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**THE EFFECTS OF BRAND NAME AND COUNTRY NAME  
ON CONSUMER EVALUATION OF FASHION PRODUCTS**

Tracey Ades

A Thesis  
In  
The Faculty  
of  
Commerce and Administration

Presented in Partial Fulfilment of the Requirements  
for the Degree of Master of Science in Administration at  
Concordia University  
Montreal, Quebec, Canada

December 1995

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## **ABSTRACT**

### **Brand Name and Country-of-Origin on the Evaluation of Fashion Products**

By Tracey Ades

The purpose of research was to determine the extent to which brand and country name cues are used by consumers in the evaluation and purchase of fashion products. The fashion phenomenon is a dynamic social force in which individuals adopt products they deem socially symbolic. These products meet needs which relate to associating the individual with a desired group, role or self-image (Park, Jaworski & MacInnis 1986).

In the fashion market product and brand image are promotional bases and therefore perception of brand name may ultimately be of greater concern to the consumer than functional product characteristics (Miller, McIntyre & Mantrala 1993; Evans 1989; Sproles 1981). Research was hoped to reveal support for the above conclusion and suggest that aspects of both country and brand image have significant effects on decision making.

The luxury car market was selected for analysis due to significant brand and country name awareness and data availability necessary for purposes of study. Annual styling changes inherent to the products of this market also made this product category an appropriate choice for research.

Principal component and multiple regression analysis were the means by which brand, country and other product dimensions were examined in relation to luxury car brand share. Results based on these analyses provided additional information into the issues surrounding advertising, manufacturing and consumer price sensitivity in the fashion product market; as well as other relevant knowledge which could effect the marketing mix strategy and its planning.

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## INTRODUCTION:

In the purchase of goods and services there is frequently more at stake in the mind of the consumer than the mere satisfaction of functional needs. Consumption is a social activity and consumer purchasing motivations are complicated by the cultural expectations which act on their behaviour. Products are viewed by consumers as symbols that carry and communicate meaning about themselves to referent others. Possessions are regarded as a part of self and consumers attempt to define or enhance personality through product use or consumption.

Ego involvement and the public exhibition of fashion product consumption makes the purchase of these goods one of the most obvious and important means of self expression and self enhancement in terms of product usage. The fashion phenomenon is a dynamic social force in which individuals adopt products they deem socially symbolic. These products meet symbolic needs which relate to associating the individual with a desired group, role or self-image (Park, Jaworski & MacInnis 1986). Fashion principles can effect the evaluation and purchase of many products and services from cars and houses to food and entertainment.

Clothing and other means of self adornment are obviously the purest form of fashion and consumption of these products require a significant level of involvement by the consumer. Clothing allows the individual to communicate messages about

self as well as reveal to others the cultural and societal rules one admires, accepts and to which one will ultimately conform. This is therefore one of the most expressive product categories available to researchers for analysis in terms of fashion consumption. Other less obvious fashion markets, such as the automobile industry, are also effected by the fashion phenomenon. Every year auto makers pay a great deal of attention and expense to the introduction of new body styles. The styling of the car and its name create a distinct personality for an automobile and it is suspected that a great deal of consideration is paid to these symbolic traits by consumers when making a purchase decision. In the fashion market the product and the brand image are the means by which products are promoted and therefore perception of brand name may ultimately be of greater concern to the consumer than the functional product characteristics (Miller, McIntyre & Mantrala 1993; Evans 1989; Sproles 1981).

The uncertainty of fashion product evaluation, due to the personal and social significance individuals relate to these products, leads consumers to use the brand name as a means of assessing product quality and value (Goodyear 1993; Feldwick 1991). Brand name therefore plays a crucial role in the communication process between manufacturer and the consumer; and more importantly between the product purchaser and referent others.

An expanding global market is also effecting the marketing of fashion products and has created additional reason to maintain and protect the product's brand name. Internationally strong brand names and reputation are critical in the establishment of a strong market. As global competition continues to grow so will the products available from differing countries. It is therefore necessary to have a full understanding of the image that specific countries carry in the minds of consumers and how these perceptions may affect the overall brand.

Today products are frequently designed in one country and manufactured in another. This adds further complications to the evaluation of products for consumers. As product design is of great significance in the fashion item market it is important to determine which countries are positively evaluated in terms of this concept. Additionally, some fashion products may not be as well accepted if manufactured in a country deemed incompetent by the consumer.

### OBJECTIVES:

The purpose of this study is therefore to examine consumer evaluation of a fashion product. Research will examine the effects of various fashion, brand name and country name related issues on product evaluation. Factors such as the country origin of product manufacturing and brand will be addressed. In so doing the importance of these dimensions of brand and country image on fashion product evaluation can be determined in order to assess their relevance in terms of the eventual planning of the marketing mix.

Based on study results issues of advertising and manufacturing can also be addressed. Adjustments could be made based on consumer perceptions of the countries' manufacturing competencies for the fashion product. Results may also reveal an effect on pricing strategies. It may be determined that consumer price sensitivity toward certain fashion products is based partially on the country of origin, in terms of branding and/or manufacture, and brand name issues.

### SIGNIFICANCE OF THE STUDY:

Fashion literature is rather incomplete in terms of the effects of brand name on product evaluation. Durable product markets are frequently examined in terms of the consumer sensitivity to brand, however detailed effects of brand issues on the fashion product market have been somewhat neglected. Additional research in this area could therefore prove to contribute to existing studies. Country-of-origin effects in the fashion product market, including issues of design and manufacture location, have also been overlooked by marketing researchers. Based on the globalization of business these issues are now fundamental to this, as to all existing, markets.

The effects of brand name and country name on the decision making of automobile purchasers have frequently been scrutinized in research. The luxury car market, one in which the consumer attempts to fulfil symbolic rather than functional transportation needs, is one automobile product category that has been ignored in research until very recently. Sukhdial, Chakraborty and Steger (1995) addressed the issue of consumer values in the luxury car market focusing on the influence of country-of-origin, its relationship with luxury car evaluation and advertising. It is hoped that results of this study will help to further clarify the relationship between luxury automobile purchase and country of origin. Research will also focus on brand name effects, with

an emphasis on image, in order to determine its relevance to this market as well. The study will therefore provide insight into the importance of the consumers' symbolic desires on the evaluation of this type of fashion product and should provide interesting comparative potential with other fashion product and car market literature.

Research emphasis on brand name and country of origin issues is relevant for many additional practical reasons. When certain conclusions are drawn in regard to consumer perceptions of brand and of particular countries' fashion product design and manufacturing abilities, a marketer can make informed decisions in regards to advertising focus and promotional strategy. Using this information manufacturing locations could also be chosen that would most benefit the marketer; countries deemed competent by consumers may become the location of manufacture or design of choice. Therefore the development of fashion product brand name and country matching could be of great practical use.

Consumer price sensitivity based on brand name and country name effects may also be uncovered in research. A marketer may learn that a higher price can be demanded for a product consumers feel is well suited to the competencies of a particular country. Price concessions may also be established, through the country and product matching of the study, which could be implemented to overcome any negative country or brand name effects.

## LITERATURE AND THEORETICAL FRAMEWORK:

### Brand Name Literature:

Through the history of consumption people have purchased goods for reasons other than their usefulness; products were purchased for what they projected about the purchaser herself. It was not until the development of mass production however that the principle of buying a product for its name became popular. Today, a brand is one of the most valuable concepts in business. The relationship between the product and the customer is now emphasized. Brands transform the actual experience of product use. Brands provide for customers a badge of authenticity, certainty, promise and a myriad of other symbolic benefits once considered of little importance. Terms such as brand image, brand personality, brand equity and brand valuation are routinely used. The brand has become the most powerful tool in marketing. It allows us to make sense of, and create meanings for, ourselves in the social world of consumption.

### **The Product:**

During the decision making process consumers evaluate products based on several different attributes (Lefkoff-Hagius & Mason 1993) :

- (1) Characteristic Attributes: the physical properties of the product,



- (2) Beneficial Attributes: the benefits derived during consumption of the product,
- (3) Image Attributes: how the product represents the user to others or to him/herself.

Evaluation and product preference are based on important linkages between attributes as well as contingent upon the social context of the decision and the individual involved in the decision making process. Marketers are therefore faced with a difficult challenge which only increases in complexity when consumers base decision making on the image attributes. In purchase situations in which consumers are looking to intangible product qualities for evaluative purposes marketers depend on product branding to differentiate the product from the competition.

**The Brand:**

"A brand is a name and/or symbol used by manufacturers to identify the goods or services of either one or a group of sellers."<sup>1</sup> The brand is a very important information cue for consumers who are evaluating products that have been endowed with values other than the functional attributes. Brand names can provide consumers with reference points for evaluation, and a "personality" to which the individual can relate. Brand loyalty, name awareness, and perceptions of quality can all be influenced through branding.

**Brand Image:**

"Brand image is a set of brand associations, or anything mentally linked to the brand, functional or symbolic, organized in a meaningful way."<sup>2</sup> These consumer perceptions may not evolve and be representative of the company's desired image for the brand and should therefore be carefully monitored. There are many aspects to brand image including the perception of consumers of the users of the brand (user image), when it is used/consumed (occasion image), as well as consumer beliefs about the functional characteristics of the product (product image). Brand personality and the relevance or salience of the brand to the consumer are also of great importance. It can therefore be concluded that brand image and the development of one which is consistent with the needs and desires of the target market is a very complicated task. A well-communicated message can help to establish a brand's image position, insulate it from competition and provide many valuable opportunities to a successful marketer.

**Brand Extensions:**

One opportunity accorded when branding is successful is the use of a brand name in the introduction of products into new markets. This strategy can be used to establish products in new markets within the same, or different, product category and enables the company to avoid the costs of developing a new brand, and helps to shield the product against failure with use of an established name and brand awareness. Brand

extension success is therefore dependent upon positive beliefs and attitudes about the brand held by consumers and then projected upon the new product.

**The Brand and Quality:**

As previously mentioned, brand name is used as an information cue by consumers for evaluative purposes. One frequently studied relationship is that between perceived quality and brand name. Brand name has been found to have a positive effect on the perception of quality as well as on the price-quality relationship. That is to say that certain products have been proven to be capable of garnering higher prices due to the perception of quality established by its brand name (Dodds 1991; Rao & Monroe 1989).

In recent years however there has been a gradual shift toward "value". Consumers are becoming less willing to buy based on the image of quality alone. Prices, particularly those on the upper end, must be representative of a "value" package which includes a high quality product as well as good customer service (Shocker, Srivastava & Ruekert 1994).

### **Self Theory and Consumption:**

Consumption is the result of the consumer's drive to satisfy their diverse needs through product purchase and use. Consumers therefore view products as a part, or an extension, of themselves. Consumers purchase goods not for the product itself, but for the satisfaction of how product use and/or ownership associates them with a desired group, role or self-image. The resultant purchase motivation for a given product is therefore the net effect of the self-concept motives and the individual's valuation of the product's image as an aid in meeting their personal image goals (Lefkoff-Hagius & Mason 1993; Schouten 1991; Park, Jaworski & MacInnis 1986; Sirgy 1982; Landon 1974; Grubb & Hupp 1968).

### **Self Concept:**

The concept of purchasing to meet image has frequently been related to the theory that consumers prefer those products that are congruent with their self-image. Self image encompasses role identities, personal attributes, relationships, fantasies, possessions, and other symbols that individuals use for purposes of self-creation and self-understanding (Schouten 1991; Sirgy 1982; Grubb & Grathwohl 1967). The concept of self image, or self concept (these terms will be used interchangeably throughout the text) has frequently been described from a multidimensional perspective (Sirgy 1982). The self can be divided into three separate but equally important image categories:

- (1) Actual Self or how a person perceives herself,
- (2) Ideal Self or how a person would like to perceive herself,
- (3) Social Self or how a person presents herself to others.

The global self-concept, or self attitude, is the conscious judgement regarding the relationship of one's actual self to the ideal or/and social selves (Sirgy 1982). Consumers are therefore presented with the complicated task of deciding which self image they wish to express and then making purchase decisions consistent with their chosen self. Individual's evaluation of self therefore greatly influences their behaviour.

Purchase decisions become increasingly difficult when motives for the decision are considered. Motives of self-esteem and self-consistency act on most purchase decisions. The former leads the individual to make choices that enhance their self-concept while the latter help the individual maintain it. These motives lead rarely to a conflicted decision but do complicate the decision making task.

**Self Concept and Interpersonal Influence:**

The concept of social consumption, or that of interpersonal influence, is also relevant in the discussion of self-image. Interpersonal influence can be defined as "the need to identify or enhance one's self image with significant others through the acquisition and use of products and brands, the willingness to conform to the expectations of others

regarding purchase decisions, and/or the tendency to learn about products and services by observing others and/or seeking information from others."³ In other words a consumer motivated by the social self, or the desire to enhance or maintain self-image by association with a referent other or group, will make decisions based on its acceptance within his/her social milieu. In general any purchase decision made which is related to the consumer's self-concept will be influenced to an extent by the individual's referent group. This is further supported in the understanding of the individual self-concept developing in part through the process of social experience.

In the end a consumer's attitude, in terms of its relations to self-concept, about a particular product is crucial to their decision to buy. Attitude functions in part to protect the individual's ego and its place in the social world (Kindra, Laroche & Muller 1989). If their attitude about the product is congruent with their motives for consistency and self enhancement, and their concerns about social acceptance and self expression, the purchase will be made (Shavitt 1989).

#### **Products and Brands and Self:**

It is commonly believed that the act of consumption has much more to do with the symbolic benefits of a brand than it does with the functional benefits provided by the purchase (Schouten 1991; Hirschman & Holbrook 1982; Sirgy 1982; Grubb

& Grathwohl 1967). This is apparent in how evaluation of other individuals is frequently based on their possessions which are representative of their social class, occupation and lifestyle. To a large degree, in society, it is believed that we are what we possess.

As previously mentioned products are need satisfiers. This is undoubtable true and it is therefore important to determine what needs can be satisfied through the consumption of a particular product or brand. Products are considered symbols in the minds of consumers. Consumption is based on what the consumer believes the brand's symbolic value is to the self and what this communicates to referent others. The essence of an object is therefore not the product itself but its classification in the mind of the consumer and how this reflects on their self-concept. A consumer's personality may therefore be at least partially defined through their brand choices and use.

This hedonic consumption of goods, or products being consumed based not on their objective entity but rather on their subjective symbolism as an expression of self, is therefore based on conspicuous consumption and the emotional involvement of the consumer in the purchase decision. That is to say that the consumer's, and his/her referent group's, emotive response to the product is of more importance than their confidence in its functional benefits. Purchase behaviour will therefore be based on a product's ability to

help to develop and maintain the self-concept through symbolic attributes. The product's brand image must therefore relate in some positive manner to what the consumer strives to enhance or protect in his/her self image.



### Country-of-Origin:

In recent years much has led to the development of the global market place. Slow or stagnant domestic economic development, large corporations involved in aggressive domestic mass marketing have reached market inundation, and increased technological abilities of business have led companies to expand abroad. The new outlook of business, one of a worldwide marketplace, has extended beyond the simple concepts of export and import activity. Product country association is no longer a single-country phenomenon as products are increasingly the result of multi-firm and/or multi-country efforts.

The traditional country-of-origin concept which tied products to the "made in" or "manufactured in" concept is no longer the reality. Research is now beginning to examine issues of the origin of product design, product engineering, product assembly and manufacturing, as well as consumer reaction to the manufacturing of products in one country and then branding them in another. It would have been thought that increasing the familiarity with foreign produced and/or designed and/or branded products by consumers would lead to a decreased sensitivity to this issue. This has not happened however, as consumer awareness of foreign products increases so does the understanding and perception of the differences between foreign production, design, and branding.

### **Country Image:**

What consumers know (or think they know) about a country is the basis of country image. Country image "is the overall perception consumers form of products from a particular country, based on their prior perceptions of the country's production and marketing strength and weaknesses".<sup>4</sup> Based on past studies four dimensions of country come to the forefront for analysis (Roth & Romeo 1992):

- (1) Innovativeness: Use of new technology and engineering advances,
- (2) Design: Appearance, style, colours, variety
- (3) Prestige: Exclusivity, status, brand name reputation,
- (4) Workmanship: Reliability, durability, craftsmanship, manufacturing quality.

Country image is an extrinsic cue used by consumers for product evaluation and, based on the above, it is unconsciously a multidimensional construct in the minds of the consuming public.

It has become obvious that consumer perception of country image plays a significant role in evaluation of products. Consumers use country image in much the same way as brand image, that is as a surrogate evaluative indicator when other information is not available. Country image is used in two major ways to evaluate products:

The Halo Effect: Frequently country image is viewed as a "halo" that consumers use to infer quality to unknown products or brands. When country image is used in this manner

it can have significant effect on the evaluation and purchase intention of products as quality is difficult to determine before actual purchase.

The Summary Construct: Country image may also be used by consumers to abstract information about products to others from the same country which have similar product attributes. In this way as consumers become more familiar with a country's products they develop country-specific information which helps them to summarize their beliefs and direct their brand attitudes.

**Factors of Bias:**

The use of country image in these ways suggests the possibility of consumers developing biases toward some countries, and by association, to products originating these countries. Biases generally develop due to past experience with products from a particular country as well as due to a variety of political, technological, cultural, and economic beliefs the consumer holds about the country. Although such beliefs are not necessarily permanent, and can sometimes be offset by price concessions on products, attempting to change attitudes is the chief means of permanently overcoming the problem. This strategy is very complicated and time consuming, therefore it is to a manufacturer's benefit to have a complete understanding of its country's image and how this may effect its products in the long run.

Another reason for the development of bias by consumers is the level of perceived risk the consumer associates with the country-of-origin and the product. If information regarding the product is not available the consumer will look to country image as an external cue for guidance, as previously mentioned. In the purchase of products which are intrinsically uncertain, characteristic of the consumption of fashion products, cues such as country-of-origin will be considered and will effect the consumer's willingness-to-buy. Country-of-origin has been found to be at least as important as brand name in the decision making process for these types of goods when other information cues are missing (Lumpkin, Crawford & Kim 1985).

**Country Equity Effects:**

Consumers are fascinated with foreign products and foreign sounding brands. Country-of-origin stimulates consumer interest and leads to elaboration in the decision making processes. Therefore, as previously stated, new brands gain, or lose, momentum based on preexisting attitudes the consumer has developed about the product's country-of-origin. This philosophy moves one step beyond the concept of country-of-origin as a part of brand equity and looks to consumer country held attitudes as a form of country equity (Shimp, Samiee & Madden 1993). Evaluation and decision making concerning global products may therefore be based on a

combination of the traditional concept of brand equity and that of country equity.

Product-Country Match:

To further elaborate along this line of thought is the principle of product-country dimension match (or mismatch). Roth and Romeo (1992) and Shimp, Samiee and Madden (1993) have developed very similar models based on the principle of developing a match between product and country (See Appendix I: Figure #1 & #2). Roth and Romeo describe a match occurring when attributes important to a product are those dimensions upon which a country image is rated favourably. An unfavourable match may also occur, this is developed when the important product features are not a perceived strength of the country. Matches can lead managers to the dimensions on which they should promote, or not, their product's benefits.

Mismatches also occur and are also worthwhile marketing tools in revealing which specific product or country information to eliminate from promotional efforts. A favourable mismatch occurs when image dimensions for the country are positive but not important to the product category. When image dimensions are both perceived country weaknesses and unimportant to the product category an unfavourable mismatch occurs.

Theoretically, as represented by these two models, the perception of brand image and country image are related and

can enhance or diminish the evaluation of a product (Shimp, Samiee & Madden 1993; Roth & Romeo 1992; Han & Terpstra 1987; Johansson & Nebenzahl 1983; Gaedeke 1973).

**Fashion Literature:**

Fashion is a prime example of the social influence related to consumption behaviour as well as an example of the use of products as a means of expressing self-image, role position or communicating with relevant others. Fashion products therefore provide satisfaction to needs beyond those functional in nature. By definition fashions are temporary cyclical phenomena or behaviours adopted by consumers for a particular time and situation. Generally speaking said adoptions are made due to social acceptance or conformity by a referent social group. Fashion is therefore the process of adopting symbols to provide the consumer with a specific identity generally accepted by others.

To assume that fashions are limited to the clothing industry is to overlook the general nature of the fashion phenomenon. Although clothing is the purest form of fashion, and one of the most expressive product categories available to researchers for analysis, many other products can also be used to promote and maintain self and social ideals. As such, fashion behaviour is the conspicuous consumption of any

socially symbolic products and is thus a market of cycles ruled by product styling changes and how these product fluctuations are accepted by consumers.

**Fashion Proliferation:**

Research in this area is inexact and many principles have been generated to provide a description of the fashion phenomenon. Many factors have been identified as influential on the development of new fashions including psychological, sociological, economic, communicative and environmental variables. Additionally there is some confusion as to the role of industry and of the consumer in terms of propagation of fashion. Due to mass communication and mass markets many believe that industry directs fashion trend setting, however there is also the view that consumer selection of fashion is of greater significance. That is that consumers adopt trends accepted by referents others, or that with the ability to diffuse accepted norms, ideas and opinions through mass communication a trend spreads spontaneously across the population. These theories are based on the opposing views of vertical versus horizontal fashion communication flows (Sproles 1993; Evans 1989; Reynolds 1968).

The fashion market can be characterized as cyclical in nature and, as previously stated, is driven by change and the acceptance of styles deemed appropriate for a particular time and situation. Communication of appropriate fashion choices

can be generalized to beginning with an opinion leader and spreading throughout the population (Evans 1989; Sproles 1981; Reynolds 1968; Robinson 1961). Speed and acceptance of these trends is dependent upon many technicalities at the individual and societal level (Miller, McIntyre & Mantrala 1993); what remains of outmost importance however is the need to maintain and develop innovation in terms of style and design in fashion products.

**Fashion, Branding and Country-of-Origin Effects:**

As fashion products are representative of both the personal image and of social expectations consumers fear making inconsistent decisions when consuming these goods. It is for this reason that informational cues such as brand name and country-of-origin issues are used to reduce the risk involved in consumption and are worthy of consideration in regard to the fashion market. Brand and country image are therefore powerful symbolic tools in the fashion market.

Branded images can endure the cyclical nature and continual styling changes common to this market. Branding, brand awareness and brand familiarity all help to preserve the consumer's view of the product as consistent with their self-concept. It is considered key in the fashion market to maintain a coherent brand image and maintain it over an extended period of time (Newson & Newson 1993). In this way consumer loyalty can be maintained over time and across evolving style fluctuations. The consumer can be guaranteed



that purchases made are representative of their preferred self image over time.

In the fashion market the brand extension strategy is the basis of many companies' success. The extension of the image of high priced designer lines to lower end products is the backbone of this mass market industry (Newson & Newson 1991). These brand names are therefore used as a cue of product quality and value, and a means of determining acceptable price levels to the consumer (Goodyear 1993; Aaker 1991; Dodds, Monroe & Grewal 1991; Aaker & Keller 1990; Rao & Monroe 1989). The use of brand name in this manner is another representation of the significance of the brand principle in the fashion market.

Consistency between country image and fashion products is also of great importance in the purchase decision. A country known to be reputable in the production of a certain high quality, "fashionable" product will provide consumers with the knowledge and security of receiving value for their dollar.

The discussion of the relevance of brand and country in reference to the fashion market is also supported by the fact that image attributes are important in the evaluation of products high in ego involvement (Grubb & Grathwohl 1967), like fashion goods. Products are purchased for the image they communicate rather than for the functional qualities they provide to the consumer (Sirgy 1982) and since fashion products are frequently consumed as a means of self expression

and/or self enhancement, the image of the product is likely to effect the consumer's purchase decision.

**Fashion, Self & Society:**

Fashion pervades our society through the mass media. It is in almost everything; it can affect every product and every purchase. It is based on the morals and lifestyle of the moment and is used by consumers as a means of self expression and to communicate with others using fashion symbolism. The basic motivation is to achieve and express the ideal self, whether the social or private ideal, through symbolic communication. It is the perfect product to express both physical and psychological aspects of the self. Fashion is an outward emblem of personal distinction or of membership in some group to which distinction is ascribed (Robinson 1961). It is therefore intimately related to the self but seemingly driven by societal beliefs and motivations.

There are therefore three key aspects to fashion which are worthwhile restating:

- (1) fashion reveals preference through conspicuous consumption and thus uncertainty is involved in the purchase decision for consumers,
- (2) fashion can communicate shared values and beliefs through consumption patterns and product choice,
- (3) fashion pertains not necessarily to one product but to many that work together to mutually reinforce the image the consumer wishes to convey.

### The Automobile Industry:

In recent years the automotive industry has been faced with a much changed competitive environment. Not unlike other global industries, the automobile market has been riddled by governmental, technological, economic and competitive upheaval. Domestic car manufacturers are now faced with a greatly changed marketplace since the introduction of foreign made cars. Competition has forced concentration on increased technology to match foreign products. Marketing variables such as price, quality, dependability, economy and size, once traditional promotional tools, seems to have become less important. Product differentiation, due to shared and common technology, is now concentrated on the refining and the promotion of aesthetic properties of the automobile (Gilbert Green & Co. 1979).

Consumers have also become accustomed to having a large number and variety of vehicles to satisfy their personal transportation needs. This expanding product market is a representation of the use of automobiles as "an expression of lifestyle, personal taste and status. The values of consumers and their willingness to pay for the opportunity for personal expression in vehicle choice, has encouraged firms to expand the variety of series and models available in the marketplace."<sup>5</sup>

### **The Luxury Car Market:**

The luxury car market is one of the most competitive in the automotive market (Sukhdial, Chakraborty & Steger 1995). Due to the success of foreign entrants in this market Detroit has, in recent years, taken to the design and introduction of luxury automobiles with "european" styling. The "Big Four" are hoping to capture part of the market developed by the Japanese and European auto manufacturers; emphasis has been shifted to the area of image building. Japanese and European auto makers develop, cultivate and maintain an image which is consistent across car lines, model divisions, and the company (Cournoyer 1991). This strategy has created difficulties for domestic auto manufacturers, in particular competing with the quality image of imported automobiles. As these companies build many different varieties and models of cars it has been a challenge to establish a consistent image throughout each division of the company. The Japanese strategy of creating separate brands for company divisions (i.e. Lexus = division of Toyota) is a strategy U.S. auto makers have also begun to adopt.

### **The Luxury Car Buyer:**

In the most general terms an automobile marketer must seek to understand what it is that the consumer needs and/or wants, to determine how much the consumer is willing to pay to fulfil the desire and then to strive to produce a car that can meet this demand (Gilbert Green & Co. 1979). Luxury cars,

like other conspicuously consumed products, are frequently purchased as a means of expression of self-concept and to develop social acceptance.

Value expressive considerations are of importance when the products being evaluated offer similar options and common technologies as is the state of affairs in the luxury car market (Sukhdial, Chakraborty & Steger 1995). Consumers will look to the image attributes of the car, brand and country image, to make a final purchase decision. Consumers will evaluate luxury automobiles based on their perception of the brand being representative of their self and to their perception of the country's ability to produce a car possessing valued attributes they consider significant.

### **HYPOTHESES:**

The following are hypotheses upon which research will be based. As previously mentioned it is believed that both brand and country of origin issues will play a major role in the evaluation of fashion products. Fashion products high in ego involvement will lead the consumer to emphasize aspects of product image in decision making for purposes of maintenance, and/or development, of self-concept (Grubb & Grathwohl 1967; Sirgy 1982). Therefore brand name and its related image, as well as country name and the associations it produces in the minds of the consumer, will be utilized in product evaluation.

