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I am submitting herewith a thesis written by Jill Annette Liebler entitled "Consumer Attitudes of Country-of-origin, Japanese Transplant Vehicles and the Buy American Campaign in the U.S. Auto Industry". I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Retail and Consumer Sciences.

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Consumer Attitudes of Country-of-Origin, Japanese Transplant Vehicles and the Buy American Campaign in the U.S. Auto Industry

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Degree

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Jill Annette Liebler

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DEDICATION

This thesis is dedicated to my parents Ed & Mary Ann Liebler, my brothers Ted & Paul, my grandparents: Grandma Chernay, and Grandpa and Grandma Liebler.

Additionally, this thesis is in special recognition of all American workers who try to live the American dream but earn minimum wage.

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ABSTRACT

The purpose of this study was to determine consumer attitudes toward defining what are American made vehicles, Japanese transplants and if country-of-origin was a significant attribute in purchase decision making. Previous research in the apparel industry on country-of-origin and the Buy American campaign was used as a framework to extend the research to the product category of vehicles. A written survey was developed to gather consumer attitudes toward country-of-origin and encouraging foreign investment. The attitudes were then analyzed against demographic, psychographic and lifestyle variables to determine if significant relationships existed.

The surveys were personally distributed to consumers at two quick oil retail stores as they waited for their vehicles to be serviced. One hundred and fifty-three usable surveys were gathered, with a response rate of 95.5%.

The results indicated that country-of-origin was the least important attribute in purchase decision making for vehicles. This research contradicts previous research findings reported for the garment industry. Furthermore, demographic, psychographic and lifestyle variables were significant factors toward encouraging foreign investment, employment, purchase intentions, and current ownership. These findings are from initial research on vehicles, further research is needed to determine if the product category under consideration influences consumer attitudes.

PREFACE

The interest in this research developed over time. Having spent a large amount of my teen years in Michigan watching the decaying effects of the U.S. auto industry, I was a Buy-American supporter. In college, the question arose as to the importance of buying American vehicles if they were produced in a foreign country. After graduation, facing unemployment and taking temporary underemployment, I pushed friends and family members to buy only American products to support the economy. Upon entering graduate school, two articles by Robert Reich: "Who Is Them?" and "Who Is Us?" really intrigued me. I weighed the consequences of foreign investment. Providing employment for a large number of American citizens seemed to outweigh the loss of capital gains flowing back to the home country of corporate headquarters. Furthermore, the benefits and high pay associated with manufacturing jobs need to be kept in the United States.

My original intention was to study the effects of foreign investment versus domestic companies outsourcing their manufacturing. Using the auto industry seemed to be a relevant choice: transplant manufacturers have facilities in the United States and General Motors is the largest importer of cars into the United States. I discovered some previous research in the area. Furthermore, I personally had a hard time defining an American made car because of joint ventures, clones, ownership definitions and even the government's inability to properly document the percentage of ownership. I wondered what general consumers thought about the topic areas. Thus, the reasoning behind my research.

Since doing this research, I have concluded that the transplant manufacturers do provide benefits to the American economy beyond low technology assembly work. Furthermore, I believe that business should be competitive with the Charles Darwin philosophy of the survival of the fittest. Competition breeds improvement that consumers continuously benefit from. Although, some mention must be made of the immoral act of using 'sweatshop' factories and underpaid labor to produce some foreign products that compete on price alone. In conclusion my research suggested that country-of-origin was not important to consumers when purchasing vehicles, I would hope that given very similar products, consumers would keep American workers in mind...be it transplant or domestic.

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Chapter 1

Introduction & Purpose

Multi-national and global corporations cross trade borders daily in their pursuit of business. This has affected the automobile industry to a great extent as the capital intensive business has caused managers to search for cost savings through labor or technological efficiency. In the process, manufacturers have relocated to gain advantages over their competitors and the bottom line. For example, the Mazda Miata was designed in California, financed from Tokyo and New York, prototyped in Worthing, England, assembled in Michigan and Mexico using advanced electronic components invented in New Jersey and fabricated in Japan (Reich, 1991). The question arises as to what is an "American" made automobile? What factors constitute a vehicle being defined as "American" made? With the internalization of business, is it even possible to define the country-of-origin for vehicles?

The purpose of this research is to find out what American consumers think, feel and believe in regard to transplant vehicles. Because American consumers are the primary purchasers of automobiles, their attitudes are important.

Before the days of international business, identifying product's country-of-origin was fairly easy. Usually the familiar "Made in..." label told the consumer where the product

was made and who made it. Nationalistic judgments could be considered, based on the manufacturer, and consumers could feel confident in their amount of information needed to make an informed purchase decision.

IMPORTANCE

As our current economy struggles out of a recession, the level of new car purchases is considered a leading indicator on the status of the economy (Made in the U.S.A. Foundation, 1993). Additionally, and more importantly, the emergence of the "Buy American" campaign within the last couple of years may be enacting a negative attitude towards American Made-Foreign Owned products such as automobiles (Groves, 1992). One such example is the recent trend of American companies rewarding their employees by giving money incentives to the employee for buying an "American" automobile (Wald, 1992). Since there is no standard definition for classifying an "American" automobile, discrimination is common.

BACKGROUND

As little as fifteen years ago, domestic auto makers were "domestic". The companies were American owned. They employed Americans to design, construct and manufacture cars consisting of American made parts to sell to the public. The American automobile industry had been operating in this manner since the days of Henry Ford.

Ford revolutionized manufacturing by instituting the moving assemble line and standardizing the car's components. By lowering the final selling price to appeal to the masses and improving efficiency in production Ford was able to flood the market with the Model T. Thus, began the automobile industrial revolution in America.

The years following Henry Ford were golden as the post-war years prosperity and pent-up consumer demand brought more wealth to the automobile manufacturers. America's newly built infrastructure was connecting the roadways to highways as Americans fell in love with their cars. A society based on manufacturing's higher pay rate and low fuel prices led a migration of families from the hustle and bustle of city life to the serene ideology of the suburbs. All the while, cars kept getting bigger and better from the ornate styling of fins to the tremendous speed of the ever bigger engines. Nothing could be more American than a life of baseball, hot-dogs, apple pie and Chevrolet.

Within a few short years, the glass had cracked on America's pretty picture. The oil embargo drove gas prices to ever increasing heights while the masses were becoming bitter over poorly constructed and often defective American made vehicles.

On the other sides of the oceans, both the Japanese and the Germans were re-building their war torn societies. With the help of American quality experts, such as Edward W. Demming and his method of Statistical Process Control applied to Japanese manufacturing, the once shoddy image of "Made in Japan" was being redefined to an

image of quality and reliability. New management practices such as quality circles, team building and just-in-time systems added more leverage to Japan's ever widening production advances.

Germany's Volkswagen line of automobiles, had taken a foothold in the American auto market after W.W.II. The VW line was well known for its dependability and was already popular with the young adult market. VW had a new important feature: its high gas mileage. As American manufacturers ignored consumer wants by the continued manufacture of gas guzzling, poorly constructed cars, the stage was set for new players to enter the market.

The O.P.E.C. oil embargo in 1973 was the catalyst that sparked the popularity of Japanese automobiles (Rutledge & Allen, 1989). The compact, fuel efficient cars were being imported into the U.S. in ever increasing numbers, while the U.S. companies scoffed at the idea that consumers would buy such small foreign cars. The U.S. dollar to low Japanese yen exchange rate, further increased demand for the imports. The high dollar caused the imported cars' prices to be competitively lower. By 1986, the Japanese were importing 4.1 million cars into the U.S. (Lavin & Choi, 1993). U.S. manufacturers continued to produce large, heavy, inefficient automobiles that buyers did not want to purchase. As inventories shot up and profits collapsed the U.S. auto industry was in disarray.

The U.S. auto industry's only solution was to improve the quality and fuel efficiency of their cars while cutting operating costs. They redesigned both the automobiles and the factories, increasing technology and improving efficiency for both. By closing unproductive plants or moving the facilities to a lower cost foreign country, thousands of American workers lost their jobs.

IMPORTANCE OF AMERICAN MANUFACTURING

The question looming before us is "what is an American made automobile?" The question needs to be answered based on the assumption that an "American made" car leads to the highest level of benefits to the American economy by raising the standard of living of the masses of middle class America by providing well compensated employment.

NAMEPLATE CONFUSION

Because of the multi-national companies and the joint ventures formed in the 1980's, many of the manufacturers use the same production lines to produce the same model of car (You Might Think It's Easy to Tell a Domestic Car From an Imported One, 1992). Because of excess capacity, the manufacturers contract their facilities to produce vehicles for competing companies. So either through contracted production or joint venture, many of the models are the same vehicle but with different nameplates attached for corporate ownership. Some minor modifications are made to the vehicles to help differentiate the

product to the consumer. For example, Toyota's New United Motor Manufacturing, Inc. plant produces 100,000 Geo Prizms for General Motors. (You Might Think It's Easy to Tell a Domestic Car From an Imported One, 1992) The exact same car is sold as the Toyota Corolla. But to the American perception, the foreign owned Toyota car would be considered an "import" while the exact same General Motors car would be considered a "domestic".

DIRECT INVESTMENT

In 1993, 3.3 million Japanese-brand cars were sold in the United States more than half of these cars (1.8 million) were manufactured in the U.S. by American workers (O'Brien, 1994). Since 1982, American made automobiles by foreign owned Japanese companies have invested billions of dollars in America by building research and design facilities, secondary parts plants and manufacturing factories in several states. These foreign owned factories are termed "transplants". They are employing thousands of Americans to design, build and sell those cars. These transplants are also supporting an untold number of American parts suppliers and service contractors from the seat belt manufacturers to the janitorial crew. (Wright, 1990)

For example, the Japanese company, Toyota, employs over 100,000 people and has invested over 5 billion dollars in the United States and has purchased over 1.2 billion dollars worth of American made parts ("This is Toyota", 1993) ("10 Ways Toyota helps," 1993). The new B.M.W. plant, which is slated to open in 1994, will employ 2000

people, cost $400 million and is expected to produce 90,000 cars, which will be exported to over 100 countries (B.M.W. Manufacturing Corporation ad, 1993).

These foreign companies are undoubtedly adding some benefit to the American economy. The products they produce and sell in our market and export to other markets, cannot be classified as an imported vehicle. Since no standard definition exists to classify these vehicles, research needs to be undertaken. The research needs to gauge what American consumers' attitudes are toward these vehicles and if it is even important to try to define and classify vehicles' country-of-origin. The literature is scattered on the importance of country-of-origin information being a product attribute of relevance in purchase decision making. Additionally, previous research examining purchase decision making based on country-of-origin in automobiles has only classified vehicles based on a very strict domestic or foreign traditional definition, and does not take into consideration the emergence of the transplant vehicle industry.

RESEARCH QUESTION

Because these foreign companies are manufacturing vehicles in the United States, do American consumers perceive the products to be "American" made? The vehicles are assembled by American workers on American land but the ownership and thus, the profits are foreign. A survey was completed to determine the attitude of consumers on

this question. The survey was designed to determine if significant differences in response were apparent based on the consumers' demographic characteristics.

JUSTIFICATION

In the industry, both the domestic and foreign manufacturers are represented by associations and trade groups. The foreign manufacturers and dealers are represented by such groups as the Association of International Automobile Manufacturers, Inc. and the Association of International Automobile Dealers. These groups like to refer to the transplants and foreign manufacturers as international manufacturers with a global product. The Big Three are represented by the American Manufacturers Association who assert that American owned companies are the most beneficial to the American economy. Other groups exist such as the North American Dealers Association that work as a networking and information group to all dealers operating retail establishments in North America. These groups are important as they wage publicity wars to persuade the consumer that their products are superior to the competitors.

LACK OF STANDARD DEFINITIONS

Additionally, another important source of consumer information is the media. Through popular magazines such as Car and Driver, Consumer Reports and publications by J.D.

Powers and Associates, product information is distributed to consumers looking to purchase vehicles. Both national and local newspapers usually contain an automotive section covering topics of interest to consumers. Since no standard definition for classifying domestic or foreign vehicles exist, each source uses their own definition. Evidently, this has to cause confusion and possibly misinformation to a consumer.

CONTROVERSY SURROUNDING AUTO LABELING

To make matters worse, the new automobile labeling law is considered ineffective. Special labeling disclosing information, on vehicle assembly, parts content and origin of the engine and drivetrain, was put into effect on October 1. The new labeling law was enacted to clear up the clutter surrounding the problems of quantifying country-of-origin and provide accurate, useful information to the consumer. The new law is surrounded in controversy as the opposing sides (Big 3, transplants) argue the accounting methods used to determine ownership and subsequent labeling percentages.

FURTHER USES FOR THE INDUSTRY

In the review of literature, several researchers (Dornoff, Tankersley, White 1974; Wells 1974; Wallace, Sherret 1973) mentioned the importance of being able to plan promotional strategy based on the appeal of a product's attributes to a population of consumers. Basic marketing textbooks (Schiffman, Kanuk 1991; Engel, Blackwell and Kollat, 1991) emphasize the strategy of segmenting and targeting your most important

purchasing markets. This study is to determine if relationships exist between certain demographic, psychographic and lifestyle variables and a consumer's attitude toward transplant vehicles. This evaluation of attitude is important as a possible better explanation of purchase intent. By determining a select target market, promotional materials can more effectively be created and used to disseminate information and persuade vehicle purchasing consumers.

UPDATED DEFINITIONS AND CATEGORIES

Furthermore, no "academic" work has been completed in this area. As previously mentioned, research has been undertaken using the outdated traditional definition of vehicles being domestic or foreign based on the nationality of the manufacturer. Some areas that used this definition are in the areas of country-of-origin's importance in consumer decision making single attribute studies, multi-attribute studies (Johansson, Douglas and Nonaka, 1985; Erickson, Johansson and Chao, 1984), and product-country perception studies (Nagashima, 1970; Dornoff, Tankersley, White, 1974; Kincaid, 1970) of imported goods in the 1970's. These studies need to be updated to include the new factor of the transplant vehicles.

ADDING TO THE LITERATURE BASE

Additionally this study could impact the extensive previous research on country-of-origin dealing with the garment industry. In the garment research several demographic factors were found to be significant in predicting a consumer's willingness to purchase garments "Made in the U.S.A." This study could add to the literature by further supporting or refuting that those demographic factors are relevant. By including vehicles as a new product category some considerations need to be addressed. Admittedly, the high risk-high involvement product category of vehicles cannot be generalized, especially in comparison to the low involvement purchasing decisions of apparel. However, because the product category is high involvement with the consumer seeking out information the results of using country-of-origin as a purchase attribute may be more valid. As an exploratory study, the area of psychographics and lifestyle is also included to determine if any factors could be relevant to attitude and eventually purchase behavior.

