	1.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	1.00	.00					
916.00	36.00	85.00	.00	9.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	1.00	.00	.00	.00	.00	.00
.00	.00	.00					
917.00	56.00	52.00	.00	33.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	.00	.00
.00	.00	.00					
918.00	39.00	47.00	8.00	56.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	1.00
1.00	1.00	.00					
919.00	.00	102.00	.00	173.00	.00	.00	1.00
1.00	.00	1.00	.00	1.00	.00	.00	.00
1.00	.00	1.00	1.00	.00	.00	.00	.00
.00	.00	1.00					
920.00	30.00	44.00	38.00	64.00	.00	.00	1.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	1.00	1.00	1.00	.00	.00	.00
.00	1.00	.00					
921.00	53.00	81.00	24.00	23.00	.00	.00	1.00
1.00	.00	1.00	1.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00					
922.00	32.00	78.00	21.00	76.00	.00	.00	.00
1.00	.00	.00	.00	.00	1.00	.00	.00
.00	1.00	.00	1.00	1.00	.00	.00	.00
.00	.00	.00					
923.00	22.00	72.00	26.00	9.00	.00	.00	1.00
.00	.00	.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	1.00	.00	1.00	.00
.00	.00	.00					
6100.00	51.00	91.00	.00	.00	.00	.00	.00
1.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00	.00	.00	.00	.00	.00
.00	.00	.00					
6101.00	.00	114.00	.00	202.00	.00	.00	.00

.00	.00	.00	.00	.00	.00	.00	.00	
1.00	.00	.00	1.00	1.00	.00	.00	.00	
1.00	.00	.00						
7102.00	20.00	32.00	1.00	69.00	.00	.00	.00	
1.00	1.00	.00	1.00	.00	1.00	1.00	.00	
1.00	.00	1.00	.00	.00	1.00	.00	1.00	
.00	1.00	1.00						
7103.00	70.00	64.00	26.00	104.00	.00	.00	.00	
1.00	1.00	1.00	1.00	.00	1.00	.00	.00	
.00	1.00	1.00	1.00	1.00	1.00	.00	1.00	
.00	1.00	.00						
7104.00	36.00	78.00	108.00	21.00	.00	.00	.00	
.00	.00	1.00	.00	.00	1.00	.00	.00	
1.00	1.00	1.00	1.00	1.00	.00	.00	1.00	
.00	.00	1.00						
7105.00	27.00	47.00	7.00	124.00	.00	.00	.00	
1.00	.00	.00	.00	.00	1.00	.00	.00	
1.00	1.00	.00	1.00	1.00	.00	.00	.00	
.00	.00	1.00						