**H1: Brand name has significant effects on the evaluation of a fashion product.**

**H2: Country name and related issues of country of manufacture have significant effects on the evaluation of a fashion product.**

It is also expected that characteristic aspects of fashion products will play a smaller role in the evaluation of these products as consumers purchase to enhance or express self-image through product usage. The product being purchased is consumed not for the product itself, but for the satisfaction of how product use and/or ownership associates the consumer with a desired group role or self-image (Sirgy 1982; Lefkoff-Hagius & Mason 1993):

**H3: In the evaluation of a fashion product image attributes of the brand will be considered more important than the characteristic or the beneficial attributes of the product.**

This hypothesis is based on the very nature of fashion product consumption. As discussed above, a fashion good is a conspicuous purchase made for reasons of self-expression. This process is one which is supported by "a stream of sociological work which considers the symbolic aspects of product those upon which preference, and purchase, are based."<sup>6</sup>

Extrapolating this principle to the concept of country-of-origin image attributes of the product is possible due to the conscious and the subconscious country associations made by consumers in product purchase. An expanding international product market has forced the consuming public to look beyond the beneficial and the characteristic product dimensions as a means of risk reduction and product screening. Seemingly similar or like merchandise must somehow be graded by the consumer and with expanding international output country-of-origin concerns will play a key role in product evaluation.

**H4: In the evaluation of a fashion product aspects of country image will be of greater importance than the beneficial and the characteristic aspects of the fashion product.**

As previously mentioned, brand name is the backbone of the fashion industry as the majority of products available to

consumers in the mass market are those with a strong brand name or are, at the very least, products which have been extended from a popular brand. For this reason it would seem reasonable to assume that brand name and the image perceived by the consumer would be of paramount importance in the final purchase decision. Fashion adoption and market diffusion are based on brand awareness, while long term success in a changing style market is based on brand loyalty. It is therefore crucial to promote and to preserve long term brand image (Evans 1989; Newson & Newson 1999).

**H5: Brand name is most important in the purchase decision of a fashion product.**



## METHODOLOGY:

### Product and Brand Selection:

For the purposes of this study the product category selected for research had to meet several different criteria. To be a product representative of the fashion market the branded product chosen had to be one that is intensively advertised and promoted having extensive exposure across the market place. Branded fashion products' images should be clearly defined in the minds of consumers therefore it was essential that the chosen product category meet this criteria. Additionally, as the very nature of the fashion market is one of continual change; the chosen product had to also be reflective of this perpetual style evolution.

Product choice was further complicated by the issue of country of origin. The fashion product chosen had to be one having strong branded images with international characteristic. That is to say that the branded product selected for research had to have a clearly defined and understood country image as well as brand image in the minds of consumers.

For these reasons the luxury automobile market was chosen for analysis. Not only are luxury cars fashion products having strong country and brand associations, but relevant and timely information about this product category is readily available to the researcher. (See Table #1 for automobiles included in the study).

**Table #1**  
**Automobiles Included in the Study**

<b>Automobile:</b>	<b>Manufacturer:</b>	<b>Country-of-Origin:</b>
(1) Oldsmobile 98	General Motors	United States
(2) Oldsmobile Toronado	General Motors	United States
(3) Buick Electra	General Motors	United States
(4) Buick Riviera	General Motors	United States
(5) Cadillac Cimarron	General Motors	United States
(6) Cadillac Seville	General Motors	United States
(7) Cadillac DeVille	General Motors	United States
(8) Cadillac Eldorado	General Motors	United States
(9) Lincoln Town Car	Chrysler	United States
(10) Lincoln Mark VII	Chrysler	United States
(11) Lincoln Continental	Chrysler	United States
(12) Imperial	Chrysler	United States
(13) Audi 5000	Audi	Germany
(14) Audi 90S	Audi	Germany
(15) BMW 320/318	BMW	Germany
(16) BMW 528/533	BMW	Germany
(17) BMW 733	BMW	Germany
(18) BMW 325(i)	BMW	Germany
(19) BMW 3-Series	BMW	Germany
(20) BMW 5-Series	BMW	Germany
(21) Jaguar XJ-6	Jaguar	Britain
(22) Mercedes 240D	Mercedes	Germany
(23) Mercedes 300D	Mercedes	Germany
(24) Mercedes 380/500SEL	Mercedes	Germany
(25) Mercedes 300E	Mercedes	Germany
(26) Mercedes 300 Series	Mercedes	Germany
(27) Peugeot 604	Peugeot	France
(28) Peugeot 505	Peugeot	France
(29) Volvo 760	Volvo	Sweden
(30) Volvo 740	Volvo	Sweden
(31) Toyota Cressida	Toyota	Japan
(32) Acura Legend	Honda	Japan
(33) Saab 9000	Saab	Sweden
(34) Merkur Scorpio	Merkur	France
(35) Mazda 929	Mazda	Japan
(36) Infiniti Q45	Nissan	Japan
(37) Lexus LS400	Toyota	Japan
(38) Lexus GS300	Toyota	Japan
(39) Lexus SC300	Toyota	Japan

**Data Collection:**

Secondary data sources were utilized in the collection of relevant automobile information. The "Consumer Report" and the "Ward's Automotive Yearbook" publications, as well as the trade magazine "Automotive News", were selected as helpful sources of both domestic and foreign luxury automobile market information.

**Dependent Variable:**

The dependent variable of this study is "brand share", chosen as it is representative of consumer attitude and purchase decision in regard to luxury automobiles as a reflection of market sales information. Justification for this decision is based on the belief of attitude being related to individual predisposition, preference, and/or feelings toward an object and thus providing a fairly strong indication of possible behaviour (Churchill 1991; Kindra, Laroche and Muller 1989).

Additional support for the use of "share" as the study's dependent variable is found in the Fishbein' model of attitude which describes attitude intention as a predictor of actual behaviour. It is therefore reasonable to consider the sales variable as the dependent and to presume that purchases are based on consumers' attitudes toward different brands, countries and other relevant product attributes.

For purposes of analysis the regression models will be developed under the assumption that the automobile data sample is equal to the entire luxury car market. As revealed in the following table, the data set represents a good portion of the North American luxury car market, particularly in the early years of the sample.

<b>Table #2</b>			
<b><u>Percent Representation of Data Set of Entire</u></b>			
<b><u>Luxury Car Market</u></b>			
<b>Year</b>	<b>Data Set Sales</b>	<b>Total Market Sales</b>	<b>Percentage of Data Set of Entire Market</b>
1983	\$ 844782.00	\$ 860813.00	98.14%
1984	921187.00	1036992.00	88.83%
1985	1014526.00	1109586.00	91.43%
1986	1070601.00	1152442.00	92.89%
1987	826022.00	1085140.00	76.12%
1988	852272.00	1043579.00	81.67%
1989	863178.00	1026821.00	84.06%
1990	871186.00	1085307.00	80.27%
1991	804506.00	1067493.00	75.36%
1992	698153.00	1046957.00	66.68%
1993	661733.00	1026603.00	64.46%

**Independent Variables:**

The following independent variables will be included in the study:

- (1) product dimensions: including characteristic properties of automobiles such as price, length, width, gas mileage etc., as well as beneficial characteristics related to reliability, satisfaction, repairs and automobile comfort;

(2) image attributes related to brand, country and manufacturer will also be included:

- brand name,
- automobile manufacturer name,
- country-of-origin issue variables:
  - \* the country from which the brand originates,
  - \* the country in which the product was manufactured,

(3) seasonality: the relationship between brand share and year and time of year will also be analyzed.

(See Table #3 for a list of all variables included in the study).

<b>Table #3 - Variables in the Study</b>	
BRAND SHARE	The quarterly share of the total U.S. market of each brand.
P2/P4	Price of 2-door model/4-door model.
BR	Brand name of car including model.
C (OO)	Country of origin of brand.
MOO	Country of origin of manufacture of car.
CAR	Automobile manufacturer name.
rel	Reliability rating based on "Consumer Reports'" frequency of repair data (rated on a 5-point scale: 1=poor to 5= excellent).
cmtcon	A subjective rating based on "Consumer Reports" critique of the comfort and convenience of driving the car (rated on a 5-point scale).
trinx	The total number of repairs (average number of problems per 100 cars for all models in "Consumer Report" survey).
ownsat	Owner satisfaction rating based on "Consumer Reports'" readers' willingness to buy the car again (rated on a 5-point scale of excellence).
length	Overall length of the car (in inches).
width	Overall width of the car (in inches).
fheadrm	The clearance between roof and head of a 5-foot-9-inch person while sitting in the front seat (in inches).
rheadrm	The clearance between roof and head of a 5-foot-9-inch person while sitting in the back seat (in inches).
fleggr	The distance between the accelerator and the cushion of the front seat (in inches).
seatr	The distance between the back of the front seat and the cushion of the back seat (in inches).
fshouldr	The total front seat room for passengers from side to side (in inches).
rshouldr	The total back seat room for passengers from side to side (in inches).
luggage	The total usable luggage space (in cubic feet).
seasonality:	Effect of the year and the quarter on sales.

**Test Method:**

Since this study is interested in testing the effects of these variables on consumer evaluation of fashion products, regression analysis is selected as an appropriate statistical method to test this relationship. Regression will be based on the following linear additive functional form:

$$Y_i = B_0 + B_1X_{1i} + B_2X_{2i} + \dots + B_iX_{ii} + E_i$$

However, it is suspected that a relationship exists between the sales variable, brand share, and certain other product variables. It is may therefore prove necessary to develop a regression model based on the logarithmic linear form. A transformation of this kind is recognized in regression analysis for its contribution to the reduction of assumption violations and the development of more simple models.

$$\log(Y_i) = B_0 + B_{1\log}(X_{1i}) + B_{2\log}(X_{2i}) + \dots + B_{i\log}(X_{ii}) + \log(E_i)$$

**Additional Statistical Analysis:**

Product dimensions will be obtained through the data collection method discussed previously and the set of variables will be reduced, defined and then included in the equation through use of principle component analysis. The brand name, the automobile manufacturer name and the country-of-origin related variables will all enter the

equation as dummy variables due to their categorical nature. Analysis of variance (ANOVA) will also be used in the study. ANOVA will be implemented to analyze interaction effects among these variables and these results will be analyzed and discussed in reference to the model.



## **INITIAL ANALYSIS AND RESULTS:**

### **Principal Component Analysis:**

Principle component analysis was deemed an appropriate statistical technique for use in this study as it was necessary to summarize the product attribute variables to be included in the regression model. Additionally, it was hoped that the reduced data would provide a few distinct factors which would be representative of some underlying construct that could be extrapolated to the analysis. (See Results of Principal Component Analysis in Appendix II).

### **Initial Principal Component Analysis:**

An initial component analysis was run using the SAS statistical package, including all of the product dimension variables (see Table #12), in order to provide some guidelines as to how many factors should be selected for later inclusion in the regression model. When considering the latent root criterion only five of the factors, those having eigenvalues greater than 1.0, were significant. This was further supported by the scree tail test (see Plot #1). It was therefore decided to run a two, three, four and five factor component analysis upon which final factor inclusion decisions would be based.

### **Additional Component Analysis:**

The product dimensions were again factor analyzed with principal component analysis using varimax rotation. Analysis was stopped when the pre-designated number of factors was reached (see Table #12 - #15). As seen in the results, the

three component solution produces the most distinctive factors and thus those most easily defined in terms of the possibility of being representative of underlying constructs.

Although principal component analysis is not the optimal method analysis for interpretation, it was decided to determine the underlying dimensions of the factors nonetheless. As a starting point the variables loading most significantly on each factor were determined (cut off point of variable significance is commonly 0.30-0.35<sup>8</sup>). As seen in Table #14, rotated factor loadings in this study were particularly strong and distinct with variables loading at levels of 0.70 or greater on their individual factors. This provided confidence to the existence of underlying constructs and to the possibility of their identification.

As seen on the table below factor #1 had significant variables of size, luggage capacity and seating room. This pointed to the fact that this factor was likely representative of the size of the automobile. The car rating variables all loaded significantly onto the second factor and it was therefore assumed that this factor revealed consumer belief about the automobiles included in the study. The final factor had variables which related to the amount of room which was available to passengers of the car loading on it significantly. It was therefore named "Interior Spaciousness".

<b>Table #4 Three Factor Solution</b>			
	<b>Factor #1</b>	<b>Factor #2</b>	<b>Factor #3</b>
	length width seatr fshouldr rshouldr luggage gas	rel cmtcon trinx ownsat	fheadrm rheadrm flegr
<b>Factor Name:</b>	<b>Automobile Size</b>	<b>Consumer Belief</b>	<b>Interior Spaciousness</b>

It is worthwhile to classify the factors in terms of independent variable inclusion in the model. As previously outlined both characteristic and beneficial product attributes (Lefkoff-Hagius & Mason 1993) were to be included in the regression analysis. After use of principal component analysis for variable reduction it can be stated that two characteristic product attributes (automobile size and interior spaciousness) and one beneficial product attribute (Consumer Belief) will be included in the regression model.

The final step involved in the principal component analysis, before beginning regression, was to develop factor scores. SAS developed these scores based on the three factors and their variable loadings discussed above. These three scores were implemented in the regression analysis as representative of each of the three factors previously discussed.

### Price Adjustments:

In order to include the price variable in the regression model it was necessary to index the eleven years of prices to account for the effects of inflation. The consumer price index (CPI) approximates the cost of "constant standard living". It was the simple multiplier that was selected and applied to all of the automobile prices as a means of indexation allowing for price comparison in the study.

$$\begin{aligned}\text{Adjusted price} &= (\text{Automobile Price}_{(\text{year}=\text{x})} \times \text{Base Year}) / \text{CPI}_{(\text{year}=\text{x})} \\ &= (\text{Price}_{(\text{year}=\text{x})} \times 100) / \text{CPI}_{(\text{year}=\text{x})}\end{aligned}$$

### Additional Results:

(See Appendix III for graphical depiction of Additional Results).

### Reliability Ratings:

Mean reliability ratings reveal that foreign auto manufacturers are generally rated significantly higher in terms of the luxury automobile reliability than domestic car offerings (see Graph #1). The domestic manufacturers were rated below the overall mean reliability rating and rated average or below average in terms of brand reliability (see Graphs #2 - #6). Only one foreign company fared worse than the domestic manufacturers. In general it can be seen in Graph #7 that foreign auto makers, particularly the Japanese and German manufacturers, are believed to produce much more reliable cars than the United States.

**Owner Satisfaction Ratings:**

Foreign car buyers are significantly more satisfied than consumers having purchased an American made car (see Graph #1). In particular owners of cars made by Japanese manufacturers are most likely to buy again or to maintain purchase interest in future (see Graphs #8 - #13). The U.S. car makers and models rated around the mean satisfaction rating as did the majority of other car makers.

**Trouble Index:**

Ratings in this area proved very interesting as there is a great discrepancy between brands and countries. In general, foreign manufacturers are rated significantly higher in terms of car trouble (see Graph #1). The Japanese and the German manufacturers tend to be particularly strong in this area producing cars with low maintenance records (see Graphs #14 & #15). This rating is consistent with the consumer view of foreign automobiles superior reliability. Chrysler, Jaguar and Merkur are particularly weak in this regard and therefore greatly contribute to their country's overall poor trouble index rating (see Graph #16 - #19).

**Comfort and Convenience Rating:**

Generally speaking consumers rate the luxury automobile market as providing average to above average comfort and convenience in car drive and environment (see Graph #20). All but one automobile manufacturer included in the study are rated in this range, of the both foreign and the domestic car makers.

Comfort and convenience were the only ratings not proven significantly different by ANOVA between foreign and domestic auto manufacturers (see Graph #1). Certain domestic brands fared poorly in this area while others were rated highly in terms of delivering comfort to the consumer and thus equalized the overall domestic score (see Graphs #21 - #24). In general Japan and Germany are viewed as providing the highest levels of comfort and convenience (see Graph #25).

**Pricing Information:**

In general the foreign auto manufacturers price their cars higher than the American auto makers (see Graphs #26 - #27). This is particularly true of the German car manufacturers. The Japanese companies generally maintain competitive prices when compared to G.M. and Chrysler although the Nissan Infiniti is priced well above the standard. Less known luxury car builders, such as Peugeot, tend to maintain lower price points.

Also of interest is the availability of both two-door and four-door domestic models offered at different price points. Foreign models are available most frequently in the four-door version only.

**Brand Share:**

North American market share is somewhat dominated from 1983-1993 by particular domestic models; the Cadillac DeVille and the Lincoln Town Car (see Graphs #28 - #30). It is not until the mid 1980's that the strength of these models begins to erode with the advent of consistent foreign competition in

the luxury car market. Up until this point of time foreign brands and models had been introduced and eliminated from the market, and were frequently re-introduced under a different model name. Additionally, the Japanese began to enter the market at this point of time surprising the lethargic domestic auto makers. It can be seen that new introductions to the market in the early 1990's gain quick share and are beginning to diminish that of the U.S. car makers. (Above results are based on the sales and brand share of the entire North American luxury car market).

## **MAIN ANALYSIS:**

### **Initial Multiple Regression Analysis:**

Multiple regression analysis was then implemented using the linear and logarithmic functional forms previously outlined. Product dimensions included in the model were now being represented by the three factor scores developed using principal component analysis. The two price variables of the model were also included as well as brand name, automobile manufacturer name and country-of-origin variables.

### **Correlation Analysis:**

It was initially necessary to analyze variable correlation to determine whether or not the inclusion of all independent variables in the model would be beneficial. A significantly high, if not perfect, positive correlation was revealed in the matrix between the two price variables. For this reason it was decided to run regression using only one of the price variables. In order to decide between the two-door price variable or the four-door price variable for inclusion in the regression, models were developed including each of the variables individually. In this way it could be determined which of the price variables contributed most to the predictive power of the final regressions and thus which variable should be retained for analysis. This process revealed that the two door price contributed more to all of the regressions' predictive abilities than did the four door price variable. The two-door price variable was therefore maintained in all of the models while the four-door price was



eliminated from analysis. (The four-door price was used in cases only in which two-door automobile models were not available to the market.) (see Appendix IV: Figure #3)

Other Multicollinearity Issues:

In closer analysis of the data used in the study it became apparent that a great majority of the cars included in the sample had the same country of branding as of manufacture. Based on a presumed highly positive relationship between these variables and the lack of additional information provided by the country-of-origin of manufacture variable it was dropped from the regression analysis.

Multicollinearity problems were also expected between the brand name, the manufacturer name and the country-of-origin variables. It would seem obvious that this correlation problem would arise given these variables; to assume that a consumer in the market for, or having purchased a luxury car, would not make both conscious and subconscious associations between these variables is unlikely (i.e. all educated consumers know the Jaguar XJ-S originates from Britain; or for instance that the Lexus is a Japanese car made by Honda, etc). It is doubtful that these connections can be eliminated or separated in the mind of the consumer; it is also concluded that it would be ineffective to attempt to do so in the regression model. Therefore in order to isolate brand name, manufacturer name and country-of-origin influences it was decided to run individual brand, manufacturer and country-of-origin regression models. In this way their individual

importance could be established, conclusions about each of the variable's own significance could be developed and comparative judgments could be made.

**The Model Using the Linear Additive Functional Form:**

Regression analysis was first run using the linear additive functional form described earlier in order to determine whether or not the transformed version of the model would be necessary. In all three major regression models, based individually on country-of-origin, manufacturer name and brand name, residual analysis revealed a violation of the assumption of normality. It could therefore be concluded that the hypothesized relationship between brand share and the independent variables did indeed exist and a logarithmic linear model should be applied to the model to attempt to decrease or limit regression assumption violations.

**Final Regression Analysis:**

**Revised Principal Component Analysis:**

In order to develop the logarithmic regression model it was necessary to develop a three factor solution based on transformed product dimension variables. The following table reveals the loadings of transformed variables on the factors and that transformation helped to clarify the underlying factor dimensions.

	<b>Factor #1</b>	<b>Factor #2</b>	<b>Factor #3</b>
	FHEADRM 0.481	OWNSAT 0.785	LENGTH 0.874
	RHEADR 0.544	CMTCON 0.655	WIDTH 0.873
	FLEGR -0.353	TRINX 0.740	
	SEATR 0.811	REL 0.708	
	FSHOULDR 0.567	GAS 0.329	
	RSHOULDR 0.854		
	LUGGAGE 0.856		
<b>Eigenvalues</b>	3.466596	2.421502	1.854058
<b>Factor Name</b>	<b>Interior Spaciousness</b>	<b>Consumer Belief</b>	<b>Automobile Size</b>

**Correlation Analysis:**

It was deemed necessary to generate a correlation matrix in order to assure that no multicollinearity problems developed between the logarithmic dependent and independent variables due to transformation (See Appendix IV: Figure #4). This fact was confirmed and regression analysis was therefore continued.

**The Durbin-Watson Test for Autocorrelation:**

Before continuing with regression it was deemed necessary to consider the possible effect of serial correlation on

regression results. If autocorrelation, or the dependence of successive observations due to time series data, was evident regression estimates would be much less, or not at all, reliable. The Durbin-Watson test was therefore selected for purposes of analysis as it is one of the more powerful tools for testing finite samples for autocorrelation<sup>9</sup>. The Durbin-Watson statistic (DW) indicates no autocorrelation effect at around 2, positive autocorrelation is revealed at values close to 0 and negative autocorrelation close to 4 ( $0 < DW < 4$ ). As seen in results (see Tables #6-#11 in the text) all models were proven free of serial correlation effects as the DW statistics for all fell closely around the point of symmetry equalling 2. As serial correlation in the error was not established regression analysis results were deemed reliable and worthy of analysis.

**Model #1(a) Country-of-Origin Model - (Table #6):**

The first regression includes the three factors, the two-door price variable and the country of origin dummy variables. Dummy variable C3 (representative of the Britain) was eliminated from the model due to problems of bias discovered during the SAS statistical run. The variable was deemed misleading as it was a linear combination of others existing in the model. The United States country variable was used as the fixed dummy variable for this model.

Variables are proved insignificant to the predictive powers of the model at a level of 0.05 - 0.10. The variable inflation factor (VIF) measure of collinearity was also

observed as a decision criteria for variable significance. A generally accepted cut-off point of 10 is utilized in this study as a means of significance measurement (Berenson & Levine 1989). The final regression model can be seen in Table #12. Interior spaciousness, and the country dummy variables C4 (Germany), C5 (France) and C6 (Sweden) proved to have significant effect on brand share. The coefficient of determination measured the predictive power of the model at 29.56%.

**Table #6**  
**Model #1(a) Country of Origin Model**

**Analysis of Variance:**

<b>F Value</b>	46.994	<b>DW</b>	1.917
<b>R-square</b>	0.3020	<b>1st Order Autocorrelation</b>	0.041
<b>Adj R-sq</b>	0.2956		

**Parameter Estimates:**

<b>Variable</b>	<b>Parameter Estimate</b>	<b>T for H0: Parameter=0</b>	<b>Prob&gt;T</b>	<b>Variance Inflation</b>
INTERCEP	0.5000	0.294	0.7690	0.0000
F1 (Interior Space)	0.5324	10.482	0.0001	1.5517
F2 (Consumer Belief)	0.0259	0.431	0.6668	2.1825
F3 (Auto Size)	-0.0340	-0.805	0.4208	1.0735
P2 (Price)	0.0758	0.441	0.6590	1.1754
C2 (Japan)	-0.1537	-0.900	0.3684	2.3179
C4 (Germany)	-0.5070	-3.372	0.0008	2.0013
C5 (France)	-2.5764	-10.408	0.0001	1.0617
C6 (Sweden)	-1.3448	-8.501	0.0001	1.1931

**Model #1(b) Country-of-Origin Model Including Seasonality:  
(Table #7)**

Both year and quarter variables were included in the final regression model in order to examine whether the time of year and/or the year had any effect on brand share. In this particular model seasonality proved not to be a significant predictor of market share (see Table #7). The inclusion of all of these variables in the model slightly decreased the model's predictive power (Adjusted R-Square = 29.12%).

**Table #7**  
**Model #1(b) Country-of-Origin with the Inclusion of**  
**Seasonality**

**Analysis of Variance:**

F Value	18.157	DW	1.936
R-square	0.3082	1st Order Autocorrelation	0.032
Adj R-sq	0.2912		

**Parameter Estimates:**

Variable	Parameter Estimate	T for H0: Parameter=0	Prob >  T	Variance Inflation
INTERCEP	-0.5138	-0.256	0.7984	0.0000
F1 (Interior Space)	0.5352	10.419	0.0001	1.5793
F2 (Consumer Belief)	0.0217	0.348	0.7278	2.3301
F3 (Auto Size)	-0.0347	-0.792	0.4284	1.1488
P2 (Price)	0.1745	0.843	0.3997	1.6971
C2 (Japan)	-0.1178	-0.665	0.5065	2.4805
C4 (Germany)	-0.5239	-3.392	0.0007	2.0990
C5 (France)	-2.5727	-10.129	0.0001	1.1108
C6 Sweden)	-1.3709	-8.544	0.0001	1.2198
Y84	-0.0025	-0.012	0.9903	1.8164
Y85	0.2496	1.227	0.2201	1.9378
Y86	0.0070	0.035	0.9720	2.0696
Y87	0.0752	0.380	0.7042	2.1640
Y88	0.0557	0.270	0.7872	2.0446
Y89	-0.0206	-0.101	0.9196	2.2970
Y90	-0.0038	-0.018	0.9853	2.4206
Y91	-0.0047	-0.022	0.9828	2.2885
Y92	0.1225	0.563	0.5735	2.3504
Y93	-0.2369	-1.074	0.2831	2.4693
Q2	0.0334	0.290	0.7719	1.4962
Q3	0.0577	0.499	0.6178	1.4955
Q4	-0.0351	-0.305	0.7607	1.4985

**Model #2(a) The Manufacturer Name Model - (Table #8):**

The second regression model includes the three factors, the price variable and the auto manufacturer name dummy variables. Once again a dummy variable was eliminated from the model due to problems of bias discovered during the SAS statistical run. The variable CAR5 (representative of the British auto maker Jaguar) was deemed misleading as it was a linear combination of others existing in the model. The automobile manufacturer General Motors was used as the fixed dummy variable for this regression model.

Following the same evaluative technique as described in the development of regression model #1, only factor #3 (automobile size), and two of the auto manufacturer names were deemed insignificant to the regression model (see Table #8). The model's predictive power (42.09%) is considerably stronger than that of models #1(a) & (b).



**Table #8**  
**Model #2(a) Manufacturer Name Model**

**Analysis of Variance:**

<b>F Value</b>	40.835	<b>DW</b>	1.958
<b>R-square</b>	0.4314	<b>1st Order Autocorrelation</b>	0.020
<b>Adj R-sq</b>	0.4209		

**Parameter Estimates:**

<b>Variable</b>	<b>Parameter Estimate</b>	<b>T for H0: Parameter=0</b>	<b>Prob&gt; T </b>	<b>Variance Inflation</b>
INTERCEP	-3.8689	-2.124	0.0339	0.0000
F1 (Interior Space)	0.6790	13.108	0.0001	1.9658
F2 (Consumer Belief)	0.2425	3.538	0.0004	3.4427
F3 (Auto Size)	-0.0162	-0.422	0.6734	1.0888
P2 (Price)	0.5523	2.984	0.0029	1.6589
CAR2 (Chrysler)	-0.9098	-6.639	0.0001	1.9514
CAR3 (Audi)	-2.2345	-9.740	0.0001	1.2327
CAR4 (BMW)	0.1723	0.854	0.3935	2.2210
CAR6 (Mercedes)	-1.5701	-6.941	0.0001	2.2784
CAR7 (Peugeot)	-3.0587	-9.456	0.0001	1.1194
CAR8 (Volvo)	-1.4303	-7.526	0.0001	1.3419
CAR9 (Toyota)	-0.9230	-4.008	0.0001	2.5530
CAR10 (Honda)	0.1114	0.441	0.6592	1.6439
CAR11 (Saab)	-2.3954	-10.566	0.0001	1.2040
CAR12 (Merkur)	-2.1909	-6.733	0.0001	1.1329
CAR13 (Mazda)	-0.7505	-2.789	0.0054	1.5258
CAR14 (Nissan)	-1.6876	-5.103	0.0001	1.5229

**Model #2(b) Manufacturer Name Model Including Seasonality -  
(Table #9)**

When seasonality was included in this regression model several of the year dummy variables proved significant and the quarter variable was excluded entirely from the model (see Table #9). The predictive power of the regression improved with the inclusion of all of the seasonality variables (42.79%).