Chapter 2

Literature Review

THEORETICAL FRAMEWORK

The theoretical framework consists of a combination of the Belief, Attitude and Behavior Intention literature along with previous studies on country-of-origin as a product attribute. The consumer decision making model of Engel-Blackwell-Miniard was also employed to provide a visual understanding of how beliefs, attitude and intention fit into purchase decision making. The model is important to explain individual behavior and to differentiate consumers who use country-of-origin as a decision criteria versus those who do not. Lastly, concepts from the Buy American campaign will be discussed, relating to the proliferation of academic literature on the effects in the garment industry and recent emergence in the popular press regarding vehicles.

NOMINAL DEFINITIONS

1. Attitude--A mental state determines an individual's favorable or unfavorable inclination toward an attribute of an object (Hughes, 1971). i.e. I don't like the dead grass in the winter.

2. Belief--A state of knowledge. It can be measured through the probability that it exists (Hughes, 1971). i.e. I believe the grass is green in the spring.

3. Purchase Intent--A consumer's willingness to purchase an item. At this point the action has not yet happened, and the consumer may change their mind.

4. Purchase Behavior--A consumer goes through the action of purchasing something. An item of value (usually money) is exchanged for ownership of another item.

5. Vehicle--Any enclosed form of transportation that could be legally driven on state highways such as vans, automobiles, mini-vans and trucks.

6. Vehicle Industry--Used to define the automobile industry, including trucks, vans and other enclosed forms of transportation.

7. Ethnocentrism-A person who believes that their own home country is superior to all other counties. (Relative to buying behavior--products produced in the home country are superior to all imported products.)

THE EBM MODEL

The Engel-Blackwell-Miniard Model (Figure 1) of Consumer Behavior is composed of four main topics: Input, Information Processing, Decision Process and Variables Influencing Decision Process. These four topics and their subcomponents are used to illustrate the steps a consumer goes through in making a purchase decision.

The topic under consideration for this research is the "Variables Influencing Decision Process" group. The components making up this group are: Individual Characteristics such as motives, values, lifestyle and personality; Social influences such as culture, reference group and family; and situational influences. These components are important in the formation of an individual's beliefs, attitude and intention which then may lead to a purchase decision. The research for this thesis will specifically cover the influences of lifestyle, personality, reference groups, and family. Furthermore, the survey will measure beliefs, attitude and intention. Emphasis in the literature review will be placed on the concept of country-of-origin in a multi-attribute attitude model of product evaluation.

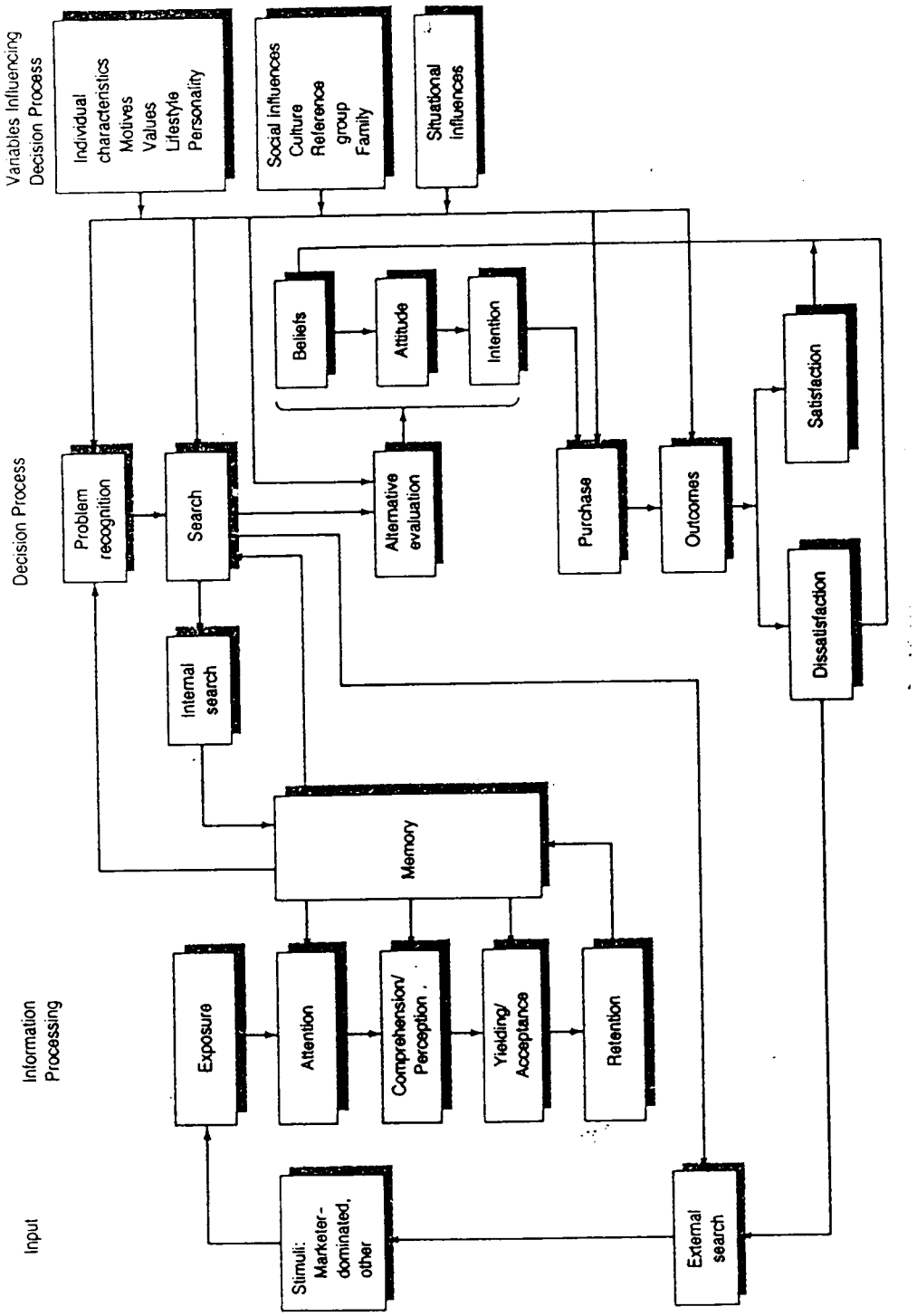


Figure 1: EBM Model (Schiffman & Kanuk, 1991)

ATTITUDE

Attitudes are defined in many ways depending on the use and function of the term. Schiffman and Kanuk (1991) define attitudes as an expression of inner feelings that reflect whether a person is favorably or unfavorably predisposed to some "object". Another definition (Hughes, 1971) focusses on the individual's favorable or unfavorable inclination toward an attribute of an object as being an attitude.

A traditionally accepted viewpoint (Oskamp, 1977) defines attitudes as having three components: cognitive, affective (emotional) and behavioral. The ideas and beliefs that a person holds make up the cognitive component. A judgement process such as liking or disliking is part of the feelings and emotions that are associated with the affective component. Lastly, the behavioral component is composed of intentions or actions directed toward an object. Hughes (1971) states that attitudes are made up of two components: belief and values.

Attitudes can be formed (Schiffman & Kanuk, 1991) through experience, personal influence and exposure to the mass media. Personal experience would include beliefs and knowledge. Personal influence could include any input from a reference group such as family, friends, and co-workers. The importance of word-of-mouth advertising should be stressed here as a factor in attitude formation. The mass media, through advertising,

consumer information or even negative product reviews such as recall notices, are a strong influencer of attitudes.

Oskamp (1977) points out that different theoretical views exist in regards to explaining attitudes. Oskamp reviews the work of Fishbein and Ajzen by stating that the term "attitude" should represent only the affective component. An attitude statement would express a person's preference for something. Fishbein and Ajzen according to Oskamp would define "beliefs" as the cognitive component. A person would relate something as having another characteristic. Lastly, the behavioral component would make up Fishbein's and Ajzen's "behavioral intentions" (Oskamp, 1977) A person will take action in regards to the subject matter.

An important point to consider when working with the attitude components is the amount of relationship among them. Oskamp (1977) states that Fishbein and Ajzen's viewpoint of belief, attitude and behavioral intentions is preferable because a relationship can exist between the components, but is not required.

Previous researchers have explored and tested the relationships between attributes, overall evaluation and weights (Beckwith & Lehmann 1975; Moore & James, 1978; Bass & Wilkie, 1973) Bass and Wilkie (1973) used correlational studies to test attitudes and behavior. Research by Mitchell and Olson (1981) examine Fishbein's attitude model that demonstrates the relationship between beliefs and attitude. Mitchell and Olson set up an

experiment to test that beliefs about product attributes cause brand attitude. They exposed subjects to different advertisements to determine if different brand attitudes exist. Their results indicated that product attribute beliefs did have a intervening effect on brand attitudes, while attitudes substantially affected brand intentions.

Huber and McCann (1982) uses an alternative view of consumer decision making. Huber and McCann believe that a consumer uses a product's visible attributes to infer other attributes to the product. These "inferred attributes" are evaluated to determine their effect on product evaluations.

Importance weights given to attributes is an area of study by Bass & Wilkie (1973) and Huber and McCann (1982). Bass & Wilkie state that a halo effect does take place in brand beliefs when studying importance weights and product attributes, so that importance weights may not add to prediction models unless, according to their research, the responses are normalized before analysis. Huber & McCann (1982) use importance weights in their study of inferred attributes. Erickson, Johansson and Chao (1984) gathered importance weights to narrow a list of automobile attributes in a pilot test to a more concise size for further testing.

Lastly, Bilkey and Nes (1982) in their classic country-of-origin article reviewed previous literature on the variables being researched in country-of-origin studies. They summarized that 19 out of 25 articles dealt with the measurement of attitudes.

Furthermore, they stressed the need to use multi-attribute models for research, since previous research was heavily influenced by the use of single attribute cues.

MULTI-ATTRIBUTE MODELS

Hughes (1971) makes the point that products are composed of several components or attributes. The consumer can hold individual attitudes towards each of the attributes. By summing all of the individual attitudes of the attributes, the product can possess a general positive or negative attitude. For example, a buyer may be looking for a car that is priced below $15,000, is navy blue in color, gets good gas mileage and has a sunroof. The buyer is going to have a more favorable attitude and, thus, may be more inclined to purchase a car that has all these features rather than a car that only has two of the features. Some attributes are more important to the buyer, so this may influence the purchase decision.

Automobiles represent a high involvement purchase to consumers. The high cost alone presents risk to the consumer that is not found to such a large degree in the purchase of other large durables. The consumer will seek out information as they realize that information has value to them in making a "correct" purchase.

Previous studies researched consumer attitudes toward foreign products. Some of the previous literature looked at attitudes (Nagashima, 1970; Kincaid, 1970; Bilkey & Nes,

1982; Johansson, Douglas and Nonaka, 1985; Erickson, Johansson and Chao, 1984). Early research concentrated on using country-of-origin as a single attribute for decision making. Criticism swept the literature (Lee, Kim and Miller, 1992; Harris, Garner-Earl, Sprick and Carroll, 1994; Johansson, Douglas and Nonaka, 1985; Erickson, Johansson and Chao, 1984; Bilkey & Nes, 1982) of the ineffectiveness of using only single attribute models to explain behavior. The standard reason for criticism was that consumers do not make purchase decisions based on one attribute with all other attributes being ignored. Additionally, the methodology of the research was flawed, in that if only one attribute is being focussed on, respondents are going to assign that attribute more importance for the research in question, but use different criteria in real world decision making. Multiple attribute models were then deemed a more appropriate research methodology.

A dissertation by W.M. Kincaid used the theoretical framework of perception and attitude theory to study foreign and American brands. The research was set up as an experiment using five foreign and five parallel American brands. The conclusion was drawn that the attitudes toward foreign brands that the respondents do not perceive as foreign are not significantly different than attitudes toward American brands. However, the attitudes the respondent holds toward brands the respondent knows are foreign are different.

Harris, Garner-Earl, Sprick and Carroll (1994) tried to improve methodological problems of previous research. Experiments were set up to gauge students preference for products

based on foreign names and country-of-origin information. The conclusion drawn was that caution needs to be taken when interpreting country-of-origin influences due to the multiple dependent effects composing the variable.

CONSUMER ATTITUDE'S TOWARD IMPORTS

Many studies exist on measuring consumer perceptions and attitude change toward foreign products in the 1970's. Dornoff, Tankersley, White (1974) surveyed consumers' perceptions of imports. They further questioned if the perceptions differed based on three factors: specific countries, among product classes and socio-economic characteristics. The study was based on a questionnaire distributed through the Greater Cincinnati Metropolitan Area telephone directory. In 1974, Japan was ranked as having the highest quality electrical products, while Germany was rated as having the highest quality mechanical products. For demographic variables the study found that there was no significant differences between male and female perceptions of imports. But there was a significant difference based on age and educational level towards perceptions of imports with a very strong negative response to Japan, specifically. Additionally, respondents were more favorable in their perception of imports as the educational level increased.

In Akira Nagashima's article "A Comparison of Japanese and U.S. Attitudes Toward Foreign Products", he lists a previous Time Magazine survey conducted in 1958. The survey was conducted using 2600 U.S. consumers to try and answer the question of "Is Made in U.S.A. Passé?" The survey found that 80% of U.S. consumers would choose a

product "Made in the U.S.A." if the price, quality and styling of a product was equal to products produced in other countries.

HALO EFFECT

According to the literature on multi-attribute models in decision making, various attributes are taken into consideration when making a decision. However, the attributes are not all weighted the same. The decision maker depending on the importance they place on specific attributes will decide on a product or service based on the item having the "right" combination of attributes. The halo effect occurs when the product or service is evaluated, not on multiple attributes, but only on one or a few attributes. The product or service containing the "prized" attribute is then preferred over all others because the "prized" attribute overshadows the other important attributes in the decision makers mind. The best product or service for the decision maker may not be selected due to the halo effect of the product or service containing the "prized" attribute.

Beckwith and Lehmann (1975) describe the halo effect occurring when individuals bias their indicated beliefs (of multi-attribute attitude models) by their overall attitudes. Beckwith and Lehmann (1975) state that the halo effect causes individuals to highly rate all desirable attributes in favoring an alternative while individuals who dislike the alternative tend to rate it low on all attributes. The halo effect seems to be a significant influence on attitude models. Researchers (Beckwith & Lehmann, 1975; Mitchell & Olson, 1981) state that the halo effect seems to be most influential in an individual when

ambiguous attributes are being measured. From their research, they conclude that multi-attribute attitude models may be too biased by the halo effect and, thus, ineffective at valid measurement.

Awareness of this effect needs to be taken into consideration, when working with multi-attribute attitude models. But more research is needed to conclude that they are ineffective. For example, Moore & James (1978) used the methodology developed by Beckwith and Lehmann (1975) and found that only a small amount of the halo effect was influential in the perception of automobiles and their attributes.