**Table #9**  
**Model #2(b) Manufacturer Name with the Inclusion of**  
**Seasonality**

**Analysis of Variance:**

F Value	23.622	DW	2.036
R-square	0.4468	1st Order Autocorrelation	-0.019
Adj R-sq	0.4279		

**Parameter Estimates:**

Variable	Parameter Estimate	T for H0: Parameter=0	Prob> T	Variance Inflation
INTERCEP	-8.9362	-3.948	0.0001	0.0000
F1 (Interior Space)	0.6847	13.012	0.0001	2.0538
F2 (Consumer Belief)	0.2412	3.356	0.0008	3.8309
F3 (Auto Size)	-0.0294	-0.741	0.4586	1.1670
P2 (Price)	1.0898	4.645	0.0001	2.6988
CAR2 (Chrysler)	-0.9854	-7.064	0.0001	2.0467
CAR3 (Audi)	-2.3060	-10.049	0.0001	1.2488
CAR4 (BMW)	0.1439	0.693	0.4885	2.3810
CAR6 (Mercedes)	-1.8878	-7.726	0.0001	2.6911
CAR7 (Peugeot)	-2.9703	-9.149	0.0001	1.1416
CAR8 (Volvo)	-1.5131	-7.901	0.0001	1.3796
CAR9 (Toyota)	-0.8662	-3.620	0.0003	2.7910
CAR10 (Honda)	0.1650	0.643	0.5206	1.7201
CAR11 (Saab)	-2.4452	-10.774	0.0001	1.2214
CAR12 (Mercur)	-2.2184	-6.664	0.0001	1.2002
CAR13 (Mazda)	-0.6247	-2.280	0.0228	1.6012
CAR14 (Nissan)	-1.7906	-5.324	0.0001	1.5946
Y84	-0.0879	-0.468	0.6403	1.8247
Y85	0.1544	0.842	0.4001	1.9517
Y86	-0.1121	-0.615	0.5389	2.0929
Y87	-0.1360	-0.754	0.4510	2.2220
Y88	-0.1795	-0.943	0.3460	2.1535
Y89	-0.4090	-2.146	0.0322	2.4821
Y90	-0.3940	-2.031	0.0425	2.5693
Y91	-0.4106	-2.008	0.0450	2.4558
Y92	-0.2227	-1.097	0.2728	2.5339
Y93	-0.6490	-3.139	0.0018	2.6878
Q2	0.0209	0.202	0.8401	1.4982
Q3	0.0331	0.319	0.7497	1.4971
Q4	-0.0487	-0.470	0.6388	1.5003

**Model #3(a) Brand Name Model - (Table #10):**

The third version of the regression model included the three product dimension factors, the two-door price variable and brand name dummies. Several dummy variables were eliminated from the model due to problems of bias discovered by SAS. The variables BR15, BR16, BR17, BR20, and BR28 were all believed misleading as they were a linear combination of others existing in the model and were therefore extracted. For purposes of dummy variable inclusion in this model, the brand Oldsmobile 98 was fixed.

Of the remaining variables in the model only one factor, "automobile size", was an insignificant predictor of brand market share. Twelve of the remaining 33 brand dummies were also determined to not contribute to the predictive powers of the model. Price was again significant to the model and its predictive power was measured to be 58.13% (see Table #10).

**Model #3(b) Brand Name Model Including Seasonality:  
(Table #11)**

The inclusion of seasonality in this model proved very interesting. Time of year was again excluded from the model however the year dummy variables proved to contribute greatly to the prediction of brand share of this model. Only one year dummy was excluded from the model. Additionally, the inclusion of seasonality greatly effected the significance measures of the brand dummy variables. Only seven proved insignificant and those not contributing to the model differed

from those not contributing in model #3(a). The significance of the price variable was also greatly decreased by the addition of seasonality to the model. The coefficient of determination of the model was also greatly improved by the inclusion of seasonality (see Table #11).

**Table #10**  
**Model #3 (a) Brand Name Model**

**Analysis of Variance:**

<b>F Value</b>	33.913	<b>DW</b>	2.053
<b>R-square</b>	0.5990	<b>1st Order Autocorrelation</b>	-0.027
<b>Adj R-sq</b>	0.5813		

**Parameter Estimates:**

<b>Variable</b>	<b>Parameter Estimate</b>	<b>T for H0: Parameter=0</b>	<b>Prob&gt; T </b>	<b>Variance Inflation</b>
INTERCEP	14.1717	5.062	0.0001	0.0000
F1 (Interior Space,	0.2727	3.687	0.0002	5.5447
F2 (Consumer Belief)	-0.1649	-2.402	0.0165	4.7788
F3 (Auto Size)	-0.0315	-0.921	0.3572	1.1875
P2 (Price)	-1.2768	-4.435	0.0001	5.5523
BR2 (Toronado)	-1.3586	-5.859	0.0001	2.5407
BR3 (Electra)	-0.0177	-0.087	0.9303	1.9961
BR4 (Riviera)	-0.9972	-4.317	0.0001	2.5763
BR5 (Cimarron)	-1.9228	-6.146	0.0001	2.8533
BR6 (Seville)	-0.1856	0.766	0.4437	2.8338
BR7 (DeVile)	0.9666	4.563	0.0001	2.1676
BR8 (Eldorado)	-0.1070	-0.461	0.6446	2.5966
BR9 (Town Car)	0.6864	2.723	0.0066	3.0676
BR10 (Mark VII)	-0.3994	-1.662	0.0970	2.7914
BR11 (Continental)	-0.1612	-0.694	0.4876	2.6051
BR12 (Imperial)	-2.1001	-7.549	0.0001	1.5768
BR13 (Audi 5000)	-2.0229	-8.609	0.0001	1.7392
BR14 (BMW 320/318)	-1.6268	-4.695	0.0001	2.1788
BR18 (Mercedes 240D)	-4.7574	-12.160	0.0001	1.4020
BR19 (Mercedes 300D)	-0.6188	-1.758	0.0791	2.6606
BR21 (Peugeot 604)	-5.8606	-11.957	0.0001	1.1052
BR22 (Volvo 760)	-1.3493	-5.383	0.0001	1.9681
BR23 (BMW 325i)	-0.1223	-0.370	0.7118	1.9908
BR24 (Cressida)	-1.2257	-4.664	0.0001	2.7548
BR25 (Acura Legend)	0.5034	1.882	0.0601	2.5479
BR26 (Saab 9000)	-2.0810	-8.541	0.0001	1.9233
BR27 (Mercedes 300E)	-0.1451	-0.352	0.7252	1.9456
BR29 (Peugeot 505)	-3.2186	-8.424	0.0001	1.5025
BR30 (Merkur Scorpio)	-2.4654	-7.802	0.0001	1.4778
BR31 (Mazda 929)	-0.4285	-1.555	0.1204	2.2143
BR32 (BMW 3-Series)	0.4608	1.413	0.1580	2.4018
BR33 (BMW 5-Series)	0.2614	0.774	0.4394	2.4538
BR34 (Merc.300 Series)	0.6494	1.770	0.0771	3.0407
BR35 (Volvo 740)	-0.7150	-2.650	0.0082	1.5639
BR36 (Infiniti Q45)	-0.1656	-0.447	0.6552	2.6465
BR37 (Lexus LS400)	0.8621	2.296	0.0219	2.8734
BR38 (Lexus GS300)	0.5123	0.913	0.3616	1.4493
BR39 (Lexus SC300)	-0.3395	-0.604	0.5462	1.4553

**Table #11**  
**Model #3(b) Brand Name with the Inclusion of Seasonality**

**Analysis of Variance:**

F Value	27.116	DW	2.063
R-square	0.6211	1st Order Autocorrelation	-0.032
Adj R-sq	0.5982		

**Parameter Estimates:**

Variable	Parameter T for H0:		Prob>T	Variance Inflation
	Estimate	Parameter=0		
INTERCEP	-5.3470	-1.163	0.2450	0.0000
F1 (Interior Space)	0.2795	3.775	0.0002	5.7937
F2 (Consumer Belief)	-0.1573	-2.177	0.0298	5.5140
F3 (Auto Size)	-0.0311	-0.901	0.3677	1.2615
P2 (Price)	0.8121	1.681	0.0932	16.2944
BR2 (Toronado)	-1.4958	-6.511	0.0001	2.5988
BR3 (Electra)	0.0484	0.243	0.8082	2.0038
BR4 (Riviera)	-1.1699	-5.091	0.0001	2.6569
BR5 (Cimarron)	-1.6076	-5.077	0.0001	3.0455
BR6 (Seville)	-1.0380	-3.628	0.0003	4.1205
BR7 (DeVille)	0.5413	2.428	0.0154	2.5027
BR8 (Eldorado)	-0.7567	-2.927	0.0035	3.3630
BR9 (Town Car)	0.1573	0.580	0.5620	3.7029
BR10 (Mark VII)	-1.0913	-3.991	0.0001	3.7619
BR11 (Continental)	-0.8925	-3.317	0.0009	3.6429
BR12 (Imperial)	-2.5416	-8.859	0.0001	1.7474
BR13 (Audi 5000)	-2.3616	-9.786	0.0001	1.9664
BR14 (BMW 320/318)	-1.8151	-5.229	0.0001	2.2787
BR18 (Mercedes 240D)	-5.8698	-13.530	0.0001	1.7962
BR19 (Mercedes 300D)	-2.2354	-4.752	0.0001	4.9533
BR21 (Peugeot 604)	-6.2891	-12.850	0.0001	1.1483
BR22 (Volvo 760)	-2.1079	-7.315	0.0001	2.7099
BR23 (BMW 325i)	-0.6694	-1.923	0.0549	2.2930
BR24 (Cressida)	-1.2006	-4.565	0.0001	2.8748
BR25 (Acura Legend)	0.2429	0.885	0.3764	2.7978
BR26 (Saab 9000)	-2.4879	-9.819	0.0001	2.1679
BR27 (Mercedes 300E)	-1.7106	-3.257	0.0012	3.2844
BR29 (Peugeot 505)	-2.7612	-7.111	0.0001	1.6171
BR30 (Merkur Scorpio)	-2.8726	-8.816	0.0001	1.6372
BR31 (Mazda 929)	-0.5355	-1.945	0.0521	2.3031
BR32 (BMW 3-Series)	0.3349	1.029	0.3039	2.4953
BR33 (BMW 5-Series)	-0.6682	-1.752	0.0802	3.2575
BR34 (Mer.300 Series)	-0.7582	-1.675	0.0944	4.8251
BR35 (Volvo 740)	-0.7378	-2.753	0.0060	1.6075
BR36 (Infiniti Q45)	-1.3200	-3.039	0.0025	3.7878
BR37 (Lexus LS400)	-0.2125	-0.490	0.6241	3.9905
BR38 (Lexus GS300)	-0.2670	-0.445	0.6561	1.7227
BR39 (Lexus SC300)	-0.7860	-1.347	0.1783	1.6325

(Continued)

Table #11 - Continued

<b>Variable</b>	<b>Parameter Estimate</b>	<b>T for H0: Parameter=0</b>	<b>Prob&gt;T</b>	<b>Variance Inflation</b>
Y84	-0.2330	-1.431	0.1529	1.9501
Y85	-0.2947	-1.819	0.0692	2.1674
Y86	-0.7134	-4.308	0.0001	2.4554
Y87	-0.6632	-3.811	0.0001	2.9453
Y88	-0.6606	-3.526	0.0004	2.9685
Y89	-1.0105	-5.015	0.0001	3.9489
Y90	-0.9312	-4.553	0.0001	4.0677
Y91	-1.0323	-4.757	0.0001	3.9370
Y92	-0.9187	-4.099	0.0001	4.3984
Y93	-1.2999	-5.685	0.0001	4.6792
Q2	-0.0050	-0.058	0.9534	1.5000
Q3	-0.0106	-0.122	0.9029	1.5000
Q4	-0.1046	-1.200	0.2306	1.5103

## MAJOR RESULTS:

### **The Size Issue:**

The final regression models all point to the fact that "interior spaciousness" of the automobile plays an integral part in the evaluation of a luxury car. "Interior spaciousness" (factor #1) was significant in all three models with high parameter estimates revealing a strong positive relationship with brand share. It can therefore be assumed that a consumer will be more interested in purchasing a luxury vehicle the more room there is for passengers. This conclusion is logical when considering aspects of passenger comfort and the continual promotion in the industry about the "smaller", "compact" economy car.

"Size of the Automobile" (factor #3) never proved significant in the regression models. This seems somewhat surprising in the consideration of car interior room importance as a criteria affecting brand share. It would be expected that a larger car would provide for greater room for passengers. However, it would appear that automobiles are popular whether or not the exterior appears large as long as the interior is perceived as spacious and providing ample comfort to the consumer.

### **The Issue of Price:**

The issue of price in terms of the regression models is somewhat convoluted. Price is not significant in the regressions based on country-of-origin, is positively significant with share in the model including manufacturer



name and has a positive or a negative effect on share in the regressions based on brand (dependent upon whether or not seasonality is included in the model).

Based on these results the positive parameter estimate for the price variable reveals that the consumer is more likely to purchase a luxury automobile if it has a higher price. This conclusion may be related to the concept of "prestige pricing, a common strategy in the marketing of luxury products. Higher prices are used by marketers to suggest quality or high status to the target customer who is in search of the "best"."<sup>10</sup> This concept is supported in previous fashion product research based on the price-quality relationship (Goodyear 1993; Aaker 1991; Dodds, Monroe & Grewal 1991; Aaker & Keller 1990; Rao & Monroe 1989). This relationship is evident in three of the six regression models analyzed in the study.

In another model however a negative relationship was established between price and share. In model #3(a) based on brand name, a consumer that is aware of the brand is more likely to make a purchase the smaller the price of the automobile. A further complication in terms of the price variable's effect on share is that in the country-of-origin models #1(a) & (b) it is not effected by price in a positive nor in a negative manner.

It can therefore only be concluded that price plays a part in consumer decision making dependent upon the type and amount of information available to them at the time of

purchase. Circumstances surrounding the purchase can also be said to affect whether or not the cost of the luxury automobile will enhance or diminish the likelihood of purchase.

**The Issue of Consumer Belief:**

"Consumer belief" (factor #2) about luxury automobiles proved less relevant in the study than expected. (This may be attributed to a general belief by consumers that luxury cars, brand to brand, provide a similar level of performance in terms of these rating issues.) "Consumer belief" was a significant predictor of brand share in four of the six regression models developed. Share would be increased if the consumer rated the car more positively in terms of reliability, comfort, satisfaction and repairs in the regression models based on manufacturer name (Tables #8 & #9). This factor may have been significant in these regression models due to the fact that consumers may be more likely to generalize certain repair, service and satisfaction problems to the particular manufacturer the car was purchased from rather than condemning the country-of-origin of the brand or the particular model.

However, "consumer belief" was also a significant predictor of share in model #3(a) and (b), or the models based on brand name (Table #10 & 11). It is odd to note however that in these particular models factor #2 ("Consumer Belief") had an inverse relationship with brand share, as represented by the negative parameter estimate. Therefore a brand would

have a greater share of the market if consumers had negative beliefs about it in terms of reliability, trouble, satisfaction and comfort. This seems to contradict basic consumer logic in terms of purchasing to satisfy needs. This may be a representation of the overriding importance of the brand name in consumer purchase decisions in the luxury car market.

**The Importance of Seasonality:**

In all regression models the effect of quarter, or time of year, did not effect brand share. Brand share was however significantly effected by year dummy variables in both the manufacturer name and the brand name based models (see Tables #9 & #11). The years 1989-1991 and 1993 proved significant in the models based on manufacturer of the automobile. These years may prove to effect market brand share in these particular regression models due to the introduction of a great number of new manufacturers and automobiles into the market during this time period. Most notable are the new luxury automobiles produced by Japan and the brand share developed by this country, and its car makers, which increased and significantly effected market share during these years (See Appendix III: Graphs #28-30).

All but one year dummy variable had a significant effect on brand share in the model #3(b) (see Table #11). Significance of this kind may be representative of the annual new car introductions, and the withdrawal of unsuccessful

models, which is common to this market and ultimately effects the distribution of share across the luxury car brand market.

Worthy of Note:

It is interesting to note however, that time of year does have significant effect on a brand name regression model when the dependent variable is "sales" rather than "brand share" (see Appendix IV: Table #18). This regression model included the second quarter (Q2 = April, May, June) as a significant predictor of sales. This may be due to the fact that North American car buyers are more likely to make a purchase in the spring after the winter season has passed. Purchases are made during the second quarter after consumers have had time to educate themselves about the new models which were introduced and promoted throughout the fall and winter periods. Regression models based on the dependent variable "brand share" would likely not be effected by the increased sales during a particular time period as it would occur equivalently across the entire luxury car market and across all models available on the market.

**The Issue of Brand Name, Manufacturer Name and Country-of-Origin:**

Most interesting conclusions of the study are based in the differences of predictive powers of the three regression models. The first model based on country of origin was least able to predict sales while model predictive ability improved when car manufacturer name was its basis and again increased when based on brand name (see Tables #6 - #11). Considering

the endless promotion and advertising prevalent in today's market it is not surprising that brand name plays such an important role in luxury car evaluation and purchase. In the mind of the consumer brand name implies much more than just the model purchased. Brand name invokes thoughts about the car itself as well as the manufacturer and the country from which the brand originates. Therefore the original model including country only provided general knowledge of whether or not the country is known for luxury car manufacture. The second regression model including auto manufacturer name provides information about the car maker and additional associations about the country-of-origin of the manufacturer. Finally brand name suggests all of the above as well as knowledge about the particular model under consideration.

Country-of-Origin:

The regression models based on country reveal that the country name Japan (C2) and the United States (a fixed dummy represented by the intercept) are the dummy variables not significant in the prediction of brand share. The other country dummy variables possess large negative parameter estimates which point to the fact that consumers may lack confidence in these countries as manufacturers of cars. This conclusion is reflective of the inverse relationship between share and country-of-origin and that knowledge in regard to manufacture of a luxury automobile in Germany, and in particular France or in Sweden decrease brand share. Therefore based on this model if a consumer were to evaluate

a luxury automobile and it was discovered the model originated from Sweden, France, or Germany (to a much lesser extent than the former two countries mentioned) the consumer would be less likely to undertake the purchase. If however it was determined that the automobile was manufactured in Japan or the U.S. their purchase decision would not be swayed positively or negatively by this information.

Automobile Manufacturer Name:

In terms of auto manufacturer name it was revealed in model #2 that all manufacturer names are significant predictors of brand share except for BMW and Honda. Of the remaining brands in the model none proved to positively effect share position; all the manufacturer names significant to the model seem to decrease consumer purchase intention. It can be concluded that most auto manufacturer names do not provide assurance to the consumer in the decision making process but decrease consumer confidence in purchase.

Brand Name:

Brand name was proven in regression model #3 to produce the strongest model in terms of predictive ability, as previously mentioned. The brands not significant to model #3(a) were the Buick Electra, the Cadillac Seville and Eldorado, the Lincoln Continental, several models from BMW, the Mercedes 300 E, the Infiniti Q45 and the Lexus GS300 and SC300. Of the remaining brands only very few had a positive predictive relationship with brand share (the Oldsmobile 98, the Lincoln Town Car, the Cadillac Deville, and the Acura

Legend). When seasonality was included in the model fewer brands proved insignificant in the prediction of share (the Buick Electra, the Lincoln Town Car, the Acura Legend, the BMW 3-Series and the models from Lexus), and only one of the significant brands had a positive effect on share thus contributing to the likelihood of a luxury car purchase (the Cadillac Deville).

Interestingly, the DeVille is a brand reflective of product longevity in this study. That is that it was never introduced or eliminated from the market during the 1983-1993 study period, and did not undergo model or brand name changes. This brand is also one which consistently led in brand share during this period (See Graphs #28-#30). It may be concluded therefore that a consistent, well established name backed up with early entry into the market positively effects brand share position and hence provides a strong buffer against new luxury car market entry. (The Oldsmobile 98 and the Lincoln Town Car are also models representative of the aforementioned characteristics and although insignificant in one of the two brand name regressions may at least be considered partially supportive of this conclusion.)

### DISCUSSION OF HYPOTHESES:

To return the discussion back to the original hypotheses developed for analysis it can be seen in the results that the study was quite successful. Analysis revealed that brand name does indeed have a significant effect on brand share and thus the evaluation of luxury cars. In this regard **H1** is supported. In addition, the regression model including the brand name dummy variables did prove to provide the strongest predictive ability of all the models and thus provides additional support for **H1**. **H5**, which predicted brand name as the most important predictor of brand share position, receives only conditional support. Although the brand name model is the most powerful in terms of brand share prediction, individual brand names are inconsistent in terms of predictive strength. It is therefore difficult to conclude that brand name is without a doubt most important in the evaluation of this fashion product although there is partial support for this conclusion.

**H3**, which questioned the importance of brand image product attributes relative to the beneficial and characteristic aspects of the product, is also supported by the study. Image, reflected in brand name, played an integral role in the evaluation of luxury automobiles and the characteristic and beneficial attributes of the product ("price", "size of the automobile", "interior spaciousness" and "consumer belief") generally play a smaller role in terms of contribution to the prediction of brand share.



It is difficult however to conclude that it is solely a brand name effect that contributes so strongly to prediction of share. As previously mentioned, it is suspected that brand name is reflective of combined knowledge in the mind of the consumer in regard to brand, country and manufacturer of luxury automobiles. Additionally, results reveal that country and manufacturer name product image attributes are also frequently powerful predictive variables in their independent regression models.

Results provide some support for the hypotheses based on the country-of-origin issue. Country dummies were significant and **H2** is supported. However, some of the country variables were less robust in terms of predictive ability than the other significant characteristic and beneficial product attributes included in the model. An additional complication is the fact that the combined effects of characteristic and beneficial attributes of the car, as predictors of brand share in the country-of-origin regression model, contribute more to its predictive ability than does the significant country variable. It is therefore difficult to find complete support for **H4**.

In general, it can therefore be stated that the bases for all hypotheses are supported. However, there is a need for additional research and analysis in order to more clearly define and delineate the extent to which these variables contribute to the models.

### MANAGERIAL IMPLICATIONS:

#### **Price:**

The results of the study provide a great deal of interesting knowledge to the marketing practitioner. It would appear that price plays a role in the evaluation and decision to purchase luxury cars. This role is frequently one of a representation of status. A higher price seems to convey the concept of luxury image to the car buyer. Therefore, a luxury car marketer should be advised that carefully increasing the automobile's price is not necessarily a deterrent to the luxury car buyer. In this market, a car is unlikely to be priced out of the market as consumers appear to be willing to pay for the image of status. However, this strategy must be implemented with caution. In some cases it was revealed that consumer purchases of luxury car may be swayed by a lower price dependent upon the purchase situation and the level of knowledge they possess about the car. A luxury car marketer must therefore develop an express understanding of their target market before any change in pricing strategy is undertaken.

It is also interesting to note that foreign cars, particularly the Japanese and the German luxury car, are viewed more favourably than domestic automobiles. These cars are priced higher than the domestic models however consumers are more satisfied with their purchase. This fact provides additional support for the concept of consumers' willingness to pay a higher price if it is believed it will garner a

quality product. The emphasis in luxury car marketing should therefore be based on value of the purchase not on economy.

**Manufacturing:**

In terms of manufacturing of luxury automobiles, it would appear that individuals looking to purchase a car in this market equates the interior room of the car with the luxury it can provide them. A luxury car maker should therefore keep this in mind in automobile design and styling. It would be worthwhile to determine optimal luxury car size in order to limit consumer negativity toward a model due to its lack of passenger and luggage space.

**Seasonality and Advertising:**

The overall importance of the year variable in the brand name regression model may point to the volatile nature of the luxury car market. In addition to consistent styling changes, annual new model introduction and unsuccessful model market withdrawal greatly effects brand share. Brand share shifts are therefore common and frequent. It would seem necessary to sustain a consistent promotional program for the brands being maintained on the market to limit consumer switching and confusion.

Aside:

The importance of seasonality and the inclusion of the second quarter variable in the regression model based on "sales" may point to an important advertising issue. An advertiser must be aware of the fact that purchasing is more likely to happen in spring and therefore organize an

advertising and promotional strategy based on this fact. The common fall introduction of new models is therefore best followed by intense advertising and promotion throughout the winter season in order to develop consumer awareness and maintain product interest.

**Country-of-Origin:**

The results of the study provided additional support for the concept of country effecting consumer evaluation of fashion products. It is therefore necessary to determine how the manufacturing country is perceived before developing a marketing strategy. For example, based on analysis results, Saab should shift emphasis or de-emphasize the fact that their cars originate from Sweden; luxury car consumers lack confidence in this country as an auto maker. Interest should be diverted to areas of brand or manufacturer strength in order to minimize the damage created by country-of-origin.

**Automobile Manufacturer Name:**

It is interesting for the practitioner to note that the consumer may lay blame on the company if an automobile purchase proves to go sour. It would therefore be beneficial to a car maker to provide superior customer and repair service to the luxury car buyer. In this way any negativity developed due to dissatisfaction with an automobile purchase will be limited to the model and not transferred unnecessarily to the manufacturing company.

It was also noted that the majority of auto manufacturer names do not instill confidence in the minds of consumers.

Share decreased with increase knowledge of the automobile manufacturer. The above strategy may also be used to increase the consuming public's general pessimism toward the satisfying abilities of the car maker.

**Brand Name:**

Results revealed that brand name is a combination of associations based on the country-of-origin of the brand, the manufacturer and the model being considered for purchase. This fact adds support to the Japanese strategy of creating totally new luxury car divisions which isolate new models from pre-existing beliefs about the manufacturer. In this way a new luxury car is able to succeed or fail in the market with limited effect on the manufacturing company while benefiting from company strengths. This technique is consistent with the brand extension strategy common to fashion product marketing.

With the apparent existence of these associations in the minds of the consumer a marketer must therefore carefully analyze all aspects of the luxury cars image in order to determine advertising emphasis. That is to say that if a brand is manufactured by a country furnishing little confidence to the consumer in terms of manufacturing ability, the stronger manufacturer name should be emphasized.

The study also revealed the dominating importance of brand name in this market as well as the importance of brand image consistency. A strong, well established brand name proved to maintain share with the introduction of new competition into the market. A marketer should create long

run plans for their products in terms of image with the goal of developing and maintaining brand loyalty central to the concept of brand equity. Newson & Newson (1993) explained the need for this strategy in the fashion market as a means of maintaining consumer interest over styling changes and fluctuations.

#### **The Luxury Car Market:**

In general research has revealed the increasing popularity of foreign automobiles in the luxury car market. The domestic manufacturer dominance of the past is now being threatened. Foreign brands, particularly the Japanese cars, are preferred by consumers on all points of interest discussed in the study. Luxury car buyers are not only more likely to buy a foreign car again, but they are also willing to do so at a higher price they believe delivers higher quality and status. These results should send warning signals to domestic luxury car marketers and manufacturers. The consumer is in the market for value and domestic automobile makers are perceived as not delivering it. Automobile design and marketing strategy should be developed based on the luxury car buyer's purchasing objective.

## LIMITATIONS OF THIS STUDY AND RECOMMENDATIONS FOR

### FUTURE RESEARCH:

A major limitation to the study is that regression analysis results violated assumptions of normality. This problem is attributed to the data set and the innate relationship between brand, manufacturer, country-of-origin variables and brand share. It may be worthwhile in future research to make use of more complicated and extensive statistical packages and forms of analysis to avoid or improve upon this problem and thus develop regression models including all image attribute variables.

An additional limitation to the study was the elimination of country-of-manufacture variable from the regression analysis. Research originally aspired to the examination of aspects of both country-of-origin of the brand and of manufacture; unfortunately the product category chosen although suitable for purposes of fashion product analysis was restricted in terms of branding and manufacturing country differences for this time period. It would therefore be worthwhile to consider another fashion product category in future that would provide a clearer distinction between country of branding and of manufacture, or to simply look at this product category again at a future date when data based on this distinction is more prevalent in the market.

The time period of the data set proved interesting as it reflected the entry of foreign competition into a strongly American entrenched market. However, it would be beneficial

to analyze the market further once foreign competition becomes more firmly placed in the luxury automobile market and how this will effect domestic market dominance. By the end of 1993 the effects of foreign entry were only beginning and can only be presumed by the results of this study. Future research would therefore be beneficial in this regard.

The addition of an advertising variable to the models could also contribute greatly to the study. Fashion products depend greatly only advertising and promotion as a means of image creation and maintenance. The inclusion of advertising to the study could provide interesting results and help to clarify the contribution of the brand name and the brand image being developed for the product by the manufacturer.



## **CONCLUSION:**

Research has provided additional support to the existing fashion product literature as well as to provide new insight into the concept and relationship between brand name and country-of-origin. The study has revealed that consumers in the market for a luxury car do indeed look to image variables as a means of product evaluation. It can therefore be assumed that purchase will be greatly influenced by the consumer's perceived image of the car and whether or not it is believed to support their self-concept. Characteristic and beneficial attributes of the luxury automobile were also proved to have a significant effect on brand share; however, as is common in the fashion product market, the consumer's image orientation is the dominating purchasing force. A company wishing to succeed in an increasing competitive international fashion market must therefore have an express interest and understanding of its product image and then effectively communicate this understanding to its target market.

## Endnotes

1. David A. Aaker, Managing Brand Equity (New York: The Free Press, 1991), p. 7.
2. David A. Aaker, Managing Brand Equity (New York: The Free Press, 1991), p. 110.
3. William O. Bearden, Richard G. Netemeyer and Jesse E. Teel, "Measurement of Consumer Susceptibility to Interpersonal Influence," Journal of Consumer Research, Vol. 15, (March 1989), p. 474.
4. Martin S. Roth, and Jean B. Romeo, "Matching Product Category and Country Image Perceptions: A Framework for Managing Country-of-Origin Effects," Journal of International Business Studies, (Spring 1992), p. 480.
5. Gilbert R. Green and Co., Inc., Automotive Marketing Methods and Practice, (Natick, MA: U.S. Department of Commerce, Sept. 1979), p. 9.
6. Roxanne Lefkoff-Hagius and Charlotte H. Mason, "Characteristic, Beneficial and Image Attributes in Consumer Judgements of Similarity and Preference," Journal of Consumer Research, Vol. 20, (June 1993), p. 101.
7. Gurprit S. Kindra, Michel Laroche and Thomas E. Muller. Consumer Behaviour in Canada, (Scarborough, Ontario: Nelson Canada, 1989), p. 139.
8. Churchill, Gilbert A. Jr., Marketing Research: Methodological Foundations, Fifth edition, (Chicago: The Dryden Press, 1991), p. 911.
9. George G. Judge, R. Carter Hill, William E. Griffiths, Helmut Lutkepohl and Tsoung-Chao Lee, Introduction to the Theory and Practice of Econometrics, second edition, (New York, New York: John Wiley & Sons, 1988), p. 394.
10. Jerome E. McCarthy, Stanley J. Shapiro and William D. Perreault, Basic Marketing, Fifth edition, (Boston, MA: Richard D. Irwin, Inc.: 1989), p. 551.

## Bibliography

- Aaker, David A. Managing Brand Equity. New York: The Free Press, 1991.
- Aaker, David A. and Kevin Lane Keller, "Consumer Evaluations of Brand Extensions," Journal of Marketing, Vol. 54, (January 1990), 27-41.
- Appelbaum, Steven H., M. Dale Beckman, Louis E. Boone and David L. Kurtz. Contemporary Canadian Business, Third Edition. Toronto: Holt, Rinehart and Winston of Canada Limited, 1990.
- Back, Kurt W. "Modernism and Fashion: A Social Psychological Interpretation." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, p. 3-14.
- Baker, William, J. Wesley Hutchinson, Danny Moore and Prakash Negungadi. "Brand Familiarity and Advertising: Effects on the Evoked Set and Brand Preference," In Advances in Consumer Research. Ed. Richard J. Lutz. Provo, UT: Association for Consumer Research, Vol. 13, 1986, p. 637-642.
- Bannister, J.P. and J.A. Saunders. "U.K. Consumers' Attitudes Towards Imports: The Measurement of National Stereotype Image," European Journal of Marketing, 12, 8. (1978), 562- 570.

- Barber, Bernard and Lyle S. Lobel. "Fashion in Women's Clothes and the American Social System," Social Forces, 31, (December 1952), 124-131.
- Baugmarten, Steven A. "The Innovative Communicator in the Diffusion Process," Journal of Marketing Research, Vol. XII, (February 1975), 12-18.
- Bearden, William O., Richard G. Netemeyer and Jesse E. Teel. "Measurement of Consumer Susceptibility to Interpersonal Influence," Journal of Consumer Research, Vol. 15, (March 1989), 473-481.
- Bearden, William O., and Randall L. Rose. "Attention to Social Comparison Information: An Individual Difference Factor Affecting Consumer Conformity," Journal of Consumer Research, Vol. 16, (March 1990), 461-471.
- Belk, Russell W. "Possessions and the Extended Self," Journal of Consumer Research, Vol. 15, (September 1988), 139-168.
- Berenson, Mark L. and David M. Levine. Basic Business Statistics, fourth edition. New Jersey: Prentice Hall, 1989.
- Bilkey, Warren J. and Erik Nes. "Country-of-Origin on Product Evaluations," Journal of International Business Studies, (Spring/Summer 1982), 89-99.

- Birkin, Michael. "Brand Valuation." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 183-198.
- Cattin, Philippe, Alain Jolibert and Colleen Lohnes. "A Cross-Cultural Study of "Made In" Concepts," Journal of International Business Studies, (Winter 1982), 131-141.
- Chao, Paul. "Partitioning Country of Origin Effects: Consumer Evaluations of a Hybrid Product," Journal of International Business Studies, Vol. 24, No. 2, (Spring 1993), 291-306.
- Churchill, Gilbert A. Marketing Research - Methodological Foundations, fifth edition. Chicago, Ill: The Dryden Press, 1991.
- Consumer's Union of the United States. Consumer Report. Moun Vernon, New York: Consumer's Union of the United States, (April 1981-1994).
- Cournoyer, Guy. Automobile Buying Habits: A Consumer Behaviour Study. Montreal: Concordia University, April 1991.
- Cowley, David. "Introduction." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 9-16.
- Crain Automotive Group. Automotive News. Detroit, MI: Crain Automotive Group, (January 1983-December 1993).
- "Current Labour Statistics." Monthly Labor Review. Washington, D.C: Monthly Labor Review, (April 1994).

- Daniel, Wayne W. and James C. Terrell. Business Statistics, Fourth Edition, Dallas, TX: Houghton Mifflin Company, 1986.
- Daniels, Alfred H. "Fashion Merchandising," Harvard Business Review, Vol. 29, (May), 51-60.
- Davis, Fred. "Clothing and Fashion as Communication." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, pp. 15-27.
- Davis, Leslie L. and Sharron J. Lennon "Self-Monitoring, Fashion Opinion Leadership, and Attitudes toward Clothing." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, pp. 177-183.
- Dodds, William B., Kent B. Monroe and Dhruv Grewal. "Effects of Price, Brand, and Store Information on Buyers' Product Evaluations," Journal of Marketing Research, Vol. XXVIII, (August 1991), 307-319.
- Donnelly, James H., Jr. "Social Character and Acceptance of New Products," Journal of Marketing Research, Vol. VII, (February 1970), 111-113.
- Duckworth, Gary. "Brands and the Role of Advertising." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 57-82.

- Erickson, Gary M., Johnny K. Johansson and Paul Chao. "Image Variables in Multi-Attribute Product Evaluations: Country-of-Origin Effects," Journal of Consumer Research, Vol. 11, (September 1984), 694-699.
- Evans, Martin. "Consumer Behaviour Toward Fashion," European Journal of Marketing, Vol. 7, 23, (1989), 7-16.
- Feick, Lawrence F. and Linda L. Price. "The Market Maven: A Diffuser of Marketplace Information," Journal of Marketing, Vol. 51, (January 1987), 83-97.
- Feldwick, Paul. "Defining the Brand." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 17-30.
- Fisher, Robert J., and Linda L. Price. "An Investigation into the Social Context of Early Adoption Behaviour," Journal of Consumer Research, Vol. 19, (December 1992), 477-486.
- Gadel, Marguerite S. "Commentary: Style-Oriented Apparel Customers." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books L.C. Heath and Company, 1985, pp. 155-157.
- Gaedeke, Ralph. "Consumer Attitudes Toward Products "Made In" Developing Countries," Journal of Retailing, Vol. 49, No. 2, (Summer 1973), 13-24.
- Gatignon, Hubert and Thomas S. Robertson. "A Propositional Inventory for New Diffusion Research," Journal of Consumer Research, Vol. 11, (March 1985), 849-867.

- Gilbert Green and Co., Inc. Automotive Marketing Methods and Practice. Natick, MA: U.S. Department of Commerce: National Technical Information Service, Sept. 1979.
- Goodyear, Mary. "Reviewing the Concept of Brands and Branding," Marketing and Research Today, Vol. 21, No.2, (May 1993), 75-79.
- Gorden, William I., Dominic A. Infante and Audrey A. Braum. "Communicator Style and Fashion Innovativeness." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, pp. 161-175.
- Gordon, Wendy. "Accessing the Brand through Research." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 31-56.
- Grubb, Edward L. and Harrison L. Grathwohl. "Consumer Self Concept, Symbolism and Market Behaviour: A Theoretical Approach," Journal of Marketing, Vol. 31, (October 1967), 22-27.
- Grubb, Edward L. and Gregg Hupp. "Perception of Self, Generalized Stereotypes, and Brand Selection," Journal of Marketing Research, Vol. V, (February 1968), 58-63.
- Hair, Joseph F., Rolph E. Anderson and Ronald L. Tatham. Multivariate Data Analysis, second edition. New York: MacMillan Publishing Co., 1987.



- Han, C. Min. "Country Image: Halo or Summary Construct?," Journal of Marketing Research, Vol. XXVI, (May 1989), 222-229.
- Han, C. Min and Vern Terpstra. "Country-of-Origin Effects for Uni-National and Bi-National Products," Journal of International Business Studies, Vol. 16, (Summer 1988), 235-255.
- Hirschman, Elizabeth C. and Morris B. Holbrook. "Hedonic Consumption: Emerging Concepts, Methods and Propositions," Journal of Marketing, Vol. 46, (Summer 1982), 92-101.
- Holbrook, Morris B. and Glenn Dixon. "Mapping the Market for Fashion: Complementarity in Consumer Preferences." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, pp. 109-126.
- Hong, Sung-Tai and Robert S. Wyer, Jr. "Effects of Country-of-Origin and Product-Attribute Information on Product Evaluation. An Information Processing Perspective," Journal of Consumer Research, Vol. 16, (September 1989), 175-187.
- Hooley, Graham J., David Shipley and Nathalie Krieger. "A Method for Modelling Consumer Perceptions of Country of Origin," International Marketing Review, Vol.5, No. 4, (Autumn 1988), 67-76.

- Jacoby, Jacob. "The Construct Validity of Opinion Leadership," Public Opinion Quarterly, 38, (Spring 1974), 81-89.
- Jaffe, Eugene D. and Israel D. Nebenzahl. "Alternative Questionnaire Formats for Country Image Studies," Journal of Marketing Research. Vol. XXI, (November 1984), 463-471.
- Johansson, Johny K. and Israel D. Nebenzahl. "Multinational Production: Effect on Brand Value," Journal of International Business Studies, Vol. 24, No. 2, (Spring 1993), 101-126.
- Johansson, Johny K., Susan P. Douglas and Ikujiro Nonaka. "Assessing the Impact of Country of Origin on Product Evaluations: A New Methodological Perspective," Journal of Marketing Research, Vol. XXII, (November 1985), 388-396.
- Judge, George G., R. Carter Hill, William E. Griffiths, Helmut Lutkepohl and Tsoung-Chao Lee. Introduction to the Theory and Practice of Econometrics. Second Edition. New York, New York: John Wiley & Sons, 1988.
- Kaiser, Susan B, Howard G. Schutz, Joan L. Chandler and Lisa M. Lieder. "Shoes as Sociocultural Symbols: Retailers' versus Consumers Preferences." In The Psychology of Fashion. Ed. Michael R. Solon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, pp. 127-141.

- Kaynak, Erdener and S. Tamer Cavusgil. "Consumer Attitudes towards Products of Foreign Origin: Do They Vary Across Product Classes," International Journal of Advertising, 2, (1983), 147-157.
- Keeble, Giles. "Creativity and the Brand." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 135-164.
- Kennedy, Peter. A Guide to Econometrics. Second Edition. Oxford, United Kingdom: Basil Blackwell, 1985.
- Kindra, Gurprit S., Michel Laroche and Thomas E. Muller. Consumer Behaviour in Canada. Scarborough, Ont.: Nelson Canada, 1989.
- King, Charles W. and John O. Summers. "Overlap of Opinion Leadership Across Consumer Product Categories," Journal of Marketing Research, Vol. VII, (February 1970), 43-50.
- Kleine, Robert E. and Jerome B. Kernan. "Contextual Influences on the Meanings Ascribed to Ordinary Consumption Objects," Journal of Consumer Research, Vol. 18, (December 1991), 311-324.
- Landon Jr., E. Laird. "Self Concept, Ideal Self Concept and Consumer Purchase Intentions," Journal of Consumer Research, Vol. 1, (September 1974), 44-51.
- Leclerc, France, Bernd H. Schmitt and Laurette Dube. "Foreign Branding and its Effects on Product Perceptions and Attitudes," Journal of Marketing Research, Vol. XXXI, (May 1994), 263-270.

- Lefkoff-Hagius, Roxanne and Charlotte H. Mason.  
"Characteristic, Beneficial and Image Attributes in  
Consumer Judgements of Similarity and Preference,"  
Journal of Consumer Research, Vol. 20, (June 1993), 100-  
110.
- Lumpkin, James R., John C. Crawford, and Gap Kim. "Perceived  
Risk as a Factor in Buying Foreign Clothes,"  
International Journal of Advertising, 4, 2, (1985), 157  
171.
- Mahajan, Vijay, Eitan Mulller, and Rajendra K. Srivanstava.  
"Determination of Adopter Categories by Using Innovation  
Diffusion Models, " Journal of Marketing Research, Vol.  
XXVII, (February 1990), 37-50.
- Mahajan, Vijay, Eitan Mulller, and Frank M. Bass. "New Product  
Diffusion Models in Marketing: A Review and Directions  
for Research, " Journal of Marketing Research, Vol. 54,  
(January 1990), 1-26
- Martin, Ingrid M and Sevgin Eroglu. "Measuring a Multi  
Dimensional Construct: Country Image," Journal of  
Business Research, 28, (1993), 191-210.
- Matsura, Nanshi F. International Business. New York:  
Harcourt Brace Jovanovich, Inc., 1991.
- McCracken, Grant. Culture and Consumption: New Approaches to  
the Symbolic Character of Consumer Goods and Activities.  
Bloomington and Indianapolis: Indiana University Press,  
1988.

- Midgley, David F. "A Longitudinal Study of Product Form Innovation: The Interaction between Predispositions and Social Messages," Journal of Consumer Research, Vol. 19, (March 1993), 611-625.
- Midgley, David F. "Patterns of Interpersonal Information Seeking for the Purchase of a Symbolic Product," Journal of Marketing Research, Vol. XX, (February 1983), 74-83.
- Miller, Christopher M., Shelby M. McIntyre and Murali K. Mantrala. "Toward Formalizing Fashion Theory," Journal of Marketing Research, Vol. XXX, (May 1993), 142-157.
- Morello, Gabriele. "The 'Made In' Issue," European Research, (January 1984), 5-21.
- Myers, James H. and Thomas S. Robertson. "Dimensions of Opinion Leadership," Journal of Marketing Research, Vol. IX, (February 1972), 41-46.
- Newson, Gina and Jeremy Newson, dir. The Look. Freelance Film Partners Production (BBC), 1992.
- Obermiller, Carl and Eric Spangenberg. "Exploring the Effects of Origin Labels: An Information Processing Framework." In Advances in Consumer Research. Ed. Thomas K. Srull. Provo, UT: Association for Consumer Research, Vol. 16, 1989, p. 454-459.

- Painter, John J. and Kent L. Granzin. "Profiling the Male Fashion Innovator - Another Step." In Advances in Consumer Research. Ed. Beverlee B. Anderson. Cincinnati, Ohio: Association for Consumer Research, Vol. 3, 1975, p. 40-45.
- Park, C. Whan, Robert Lawson and Sandra Milberg. "Memory Structure of Brand Names." In Advances in Consumer Research. Ed. Thomas K. Srull. Provo, UT: Association for Consumer Research, Vol. 16, 1989, p. 726-731.
- Park, C. Whan, Bernard J. Jaworski, and Deborah H. MacInnis. "Strategic Brand Concept-Image Management," Journal of Marketing, Vol. 50, (October 1986), 135-145.
- Parameswaran, Ravi and R. Mohan Pisharodi. "Facets of Country of Origin Image: An Empirical Assessment," Journal of Advertising, Vol. XXIII, No. 1, (March 1994), 41-56.
- Rao, Akshay R. and Kent B. Monroe. "The Effect of Price, Brand Name, and Store Name on Buyers' Perceptions of Product Quality: An Integrative Review," Journal of Marketing Research, Vol. XXVI, (August 1989), 351-357.
- Reierson Curtis C. "Attitude Changes Toward Foreign Products," Journal of Marketing Research, Vol. IV, (November 1967), 385-387.
- Restall, Christine and Wendy Gordon. "Brands: the Missing Link: Understanding the Emotional Relationship," Marketing and Research Today, Vol. 21, No. 2, (May 1993), 59-67.

- Restall, Christine. "Multinational Brand Marketing." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 199-216.
- Reynolds, William H. "Cars and Clothing: Understanding Fashion Trends," Journal of Marketing, Vol. 32, (July 1968), 44-49.
- Robinson, Dwight E. "The Economics of Fashion Demand," Quarterly Journal of Economics, 75, (August 1975), 376-398.
- Rogers, Everett M. Diffusion of Innovations. New York: The Free Press of Glencoe, 1962.
- Roth, Martin S. and Jean B Romeo. "Matching Product Category and Country Image Perceptions: A Framework for Managing Country-of-Origin Effects," Journal of International Business Studies, (Spring 1992), 477-497.
- SAS Institute Inc. SAS/ETS User's Guide, Version 6, First Edition. Cary, NC: SAS Institute Inc., 1988.
- Schouten, John W. "Selves in Transition: Symbolic Consumption in Personal Rites of Passage and Identity Reconstruction," Journal of Consumer Research, Vol. 17, (March 1991), 412-425.
- Schweiger, Gunter, Gerald Haulb and Gereon Friederes. "Consumers' Evaluations of products labeled "Made In Europe"," Marketing and Research Today, (February 1995), 25-34.

- Shavitt, Sharon. "Products, Personalities, and Situations in Attitude Functions: Implications for Consumer Behaviour. In Advances in Consumer Research. Ed. Thomas K. Srull. Provo, UT: Association for Consumer Research, Vol. 12, 1989, p. 300-305.
- Shimp, Terence A., Saeed Samiee and Thomas J. Madden. "Countries and Their Products: A Cognitive Structure Perspective," Journal of the Academy of Marketing Science, Vol. 21, No. 4, 323-330.
- Shocker, Allan D., Rajendra K. Srivastava and Robert W. Ruekert. "Challenges and Opportunities Facing Brand Management: An Introduction to the Special Issue," Journal of Marketing Research, Vol. XXXI, (may 1994), 149-158.
- Sirgy, M. Joseph. "Self-Concept in Consumer Behaviour: A Critical Review," Journal of Consumer Research, Vol. 9, (December 1982), 287-300.
- Snyder, Mark. "Selling Images versus Selling Products: Motivational Foundations of Consumer Attitudes and Behaviour." In Advances in Consumer Research. Ed. Thomas K. Srull. Provo, UT: Association for Consumer Research, Vol. 16, 1989, p. 306-311.
- Solomon, Michael R. "The Role of Products as Social Stimuli: A Symbolic Interactionism Perspective," Journal of Consumer Research, Vol. 10, (December 1983), 319-329.



- Sproles, George B. "Analyzing Fashion Life Cycles - Principles and Perspectives," Journal of Marketing, Vol.45, (Fall 1981), 116-124.
- Sproles, George B. "Behavioural Science Theories of Fashion." In The Psychology of Fashion. Ed. Michael R. Solomon. Lexington, Mass./Toronto: Lexington Books D.C. Heath and Company, 1985, pp. 55-70.
- Sukhdial, Ajay S., Goutam Chakraborty and Eric K. Steger. "Measuring Values Can Sharpen Segmentation in the Luxury Auto Market," Journal of Advertising Research, (January/February 1995), 9-22.
- Sullivan, Mary. "Measuring Image Spillovers in Umbrella-Branded Products," Journal of Business, Vol. 63, No. 3, (1990), 309-329.
- Sultan, Fareena, John U. Farley, and Donald R. Lehmann. "A Meta-Analysis of Applications of Diffusion Models," Journal of Marketing Research, Vol. XXVII, (February 1990), 70-77.
- Summers, John O. "The Identity of Women's Clothing Fashion Opinion Leadership," Journal of Marketing Research, Vol. VII, (May 1970), 178-185.
- Tauber, Edward M. "Brand Leverage: Strategy for Growth in a Cost-Control World", Journal of Advertising Research, 28, (August/September 1988), p. 26-30.

- Tigert, Douglas J., Lawrence J. Ring and Charles W. King. "Fashion Involvement and Buying Behaviour: a Methodological Study." In Advances in Consumer Research. Ed. Beverlee B. Anderson. Cincinnati, Ohio: Association for Consumer Research, Vol. 3, 1975, pp. 46-52.
- Tuan, Yi-Fu. "The Significance of the Artifact," Geographical Review, Vol. 70, No. 4, (1980), 462-472.
- Vaughn, Richard. "How Advertising Works: A Planning Model," Journal of Advertising Research, Vol. 20, No. 5, (October 1980), 27-33.
- Vaughn, Richard. "How Advertising Works: A Planning Model Revisited," Journal of Advertising Research, (Feb/Mar 1986), 57-66.
- Ward's Report's Inc. Ward's Automotive Yearbook. Detroit, MI: Ward's Reports, Inc., 1982-1994.
- Wasson, Chester R. "How Predictable are Fashion and Other Product Life Cycles?" Journal of Marketing, Vol. 32, (July 1968), 36-43.
- Wonnacott, Ronald J. and Thomas H. Wonnacott. Econometrics. Second Edition. New York, New York: John Wiley & Sons, 1979.
- Woodward, Stephen. "Competitive Marketing." In Understanding Brands. Ed. Don Cowley. Derby, England: Saxon Printing Ltd., 1991, p. 117-134.

APPENDIX I

<b>Figure #1</b> <b>Product-Country Matches and Mismatches</b> <b>(Roth &amp; Romeo 1992)</b>		
<b>Dimensions as Product Features</b>	<b>Country Image Dimension</b>	
	<b>Positive</b>	<b>Negative</b>
<b>Important</b>	<u>I. Favourable Match</u> eg. Japanese car	<u>II. Unfavourable Match</u> eg. Hungarian car
<b>Unimportant</b>	<u>III. Favourable Mismatch</u> eg. Japanese beer	<u>IV. Unfavourable Mismatch</u> eg. Hungarian beer

<b>Figure #2</b> <b>Leveraging Brand and Country Equities</b> <b>(Shimp, Samiee &amp; Madden 1993)</b>		
<b>Brand Equity</b>	<b>Country Equity</b>	
	<b>Positive</b>	<b>Negative</b>
<b>Positive</b>	Highly Leverageable Brands	Country-Deficit Brands
<b>Negative</b>	Company-Deficit Brands	Nonleverageable Brands

APPENDIX II:

Results of the Principal Component Analysis

Table #12 Initial Principal Component Analysis		
Variables in the Model:	Factors:	Eigenvalues:
length	Factor #1	2.7574
width	Factor #2	2.3432
fheadrm	Factor #3	1.1630
rheadrm	Factor #4	1.0737
flegr	Factor #5	1.0730
seatr	Factor #6	1.0500
fshouldr	Factor #7	1.0292
rshouldr	Factor #8	0.9457
luggage	Factor #9	0.9351
ownsat	Factor #10	0.9072
trinx	Factor #11	0.8965
cmtcon	Factor #12	0.4529
rel	Factor #13	0.1769
gas	Factor #14	0.1708

Table #13 Five Factor Solution					
	Factor #1	Factor #2	Factor #3	Factor #4	Factor #5
	length seatr fshouldr rshouldr luggage gas	rel cmtcon trinx ownsat	fheadrm rheadrm	width	flegr
<b>Eigenvalue:</b>	3.7372	2.7355	2.0124	1.3224	1.1299

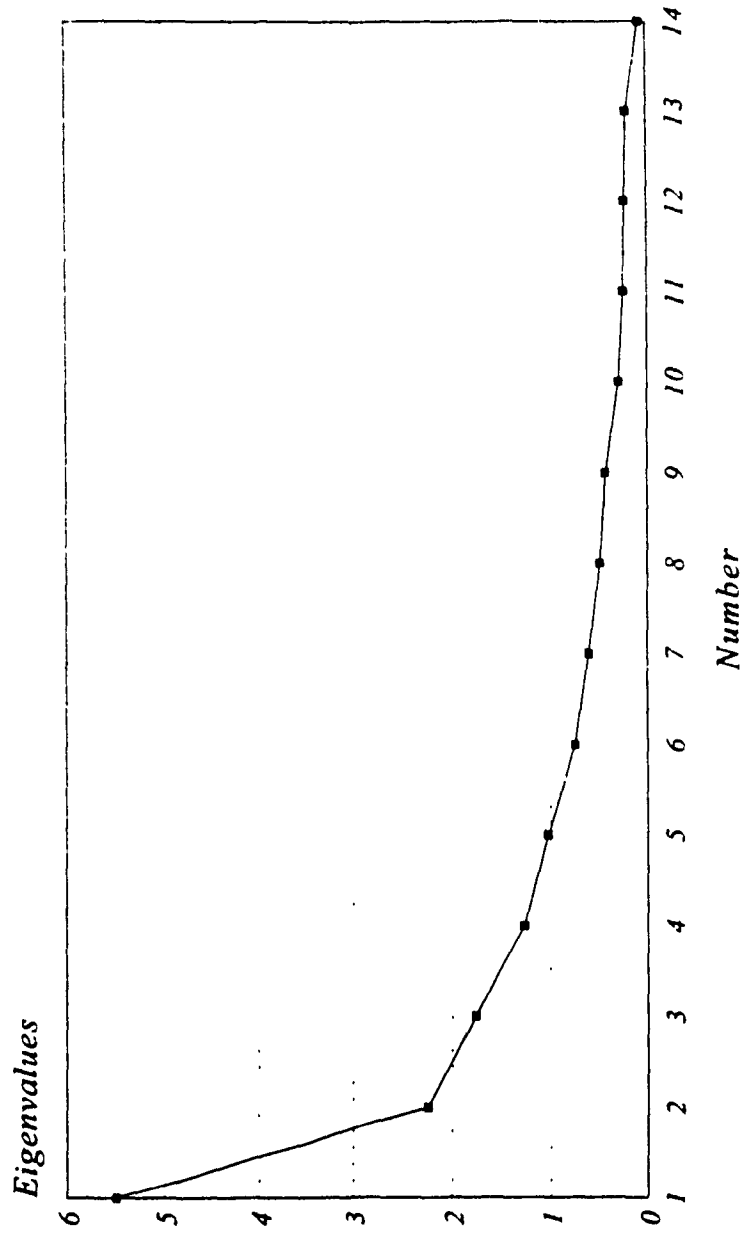
Table #14 Four Factor Solution				
	Factor #1	Factor #2	Factor #3	Factor #4
	length width seatr fshouldr rshouldr luggage gas	rel cmtcon trinx ownsat	fheadrm rheadrm	flegr
<b>Eigenvalue:</b>	4.2093	2.7354	2.0065	1.1790