EVOKED SET

According to Schiffman and Kanuk, (1991) an evoked set is defined as specific brands a consumer will consider in making a purchase choice in a particular product category. The number of brands (Schiffman & Kanuk, 1991) in the evoked set is usually three to five brands. According to the research (Eroglu & Omura & Machleit, 1983; Schiffman & Kanuk, 1991) the evoked set actually increases as the decision maker comes closer to making a purchase. This would seem contradictory to common sense, it would appear that the decision maker would narrow their choice down to a select few rather than actually expand the number of choices.

The 1982 article "Factors Associated with Changes In Evoked Set Among Purchasers of New Automobiles" examines the number of changes in an evoked set as purchase

decisions near and if there are differences in consumers who purchase from their evoked set versus those who do not. The purchase category used was new automobiles. The evoked sets were separated by three main topics: size of automobile, price and make. The results found that 69% of the respondents purchased automobiles that were not in their initial evoked set when they realized they needed to purchase a new vehicle. The researches found that consumers were less likely to purchase vehicles from their original price (31%) and size (37%) evoked sets while they were very likely to purchase the make (93.3%) from their initial evoked set. It was found that consumers who changed their evoked set differed from non-changers in that they spent more time in information search activities or were less confident in their own purchase skills.

COUNTRY-OF-ORIGIN

Many multi-attribute models were completed including country-of-origin as a product attribute. The research was mixed on the importance of country-of-origin to consumers. Some research found the "Made In" label to be very important to consumer decision making (Lee, Kim and Miller, 1987; Bilkey & Nes, 1982; Nagashima, 1970; Dickerson, 1982, 1983; Tolbert, 1985, Kern, 1986). While contradictory research (Johansson, Douglas and Nonaka, 1985; Erickson, Johansson and Chao, 1984) found country-of-origin influential in the interaction with other attributes but not affecting overall ratings of the product.

Consumer Ethnocentrism

Previously in the literature consumers willingness to purchase foreign products was measured. The products, usually representing various countries, were compared to gauge consumer's attitudes and, thus, acceptance of the country. Although, some consumers refuse to purchase foreign items (Shimp and Sharma, 1987) because they feel it is unpatriotic, hurts the American economy and causes American unemployment. Shimp and Sharma (1987) termed these consumer's "ethnocentric", referring to the sociological definition of the construct. Shimp and Sharma (1987) developed a measure to distinguish consumer's ethnocentric tendencies in product preference. The CETSCALE was validated by measuring attitudes, beliefs, purchase intentions and ownership of imported automobiles. The questionnaire also included psychographic and demographic questions to find correlations among the factors. These correlated factors can help determine segmentation strategies for product marketing.

In many of the studies, the halo effect (Shimp & Sharma, 1987; Lee, Kim & Miller, 1992; Johansson, Douglas and Nonaka, 1985; Harris & Garner-Earl & Sprick & Carroll, 1994) is mentioned or alluded to as affecting attitudes toward products from different countries. Both positive and negative halo's prejudice a consumer in product selection.

Different methods have been used to study the effects of country-of-origin. Lee, Kim & Miller (1992) used conjoint analysis to compare the importance of price, warranty and country-of-origin as attributes. Ettenson, Wagner and Gaeth (1988) also used conjoint

analysis to manipulate product attributes. The results indicated that country-of-origin was not very important to consumers. Ahmed and d'Astous (1993) used analysis of variance to test the variables of country-of-origin, brand name, price, and service. The variables were used to determine consumer's perceptions of an automobile's purchase value in two separate countries. Linear models were developed by Johansson, Douglas and Nonaka (1985) and Erickson, Johansson and Chao (1984).

Bilkey and Nes (1982) reviewed past literature researching the effect of country-of-origin on product evaluations. They found contradictory research on certain demographic variables such as age, sex, and education and the acceptance of foreign products. Li and Wyer (1994) researched the ways in which country-of-origin could affect product evaluations. They found that country-of-origin works as a product attribute, as a signal for more specific product characteristics and as a standard for other product comparison.

Erickson, Johansson and Chao (1984) completed the most significant research to this study by determining the image effects of country-of-origin on beliefs and attitudes for evaluations of automobiles. Erickson, Johansson and Chao (1984) defines country-of-origin as an image variable; in which image variables are an attribute of a product but are not physical characteristics. Semantic differentials were used to survey a sample in which responses were standardized for each individual as recommended by Bass and Wilkie (1973). The result found by Erickson, Johansson and Chao (1984) was that country-of-origin affects beliefs but not attitudes.

Johansson, Douglas and Nonaka (1985) used a new methodological approach in measuring country-of-origin and interactions of demographics and product familiarity within a multi-attribute attitudinal model. Johansson, Douglas and Nonaka (1985) define country-of-origin as the country where the corporate headquarters of the selected product is located. Using this definition, transplants would be considered a foreign product. Johansson, Douglas and Nonaka (1985) found that country-of-origin affects evaluations of individual attributes (gas mileage, reliability) but not the overall rating of the automobile. They also found that the interaction of demographic characteristics (sex and age) and country-of-origin does not affect attribute and automobile ratings. The interaction of income was found not to be a factor.

TRANSPLANTS: FOREIGN-DOMESTIC?

In various studies, automobiles (Shimp and Sharma, 1987; Erickson, Johansson and Chao, 1984; Johansson, Douglas and Nonaka, 1985) were chosen as the product of study because of the ease in distinguishing if the automobiles were foreign or domestic. At the time of the research, transplant manufacturing was not a significant factor in the vehicle industry. Since that time, transplants have emerged in large numbers and the ease in classifying automobiles as domestic or foreign has grown difficult. Researchers need to consider a product's country-of-origin besides the nationality of the company producing the vehicle. Otherwise consumer confusion (Lee, Miller and Kim, 1992) could be a potential problem.

During the 1980's, more transplants were re-locating to the United States. The literature cites many reasons such as: the threat of trade limitations beyond the Voluntary Trade Agreement (Howes, 1993; Newman & Rhee, 1990), the appreciation of the yen to the dollar so that imports became too expensive for consumers, increased competition with other Asian manufacturers, and a stagnant home market share. (Newman & Rhee, 1990)

Even though the vehicles were manufactured in America, in the early years the transplants did not include this information in their marketing strategy. According to Breese (1992) did not want people to know that Toyota Camrys were American made, due to the high quality reputation that the imports had in contrast to the quality problems surrounding American made vehicles. As a new tide of national pride swept the country during the Gulf War, the brewing "Buy American" campaign became popular.

To combat the rising anti-Japanese feelings, the transplants changed marketing strategies. They started promoting themselves as "American " products. Many of the Japanese owned corporations have published public information brochures to distribute to interested consumers explaining their role in the American marketplace. Nissan and Toyota both distribute information regarding their investment in America, such as the number of American workers they employ, amount of American made parts they purchase and the amount of direct investment in capital outlays they operate. These brochures are available by calling their respective customer service numbers.

The Association of International Automobile Manufacturers produced a ten page brochure entitled "You Might Think It's Easy to Tell a Domestic Car From an Imported One" in 1992. Upon inquiry for Mazda's company literature, Mazda sent specification sheets for the five models they produce in America. Mazda currently does not produce any company literature on their involvement in America, but they are running (fall 1993) television advertisements promoting their factory in the town of Flat Rock, Michigan.

Besides the corporate literature, Toyota has been directly targeting consumers with multiple full-page ads in TheWall Street Journal demonstrating the number of people they employ throughout the United States. They have also used news magazines such as Newsweek to exhibit the number of American parts used and which state they come from in building their Toyota Camry. The most recent advertising campaign is running with the theme of "Investing in the Things We All Care About". The campaign promotes the fact that Toyota has been supporting American community projects for the last 20 years. This year, they're investing $12 million in organizations such as the United Negro College Fund, the National Science Teachers Association and P.B.S. programming.

In defense, General motors released in the fall of 1993 an ad campaign in the magazine Fortune and elsewhere, that stated in the headline, "You Shouldn't Buy a Car Just Because of Where it's Made. Buy it Because of How It's Made." Ironically, General Motors is trying to distance itself from the foreign owned "Made in America" publicity even though it's an American owned corporation. This could be an indication that

consumers are taking into consideration an automobile's country-of-origin before purchase.

Candace Howes while working for the Economic Policy Institute, a Washington D.C. think tank, published her research on the effects of vehicle transplant production in the United States. The argument used refutes a common theory that transplants contribute to the American economy by employing people and establishing capital sources. The conclusions were based on the premise that the transplant vehicles do not replace imports as some economists feel but instead replace domestically produced vehicles. Not only were the transplants hurtful to the economy by an annual net loss of $6 billion of income but according to Howes they actually reduced employment by 158,000 jobs.

A study completed by the Made in the USA Foundation found that more than 75% of Americans think that the Pontiac LeMans automobile is an American made car. The car is actually assembled in Korea and imported to the US, but because of the American nameplate, Americans think the car is American made (Grimm, 1989).

Research Advantage Inc., of Hawthorne, N.Y. conducted an attitude survey dealing with American-made products. The results were that American cars when compared to foreign cars were preferred 48% to 26%. Furthermore, older Americans aged 45 and up preferred American manufactured goods in a variety of product categories. Americans in the 13 to 24 age category were not concerned with the "Made in the U.S.A." label. Additionally,

women preferred American manufactured goods over men and people living in the east and Midwest favored American products (Goodbody, 1991).

BUY-AMERICAN CAMPAIGNS

Sam Walton, chairman of Wal-Mart Inc., initiated a program titled Bring It Home to the USA in 1985. The program is an effort to set up long term alliances with American manufacturers in an effort to reduce costs and improve quality (Brinker, 1992). These alliances allow Wal-Mart to offer consumers American made products at a lower price with comparable quality to imported products (Kiley, 1989). Wal-Mart then promoted this program through advertising, in store signage and product labeling.

Various formal organizations were created to publicize the Buy-American message. The Crafted With Pride in U.S.A. Council was formed to promote American made apparel. The Council funded a three-year $40-million dollar campaign to promote American made apparel products. (Cedrone, 1991) The Made in the USA Foundation is a non-profit foundation and lobbying group. Their mission is to educate consumers on products' origins and to publicize high quality made American products. The Bright Idea America, Compare group advocates consumer education and decision making. The group does not want consumers to blindly purchase American goods for emotional reasons, but instead to shop wisely and purchase the best products on the market. (Fisher, 1992)

All of these groups work to educate consumers, some specifically want to emphasize the importance of country-of-origin. But the question remains, "How important is country-of-origin as a product attribute?" It would seem that other variables are as important or more important in purchase decisions. Robert Swift, president of Crafted With Pride stated, "We buy a shirt because we need it. It must fit; it has to have the right styling, color and be in a price/quality range we feel we can afford. After this, country of origin comes in, as does brand in purchase decision criteria."(Cedrone, 1991) A study conducted by Good Housekeeping Institute "Clothing for the Way Women Live," found that clothing "Made in U.S.A." was ranked 14th out of 16 attributes (Cedrone, 1991). So among clothing products, other attributes are considered more important in buying decisions than country-of-origin.

Kitty Dickerson's research (1982, 1983) is often quoted, but is also criticized for being unreplicatable. The research (1983) found differences in imported versus U.S. made apparel. The research was based on a phone survey of 1,350 consumers in 32 states. The conclusions drawn were that respondents were concerned about imports effect on domestic production and American employment. Also the respondents stated that they prefer U.S. made clothing (1982, 1983) and favored limitations on apparel importation. (1982) Also Dickerson (1982) compiled a consumer profile that suggested that age and income were significant variables in describing a consumer's feelings about country-of-origin. The oldest and youngest consumer age groups were found to be the least likely

concerned with the import issue. Additionally, the highest and lowest income groups were also unconcerned with purchasing apparel based on the country-of-origin.

Sheila Varga Tolbert studied buyer's perceptions of imported versus U.S. manufactured apparel and Buy American Campaign. Her study concluded that age and income were variables that could predict a respondents interest in the Buy-American promotion. There was a direct relationship of age and an inverse relationship among salary for a retail buyer to be influenced by the Buy-American campaign. (Tolbert, 1985)

A recent poll by Gallop surveyed respondent's age and awareness of country-of-origin. The survey was conducted for the International Mass Retail Association and reported in the U.S.A. Today Newspaper on June 27, 1994. The percentage of people (Table 1) were tabulated who said that before buying they try to learn a product's country of origin: (Riley & Febles, 1994)

Table 1: Looking for the "USA" Label	
Age	Percentage
18-30	19%
31-45	35%
46-60	29%
61+	50%

The "Buy American" campaign's effects can definitely be seen in regard to automobiles. The "Buy American" campaign, rallied by the Crafted With Pride in the U.S.A. Council's

advertising campaign for sewn products and the rejuvenation of patriotism after the Gulf War, filtered down to other manufactured products, including cars.

Two political events in January of 1992 heightened the "Buy American" frenzy against foreign automobiles. The Speaker of the lower chamber of Parliament, Yoshio Sakurauchi, commented that American workers were lazy, illiterate and did poor-quality work (Wald, 1992). The second incident occurred when President Bush returned home from an unsuccessful trip to Japan to try and reduce the $41 billion trade deficit between Japan and the United States. Americans reacted negatively toward the Japanese as one Chevrolet dealer invited shoppers to pound a Japanese made truck with sledgehammers (Levin, 1992).

Also, a "Buy American" protest caused controversy with workers at a Mazda assembly plant near Detroit. (Groves, 1992) Lastly, a clear indication of both the biased feelings and the lack of information occurred when flag-waving members of the United Automobile Workers union picketed a Toyota dealership. Ironically, some of Toyota's manufacturing employees are U.A.W. union members. A U.A.W. official, George Nano speaking about the Toyota General Motors N.U.M.M.I. factory in Fremont, California stated, "We're not making Japanese products, we're making American products. This is an American plant." (Groves, 1992)

A study completed by Yankelovich, Clancy, Shulman, a market research firm located in Westport, Connecticut, researched consumers attitudes toward the purchase of new vehicles. According to the research, comfort and utility are attributes that consumers look for when purchasing new vehicles. The vehicles important purchase attributes are also performance, reliability, ease of maintenance and price, in that order. The study also found that Americans want to buy American produced vehicles, but will purchase any vehicle based on the quality of that vehicle ("Drawing a bead", 1992).

Back in 1970, academic research was being done to help explain buyer behavior and consumer decision making for the product category of automobiles. The intention was to derive a set of explanatory variables in the attempt to better market segment consumers. W.H. Peters found that "occupational class income" was a relevant variable to use in explaining purchase behavior. "Occupational class income" combined family income and the occupation of the family head. The study found that a highly paid blue-collar worker makes the same purchase decisions as a professional, white-collar worker paid about the same. So a lower paid blue-collar workers buying behavior is different than a higher paid blue-collar worker's purchasing behavior.