<b>Table #15</b>			
<b>Three Factor Solution</b>			
	<b>Factor #1</b>	<b>Factor #2</b>	<b>Factor #3</b>
	length width seatr fshouldr rshouldr luggage gas	rel cmtcon trinx ownsat	fheadrm rheadrm flegr
<b>Eigenvalue:</b>	4.5193	2.7606	1.7318

<b>Table #16</b>		
<b>Two Factor Solution</b>		
	<b>Factor #1</b>	<b>Factor #2</b>
	length width fheadrm rheadrm flegr seatr fshouldr rshouldr luggage gas	rel cmtcon trinx ownsat
<b>Eigenvalue:</b>	4.8525	2.8916

<b>Table #17</b>		
<b>Selected Factor Solution and Variable Loadings</b>		
<b>Factor #1</b>	<b>Factor #2</b>	<b>Factor #3</b>
fshouldr 0.88503	ownsat 0.84664	fheadrm 0.77988
rshouldr 0.88484	rel 0.82628	rheadr 0.73034
length 0.83729	trinx 0.79134	
luggage 0.80074	cmtccn 0.65173	
seatr 0.76515		
gas -0.59484		
width 0.48103		

*Plot #1*  
*Scree Plot of Eigenvalues*  
*Initial Component Analysis*



*Based on unrotated factor scores*

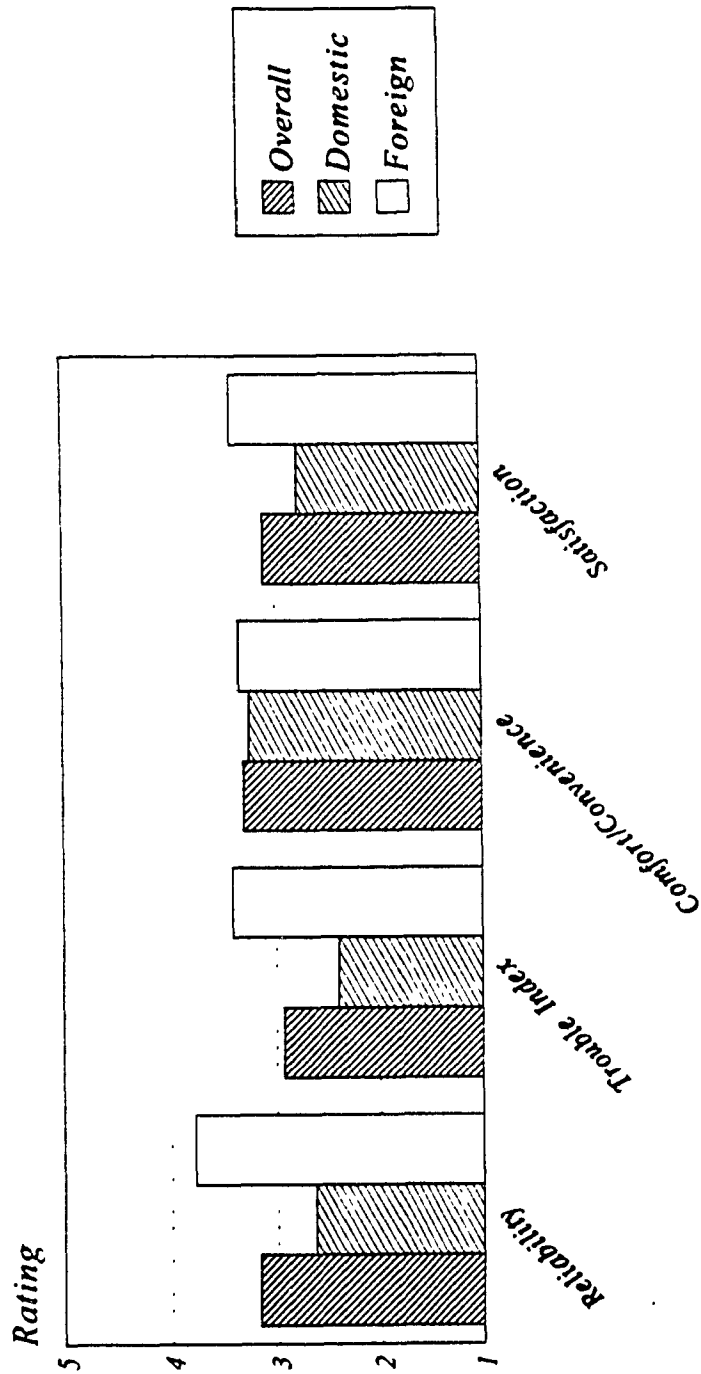


APPENDIX III:

Additional Results

# Graph #1

## Mean Consumer Ratings



1=Poor, 2=Below Ave., 3=Average

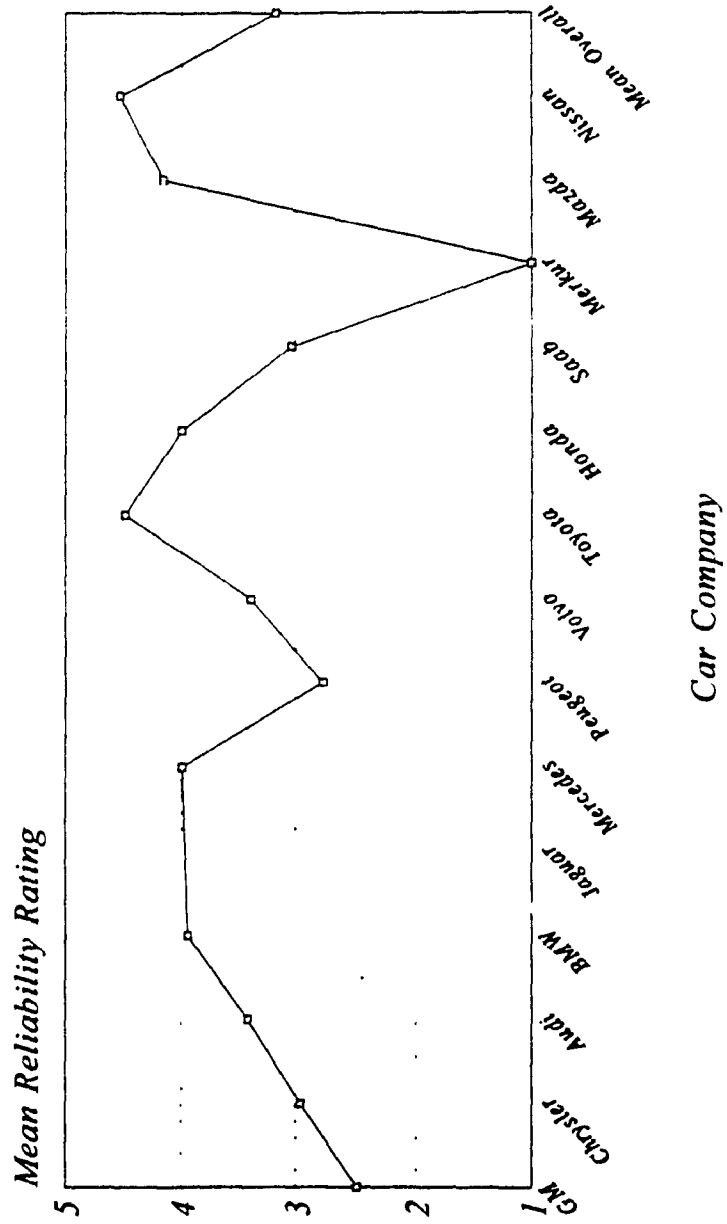
4=Above Ave., 5=Excellent

\* All but "comfort & convenience" proved significant by ANOVA at a level of 0.0001.

# Graph #2

## Mean Reliability Ratings

### Auto Manufacturer

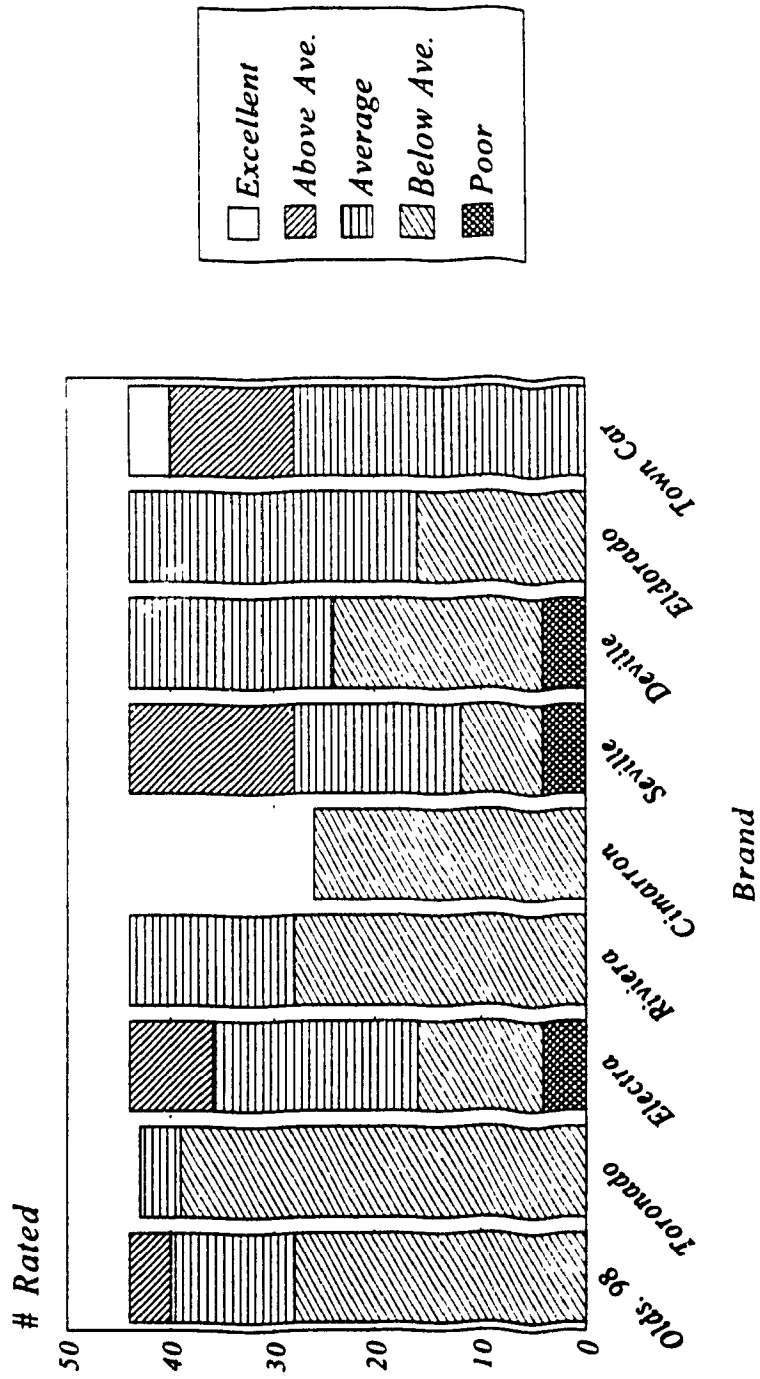


1 = Poor, 2 = Below Ave., 3 = Average, 4 = Above Ave., 5 = Excellent  
 Mean scores proven significant at a 0.001 level by ANOVA

# Graph #3

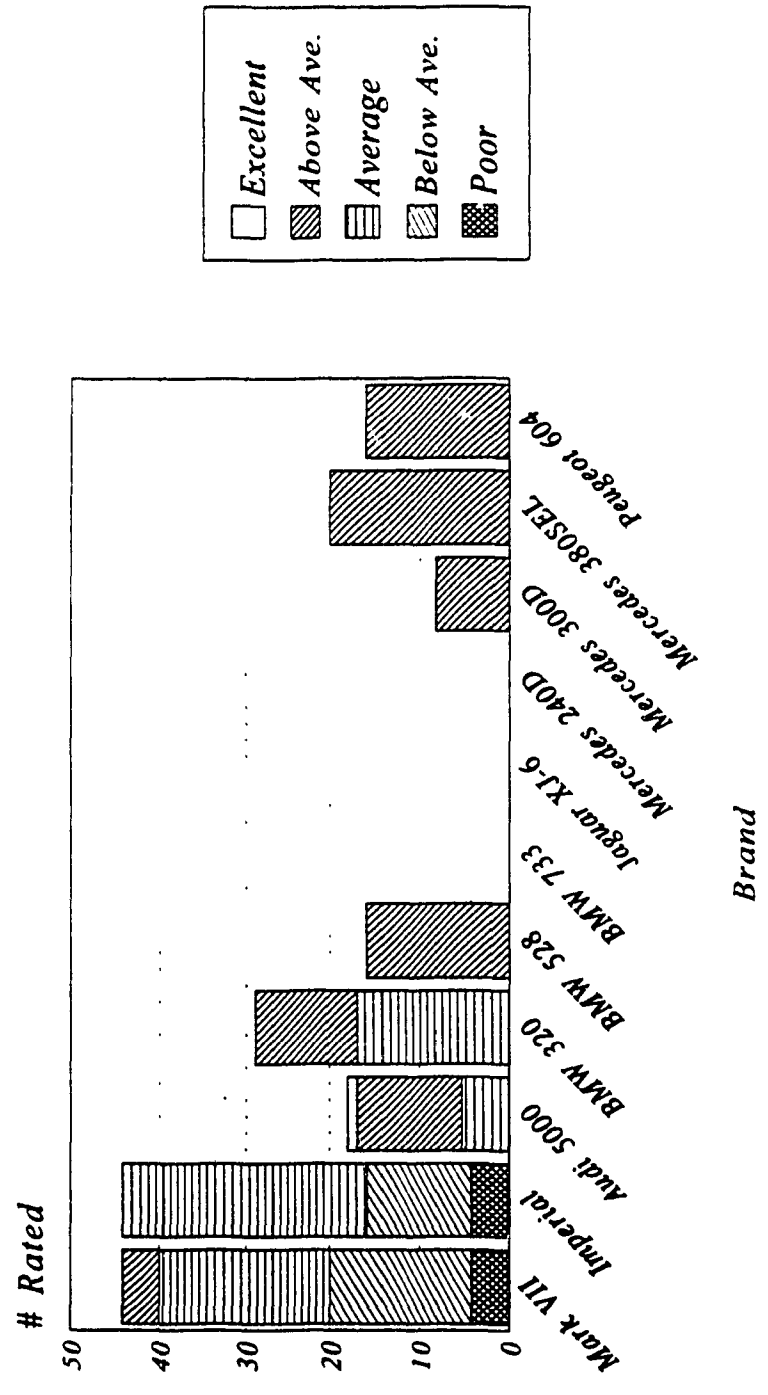
## Reliability Rating

### By Brand



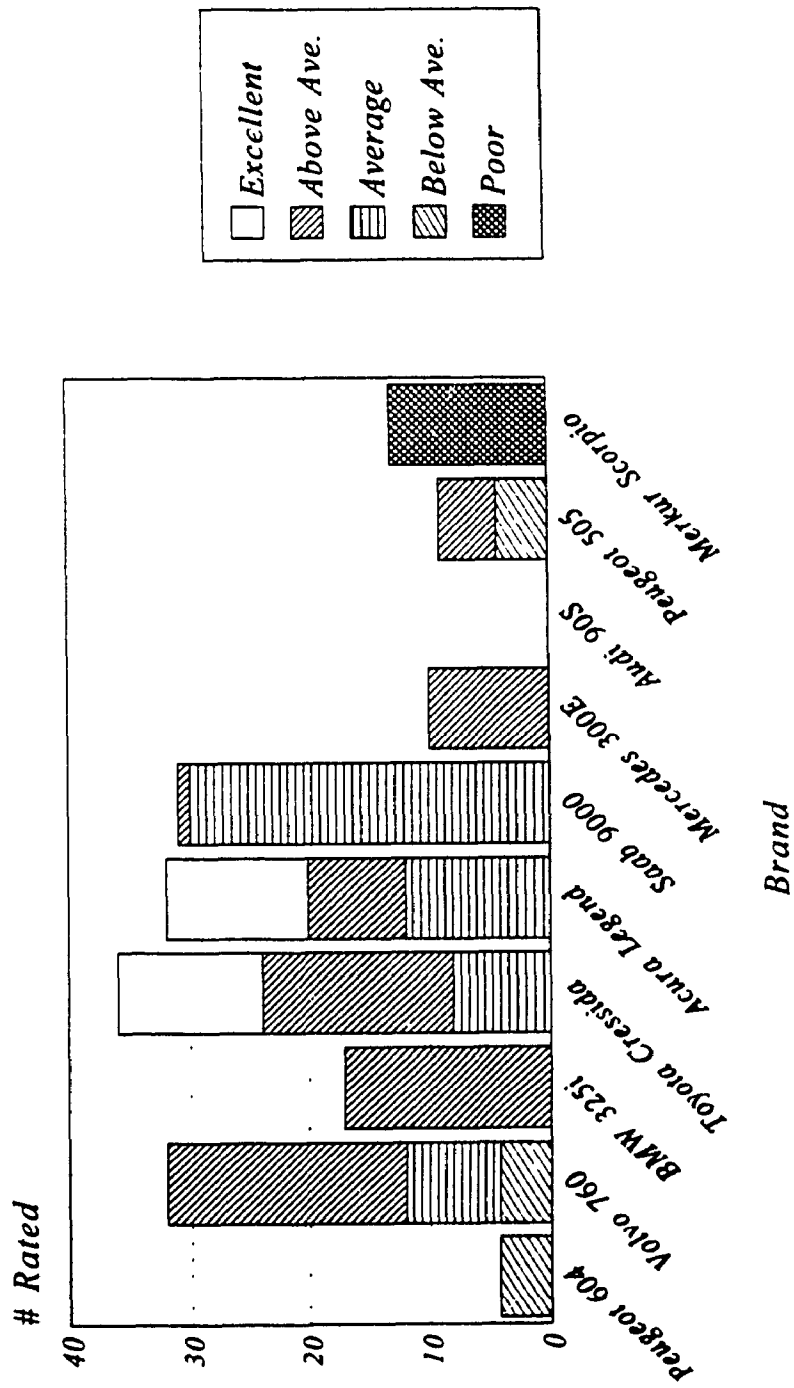
# Graph #4

## Reliability Rating By Brand



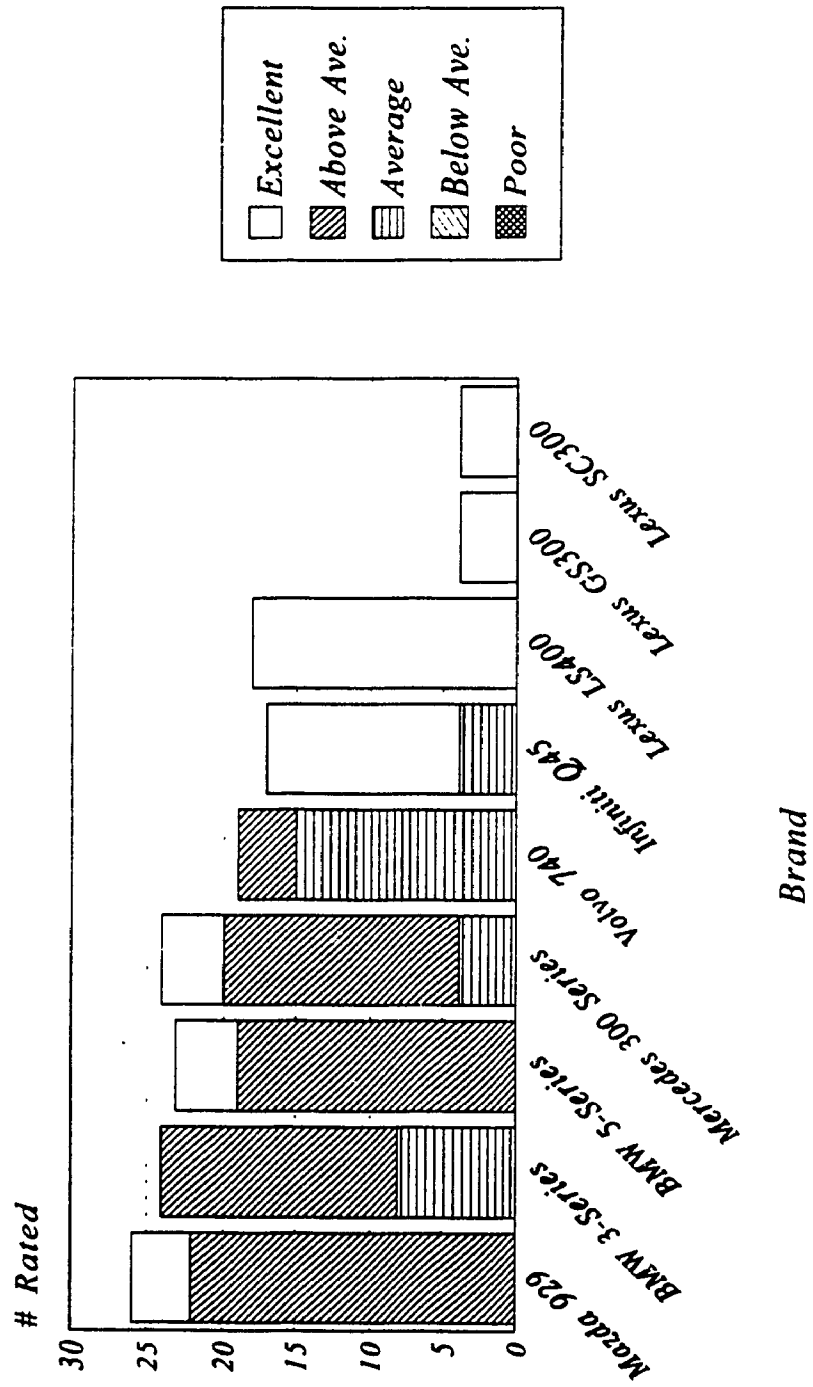
# Graph #5

## Reliability Rating By Brand



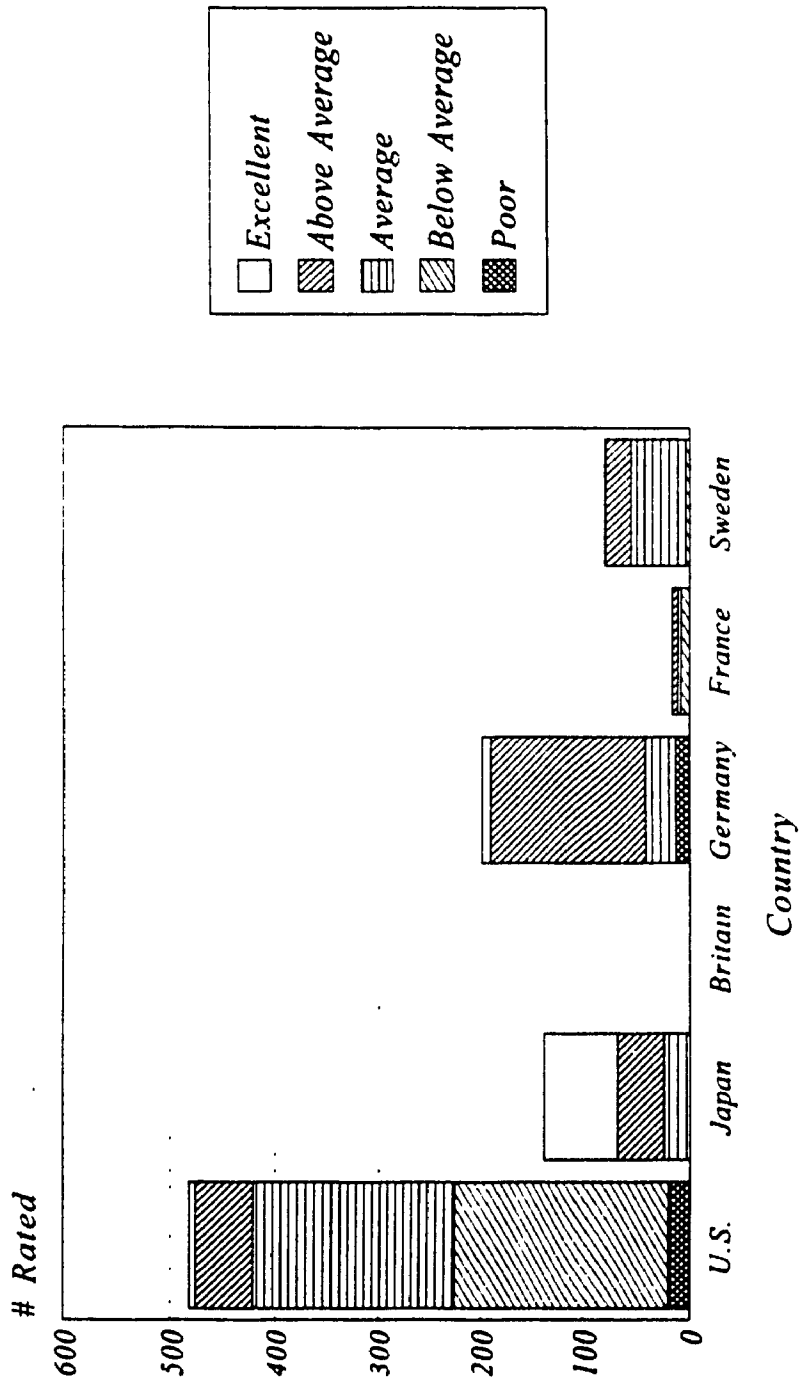
# Graph #6

## Reliability Rating By Brand



# Graph #7

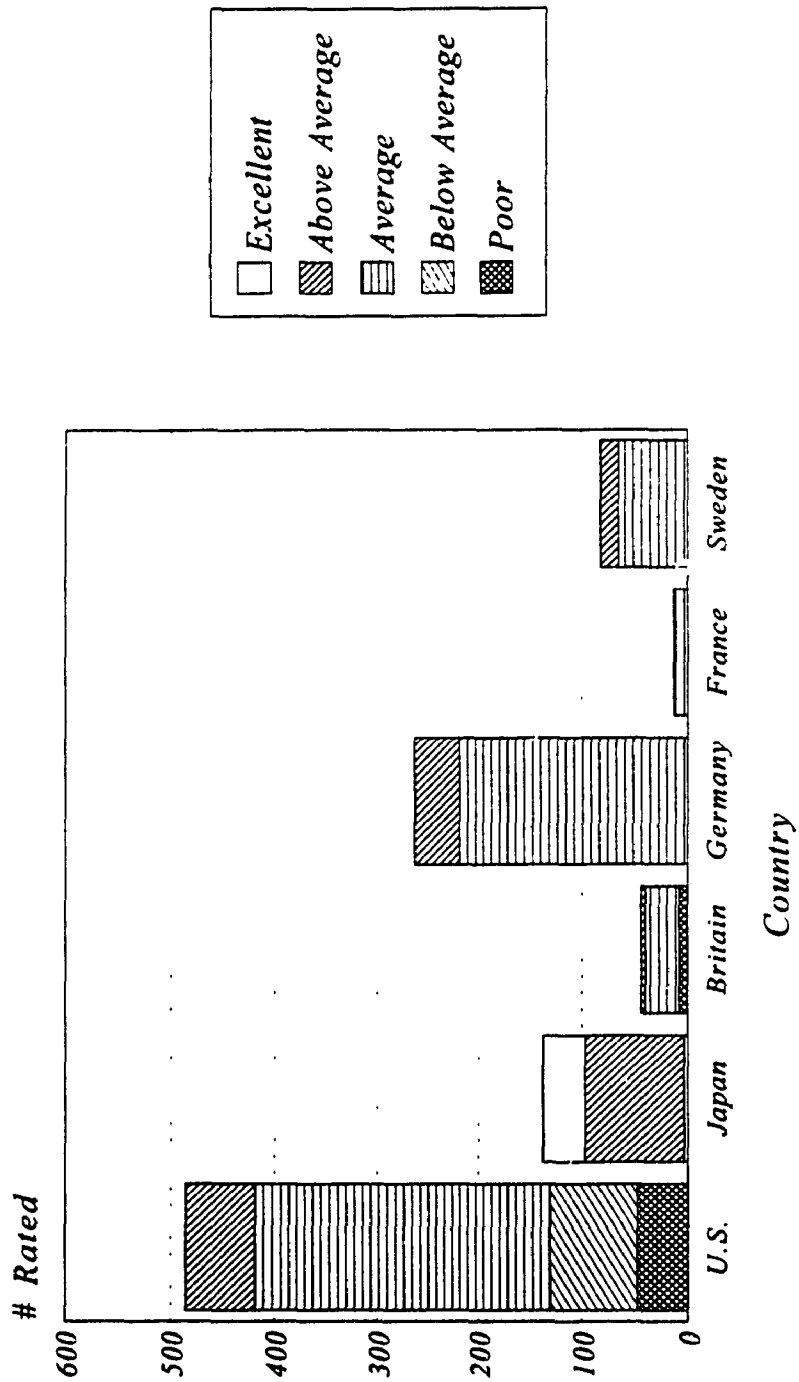
## Reliability Rating By Country of Origin