Furthermore, a study (Evans, 1959) found there was no psychological or personality differences in consumers who purchase Fords in comparison to those who purchase Chevrolets.

IMPACT OF INVESTMENT

The Association of International Automobile Manufacturers, Inc. published new public relations material on their member organizations and their impact on America. The booklet entitled, America's New Automotive Factories, (1994) promotes the transplant auto industry. The booklet summarizes the history of automotive production in the United States, and then goes on to describe each of the nine international automakers. The description of the automakers lists a number of important investments that the automaker has created in establishing their production facilities such as hiring American workers, buying and building facilities, contributing to the local community and donating to American charities.

Criticism has come from opponents (Howes, 1983; Rehder, 1990; Newman & Rhee, 1990) who state that the transplants are only using the factories as low wage, low value added assembly shops. The factories import the high technology parts of the vehicle and then assemble the vehicle in non-industrialized, non-unionized areas of the country. The jobs created by the transplants are "screwdriver jobs". (Newman & Rhee, 1990)

According to Reich (1990, 1991), to increase the standard of living and spur growth in the economy, research and development departments along with high technology manufacturing, must be located in the United States. Howes (1983) contends that this is not being done, that R & D facilities and other high technology centers are remaining in the home country of the international company. Other literature (Chappell, 1994a)

refutes this claim by asserting that research and development centers are being based in the United States in support of the manufacturing transplants.

Academic articles have been published on the strategies, investment and effects of the Japanese auto transplants. According to Newman & Rhee (1990) some questions such as if employment contributes to the economic prosperity, if the jobs created are more than low-skilled assembly positions and if the investment incentives made by states are justified by the benefits added, cannot be answered at this point. But some questions have surfaced that do have answers. The article lists some reasons as to why the Japanese have invested in the U.S. The investment is due to a combination of: the appreciation of the yen, fear of protectionist legislation, increased competition, and lastly Japan's dependence on the U.S.'s large market in contrast to their own stagnant home market. Other questions the research answers deal with the types of incentives that states offer to the companies, which incentives are essential to attracting business, and the long-run implications of the incentives for both the U.S. and foreign companies.

A proponent of Howes, Robert R. Rehder in his 1990 article Japanese Transplants: After the Honeymoon, brings forth some of the criticism and problems associated with the transplants. Rehder forecasts that by the turn of the century between 850,000 and one million Americans will be employed by Japanese companies. Although these employment figures seem promising, Rehder quotes L.J. Hoffman, vice president of the Automotive Parts and Accessories Association in an Auto World, 1988 article as saying

"For every one job created by Japanese-owned plants here, three are lost in American plants." Rehder further criticizes state and city governments for their overly generous incentive packages offered to transplants that unfairly impede competition. Other problems include work stress, the role of the unions, and employee discrimination. The article also discusses political controversy, cultural clashes and macroeconomic trade issues caused by the Japanese transplants in the United States and Europe.

The 1988 article, "The Japanese Auto Transplants: Challenges to Conventional Wisdom" by John Paul MacDuffie discusses the managerial techniques that the Japanese have transferred to their transplants in the United States. The premise is that the transplants are successful, and by locating in the U.S., employ American workers, engineers and managers, and are sometimes unionized. The success the transplants are experiencing may be attributable to their efforts to transfer the Japanese production system. The production system integrates human factors with technology.

The underlying basis for this study are two articles, written by Robert B. Reich of Harvard University, published in the Harvard Business Review. The two articles, "Who Is Us?" (1990) and "Who Is Them?" (1991) propose that value added industries such as research & development centers, manufacturing and analytical laboratories benefit Americans. These high paying jobs employ American workers, increase technical knowledge and support secondary production and service industries that increase Americans standard of living. According to Reich, the United States needs to attract high

value-added global activities for a strong national economy. The economy grows, not based on the nationality of the ownership of the company, but on where that company directly invests its money.

Furthermore, the jobs provided are needed by the American workers. When new plants announced job openings, the number of applications received for those available jobs were in the proportion of five applications for every one job. (Newman & Rhee, 1990)

ECONOMIC IMPACT

Academic work has been done on the economic impact produced by foreign investment in the United States (Howes, 1993) and specifically in Georgetown, Kentucky (Wright, 1990). The competitive strategies and locations of U.S. automotive manufacturers have been researched (Howes, 1993; Newman & Rhee, 1990) along with the structural changes (Miller & Suris, 1994). But no effort has been made to unscramble the maze of manufacturers and the products they produce to try and define an "American" automobile.

The economic impact of locating facilities in the United States has been studied not only in academia but also within the industry. The local chambers of commerce of Spring Hill, TN., and Georgetown, KY., have gathered data measuring the social and economic impact of the newly opened plants. (Wright, 1990) A multitude of benefits occur such as increased direct employment (employed by the company), indirect employment

(restaurants, housing, support services, etc.) an increased tax base, school enrollment, social services and cultural development. The University of Kentucky also completed an Economic Impact Study to examine the effect of Toyota in the community of Georgetown, Kentucky. ("10 Ways Toyota helps", 1993)

Honda North America, Inc. in 1994 released an economic-impact study commissioned by them. The study cited that one Honda job in the U.S. was equivalent to a Big 3 job in contributing to the American economy. (Chappell, 1994d)

IMPORTS?-EXPORTS?

The 1980's were the years known for record breaking numbers of foreign imports to be entering our markets. In 1986, total auto imports numbered 4.1 million, with Toyota alone importing over a million vehicles. (Lavin & Choi, 1993) It would seem with the stiff opposition by U.S. manufacturers, the United Auto Workers Union and the public raising "Buy American" campaign, the emotionally charged issue would place high tariffs or quotas on the imports.

By having a long term strategy, foreign companies that built manufacturing facilities in the United States are reducing the number of imports and actually raising the number of exports (Miller & Suris, 1994) Political or consumer pressure had a very small part to play, but the economic gains, attained from setting up production in the United States, are a more realistic reason. Because of the high yen to low dollar exchange rate, Japanese

imported vehicle's prices have increased at a disproportionate rate. These price increases have hurt imported sales. Since the transplants are produced domestically, their prices do not reflect the inflationary exchange rate. For this reason, more emphasis is being placed on transplant manufacturing in the U.S. (Chappell, 1994b). Foreign companies can now manufacture a high quality car with high production efficiency within a competitive price both for the domestic market and to be exported to a foreign market. The number of imports last year was reduced to 2.3 million vehicles, while the number of exports was estimated at close to 500,000. By the year 1998, the number of exports is projected to be over one million vehicles. Despite a 10% tariff placed on imported cars in Europe, U.S. manufactured automobiles are finding more success as exports. (Lavin & Choi, 1993)

American products have a particular appeal to foreign consumers, especially the Japanese (Nagashima, 1970). The Japanese are known for their desire to acquire brand name items. For example, when Honda began producing the Accord Coupe at its Ohio plant for export back to Japan, more orders were placed for purchase of the car than the factory was capable of producing. The made-in-America left-hand-drive Accord had specialty appeal that the status-conscious Japanese seek (Rutledge & Allen, 1989).

INFLUENCE OF MEXICAN PRODUCTION

Auto manufacturers have been using Mexico as a source of production for years. The Ford Motor Company built its first factory in 1925, General Motors in 1935 and Chrysler in 1940, to assemble automobiles to be exported to the United States. The companies build "maquiladoras", which are assembly factories near the U.S. border. The "maquiladoras" provide Mexican labor to assemble vehicles, while paying the workers a very low wage rate. G.M. owns and operates 48 maquilas, which employ 50,000 Mexican workers. (Hecht & Morici, 1993) According to the article in the Harvard Business Review, "Managing Risks in Mexico" an American-owned maquila imports U.S. parts and equipment into Mexico duty-free, workers assemble the final product and re-export it to the U.S. The U.S. charges duties only on the value-added by the Mexicans, in other words, mainly the labor used in assembly.

With the passing of N.A.F.T.A. competition for jobs may increase. Even though Mexico has a very high unemployment rate, the workforce is very transient and job turnover is high. In some plants the annual labor turnover is 100%. (Hecht & Morici, 1993) With an open economy, the Mexican labor unions have more power to act and will undoubtedly demand higher wages. So to attract employees, retain fully trained workers and reduce labor union pressure, the wage rate will have to increase. A higher wage rate will reduce the cost benefit to foreign companies manufacturing in Mexico.

Mexico has been in the limelight recently with the controversial passing of the North Atlantic Free Trade Agreement. The controversy dealt with the gain or loss of American manufacturing and, thus, American jobs if N.A.F.T.A. passed. Opponents of N.A.F.T.A. protest that American companies will move their manufacturing facilities to Mexico to reduce their expenses by hiring cheaper labor. Additionally, the removal of import duties would further reduce costs when products crossed back and forth between the border (Davis & Schlesinger, 1994).

PROBLEMS DEFINING AN AMERICAN VEHICLE

WHAT IS AN AMERICAN VEHICLE?

Clones

Difficulties arise in determining the manufacturer of the vehicle when joint ventures and joint projects are involved. Many manufacturers to reduce costs and capitalize on efficiencies, contract to have their vehicles manufactured on another company's production line, using the same materials. The vehicles end up looking alike. The automobile industry terms these autos "clones". The Motor Trend "1991 Truck of the Year" was the Mazda Navajo, which was actually made by Ford in its Kentucky plant. The Mazda Navajo was a clone of the popular Ford Explorer (Mazda 1994 Specification Sheets, 1994) Ford and Nissan entered into a joint project to produce a minivan that either company could sell. The Nissan Quest/Mercury Villager was designed and

developed by Nissan in California and Michigan. Ford assembled the vehicle at one of its Ohio plants using engines from the Tennessee Nissan plant (Bedard, 1993) The minivan is completely interchangeable except for very small changes in the detailing. The grilles, tail lamps, rub strips, lower fascias and hubcaps are styled differently ("You Might Think", 1992). The only real difference between the two minivans is which company's nameplate is on the vehicle and which dealer the consumer has a preference in visiting (Breese, 1992).

Cash Incentives to Buy American

The Monsanto Chemical Company, in early January of 1992, offered to pay $1,000 to any of its 12,000 employees towards the purchase of a new American car. The program was titled "Project Get Rolling" in an attempt to support domestic manufacturers. The President of Monsanto Robert G. Potter stated, "We're a major supplier of plastics, rubber chemicals, resins, fibers and other performance products to the North American auto industry. So, it's in our interest that the auto industry be healthy." (Wald, 1992) The program defines an American automobile as any vehicle built in North America, regardless of the nationality of the corporate ownership or the percentage of domestic parts used in the composition of the vehicle.

Another company, the Tosco Corporation, an oil refining company, offered the same incentive to its employees. But the Tosco Corporation program was more restrictive in its definition of an American automobile. To qualify, the vehicle must contain 90 percent

American parts (Levin, 1992). Very few vehicles have this percentage of American content.

The Brown Paper Company of Greenwich, Connecticut is the self proclaimed originator of the automobile purchase incentives (Wald, 1992). Douglas G. Brown, the owner, defined the program to require the purchased car to come from any of the Big Three auto makers that is not imported from another country or to come from a plant that was at least half owned by one of the Big Three...Ford, General Motors or Chrysler.

Franklin Savings Bank offers employees or employees of companies that carry commercial accounts with the bank, $100 checks if they purchase a new "American" model. The company made no attempt to define what an "American" model was. Although, Senior Vice President for Communications and Marketing commented that buying an import is "like buying Girl Scout cookies from the little girl next door and not from your own daughter." (Wald, 1992) The "Buy American" sentiment brought new problems to auto purchasers.

Content Rules

Various standards exist for classifying vehicles. These standards are faulty in that they were created for specific uses, but have become generalizable to define a vehicle's content and origins. Further problems develop in that no one agrees on which standards to use to define an "American" vehicle.

The most widely used content standards up to this point, were the CAFE formulas. They were used with controversy by both foreign, domestic and transplant manufacturers. The CAFE content regulations were determined to label a vehicle as an import or a domestic. Based on the vehicle's labeling, the vehicle's emission standards would be formulated. According to CAFE, any vehicle above 75 percent domestic content (parts) would be classified as a domestic vehicle.

The New U.S. Auto Labeling Plan

In an effort to better inform consumers who are purchasing a new car, Senator Barbara A. Mikulski, Democrat of Maryland, sponsored legislation to identify the parts content in cars. On June 24, 1992, she spoke in front of the subcommittee of the Senate Commerce, Science and Transportation Committee to submit an act that would require all new cars to be labeled with the percentage of American labor and parts used in the car. The label would also identify any country that supplied at least one-third of the original parts ("Effort to Label", 1992) ("U.S. Auto Labeling", 1992).

Additionally, with the passing of N.A.F.T.A. and the large number of maquiladora plants used by manufacturers, content rules determine duty payment. Parts suppliers are required to disclose to manufacturers the country-of-origin of the parts. If a vehicles content contains 50 percent North American parts then the duty charged can be reduced (Ramirez, 1994). The labeling law, written by the National Highway Traffic Safety Administration, comes into effect on October 1, 1994. The labeling law will require the

manufacturer vehicle labels to list: the percent of vehicle content by country, the country-of-origin for the engine and transmission and the location of the final vehicle assembly.

This label would help consumers who are looking to buy an American manufactured car but are unsure of the origin of the parts. As domestically produced cars, both the Big Three and the Japanese manufacturers, use foreign made parts. By listing the information directly on the sticker, the consumer will be aware of the information (Gellene, 1992). Joan Claybrook of the consumer advocacy group Public Citizen said, "Obviously, this confusion presents a quandary for the consumer who wishes to buy an American made car." ("Effort to Label", 1992).

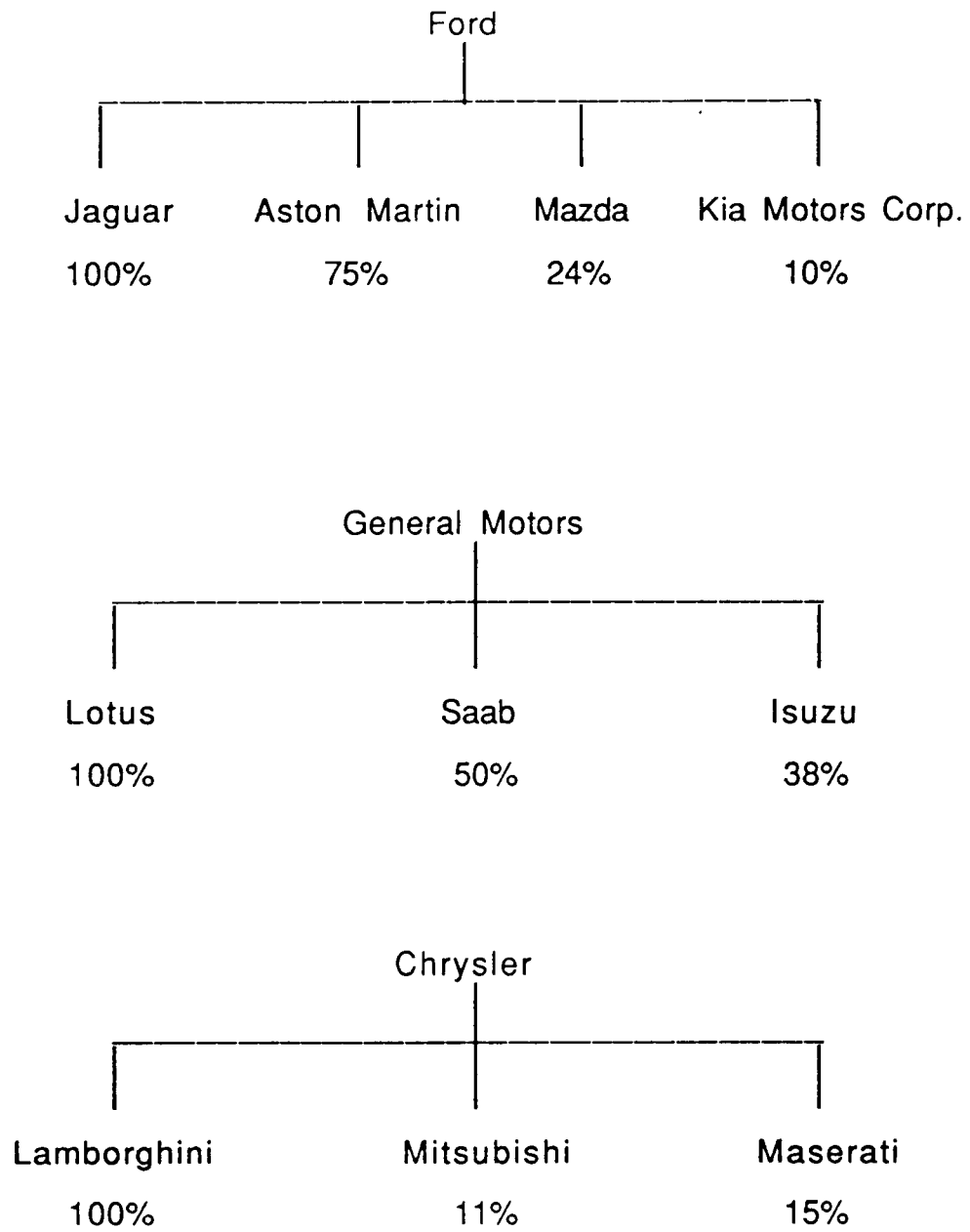
Controversy surrounds the labeling law. The transplants argue that the new law is discriminatory against them (Hutchinson, 1994; Chappell, 1994c; Chappell, 1994d) because the law does not consider the amount of American labor in the formula. Secondly, the new law considers vehicles and parts manufactured in Canada to be domestic. Hutchinson (1994) and Chappell (1994d) contend that the law favors the Big 3 because they manufacture a large portion of their vehicles in Canada. Lastly, parts are considered domestic if they have 70 percent or greater American or Canadian value added. If the part's value is 69 percent or less, the part is considered to have 0 domestic content.

There are opponents of the Labeling Act. Walter Huizenga, President of the American International Automobile Dealers Association, comments that

> the bill would encourage consumers to discriminate against cars with a lower percentage of U.S. parts and labor, and could jeopardize auto exports if other countries adopt similar practices ("U.S. Auto Labeling", 1992).

AMERICAN COMPANIES INVESTMENT

To make matters even more confusing, American automobile companies have been investing money in foreign competitors. The Big Three each purchased European sports car companies to diversify their product offering. They also own small percentages of direct competitors, joint ventures and joint project partners. The table on the following page list the Big Three and the companies they have investment in. (Figure 2)



(Figure 2: Association of International Automobile Manufacturers)

DOMESTIC IMPORTERS

The Big Three also have invested directly in foreign countries by setting up manufacturing facilities. To bring the finished vehicles back to the United States for sale to consumers, they must import them. Surprisingly, three of the four largest automobile importers in 1990 were American corporations. General Motors imported the most at 837,387 cars per year. General Motor's Chevrolet Geo line is entirely imported except for the Prizm, which is made by Toyota in California. Ford was the second largest importer, totaling 752,172 cars. The third largest was the a foreign owned: Toyota at 513,229 vehicles. The last Big Three automaker, Chrysler, was the fourth largest importer at 493,811 autos ("You Might Think", 1992). General consumer perception would be that foreign companies are flooding the market with imports, but instead the imports are coming from our own American corporations.

FOREIGN INVESTMENT METHODS IN AMERICA

A foreign corporation can invest in America in three main ways, with each method dictating various amount of control and return on investment. The first and easiest method of entering the American market is direct export possibly through a distributor, or setting up a franchise system. This method limits financial risk by reducing capital investment but also limits corporate control in representing and selling the product. In

the auto industry, the best example of product export is with the European sports car market such as Porsche and Alfa-Romeo.

The second method of market entry is through joint ventures with already established American companies. The joint venture allows the two companies to bring their respective knowledge to the relationship. The host country usually has advanced knowledge of the country's consumer market, while the entering country brings to the new venture proficiency in technology or management skills to gain a competitive advantage. Two good examples exist in U.S. auto manufacturing, the New United Motor Manufacturing, Inc. is a joint venture between General Motors and Toyota based in Fremont, California and Diamond Star Motors located in Peoria, Illinois combines the companies of Mitsubishi and Chrysler.

The third and last method is highly capital intensive by building assembly plants, design facilities and support businesses directly in America. Even though profits are repatriated back to the home country, the company benefits the surrounding community through employment, and corporate spill-over. The American Honda Motor Co., Inc. is the best example of direct investment with its best selling model the Honda Accord. The Accord was conceived, designed and manufactured in the United States for the U.S. market. Its success both as a domestic product and as an exported product for the Japanese market, has led the Marysville, Ohio production base to actually produce more cars in the United States than in Japan. (Reich, 1990)

Starting in 1982, Japanese auto producing companies began to directly invest in America. Prior to this time period, they sold their imported products through corporate owned dealer networks. They set up manufacturing facilities in the U.S. to be closer to their end use consumer and reduce distribution costs. Furthermore, manufacturing in the U.S. would eliminate the threat of any trade restrictions placed upon imports (Rutledge & Allen, 1989).

INVITING FOREIGN INVESTMENT

Because foreign investment directly benefits the local economy, complex negotiations now occur to lure these investors to American cities. Gone are the days of Government representatives of the respective nations making deals to benefit their countries, now American states and even cities are employing business representatives to entice investment. These representatives bargain with global managers of different companies to bring investment and jobs to their area in exchange for tax abatements and other incentives. Diamond Star Motors, in 1985, announced that it wanted to manufacture automobiles in the United States. Four states competed directly against one another by offering incentives in the hopes of bringing the factory to their state. Illinois closed the deal by offering ten years of direct aid and incentives totaling $276 million. Bloomington, Illinois offered to the company in addition to the state of Illinois's bid, a waiver of $20 million in tax abatements and $10 million worth of donated land.

Other companies were lured by attractive incentives: Nissan built the Smyrna, Tennessee plant when the state of Tennessee offered benefits equivalent to $11,000 per job created by opening the plant in 1980. By 1986, the stakes had increased. Subaru-Isuzu received almost $50,000 per job in incentives by the state of Indiana (Reich, 1991). The Newman & Rhee article (1990), Midwest Auto Transplants: Japanese Investment Strategies and Policies outlines nine types of contributions that states use to attract manufacturing investment to their state.

Fierce bidding occurred between states when the two European luxury automobile manufacturers: B.M.W. and Mercedes announced they were going to build American facilities. The B.M.W. factory is located in Spartanburg, South Carolina and is scheduled to begin production for the fall '95 line. While Mercedes announced in the fall of 1993 it will site its factory in Vance, Alabama. The new Mercedes-Benz plant was given an incentive package of 253 million dollars (Automotive News, 1994).

PSYCHOGRAPHICS AND LIFESTYLE

Personality would seem to be an important component of decision making. If consumers of similar personality characteristics make similar purchase decisions, then segmentation of the market exists. By segmenting the market, a targeted, focussed promotional strategy can be used that would be more effective and more cost efficient in informing the consumers of the product. A method of segmenting the market would be through the use

of psychographics. According to Schiffman and Kanuk (1991) a psychographic study consists of a battery of statements designed to capture relevant aspects of a consumer's personality, buying motives, interests, attitudes, beliefs, and values. Psychographics can be measured through variables such as activities, interests and opinions. Psychographics can be used to describe consumer's human characteristics that may influence their response to advertising, packaging, products and public relations efforts (Wells, 1974).

The classic work on this subject was Wells and Tigert's 1971 article in the Journal of Advertising Research, "Activities, Interests and Opinions." The article introduced the idea of collecting A.I.O. data to correlate with product purchase. The traditional demographic analysis was combined with techniques taken from Motivational Research. The result was a series of statements that a respondent would rate with different levels of agreement based on their individual personality. The series of statements would cover various topic areas that the researcher could then use for descriptive purposes.

Previous research on psychological factors in brand choice (Evans, 1959) found that no factors contributed to the prediction of the subject owning a Ford or a Chevrolet. Limitations of this research for current day use is that it occurred over 35 years ago, so psychological factors may play a larger role in brand choice now. Additionally, the research stated that Ford and Chevrolet were considered almost perfect substitutes for each other, our variables of analysis deal with larger product categories of import and domestic, and whether the domestic vehicles are transplant models. Psychological and

lifestyle factors may play a role in brand choice. By being able to differentiate the market segments based on psychological and lifestyle factors, targeted market strategies can be developed. The targeted markets would increase promotional efficiency and decrease marketing costs by eliminating ineffective strategies.

Chapter 3

Methodology

THE SAMPLE

The research is based on a survey completed by consumers. The survey was distributed to consumers at two Knoxville, Tennessee oil change retailers: Pennzoil Kwik-Oil and Jiffy Lube. The retailers sampled were located in the West and South sections of Knoxville to insure that various demographic characteristics such as income, education and occupation were adequately represented. No oil change retailer was located on the east side of Knoxville. Three oil change retailers were located on the north side of Knoxville, but one retailer refused permission to survey at his business. Another of the oil change retailers did not provide a customer waiting room, thus, they were eliminated for consideration since it would be difficult to approach the customers sitting in their vehicles on the work floor. An attempt was made to survey at the third location, but was eliminated since the business had recently undergone new management and did not have the level of business required to get an adequate sample size.

The oil change retailers were believed to be an appropriate source of the sample. Consumers in the sample would be qualified to answer the survey because they would be driving vehicles to the retailer. Additionally, the oil change retailers' customers would cover a broad spectrum of different demographic characteristics due to the necessity of

changing a vehicle's oil every 3 months or 3000 miles. Furthermore, the retailers', chosen to participate in the survey, primary business was oil changes. They also offered additionally services such as transmission services, replacing wiper blades, coolant flushing and headlight replacements. These additionally services were provided in less than 20 minutes and did not hamper the flow of customer traffic.

An additional benefit of this sampling method was that it insured a very high response rate. The consumers bring their vehicles to the store, the work is completed while the consumer waits in the lounge area. The respondent is then personally asked to participate in the survey. Since the respondent is forced to wait approximately 10 to 15 minutes for completion of the service, the respondent faces very little time pressure or inconvenience to participate in the survey.

OPERATIONAL DEFINITIONS

1. Transplants/Transplant Manufacturing--Foreign owned companies that are located in the United States, and are manufacturing products for sale in the U.S. market and to be exported to other markets including the home market. (Topic 2: American Employment and Transplant Manufacturing)

2. Transplant Vehicles--Vehicles produced by Transplant Manufacturing. (Topic 2: American Employment and Transplant Manufacturing)

3. Demographics--Gender, military service, educational level, age, and income. (Topic 6: Demographics)

4. Psychographics--A battery of statements designed to capture a consumer's personality, attitudes and values. (Schiffman & Kanuk, 1991) (Topic 5: Psychographics and Lifestyle)

5. Lifestyle--Various activities and interests that a consumer participates in. (Topic 5: Psychographics and Lifestyle)

The review of the literature led to the development of the following research hypotheses:

Hypotheses	**Question**
I. Country-of-origin	
H1. Country-of-origin is less important than other vehicle attributes for purchase intent.	9
B. Demographics	
1. There are relationships between age and:	19
H2. believing a transplant vehicle is "American Made"	3
H3. make and model of car ownership	2
H4. purchase/lease intentions	10
2. There are relationships between gender and:	15
H5. believing a transplant vehicle is "American Made"	3
H6. make and model of car ownership	2
H7. purchase/lease intentions	10

3. There are relationships between education and: 18
   H8. believing a transplant vehicle is "American Made" 3
   H9. make and model of car ownership 2
   H10. purchase/lease intentions 10

4. There are relationships between service in the military and: 16
   H11. believing a transplant vehicle is "American Made" 3
   H12. make and model of car ownership 2
   H13. purchase/lease intentions 10

5. There are relationships between income and: 20
   H14. believing a transplant vehicle is "American Made" 3
   H15. make and model of car ownership 2
   H16. purchase/lease intentions 10

6. There are relationships between occupation and: 17
   H17. believing a transplant vehicle is "American Made" 3
   H18. make and model of car ownership 2

II. American Investment and Economics

A. Demographics

1. There are relationships between age and attitude on: 19
   H19. encouraging foreign investment 4
   H20. employment conditions at transplants 5
   H21. purchasing for employment 6

2. There are relationships between gender and attitude on: 15
   H22. encouraging foreign investment 4
   H23. employment conditions at transplants 5
   H24. purchasing for employment 6

3. There are relationships between education and attitude on: 18
   H25. encouraging foreign investment 4
   H26. employment conditions at transplants 5
   H27. purchasing for employment 6

4. There are relationships between military service and attitude on: 16
   H28. encouraging foreign investment 4
   H29. employment conditions at transplants 5
   H30. purchasing for employment 6

5. There are relationships between income and attitude on: 20
   H31. encouraging foreign investment 4
   H32. employment conditions at transplants 5
   H33. purchasing for employment 6

6. There are relationships between occupation and attitude on: 17
   H34. encouraging foreign investment 4
   H35. employment conditions at transplants 5
   H36. purchasing for employment 6

B. Employment in the auto industry
   1. Respondent worked in the industry 11
      H37. importance of industry employment 7
      H38. definition of "American Made" 8

   2. Family or friend worked in the industry 12
      H39. importance of industry employment 7
      H40. definition of "American Made" 8

III. Psychographics & Lifestyles

A. A relationship exists between a respondent's psychographics and: 13
   H41. Purchase Intent 10
   H42. Ownership 2

B. A relationship exists between a respondent's lifestyle and: 14
   H43. Purchase Intent 10
   H44. Ownership 2

THE SURVEY

The survey was developed using standard research methodology to measure consumer response. Previous research focussed on gauging consumer attitudes using scaled

responses (Nagashima, 1970; Dornoff, Tankersley, White, 1974). The techniques for this survey were open-ended questions, Semantic Differentials, Likert Scales, Psychographic and Lifestyle Batteries and demographic categorical questions.