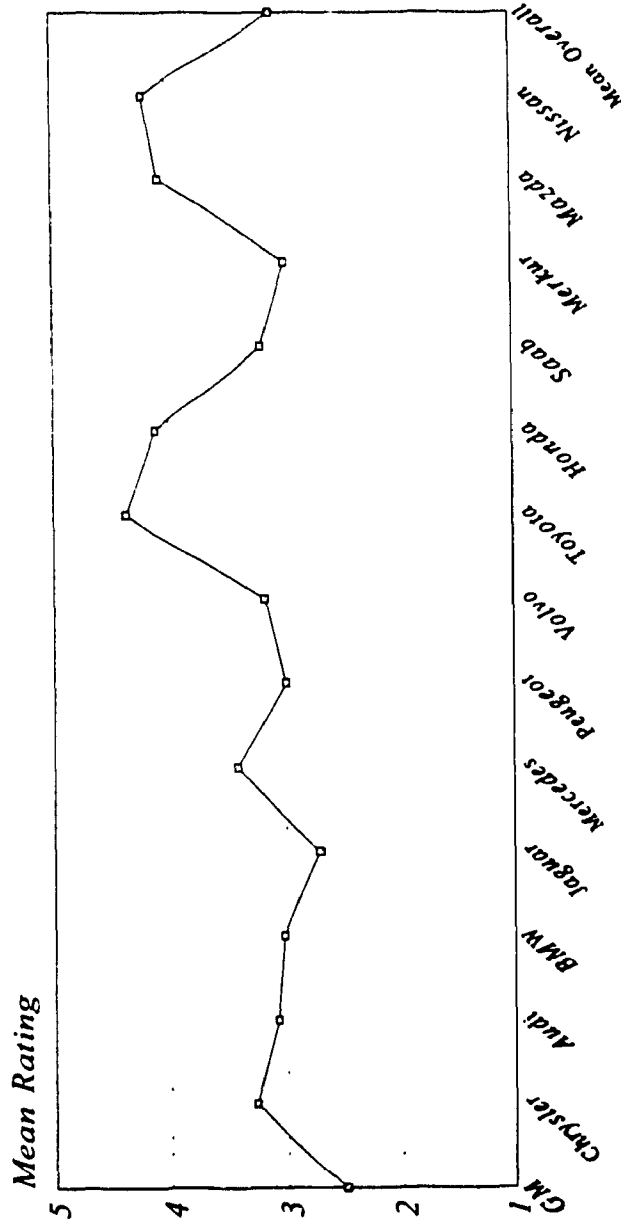
# Graph #8

## Owner Satisfaction Rating By Country of Origin



# Graph #9

## Mean Owner Satisfaction Ratings Auto Manufacturer

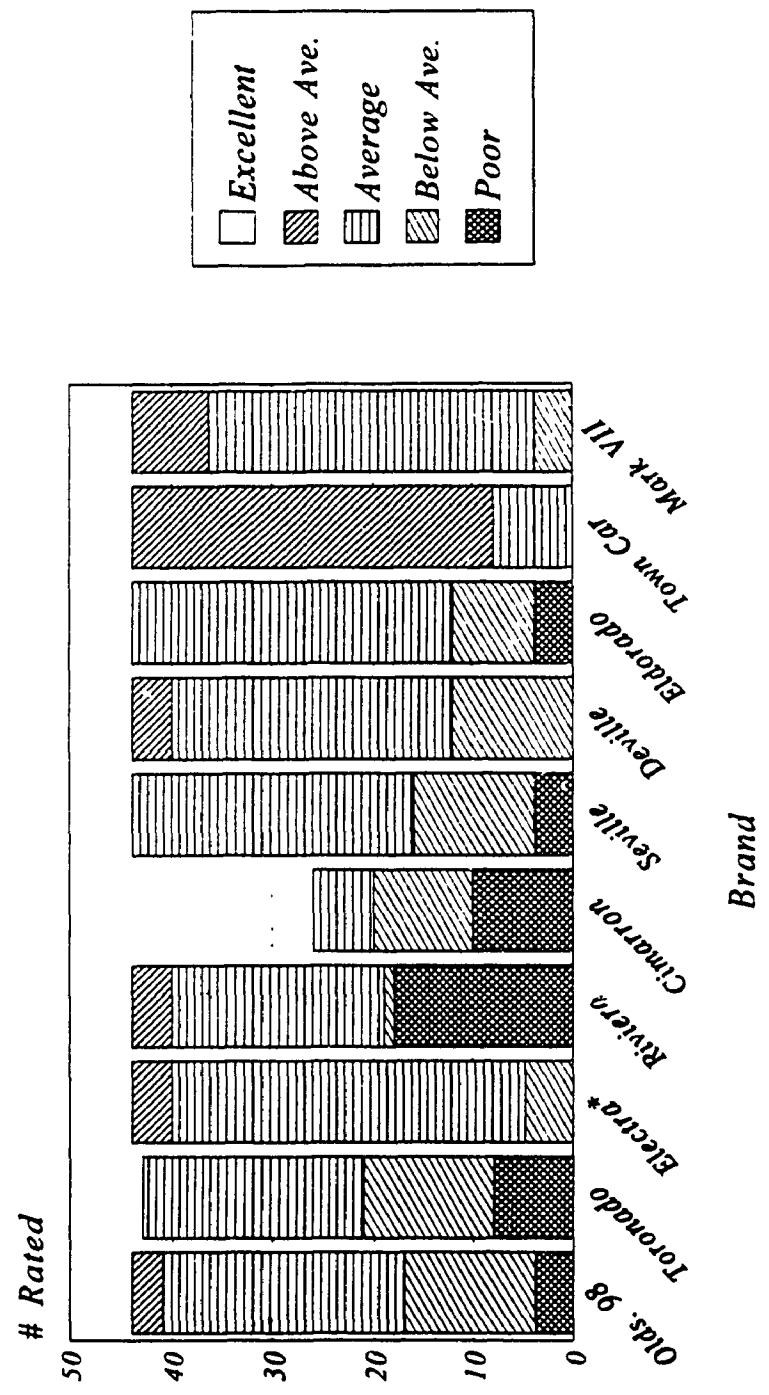


Car Company

1 = Poor, 2 = Below Ave., 3 = Average, 4 = Above Ave., 5 = Excellent  
 Mean ratings proven significant at a 0.0001 level by ANOVA

# Graph #10

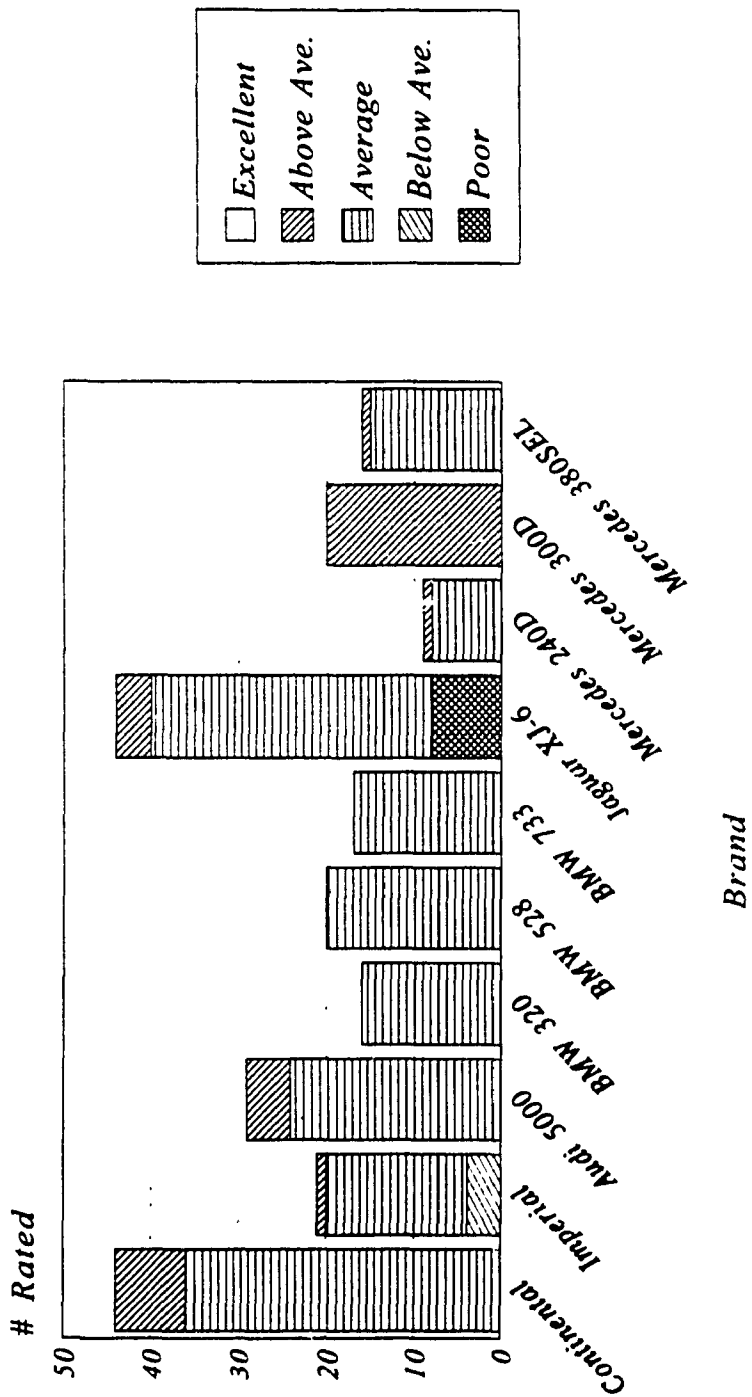
## Owner Satisfaction Rating By Brand



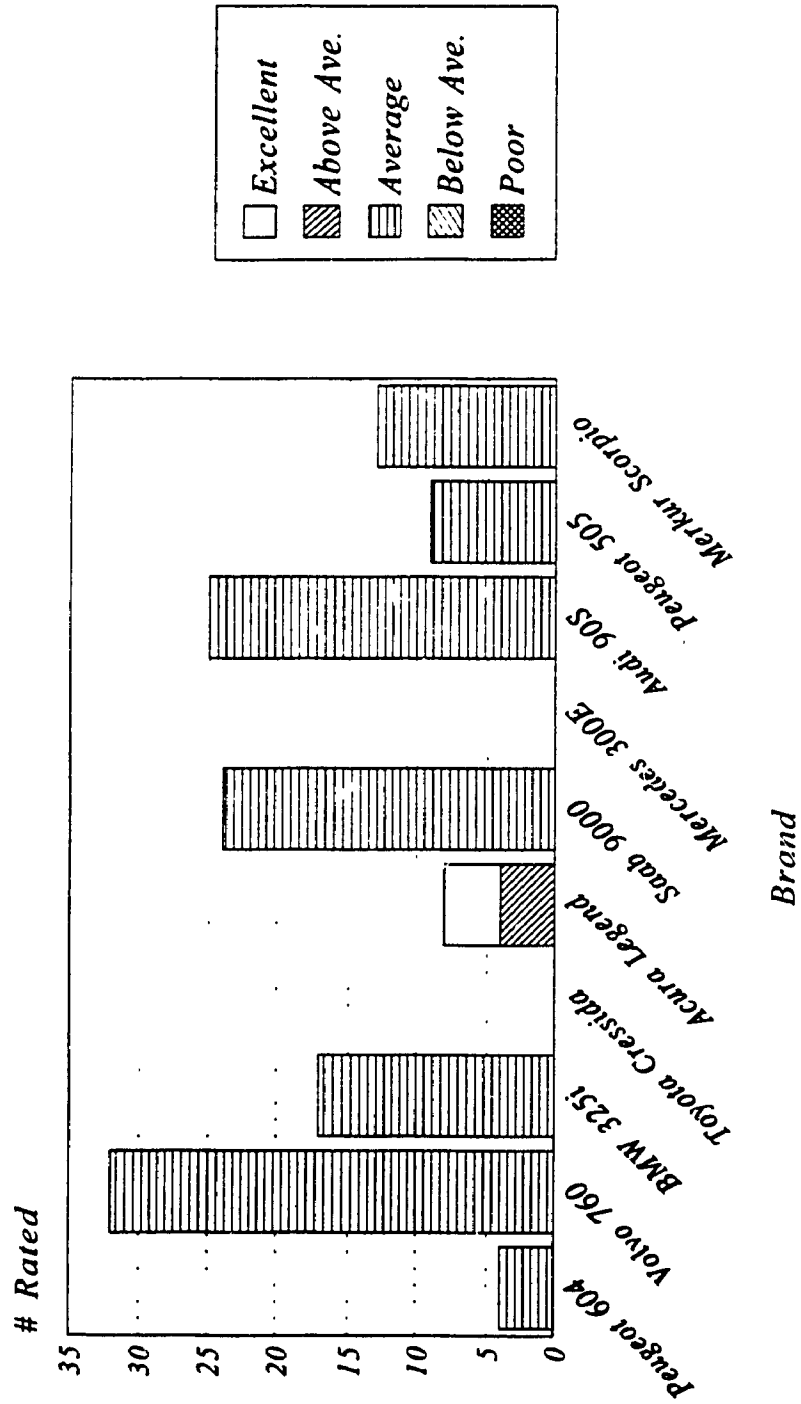
\* Originally the Park Avenue

# Graph #11

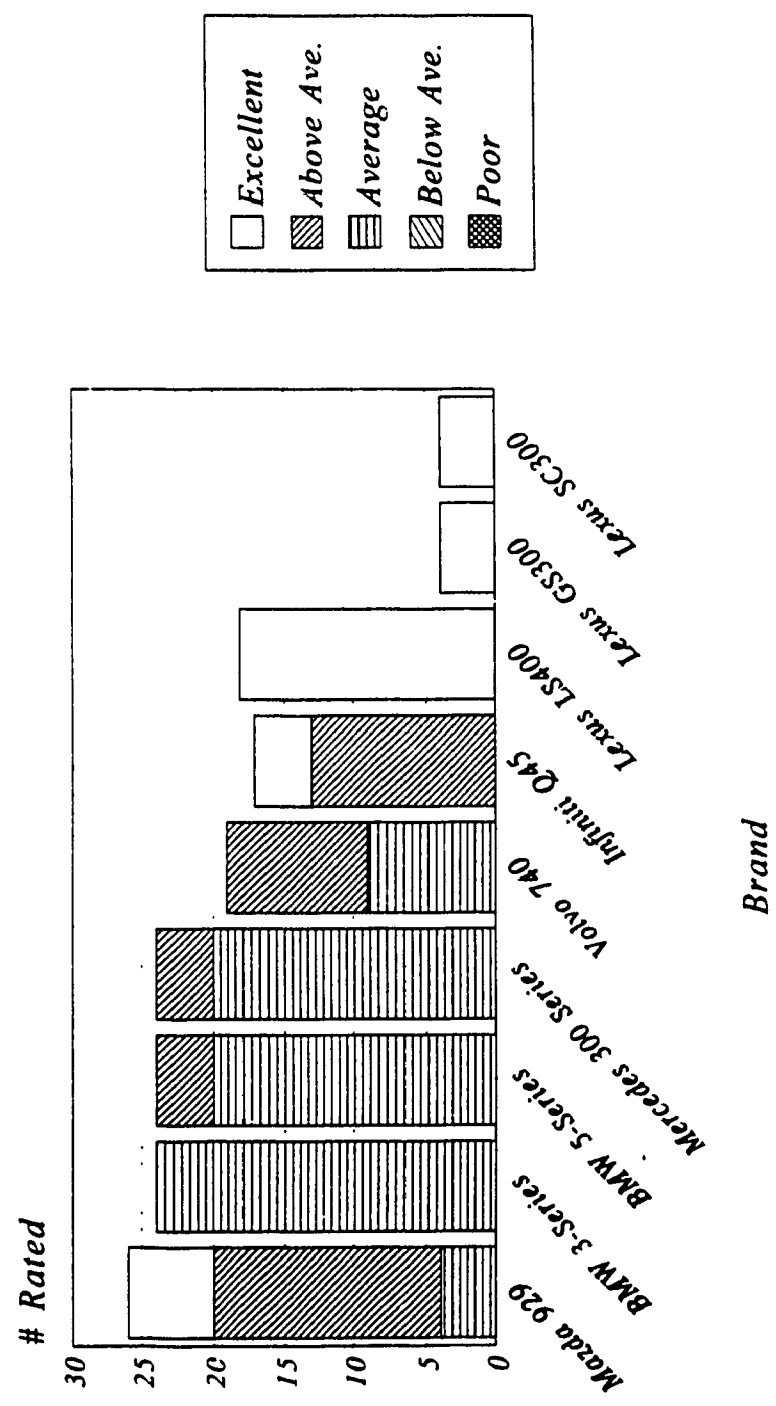
## Owner Satisfaction Rating By Brand



# Graph #12 Owner Satisfaction Rating By Brand



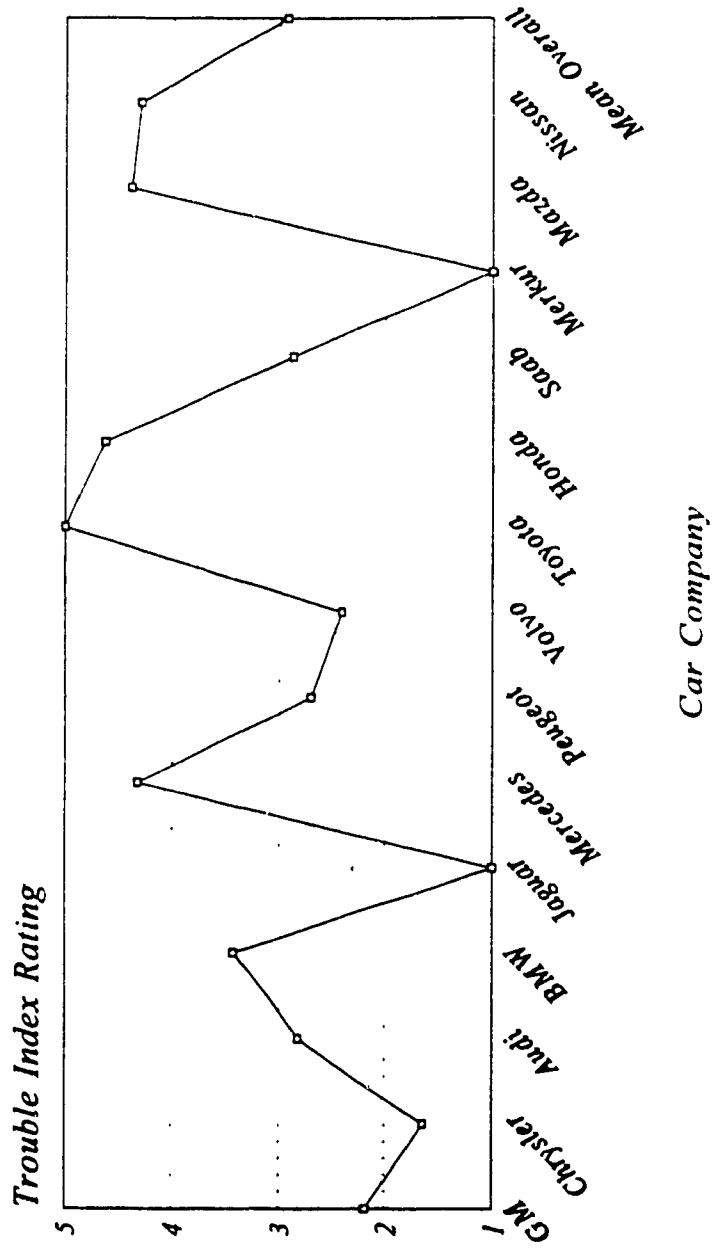
*Graph #13  
Owner Satisfaction Rating  
By Brand*



# Graph #14

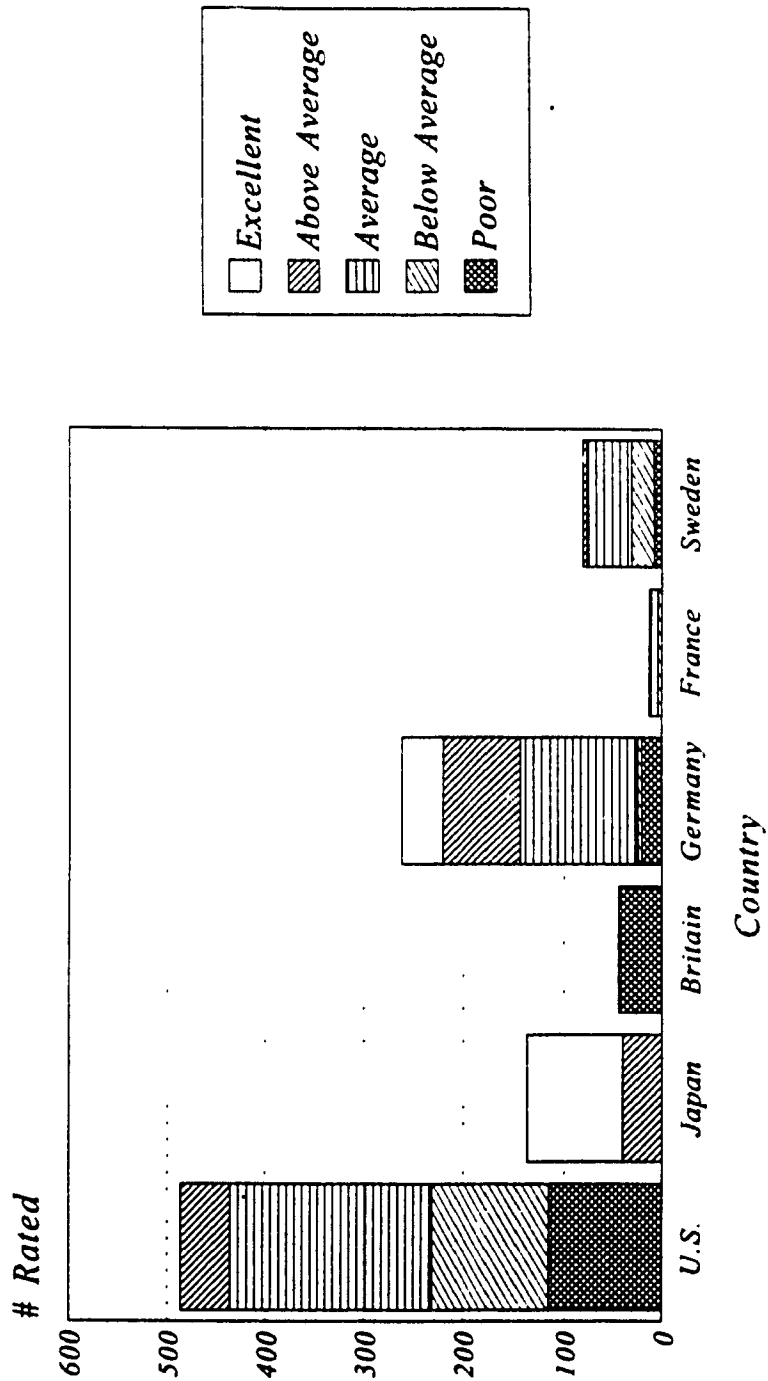
## Mean Trouble Index Rating

### Auto Manufacturer



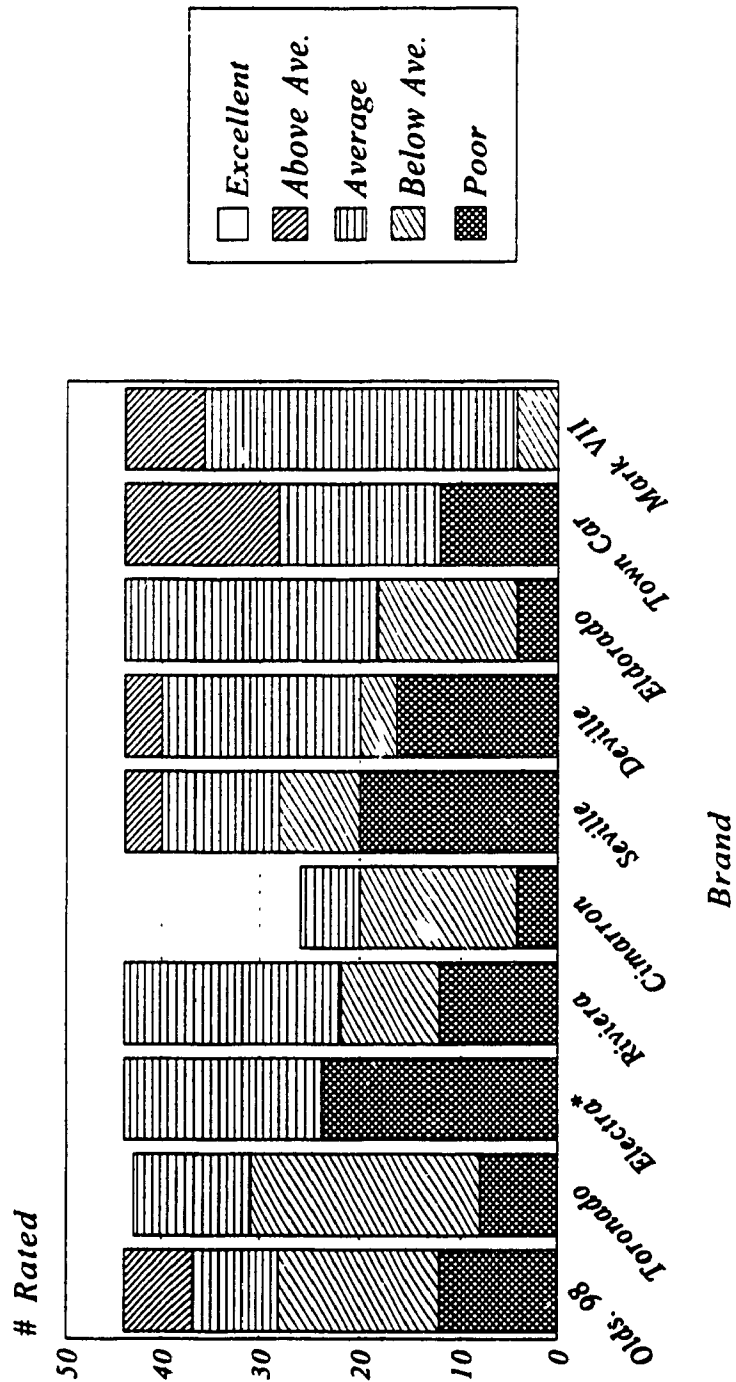
1 = Poor, 2 = Below Ave., 3 = Average, 4 = Above Ave., 5 = Excellent  
 Mean scores proven significant at a level of 0.0001 by ANOVA