The beginning of the survey included a small graphic of an unbranded automobile to catch the respondent's interest. The survey covered several topics and the questions were grouped according to the topics dealt with. The first topic area used "interest alluring" questions to draw the respondent to filling out the questionnaire. The second group of questions covered the topic of American employment and attitudes toward the transplant manufacturing facilities in the United States. The third topic area was product attributes and the attempt to gauge how important country-of-origin is as a product attribute in purchase decision making. The fourth topic area dealt with determining the amount of personal experience in the vehicle industry. The fifth topic area gathered psychographic and lifestyle variables of the respondent. Demographics served as the next topic area. Lastly, a space was provided for the respondent to comment on any subject in the questionnaire in more depth. Additional space was provided, with instructions to the respondent, to write in their current address if the respondent wished to receive the results of the survey. At this point the respondent loses their anonymity in completing the survey by including their address on the survey. It should be emphasized that the respondent chose to do so, this information was voluntary. Otherwise, the respondent remained completely anonymous because no identifying information was included on the survey. The survey ended with a statement of appreciation for participating in the survey.

In setting up the survey, the "no opinion" option was given to respondents for the appropriate questions. This option acts as a filter for respondents who are unknowledgable or actually do not have an opinion on the topic (Hughes, 1971; Converse & Presser, 1991). The no opinion choice also prevents the respondents from choosing a neutral or middle level of intensity on Likert scales or Semantic Differentials when they are unsure of their response, thus increasing the validity of the measure.

The survey was designed on legal paper in landscape layout. The page was folded in half with 2 columns of questions per page. The folding not only gave the survey a more professional appearance but also produced the proper size to fit onto a clipboard. The clipboard gave the respondent something to write upon so that they could fill out the survey either by sitting or standing when the waiting area became crowded. These techniques were recommended as a total design method by D.A. Dillman (1978) to increase the response frequency. Other sources were consulted (Babbie, 1973; Converse and Presser, 1991) for additional techniques and methods in constructing the survey for a maximum response rate.

THE QUESTIONS

INTEREST ALLURING

The first question was used to spark the reader's interest in the survey (item 1). The question asks, "If you could buy any vehicle (car, truck, etc.) in the world, what would you buy?" and then the reader was to write in his/her choice on the provided line. No analysis was planned for this question as it was used as an opening-interest gathering device.

The second question asks the respondent to write in the make and model of the vehicle they drove most (item 2). Erickson, Johansson and Chao (1984) and Johansson , Douglas and Nonaka (1985) both use this technique to measure ownership and actual behavior. The respondent might own more than one vehicle, such as family situations where multiple vehicles are present in the household. By asking the respondent to list the vehicle they drove the most, hopefully the respondent would answer with the vehicle she/he had the most experience with. The "Make" response was categorized as "American-Owned Manufacturer" "Japanese-Owned Manufacturer" and "All Other-Owned Manufacturers". The "All Other" category covers any other foreign owned manufacturer, for example, German, Italian, Swedish and Korean nameplates. The "Model" response was categorized as "Domestic" "Import" or "Transplant" to determine if there were relationships between the attitude responses and the ownership categories. This would shed some light on the theoretical framework assumption that beliefs and

attitude affect actual behavior and not just behavioral intent. Additionally, the respondent was asked, "How long have you had this vehicle?" to gauge the amount of time the respondent had the vehicle.

The reader of the survey then came to a slightly darkened table. The table (Page 128-Appendix) contained instructions on how to properly answer questions that dealt with marking an "X" on an interval line. The line was placed between two extreme (the positive and negative) factors much like a semantic differential.

ATTITUDES:

AMERICAN EMPLOYMENT and TRANSPLANT MANUFACTURING

The next series of questions dealt with the importance of American employment and consumer attitudes toward transplant manufacturing. The respondent's belief was gauged by asking, "Do you feel that vehicles made by Toyota in Kentucky and Honda in Ohio are 'American Made' (item 3). The method was used to find the range in which the respondent was willing to respond. This question was important in discovering their feelings toward transplants. A comparison of demographic variables with the given answer could be analyzed. The analysis would reveal if relationships existed between a respondent's belief and their respective demographics such as gender, age, education, income and service in the U.S. military. This question was one of the most important in the survey to determine their attitude towards transplant vehicles.

Question #4 used the interval measure to determine, in the respondent's opinion, if they thought it was important to try to encourage new manufacturing plants and jobs in the U.S., even if the company was owned by foreigners (item 4). The respondent could then choose from a Likert type scale of "Very Important" to "Very Unimportant". Previous researchers (Bass & Wilkie, 1973; Mitchell & Olson, 1981) used Likert scales to measure attitude questions. The scale was balanced with the additional option of choosing "No Opinion". This question, in a general way, would measure how the respondent felt about transplants, since the transplants are an excellent example of foreign owned manufacturing plants operating in the United States.

The next question placed the respondent in a hypothetical situation to gauge their attitude (item 5). Question five was really a four factor semantic differential scale. The semantic differential method was used by Kincaid (1970) and Erickson, Johansson and Chao (1984) to measure attitudes. The question asked "If you had a friend who worked for Toyota in Kentucky, would you think his/her job was:..." The respondent then rated the four factors of security, wages, contribution to the U.S. and employee benefits. These factors use the adjectives of Secure/Insecure, Poor Pay/Good Pay, Good for U.S./Bad for U.S., and Poor Benefits/Good Benefits, in that order. The respondent then chose the degree of the factor that they felt this job represents. To score this scale, a number was assigned to each of the five degrees of the factor so that the higher the number the more positive the respondent had rated the factor . For example, if a particular respondent rated the security factor at the most extreme "Secure" space then the score would be a 5, if the

respondent rated the factor in the middle or neutral, the score would be 3, lastly, if the respondent felt the job was not secure, to the far right, then the factor would score 1. Factors 2 and 4 were scored by reversing the number so that the negative factors would receive a low score. For example, if the respondent selected the space to the extreme left next to "Poor Pay" then that factor would receive the score of 1. If the respondent selected the far right choice next to "Good Pay" then that factor would be scored with a 5. The four factor scores can be added to gain a total score for the respondent's feelings on transplant employment effects.

Another employment question (item 6) determined the respondent's feelings toward the importance of American employment by asking, "Do you think it's important to buy American vehicles to help support employment in the U.S.?" This question helped determine a respondent's feelings on the importance of Buy American sentiment. If the respondent answered that the question (buying American vehicles to support employment) was Unimportant the possibility existed that the respondent was a strong import purchaser.

The last question dealing with the employment topic was item 7. The question asked, "In your opinion, which is important to employment in the U.S. auto/truck industry?" The respondent then gave five employment segments of the industry: parts manufacturers, design and engineering, assembling the vehicle, making the engine/transmission, and sales/dealer networks. The respondent rated each segment on a Likert-type scale from

Not Important to Most Important. The five segments were chosen from a combination of literature sources (Howes, 1993; Groves, 1992; Reich, 1990; Reich 1991; Rutledge and Allen, 1989; Chappell, 1994c) on the importance of various segments of employment to the economy.

COUNTRY-OF-ORIGIN: A PRODUCT ATTRIBUTE?

The next topic covered product attributes and the importance of country-of-origin. Question eight informed the respondent that there is no agreed upon definition to describe a vehicle as "Made in USA" (item 8). The question then asked the respondent to rate the importance of the three factors listed on a five point "Not Important" to "Most Important" scale. The three factors included were:"Who Made It" (nationality of the manufacturer); "Where The Parts Were Made" (parts content); "Where The Car Was Put Together" (location of assembly). The factors were derived from the literature on the controversial labeling laws (Chappell, 1994c; "Effort to label", 1992; "U.S. auto labeling" 1992).

Question number nine used the concept of multiple attributes to make purchase decisions (item 9). Using a Likert-scale, the respondent individually rated each of the product attributes on degree of importance affecting a vehicle purchase decision. The factor that was important to my study (item 9.6) was the variable of "Country Where Made." All of the other variables were included to satisfy recommendations that multiple attributes be used as a form of comparison for importance ratings as suggested by Moore & James (1978); Erickson, Johansson & Chao (1984) and Johansson, Douglas & Nonaka (1985).

The variables were selected from a combination of: a previous research article using a regression model (Evans, 1959), and input from a conversation with a Ford vehicle salesman.

Part of the theoretical framework of the survey was developed using Hughes 1971 definitions of Belief, Attitude and Purchase Intent and the Miniard-Kollat-Blackwell consumer decision making model . Question #10 asked the respondent about purchase intent of vehicles based on the vehicles' country-of-origin and nationality of manufacturer (item 10). A Likert-scale was used to measure the respondent's likelihood of purchasing the suggested vehicle. The respondent was given the option of choosing "Does Not Matter" if the respondent has no feelings about the choice. The five types of vehicles included: domestic Japanese, domestic American, imported Japanese, imported American, and imported some other country.

INDUSTRY KNOWLEDGE?

Questions number eleven and twelve covered the topic area of the respondent's familiarity with the auto industry. Erickson, Johansson & Chao (1984) mentioned that there are two types of familiarity influencing respondents: subjective familiarity and objective familiarity. Subjective familiarity occurs when a subject thinks they are familiar with an item while in objective familiarity the respondent has actually been exposed to the item. Johansson, Douglas & Nonaka (1985) suggest that familiarity with the product class should be evaluated.

The respondents were asked two separate questions to determine if they had personal experience or knowledge of the industry second-hand through the experiences of a friend or family member. The responses, based on either personal involvement (item 11) or second-hand familiarity (item 12) would be analyzed separately from the main population. We are assuming that the experienced respondent would give more informed, knowledgeable answers in comparison to a general consumer, who had used the product but is unaware of the working conditions in the industry. The term auto industry is used to mean any type of vehicle production such as manufacturers, suppliers, dealers etc. Some respondents may be very loyal to specific manufacturers due to family discounts upon purchase of a new vehicle. These discounts are given to immediate family members, if a member works for a specific manufacturer in some capacity. It was expected that this relationship would affect a respondent's attitude and survey response.

PSYCHOGRAPHICS AND LIFESTYLE

Psychographics and lifestyle is the next topic area. Psychographic questions were included on the survey to profile personality and lend relevance to the idea of using segmentation strategies for vehicle promotion. Furthermore, psychographics and demographics are considered complementary segmentation approaches according to Schiffman and Kanuk (1991). Shimp and Sharma (1987) mention that demographic and psychographic variables are important for media promotion. By combining psychographics with demographics, the researcher can formulate a much richer segment description in an attempt to define the consumer.

Question number thirteen asked the respondent their level of agreement with a battery of nine statements (item 13). The respondent could choose from a range of "Strongly Agree" to "Strongly Disagree" for each statement. The statements were selected from the classic article Activities, Interests and Opinions by Wells and Tigert (1971). The statements covered the topic areas of (1)Price Conscious, (2)Credit User, (3)Sports Spectator, (4)Self-Designated Opinion Leader and (5)Wide Horizons. The statements were taken semantically from the article except that some statements were updated to reflect a more current vocabulary. The changes were "I usually look for advertisements..." which has been updated from the original "I usually watch the advertisements...". The original wording of "I usually read the sports page in the daily paper" was modified to replace daily paper with newspaper. Lastly, the most drastic change was made in the original "I buy many things with a credit card or a charge card" to "I like to use a credit card to purchase things." The change can be justified by the fact that credit is a very common means of purchasing and the statement of "I buy many things..." does not quantify the amount specified by "many things". By gauging the respondents "liking" to using credit, appears to be a more substantial indicator of their credit use. The statements are arranged in a stratified random order so that the respondent was forced to read each statement and did not "guess" the topic area of interest. For clarity, the statements were broken down into their respective topic areas:

Price Conscious
1. I shop a lot for "specials".
2. I usually look for advertisements for announcements of sales.
3. A person can save a lot of money by shopping around for bargains.

Credit User	1. I like to use a credit card to purchase things.
Sports Spectator	1. I usually read the sports page in the newspaper. 2. I would rather go to a sporting event than a dance.
Self-Designated Opinion Leader	1. My friends and neighbors often come to me for advice. 2. I sometimes influence what my friends buy.
Wide Horizons	1. I would like to take a trip around the world.

These five topics were chosen to determine if respondent's psychological profiles could be correlated with their attitude toward purchase intent and present ownership.

Due to vehicles' high purchase prices, consumers are more likely to seek price information. Additionally, the recent trends of one-price, no "dicker-stickers", such as Saturn, and manufacturer value priced recommendations, like Oldsmobile, are supposed to reduce the purchase confusion by eliminating the traditional price-haggling. For these reasons, the topic of the "Price Conscious" consumer was included.

Vehicles purchased through some sort of credit system is growing in popularity. The consumer can purchase a vehicle through the standard car loan or the increasingly popular leasing system. Leasing allows the consumer to make smaller payments per month in comparison to loan payments, but in effect the consumer is only "renting" the vehicle as no ownership takes place and the vehicle is returned after a specified time period. The

topic of a consumer being a "Credit User" could be an interesting comparison to determine, if differences exist, among consumers of different brands of vehicles.

Traditionally, purchase decisions of vehicles was considered a masculine activity. Men bought vehicles from other men. The topic of "Sports Spectator" was included because of this traditional gender viewpoint. By looking in any sports magazine or viewing any televised sporting event, especially football, one cannot help noticing the proliferation of vehicle advertisements aimed at men.

The "Self-Designated Opinion Leader" topic was included to determine if differences existed in survey responses based on the scoring of this topic. As stated before, because consumer search is prevalent for this product category, word-of-mouth advertising is probably an important information source. The scoring of leadership was important to determine who is disseminating this product information.

The last topic of a consumer being characterized as "Wide Horizons" was important to determine if the consumer was open to new ideas. If the consumer was interested in taking a trip around the world, then possibly the consumer would be curious to try new international products. Additionally, this consumer might not be ethnocentric and have a more liberal view toward imports and possibly foreign investment in the United States.

Lifestyle analysis was included in item 14. The respondent marks an "X" on the line in front of the activities and interests, that the respondent enjoys. The activities and interests were gathered from The Lifestyle Market Analysis that listed 69 different factors. Because of space limitations and topic focus, fourteen factors were selected for inclusion in the survey. The factors were selected to try to include an equal number of "feminine", "masculine" and "androgynous" activities and interests. In the appendix (Page 127), a numerical breakdown of the factors are given to demonstrate how the factors were placed in the three categories. Table 2 categorizes the factors for simplification:

Table 2: Categorization of Gender by Activities and Interests		
Feminine	Masculine	Androgynous
Home Furnishing/Decorating	Golf	Own a Dog
Crafts	Watching Sports on TV	Travel
Attend Museums/Art Events	Personal/Home Computers	Have Cable TV
Flower Gardening	Fishing	Exercise
Own a Cat	Recreational Vehicles	Own a CD Player

An open-ended "Other" factor allowed the respondent to write-in an activity or interest that the respondent enjoys but that was not listed. The categories are useful for correlation purposes. The correlations can be used to further segment the market and plan media promotion strategies. For example, if the results tell us that respondents who chose "Gardening" also correlate significantly with positive attitudes toward transplant

vehicles and transplant vehicle purchase intent, then we could plan a promotional strategy of adding transplant advertisements to Better Homes and Gardens and other assorted gardening specific magazines. This information should be of the utmost importance to the vehicle industry; to determine who is interested in purchasing the product.

DEMOGRAPHICS

The next topic area covered demographic variables of the respondent. The first demographic question (item 15) asked the respondent their gender. Item 16 asked the respondent if they have ever served in the U.S. armed forces. The response was used in one of the hypotheses on the relationship between military service, Buy American sentiment and feelings toward transplant vehicles. In question number seventeen the respondent was asked to choose a category that best described their current occupation. The next question (item 18) dealt with the highest level of education that the respondent has completed. The categorical question responses ranged from Grade School to Graduate or Professional Degree to include everyone filling out the survey.

Next, the respondent's age (item 19) was asked. The intervals range from "15-24 years of age" " to "65 years or older" with 10 year increments until age 65. This range was taken from the U.S. Bureau of the Census 1990 Characteristics of the Population for the state of Tennessee. The respondent's age is very important to our hypotheses. The literature review points out that significant attitudes, purchase intentions and buying behaviors exist based on the respondent's age.

Income (item 20) was the last demographic question. The range started at "Less Than $9,999" and proceeded up to "Greater Than $50,000". The answer ranges were taken from the United States 1990 Census of the Population Social and Economic Characteristics. All of the demographic questions are important to determine if relationships exist between the demographic characteristics of the respondents and the survey responses to belief, attitude and behavior measures.

A CHANCE TO RESPOND

Item 21 asked the reader the open-ended question,"I would like to know if you have any comments or complaints you would like to tell me about, concerning the subjects in this survey." The respondent then had the opportunity to write in the space provided any issue that concerns them. No analysis was planned for this question. The question was included to allow a respondent to write in topics that concerned them, or further explain answers given in previous questions.

The survey concluded by asking the respondents if they would like to receive the results of the survey. If the respondent wished to receive the results, he/she then wrote in their current mailing address in the space provided. The respondent was then thanked for their time in completing the survey and their thoughtful responses to the questions.

THE PRE-TEST

The survey was pre-tested using two different methods. The first method involved distributing the survey to sales consultants in the industry. The sales consultants were considered to be knowledgeable of both the product and the consumer, since they deal with the subjects exclusively in their day to day activities. The sales consultants for twelve different vehicle dealers were approached at the Knoxville Auto Show. The Knoxville Auto Show was held in the Knoxville Convention Center and was open to the public for a $4 admission charge. The show is an annual event and covers a Thursday, Friday, Saturday and Sunday in November. The show displays new vehicles from area Knoxville dealers and concept cars from the respective dealer's manufacturers. The dealers, representing foreign and domestic manufacturers, display a variety of imported, transplant and domestic vehicles.

Twelve sales consultants from twelve different dealerships were asked to evaluate the survey. All twelve agreed to participate. The survey was designed as previously described. The sales consultants, through a verbal explanation and through a written cover-letter enclosed with the survey, were asked to read through the survey and make any appropriate comments. The sales consultants were asked to comment on the wording of questions, the appropriateness of variables used for answers, and if the topics covered were relevant to the industry. The sales consultants reviewed the survey at their convenience and returned it using a postage paid return envelope.

Out of the twelve surveys handed out, six were returned. Of the six, two were usable. The four unusable surveys were filled out and did not contain any suggestions or comments as to the nature of the questions. The two surveys that contained comments were read but no changes were needed in the survey instrument.

The second pre-test consisted of gauging consumer response to the questionnaire. Permission was obtained for the pre-test at the Pennzoil Kwik-oil on the west side of Knoxville. A Saturday was chosen, after consultation with the owner that Saturday was the highest sales day of the week. Fifty surveys were printed up and pencils and clipboards were provided to the respondents. Starting at 8 a.m. when the store opened, every customer who waited in the lounge area was asked to participate. Using a printed cover sheet and a verbal explanation, the purpose of the survey was described along with identification that the surveyor was a University of Tennessee student and not an employee of Kwik-oil to the respondent. Two people declined participation in the survey, for a response rate of 96%. All fifty surveys were completed around 1:30 p.m. Out of the fifty surveys completed, three surveys were incorrectly filled out so 47 surveys were usable.

The surveys were numbered, the data was coded, and then entered into a computer file. The data was then analyzed using SAS. Frequency counts were completed on the questions to determine if an adequate range of answers existed to insure validity. Two questions were eliminated. One question dealt with the type of vehicle the respondent

drove such as van, car, truck etc. This question was eliminated because it did not provide any additional information to the researcher. The second question asked the respondent the amount of decision making that the respondent had in purchasing their current vehicle. All respondents answered that they had made 50% of the decision or more, so this question was deemed unnecessary. Additionally, the question asking the respondent to categorize their current occupation (item 17) was added to the survey instrument. The question would provide an added descriptive demographic variable to the research. The pre-tests were successful in testing the survey instrument and the survey methodology.

Chapter 4

Analysis

SAMPLE

Surveys were collected from the two oil change retailers using the method described in the consumer pre-test in Chapter 3. To differentiate between the two geographic sample locations (West and South) the surveys for each sample were printed on two different colors of paper. The west location surveys were printed on a light purple with black ink, while the south location surveys were printed on a yellowish ivory color with black ink. A Friday and Saturday from around 10 a.m. to 3 p.m. in two consecutive weeks were used to survey 160 respondents. From the west location, 80 surveys were distributed with 77 of them being usable. Five people refused to participate for a response rate of 94%.

From the South location an additional Monday was needed to gather the 80 surveys due to the fact that snow was forecasted for Friday afternoon. The possibility of snowy weather, kept many people from venturing outside their homes, and thus, business was slow at Jiffy-Lube. Monday was the next available business day as the store was closed on Sundays. Out of the 80 surveys, 76 were usable. At the south location 4 people declined to participate, for a response rate of 95%.

The total sample size was 153 surveys with a response rate of 94.5%. For the total sample, nine people refused to participate. The refusals were given for different reasons. One respondent preferred to read a book, while another respondent commented that they do not participate in any type of survey. Some refusing respondents were more concerned with work being completed on their vehicles while they waited. These refusing respondents then proceeded to talk with the mechanics.

Seven surveys were eliminated from the sample due to insufficient responses to the survey. Insufficient responses were deemed to be less than 50% of the survey completed. If demographic responses were missing the survey was eliminated. If attitude, purchase intentions, lifestyle or psychographic questions were not completed, the data was entered as a missing value.

Both oil change retailers provided a waiting area for customers. The west location waiting area was L shaped with chairs lining the walls. Reading material was provided as entertainment for customers as they waited. Coffee and water was provided for customers consumption. The south waiting area was furnished with chairs, tables, drink and candy machines, a television, reading materials and coffee. Both waiting areas were separated from the garage by large glass windows. Affixed to the glass of the south waiting area was an insurance disclaimer preventing customers from entering the working area.

All customers who entered the waiting areas were approached. The researcher introduced herself as being affiliated with the local University and in noway associated with the oil retailer. The general purpose of the survey was explained to the respondent. The researcher then asked the respondent to participate by filling out the survey. The respondent was given a clip board, survey, introductory letter and a pencil.

The introductory letter was typed on official University letterhead, identifying the name of the department, departmental address and phone number. The letter introduced the subject matter contained in the survey and mentioned the purpose of the study as being part of the requirements in completing the researcher's graduate degree. The next paragraph in the letter reinforced to the respondent that participation in the survey was voluntary. In complying with the Human Subjects Review Committee, mention was made to the participant that no penalty or reward would be given in choosing to participate in the survey. The letter ended with an additional note of appreciation for participating in the survey and the researcher's signature.

The survey took approximately eight minutes to complete, on some occasions the respondent's vehicle was completed before the respondent had filled out the survey. For the majority of respondents, sufficient time was given to complete the survey. Upon completion of the survey, the researcher gathered the materials from the respondent, verbally thanked the person again for participating and placed the completed survey in a box withing view of the respondent. The box was used to allow all the respondents in the

waiting area to view how the completed surveys were dealt with, to foster a sense of anonymity. By creating a sense of anonymity it was hoped that the respondents would feel more comfortable in disclosing both their attitudes and sensitive demographic information.

Some customers did not enter the waiting area at either sample locations. The west location was frequented by business owned vehicles, service vehicles and delivery trucks, in which the driver remained with the vehicle during the oil change. These customers did not enter the waiting area except to sign for the service and were not asked to participate in the survey. At the south location, two fast food restaurants were located on either side of the oil change retailer. Some customers left their vehicles to be serviced and proceeded to wait at either of the two restaurants. They then returned to pay their bill and pick up their vehicle, these customers were not approached with the survey.

The two sample locations (west and south) were deemed to be appropriate sampling locations. The west location is situated on a main arterial street approximately 6 miles from downtown. The road extends from downtown to western suburban locations. The west location is one of two oil change retailers located on that road. The second oil change retailer is owned by the same company and is located approximately 15 miles west of the sampling location. This information was taken into consideration and was determined not to be a factor in this study due to the far distance from the actual metropolitan area of the city. The south sampling location was situated approximately

4.5 miles from downtown on a main two lane highway. No other oil change retailers were located along this road.

A north location was originally part of the sample. An oil change retailer was located with the appropriate sample characteristics: being located along a main arterial road leading from the city, having an appropriate waiting area for customers, using a well known brand name of oil as a sponsor, and having the oil changes as the only line of business. The manager refused permission to survey on his premise.

Two additional retailers were then visited in the hopes of using them as sampling locations. The first retailer did not provide customers a waiting area. Thus, this location was eliminated due to the fact that it would be too hard to approach customers in their private vehicles. The second retailer did provide a waiting area and was located on a main road. Permission was granted by the management to survey. The retailer was located approximately 20 miles north of the downtown area. The retailer had recently undergone new ownership and had only been open for business during the preceding week, and, thus, did not have an adequate traffic flow. The north retailer was then eliminated from the sample due to the far distance and inadequate number of customers.

No oil change retailer was located in the east section of the city. Some gas stations and repair shops offered oil change services. But these were determined inappropriate sample locations due to their variability in timing repair jobs and slow customer flow.

Using the same techniques that were used in the pre-test, the surveys were numbered, the data were coded and then entered into a data file. Using SAS programming, the data was analyzed. To determine if there were any demographic differences in the two location samples, t-tests were run on the variables of age, education and income. There was no statistical difference among the two samples in age or income. (Table 3)

Table 3: T-test Comparison of Geographic Location on Age and Income Variables

Age	Mean	Std. Deviation	Std. Error	Prob >|T|
South	2.867	1.408	0.163	0.856
West	2.908	1.387	0.159	
Income				
South	4.625	1.347	0.159	0.375
West	4.836	1.500	0.176	

There was a statistical difference in education, with the west side of Knoxville respondents reporting higer levels of education (Table 4).

Table 4: T-test Comparison of Geographic Location by the Education Variable

Education	Mean	Std. Deviation	Std. Error	Prob >|T|
South	4.760	1.496	0.173	0.001
West	5.539	1.321	0.151	

Since the income and age variables showed no statistical difference, the samples were combined to produce a sample size of 153 respondents.

HYPOTHESES

COUNTRY-OF-ORIGIN

Country-of-Origin As a Vehicle Attribute

The research hypothesis stated that country-of-origin is less important than other vehicle attributes for purchase intent. A t-test was performed to compare the attribute of country-of-origin to the other eleven attributes given in the survey (Table 5). A significance level of 0.1000 was used to test the hypotheses. Country-of-origin was subtracted from the other eleven attributes to determine the mean difference. The mean difference was then tested to be significantly different from 0.

Table 5: A T-test Comparing Country-of-origin To All Other Attributes

Variable	Mean	Std. Deviation	T	Prob> |T|
Price	0.987	1.593	7.587	0.0001
Reliability	1.513	1.437	12.902	0.0001
Safety	1.247	1.554	9.825	0.0001
Miles Per Gallon	0.658	1.519	5.285	0.0001
Performance	1.182	1.466	9.810	0.0001
Options	0.477	1.540	3.776	0.0002
Size	0.617	1.478	5.100	0.0001
Style	0.671	1.531	5.351	0.0001
Insurance	0.745	1.599	5.688	0.0001
Reputation	1.142	1.489	9.328	0.0001
Warranty	1.047	1.534	8.356	0.0001

From the results, H1: Country-of-origin is less important than other vehicle attributes for purchase intent was accepted (0.0002). The vehicle attributes are correlated, though, which was not accounted for in the analysis (Appendix). Reliability was the most sought after attribute with safety, performance and reputation all following according to the T scores.

Demographics

Included in the Appendix are frequency tables of the demographic variables. Also in the Appendix demographic variables were tested for correlations. Some demographic variables such as age and income were correlated, as would be expected. Surprisingly, some correlations were weak such as education and income. The correlated variables were not controlled in the analysis. The next group of hypotheses relate demographic relationships to beliefs and attitudes. Multiple regression (Table 6) was used to compare age, gender, education, military service and income to the respondent's belief that transplant vehicles are "American Made". H5: There are relationships between gender and believing a transplant vehicle is "American Made" was accepted at the 0.1000 significance level. Because the variable 'occupation' was a categorical variable, one way analysis of variance was used to determine if a significant difference existed based on the respondents' occupation and their beliefs and attitudes.

Table 6: Multiple Regression Comparison of Demographic Variables and Believing Transplant Vehicles Are "American Made" Vehicles			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.0875	0.1240	0.4816
Gender	-0.5358	0.3021	0.0785
Education	0.1157	0.0953	0.2268
Military Service	0.3325	0.3795	0.3826
Income	-0.1098	0.1089	0.3150

Table 7: One Way Analysis of Variance Comparing Occupation to Believing Transplant Vehicles Are "American Made" Vehicles (partial results)		
	Degrees of Freedom	Pr > F
Occupation	10	0.9927

Using Analysis of Variance, the variable occupation (Table 7) was compared with the response to the question of "believing transplant vehicles are 'American Made' vehicles". There was no relationship between occupation and attitude toward believing a transplant vehicle was "American Made" so H17 was rejected.