# Graph #15 Trouble Index Rating By Country of Origin





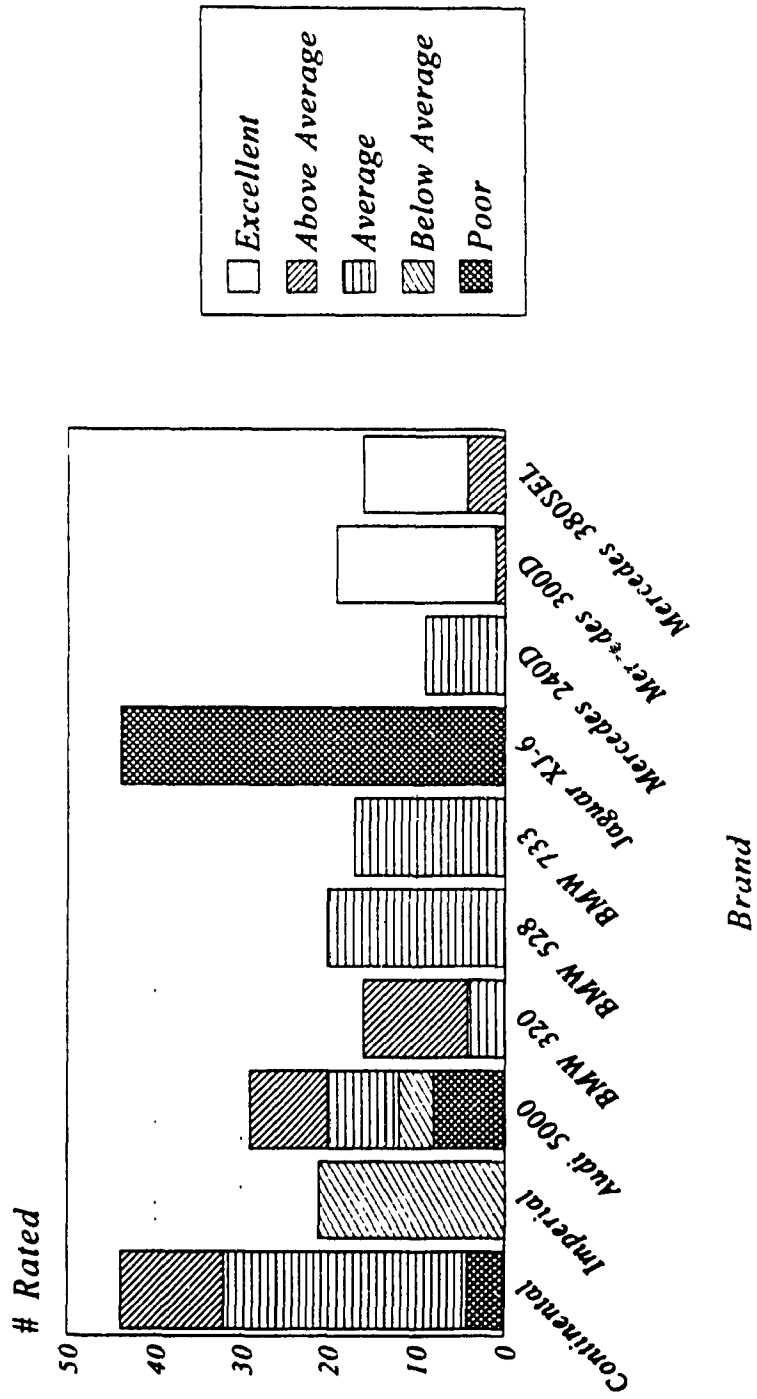
# Graph #16 Trouble Index Rating By Brand



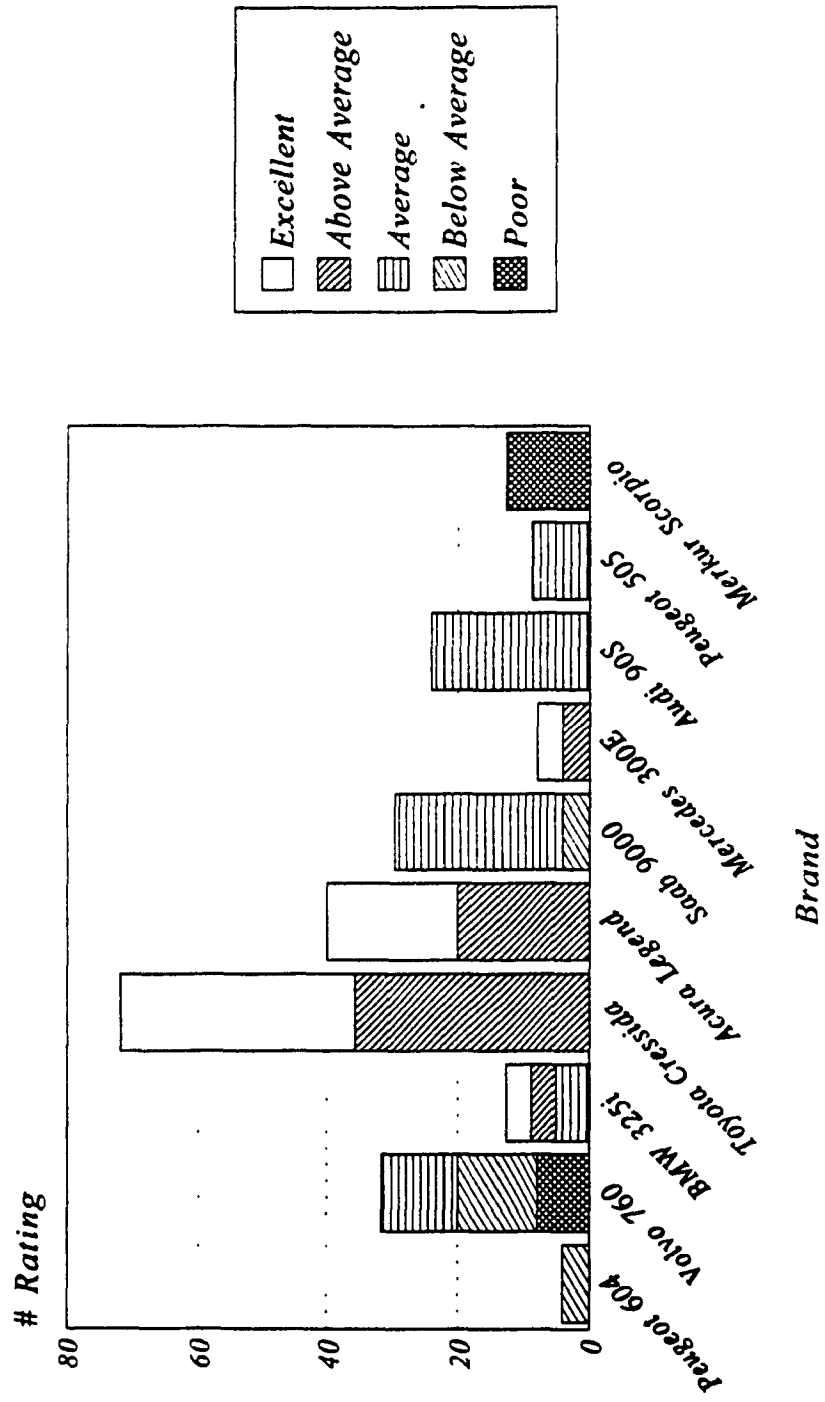
\* Originally the Park Avenue

# Graph #17

## Trouble Index Rating By Brand

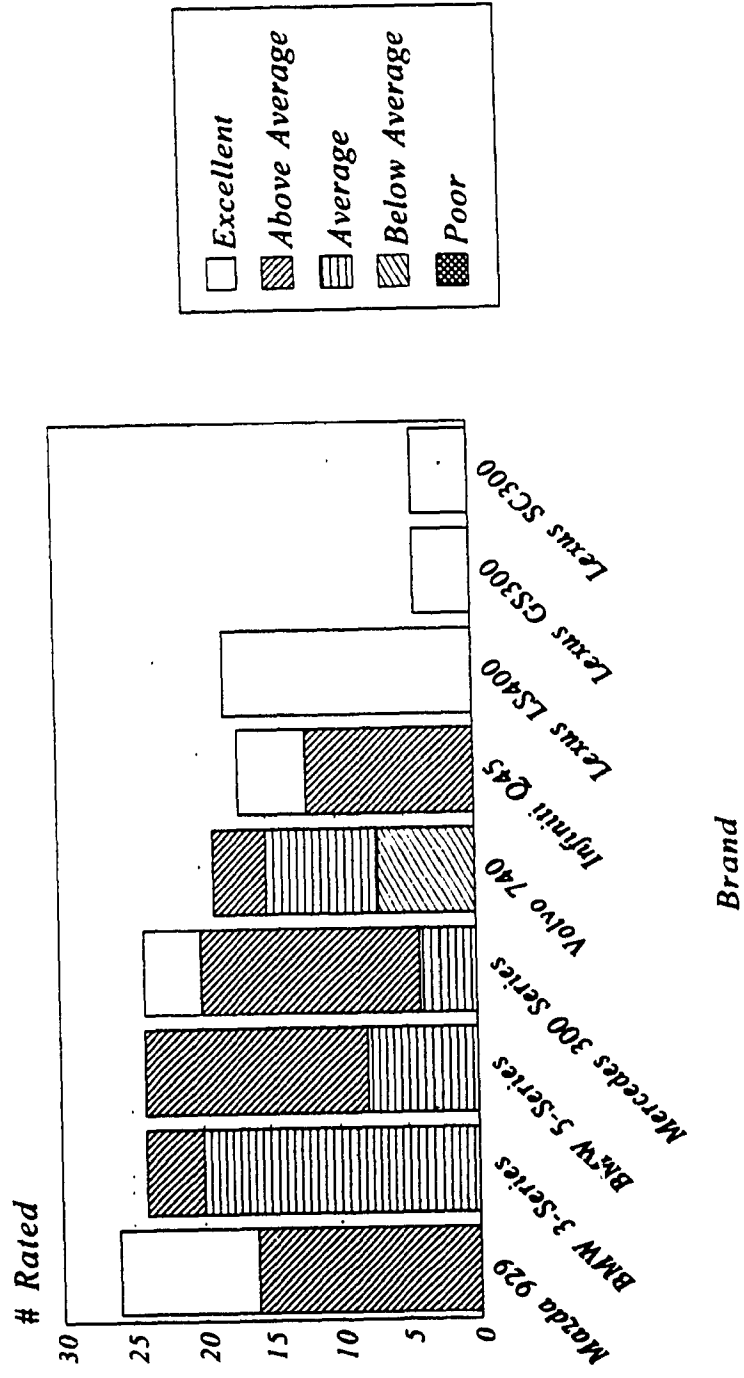


# Graph #18 Trouble Index Rating



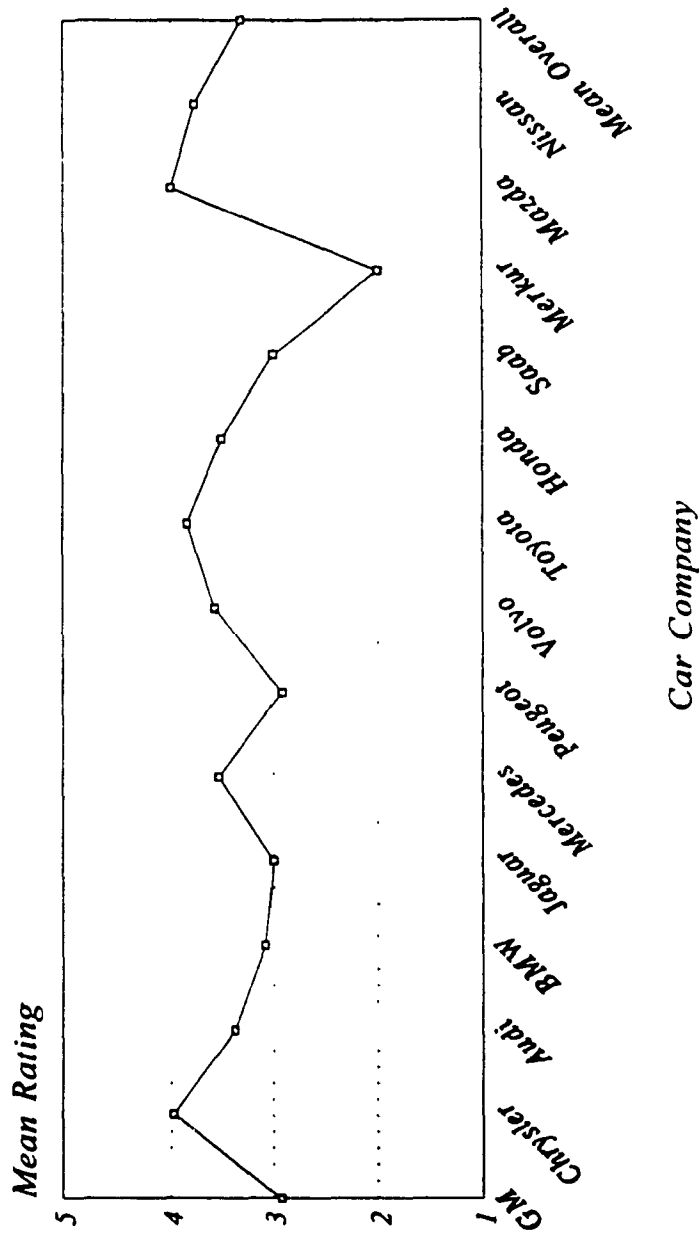
# Graph #19

## Trouble Index Rating By Brand



# Graph #20

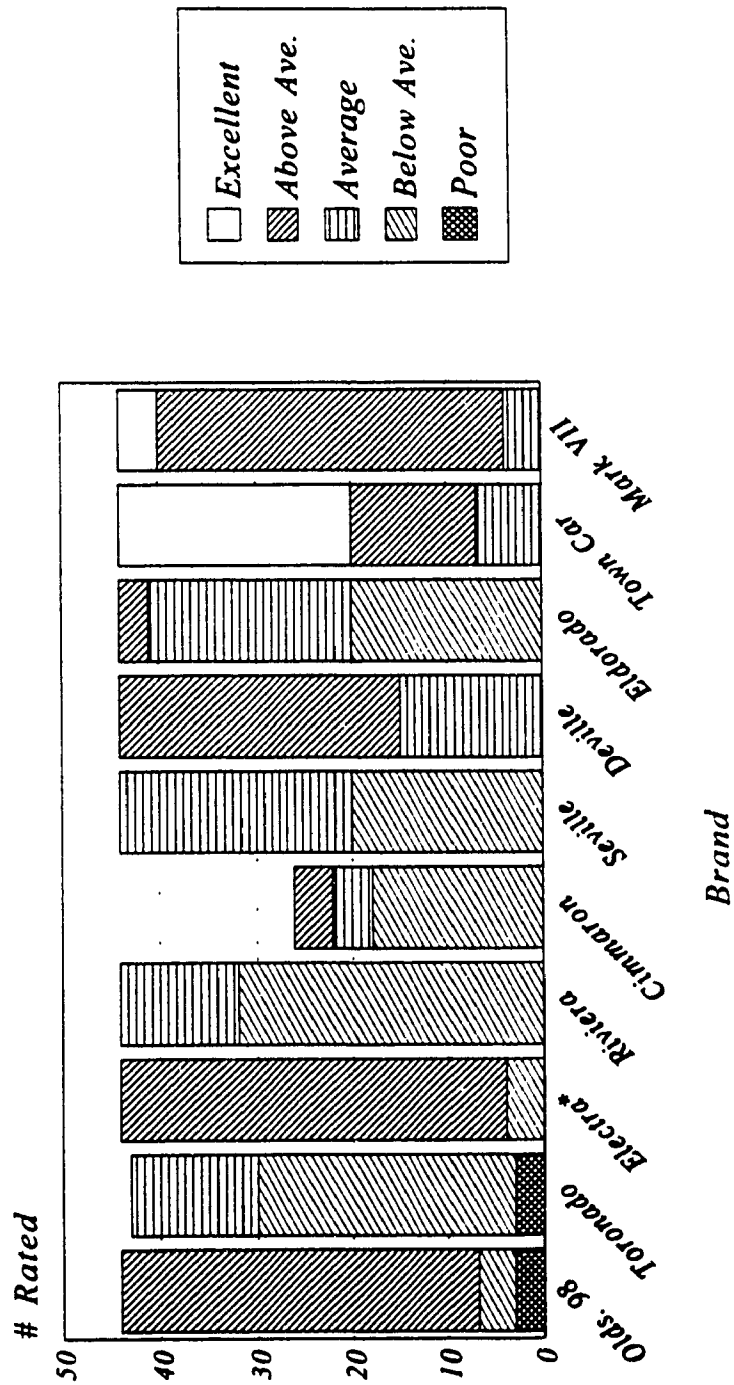
## Mean Comfort and Convenience Ratings Auto Manufacturer



1 = Poor, 2 = Below Ave., 3 = Average, 4 = Above Ave., 5 = Excellent  
 Mean ratings proven significant at a 0.0001 level by ANOVA

# Graph #21

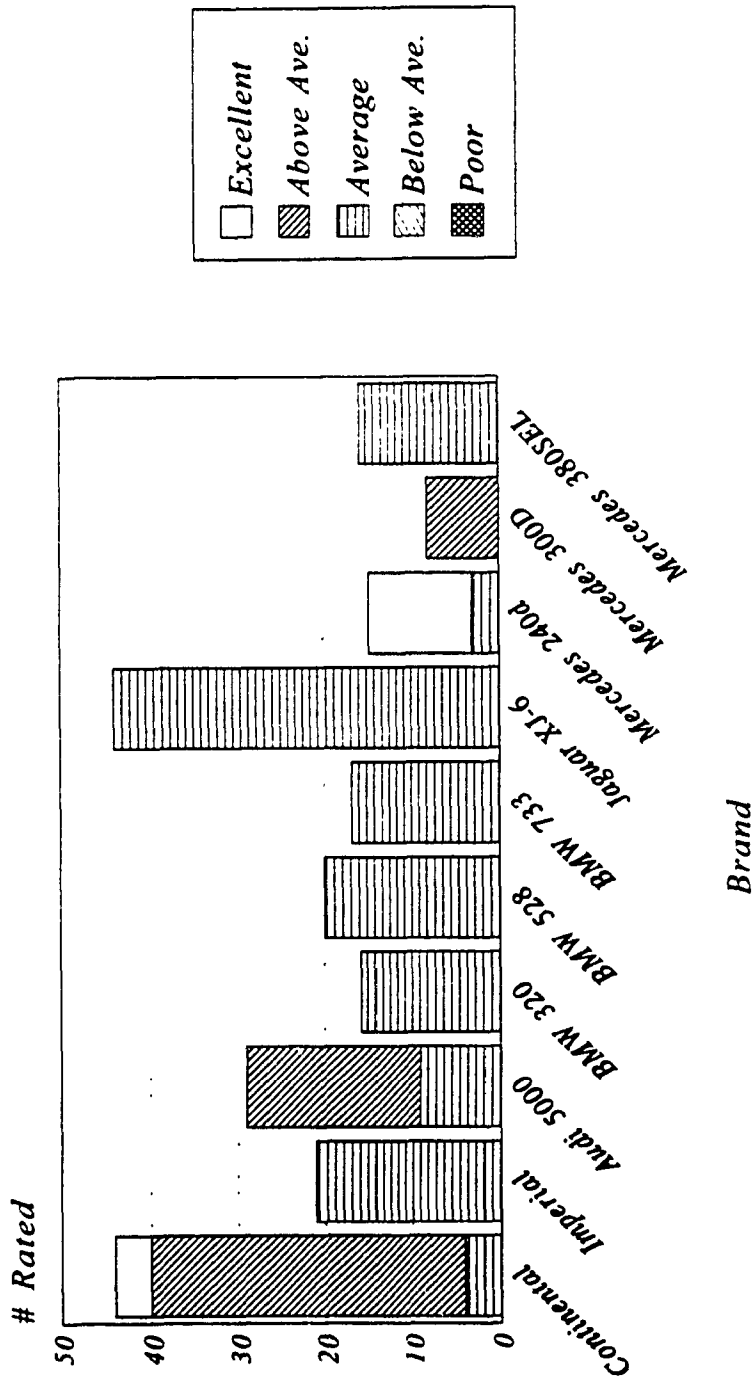
## Comfort and Convenience Rating By Brand



\* Originally the Park Avenue

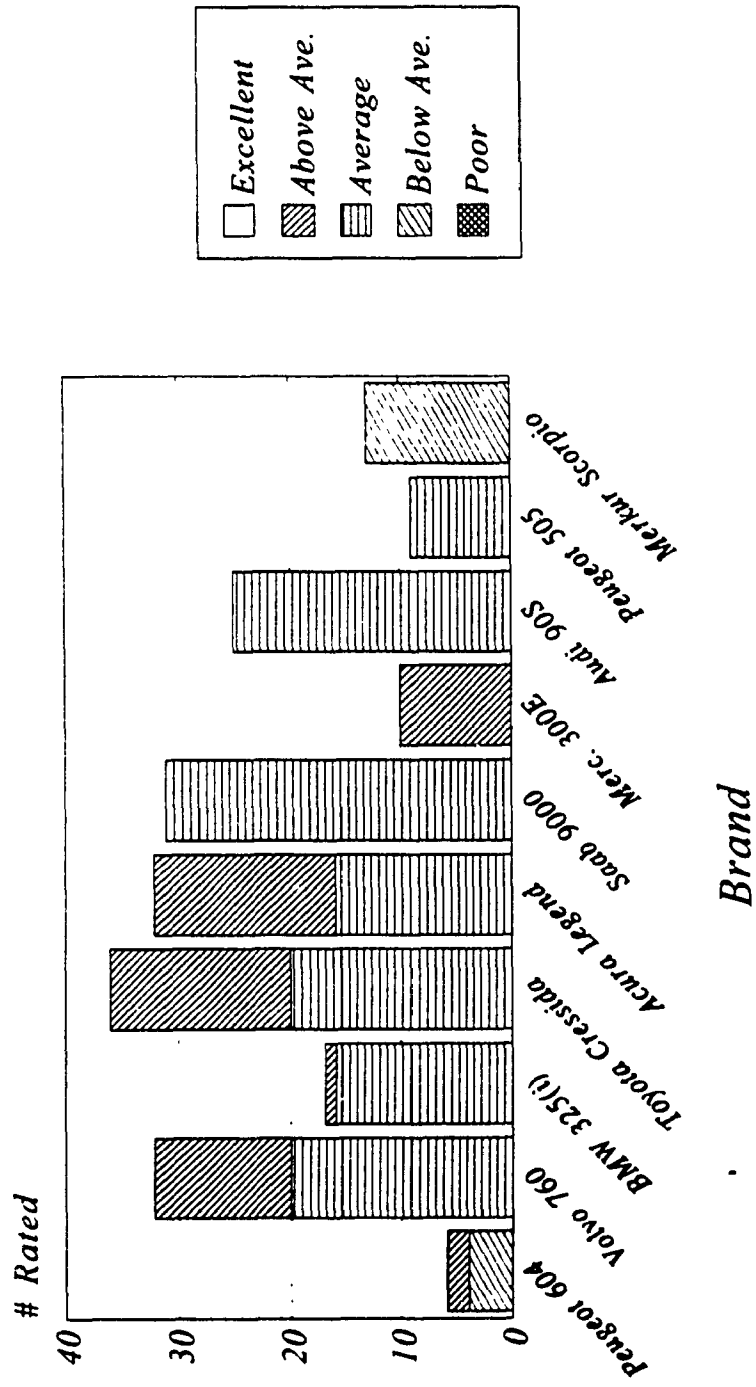
# Graph #22

## Comfort and Convenience Rating By Brand



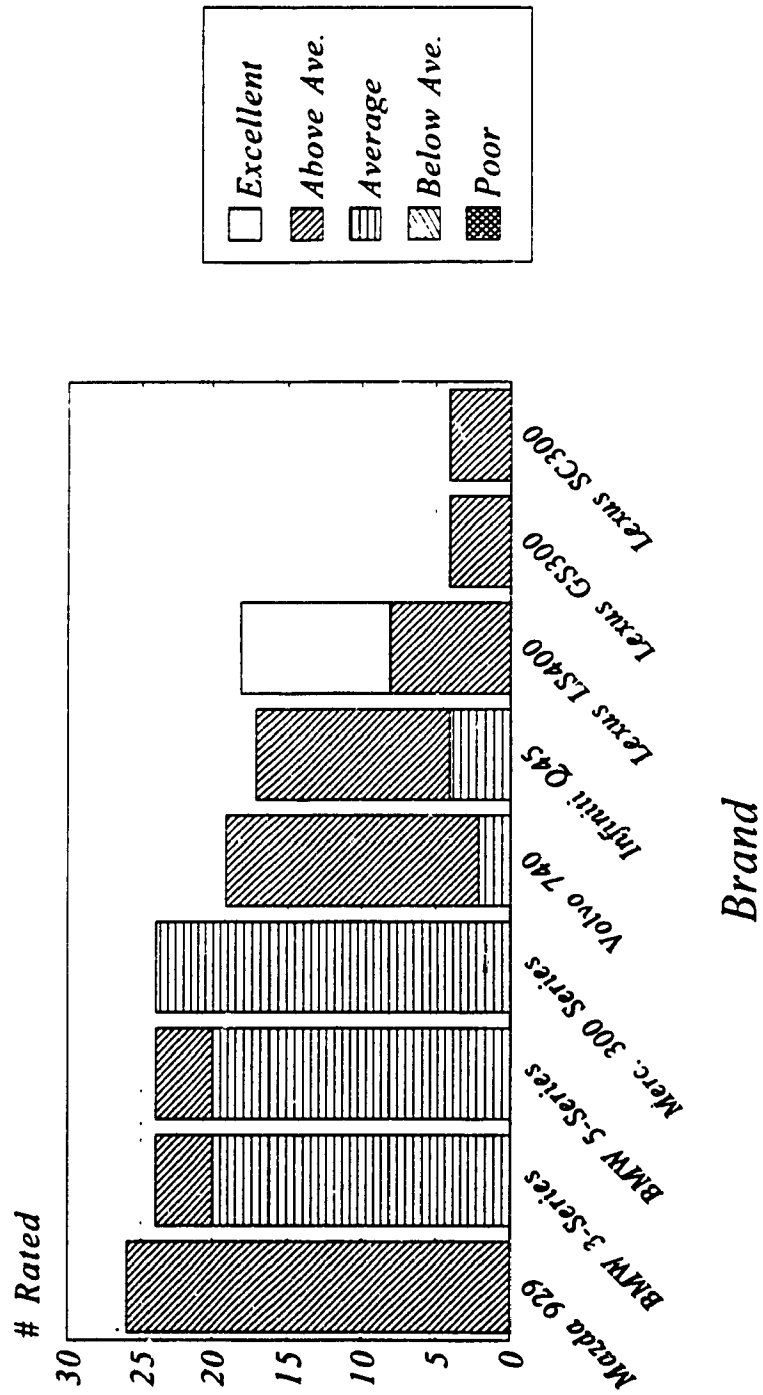
# Graph #23

## Comfort and Convenience Rating By Brand



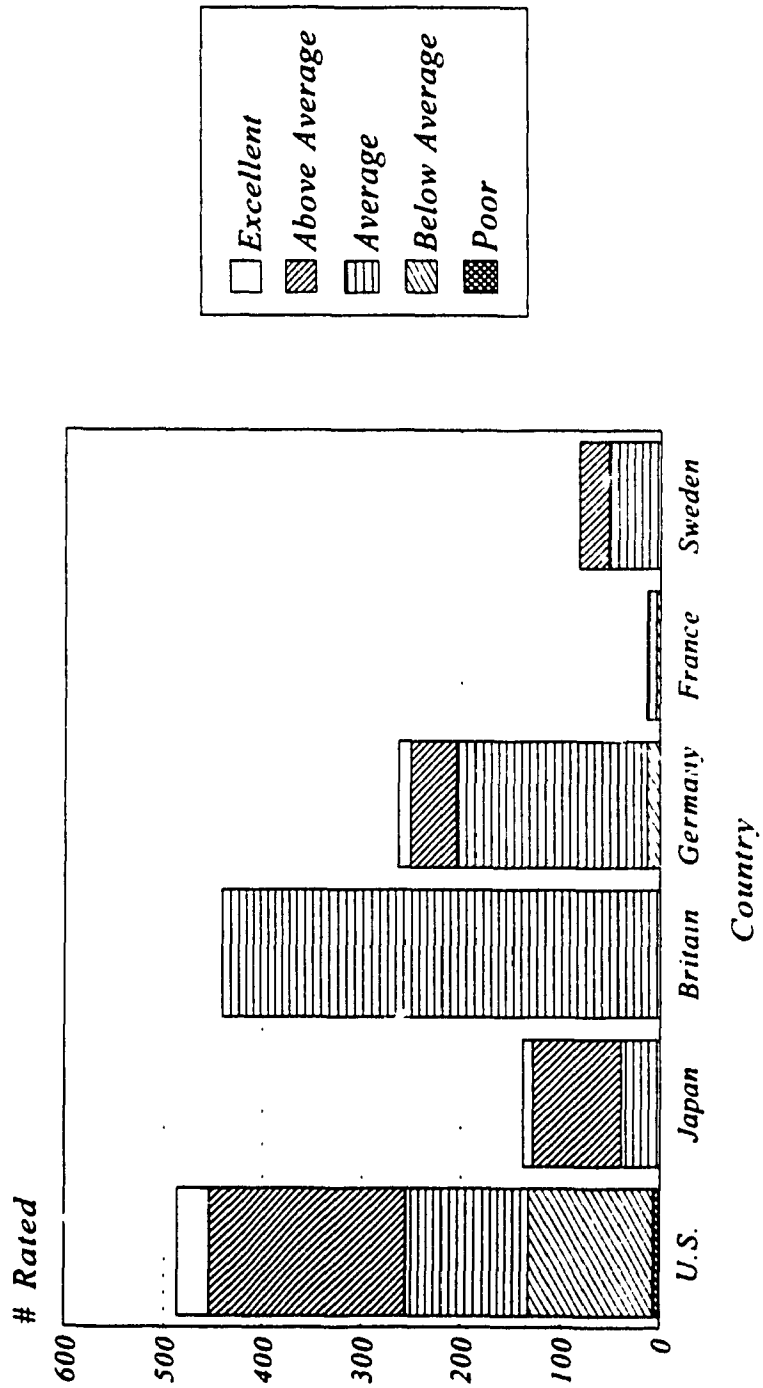


# Graph #24 Comfort and Convenience Rating By Brand



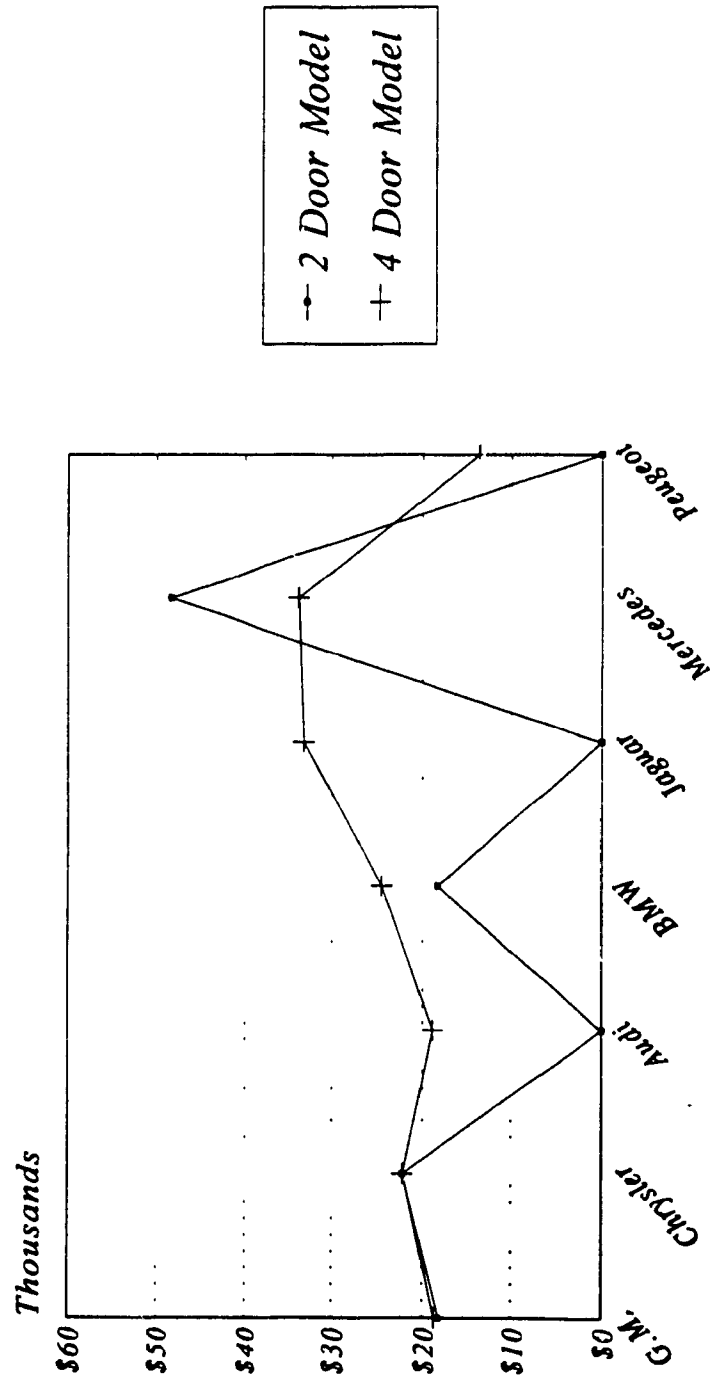
# Graph #25

## Comfort and Convenience Rating By Country of Origin



# Graph #26

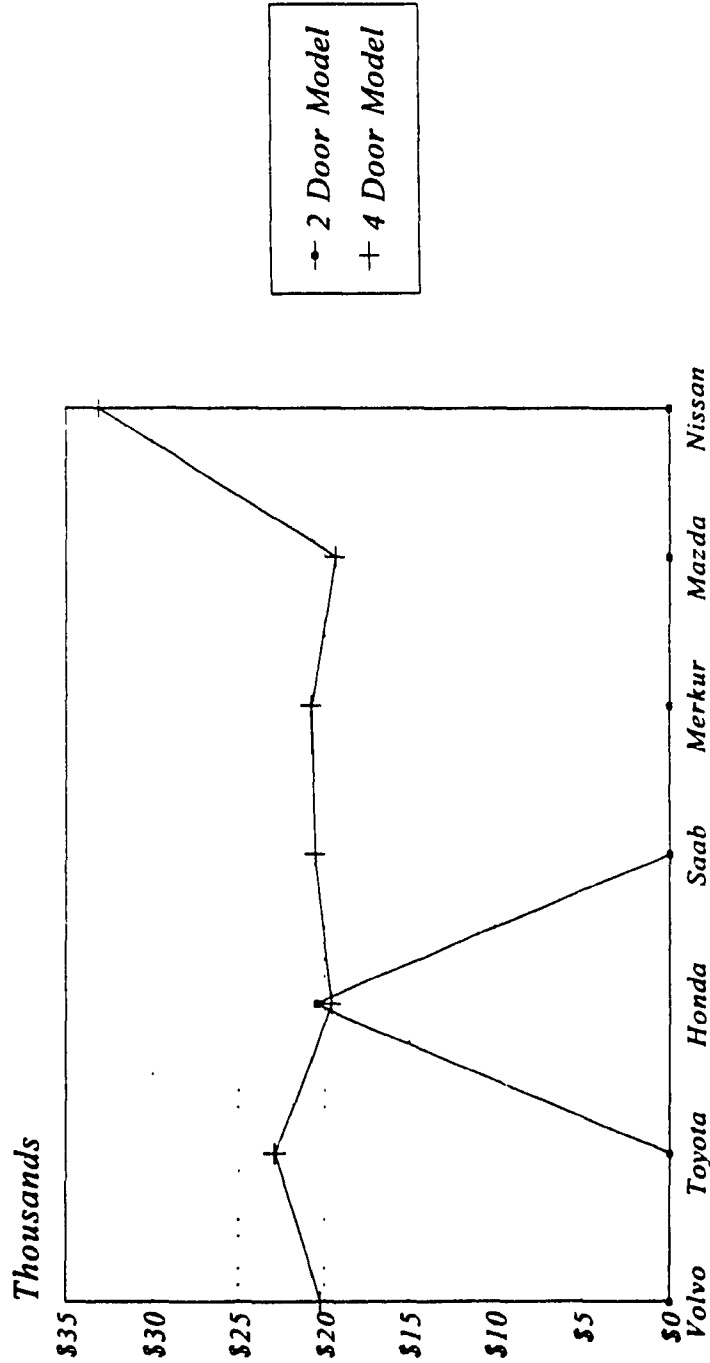
## Mean Price Auto Manufacturer



Mean prices proven significant at a 0.0001 level by ANOVA

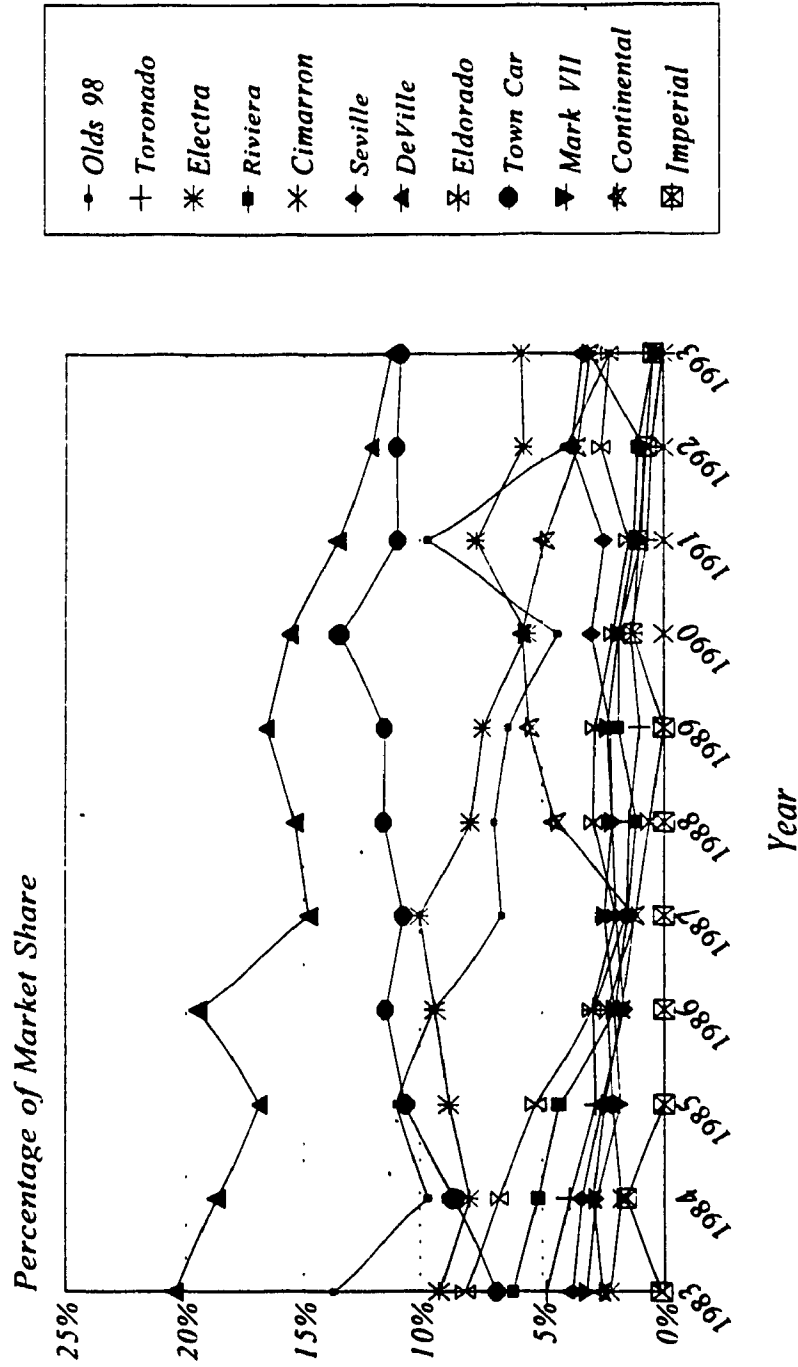
# Graph #27

## Mean Price Auto Manufacturer



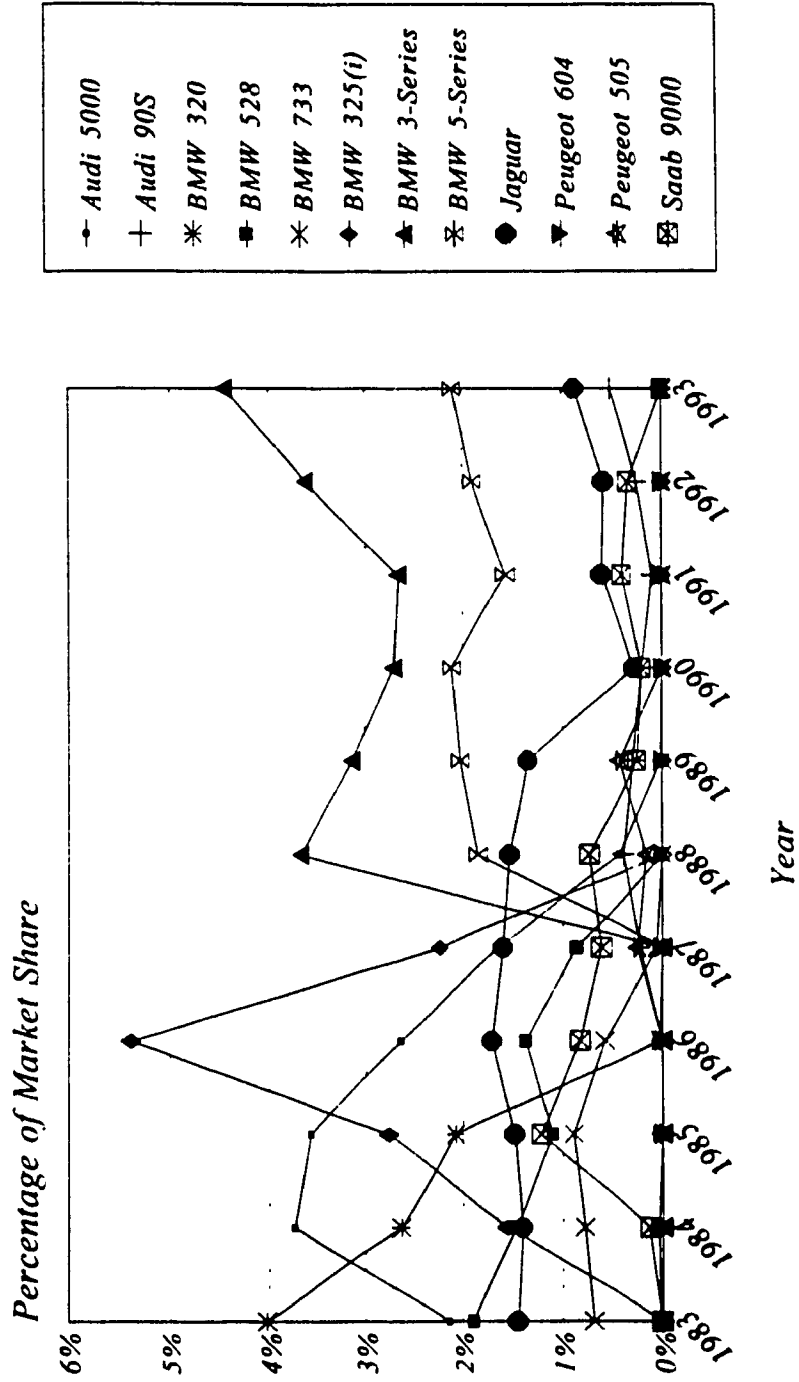
Mean price is proven significant at a 0.0001 level by ANOVA.

# Graph #28 Brand Share



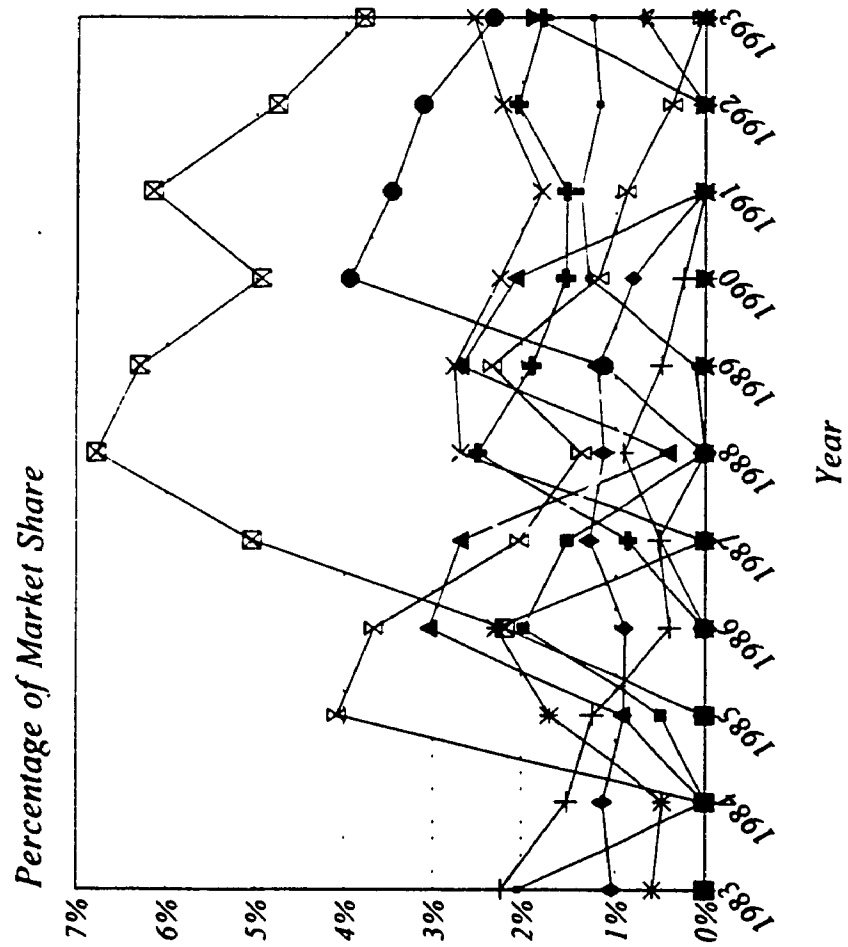
Percentage Share = (Brand Sales/Total Luxury Segment Sales) X 100

# Graph #29 Brand Share



Percentage Share = (Brand Sales/Total Luxury Segment Sales) X 100

# Graph #30 Brand Share



Percentage Share = (Brand Sales/Total Luxury Segment Sales) X 100

APPENDIX IV:

Results of the Regression Analysis



**Figure #3**  
**Correlation Analysis**

**Variables:** SALES, SHARE, F1 (Interior Space), F2 (Consumer Belief), F3 (Automobile Size), P2, P4

**Simple Statistics**

Variable	N	Mean	Std Dev	Sum
SALES	1025	9198.19122	10566	9428146
SHARE	1025	4.29631	4.836368	4403.725190
F1 (Interior Space)	879	0	1.000000	0
F2 (Consumer Belief)	879	0	1.000000	0
F3 (Auto Size)	879	0	1.000000	0
P2 (2-Door Price)	1025	22300	6775.793561	22857701
P4 (4-Door Price)	848	22791	6911.193058	19327060

Variable	Minimum	Maximum
SALES	0	63651
SHARE	0	27.067726
F1 (Interior Space)	-1.978068	4.896572
F2 (Consumer Belief)	-2.059529	2.460652
F3 (Auto Size)	-9.914126	4.479069
P2 (2-Door Price)	11502	50443
P4 (4-Door Price)	11502	48211

**Correlation Analysis**

	SALES	SHARE	F1	F2
SALES	1.00000 0.0 1025	0.98051 0.0001 1025	0.53368 0.0001 879	-0.08352 0.0133 879
SHARE	0.98051 0.0001 1025	1.00000 0.0 1025	0.55043 0.0001 879	-0.07666 0.0230 879
F1	0.53368 0.0001 879	0.55043 0.0001 879	1.00000 0.0 879	0.00000 1.0000 879
F2	-0.08352 0.0133 879	-0.07666 0.0230 879	0.00000 1.0000 879	1.00000 0.0 879
F3	0.15185 0.0001 879	0.17512 0.0001 879	0.00000 1.0000 879	0.00000 1.0000 879
P2	-0.24389 0.0001 1025	-0.21092 0.0001 1025	-0.10651 0.0016 879	0.37369 0.0001 879
P4	-0.27041 0.0001 848	-0.23898 0.0001 848	-0.17313 0.0001 702	0.36856 0.0001 702

**Figure #3 - Continued**  
**Correlation Analysis**

	F3	P2	P4
SALES	0.15185	-0.24389	-0.2724
	0.0001	0.0001	0.0001
	879	1025	848
SHARE	0.17512	-0.21092	-0.23898
	0.0001	0.0001	0.0001
	879	1025	848
F1	0.00000	-0.10651	-0.17313
	1.0000	0.0016	0.0001
	879	879	702
F2	0.00000	0.37369	0.36856
	1.0000	0.0001	0.0001
	879	879	702
F3	1.00000	0.17939	0.22837
	0.0	0.0001	0.0001
	879	879	702
P2	0.17939	1.00000	0.99002
	0.0001	0.0	0.0001
	879	1025	848
P4	0.22837	0.99002	1.00000
	0.0001	0.0001	0.0
	702	848	848

**Figure #4**  
**Correlation Analysis**

**Variables:** SALES, SHARE, F1 (Interior Space), F2 (Consumer Belief), F3 (Automobile Size), P2, P4

**Simple Statistics**

Variable	N	Mean	Std Dev	Sum
SALES	1024	9207.173828	10567	9428146
SHARE	1024	0.805548	1.419192	824.880751
F1 (Interior Space)	878	0	1.000000	0
F2 (Consumer Belief)	878	0	1.000000	0
F3 (Auto Size)	878	0	1.000000	0
P2 (2-Door Price)	1024	9.970761	0.284001	10210

Variable	Minimum	Maximum
SALES	2.000000	63651
SHARE	-6.956879	3.298342
F1 (Interior Space)	-2.196102	3.771515
F2 (Consumer Belief)	-2.429169	1.883831
F3 (Auto Size)	-17.242550	1.119076
P2 (2-Door Price)	9.350266	10.828591

	SALES	SHARE	F1	F2
SALES	1.00000 0.0 1024	0.70210 0.0001 1024	0.56134 0.0001 878	-0.02325 0.4915 878
SHARE	0.70210 0.0001 1024	1.00000 0.0 1024	0.39529 0.0001 878	0.00669 0.8431 878
F1	0.56134 0.0001 878	0.39529 0.0001 878	1.00000 0.0 878	0.00000 1.0000 878
F2	-0.02325 0.4915 878	0.00669 0.8431 878	0.00000 1.0000 878	1.00000 0.0 878
F3	0.05495 0.1037 878	0.05630 0.0955 878	0.00000 1.0000 878	0.00000 1.0000 878
P2	-0.24505 0.0001 1024	-0.09978 0.0014 1024	-0.10321 0.0022 878	0.31720 0.0001 878

**Figure #4 - Continued**  
**Correlation Analysis**

	F3	P2
SALES	0.05495	-0.24505
	0.1037	0.0001
	878	1024
SHARE	0.05630	-0.09978
	0.0955	0.0014
	878	1024
F1	0.00000	-0.10321
	1.0000	0.0022
	878	878
F2	0.00000	0.31720
	1.0000	0.0001
	878	878
F3	1.00000	0.10296
	0.0	0.0023
	878	878
P2	0.10296	1.00000
	0.0023	0.0
	878	1024

**Table #18**  
**Regression Model - Dependent Variable = Sales**  
**Brand Name Model**  
**With the Addition of Seasonality**

**Analysis of Variance:**      F-Value: 98.455  
R-Square: 0.8353  
Adj. R-Square: 0.8268

**Parameter Estimates:**

<b>Variable</b>	<b>Estimate</b>	<b>T for Ho:</b>	<b>Prob&gt;T</b>	<b>VIF:</b>
Intercept	20839.00	27.95	0.0001	0.00
Factor 1	1148.21	3.03	0.0025	5.98
Factor 2	-286.05	-0.70	0.4815	6.86
Factor 3	542.80	-2.45	0.0145	2.04
P2	0.76	2.39	0.0201	4.19
BR2	-14095.00	-12.62	0.0001	2.43
BR3	127.83	0.127	0.8989	2.00
BR4	-12997.00	-11.74	0.0001	2.43
BR5	-14960.00	-10.52	0.0001	2.42
BR6	-10667.00	-10.09	0.0001	2.13
BR7	20885.00	22.30	0.0001	1.72
BR8	-10015.00	-9.00	0.0001	2.39
BR9	7275.56	7.57	0.0001	1.81
BR10	-15091.00	-14.42	0.0001	2.11
BR11	-10587.00	-11.99	0.0001	1.53
BR12	-15899.00	-12.70	0.0001	1.29
BR13	-15364.00	-14.55	0.0001	1.44
BR14	-15690.00	-9.32	0.0001	1.99
BR18	-16860.00	-8.56	0.0001	1.37
BR19	-16441.00	-11.83	0.0001	1.58
BR21	-22881.00	-9.48	0.0001	1.08
BR22	-17292.00	-15.84	0.0001	1.50
BR23	-11931.00	-7.08	0.0001	2.15
BR24	-13349.00	-11.71	0.0001	2.11
BR25	-4928.90	-4.51	0.0001	1.73
BR26	-17349.00	-16.15	0.0001	1.52
BR27	-15059.00	-8.97	0.0001	1.27
BR29	-16903.00	-9.31	0.0001	1.35
BR30	-18332.00	-12.71	0.0001	1.24
BR31	-12440.00	-10.65	0.0001	1.62
BR32	-8128.42	-5.18	0.0001	2.22
BR33	-10879.00	-7.66	0.0001	1.75
BR34	-10985.00	-8.23	0.0001	1.61
BR35	-12937.00	-10.46	0.0001	1.32
BR36	-13960.00	-10.77	0.0001	1.29
BR37	-8254.80	-6.30	0.0001	1.39
BR38	-19376.76	-3.75	0.0001	1.15
BR39	11158.00	-4.17	0.0001	1.29

(Cont'd)

**Table #18 - Continued**  
**Regression Model - Dependent Variable = Sales**  
**Brand Name Model**  
**With the Addition of Seasonality**

<b>Variables:</b>	<b>Estimate:</b>	<b>T for Ho:</b>	<b>Prob&gt;T:</b>	<b>VIF:</b>
Q2	1033.04	3.31	0.0010	1.49
Q3	696.98	1.59	0.1128	1.49
Q4	544.82	1.24	0.2140	1.50
Y84	1008.65	1.26	0.2078	1.85
Y85	1370.23	1.72	0.0852	2.05
Y86	527.84	0.66	0.5082	2.24
Y87	-2089.36	-2.69	0.0072	2.30
Y88	-2090.37	-2.59	0.0097	2.16
Y89	-2284.58	-2.89	0.0040	2.41
Y90	-2720.27	-3.43	0.0006	2.41
Y91	-3284.43	-3.97	0.0001	2.25
Y92	-3424.19	-4.036	0.0001	2.47
Y93	-4384.80	-5.13	0.0001	2.57