The following hypotheses were not accepted because of insignificant findings from the multiple regression.

H2: There are relationships between age and believing a transplant vehicle is "American Made".

H8: There are relationships between education and believing a transplant vehicle is "American Made'.

H11: There are relationships between service in the military and believing a transplant vehicle is "American Made'.

H14: There are relationships between income and believing a transplant vehicle is "American Made".

H17: There are relationships between occupation and believing a transplant vehicle is "American Made".

Demographic variables were compared to the respondent's current vehicle ownership. The make and model of the vehicle were split into the following two tables (Table 8 and Table 9) to properly account for: 1. Manufacturer nationality-(make)

2. Location of vehicle assembly-(model)

The data was categorized for "Make" as: 1. American 2. Japanese 3. Other.

For "Model" the data was coded as: 1. Domestic 2. Import 3. Transplant.

Table 8: Multiple Regression Comparison of Demographic Variables and Make of Vehicle Ownership

Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.0007	0.0478	0.9880
Gender	-0.2154	0.1164	0.0666
Education	0.0597	0.0370	0.1091
Military Service	0.1210	0.1480	0.4153
Income	0.0069	0.0413	0.8677

Table 9: Multiple Regression Comparison of Demographic Variables and Model of Vehicle Ownership			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	-0.0486	0.0698	0.4877
Gender	-0.3597	0.1739	0.0412
Education	0.0796	0.0542	0.1449
Military Service	0.2483	0.2278	0.2782
Income	-0.0324	0.0602	0.5921

The following hypotheses were not accepted because of insignificant findings from the multiple regression.

H3: There are relationships between age and make and model of vehicle ownership.

H9: There are relationships between education and make and model of vehicle ownership.

H11: There are relationships between service in the military and make and model of vehicle ownership.

H14: There are relationships between income and make and model of vehicle ownership.

The accepted hypotheses dealt with gender and occupation. H6: There are relationships between gender and make and model of vehicle ownership was accepted as significant for both the make (0.0666) and the model (0.0412) at the 0.10 level. Women were more likely

to own imported and transplant vehicles than men (parameter estimate is negative for the variable gender [-0.2154 make & -0.3597 model]). Using the F statistic (Table 10) for the categorical variable of "occupation" H18: there are relationships between occupation and make and model of vehicle ownership, the "make" was significant (0.0658) but the "model" was not significant (0.1169)

Table 10: One Way Analysis of Variance Comparing Occupation to Make and Model of Current Ownership (partial results)

	Degrees of Freedom	Pr > F
Make	10	0.0658
Model	10	0.1169

.The following five tables (Table 11, Table 12, Table 13, Table 14 and Table 15) compare demographic variables with the respondent's purchase/lease intent of several categories of vehicles.

Table 11: Multiple Regression Comparison of Demographic Variables and Purchase Intent of Domestic Japanese Vehicles

Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	-0.0288	0.1339	0.8303
Gender	0.0891	0.3282	0.7865
Education	0.1732	0.1047	0.1003
Military Service	0.2320	0.4145	0.5767
Income	-0.1379	0.1161	0.2368

Table 12: Multiple Regression Comparison of Demographic Variables and Purchase Intent of Imported Japanese Vehicles			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	-0.0400	0.1354	0.7682
Gender	-0.2360	0.3314	0.4777
Education	0.1711	0.1052	0.1063
Military Service	-0.0440	0.4161	0.9160
Income	0.0332	0.1172	0.7772

Table 13: Multiple Regression Comparison of Demographic Variables and Purchase Intent of Domestic American Vehicles			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.0587	0.1325	0.6583
Gender	0.1377	0.3221	0.6698
Education	-0.0311	0.1021	0.7610
Military Service	-0.3751	0.4103	0.3623
Income	-0.1383	0.1145	0.2295

Table 14: Multiple Regression Comparison of Demographic Variables and Purchase Intent of Imported American Vehicles			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.1523	0.1188	0.2024
Gender	-0.2681	0.2912	0.3590
Education	0.0388	0.0929	0.6766
Military Service	-0.0082	0.3678	0.9823
Income	-0.2708	0.1030	0.0096

Table 15: Multiple Regression Comparison of Demographic Variables and Purchase Intent of Imported Other Vehicles			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	-0.0401	0.1289	0.7565
Gender	-0.1581	0.3190	0.6211
Education	0.1205	0.1011	0.2356
Military Service	-0.0272	0.3989	0.9458
Income	-0.0746	0.1118	0.5057

All of the following hypotheses were not accepted because the probability of the F score for each demographic variable was not significant at the 0.1000 level when compared to the respondent's preference for purchasing/leasing a: Domestic Japanese Vehicle; Imported Japanese Vehicle; Domestic American Vehicle; Imported American Vehicle and an Imported Other Vehicle.

H4: There are relationships between age and purchase/lease intentions.

H7: There are relationships between gender and purchase/lease intentions.

H10: There are relationships between education and purchase/lease intentions.

H13: There are relationships between service in the military and purchase/lease intentions.

There was a significant finding when comparing income and the intention to purchase/lease an imported American vehicle. So H16: There are relationships between income and

purchase/lease intentions was accepted (0.0096). As income decreased the intent to purchase or lease an American Imported vehicle increased.

AMERICAN INVESTMENT and ECONOMICS

Demographics

The next group of hypotheses relate demographic relationships to attitudes. The hypotheses stated that there are relationships between demographic variables and attitudes. Multiple Regression was used to compare age, gender, education, military service and income. Respondents were asked (Table 16), if they thought it was important to encourage new manufacturing plants and jobs in the U.S., even if the company was owned by foreigners.

Table 16: Multiple Regression Comparison of Demographic Variables and Encouraging Foreign Investment To Provide Employment

Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.1772	0.0832	0.0349
Gender	0.3360	0.2071	0.1069
Education	0.0312	0.0637	0.6244
Military Service	0.5633	0.2653	0.0355
Income	0.0668	0.0746	0.3723

Table 17: One Way Analysis of Variance Comparing Occupation and Encouraging Foreign Investment To Provide Employment (partial results)

	Degrees of Freedom	Pr > F
Occupation	10	0.0354

Because the variable 'occupation' was a categorical variable, one way analysis of variance was used (Table 17) to determine if a significant difference existed based on the respondents' occupation and their attitudes.

The following hypotheses were not accepted because of insignificant findings from the T-test:

H22 : There are relationships between gender and attitude on encouraging foreign investment.

H25: There are relationships between education and attitude on encouraging foreign investment.

H31: There are relationships between income and attitude on encouraging foreign investment.

The following hypotheses were accepted:

H19: There are relationships between age and attitude on encouraging foreign investment (0.0349).

H28: There are relationships between service in the military and attitude on encouraging foreign investment (0.0355).

H34: There are relationships between occupation and attitude on encouraging foreign investment (Prob.>F: 0.0354).

The information in Table 18 was generated by asking the respondent to imagine that they had a friend who worked at a transplant manufacturing facility (Toyota in Kentucky). The respondent rated the job on the attractiveness of employment conditions such as pay, benefits, stability and contribution to the U.S. economy.

From Table 18, the following hypotheses were not accepted because of insignificant findings from the multiple regression:

H23: There are relationships between gender and attitude on employment conditions at transplants.

Table 18: Multiple Regression Comparison of Demographic Variables and Respondent's Belief Toward Employment Conditions at the Transplants.

Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.1593	0.0633	0.0130
Gender	0.1810	0.1596	0.2588
Education	0.0882	0.0484	0.0704
Military Service	0.0605	0.2007	0.7633
Income	-0.0228	0.0565	0.6863

Table 19: OneOne Way Analysis of Variance Comparing Occupation to Respondent's Belief Toward Employment Conditions at the Transplants (partial results).

	Degrees of Freedom	Pr > F
Occupation	10	0.0248

H29: There are relationships between service in the military and attitude on employment conditions at transplants.

H32: There are relationships between income and attitude on employment conditions at transplants.

The following hypotheses were accepted:

H20: There are relationships between age and attitude on employment conditions at transplants (0.0130).

H26: There are relationships between education and attitude on employment conditions at transplants (0.0704).

H35: There are relationships between occupation and attitude on employment conditions at transplants. (Prob.>F: 0.0248).

As age increased, the respondent felt that employment conditions at transplants were better. As educational levels increased, the respondent felt that transplant employment conditions were better. Because the variable occupation was categorical data, no directional analysis could be determined, but a difference did exist.

Table 20 compares demographic variables of the respondents to their attitude of the importance of purchasing/leasing American vehicles to help support employment in the United States. Table 21 uses ANOVA to compare the variable occupation with attitudes on purchasing/leasing American vehicles to support employment.

Table 20: Multiple Regression Comparison of Demographic Variables and Purchasing Vehicles to Support Employment			
Variable	Parameter Estimate	Standard Error	Prob > |T|
Age	0.1140	0.0935	0.2250
Gender	0.2344	0.2327	0.3155
Education	-0.1758	0.0715	0.0152
Military Service	0.2070	0.2980	0.4884
Income	-0.0771	0.0838	0.3596

Table 21: OneWay Analysis of Variance Comparing Occupation to Purchasing Vehicles to Support Employment (partial results).		
	Degrees of Freedom	Pr > F
Occupation	10	0.0760

The following hypotheses were not accepted because of insignificant findings from the T-test:

H21: There are relationships between age and attitude on purchasing for employment.

H24: There are relationships between gender and attitude on purchasing for employment.

H30: There are relationships between service in the military and attitude on purchasing for employment.

H33: There are relationships between income and attitude on purchasing for employment.

The following hypotheses were accepted:

H27: There are relationships between education and attitude on purchasing for employment (0.0152).

H36: There are relationships between occupation and attitude on purchasing for employment (Prob.>F: 0.0760).

The lower the educational level the more important the respondent thought it was to support U.S. employment by buying American made vehicles. Additionally, respondent's with different occupations responded differently to the importance of purchasing American made vehicles to support U.S. employment.

EMPLOYMENT IN THE VEHICLE INDUSTRY

Table 22 lists five different components of the vehicle industry: parts manufacturer; design and engineering; vehicle assembly; manufacturing the engine/transmission and dealer/sales networks. Hypothesis 37 was testing whether a respondent who worked in the industry would respond that some components of the vehicle industry were more important employment activities in comparison to the respondents' ratings who did not have employment experience in the industry. None of the employment components were significant so H37: Importance of industry employment to experienced respondents versus non-experienced respondents was not accepted.

Table 22: T-test Comparison of the Importance of Industry Employment... Respondents Who Work In the Vehicle Industry Versus Respondents Who Do Not Work In the Industry				
Variable	Mean	Std. Deviation	Std. Error	Prob >|T|
Parts				0.5773
Experience	4.4286	0.9759	0.3689	
No Experience	4.2086	0.7659	0.0650	
Design				0.8165
Experience	4.2500	0.8864	0.3134	
No Experience	4.1727	0.8841	0.0750	
Assemble				0.7602
Experience	4.1429	1.2150	0.4592	
No Experience	4.2910	0.7703	0.0649	
Engine				0.985
Experience	4.2857	0.9512	0.3595	
No Experience	4.2929	0.8179	0.0691	
Dealer				0.5192
Experience	4.2857	1.1127	0.4206	
No Experience	3.9928	1.0568	0.0900	

Table 23: T-test Comparison of the Definition of "American Made"...Industry Experienced Respondents Versus Inexperienced Respondents				
Variable	Mean	Std. Deviation	Std. Error	Prob > |T|
Country				0.6626
Experience	3.7500	1.7525	0.6196	
No Experience	4.0352	1.1875	0.0997	
Content				0.8943
Experience	4.0000	1.8516	0.6547	
No Experience	4.0909	1.0871	0.0909	
Assembly				0.4392
Experience	3.7500	1.5811	0.5590	
No Experience	4.2128	1.0268	0.0865	0.4392

Respondents were asked in their own opinion what the definition of "American Made" should be. The respondents' answers were compared to determine if experience in the vehicle industry would influence the respondent's definition (Table 23). There was no difference in definitions of "American Made" between respondents who had employment experience in the vehicle industry versus respondents who had no employment experience.

H38: Definition of "American Made" is different for experienced respondents in comparison to non-experienced respondents was not accepted.

Five components of the vehicle industry were rated for the importance in providing employment. A difference may exist in respondents who have friends or family members who work in the vehicle industry. Table 24 compares respondents' attitudes with friends or

family members working in the industry, versus attitudes of respondents with no family or friend in the industry.

None of the employment components were significant so H39: Importance of industry employment to respondents with friends or family members working in the industry versus other respondents was not accepted.

Table 24: One Way Analysis of Variance Comparison of Respondent Having a Friend or Family Member Work in the Industry Versus the Respondent Who Does Not Know Anyone Who Works in the Industry and Their Attitudes Toward the Importance of Industry Employment (partial results)

Variable	Degrees of Freedom	Prob > F
Parts	2	0.8111
Design	2	0.1903
Assembly	2	0.7199
Engine	2	0.4929
Dealer	2	0.28

Table 25: One Way Analysis of Variance Comparison of Respondent Having a Friend or Family Member Work in the Industry Versus the Respondent Who Does Not Know Anyone Who Works in the Industry and Their Definition of "American Made" (partial results)

Variable	Degrees of Freedom	Prob > F
Country	2	0.3715
Content	2	0.2158
Assembly	2	0.5888

Table 25 compares respondents factors in defining a vehicle as "American Made". Respondents who have friends or family members working in the industry may have used a different definition than respondents who do know anyone in the vehicle industry. There was no difference in definitions of "American Made" between respondents who knew someone working in the vehicle industry versus respondents who did not know anyone. H40: The definition of "American Made" is different for respondents with family or friends in the industry in comparison to other respondents was not accepted.

PSYCHOGRAPHICS & LIFESTYLES

Psychographics

Respondents were asked to respond to nine different psychographic questions. The nine questions were then compared to the respondent's purchase intentions using correlation coefficients. Table 26 lists the correlation coefficients between psychographics and purchase intent.H41: A relationship exists between a respondent's psychographics and purchase intent (correlation 0.2024). The hypothesis was accepted as a relationship between "Imported Other" and "Liking to use a credit card to purchase things" was significant. Furthermore, the respondent's psychographics were compared to their present ownership to determine if relationships were present. Table 27 summarizes the results when the nine psychographic variables were analyzed with a chi-square to the respondent's current vehicle make.

Table 26: Correlation Analysis of Psychographic Profiles and Purchase Intent					
	Imported Japanese	Domestic American	Domestic Japanese	Imported American	Imported Other
Specials	-0.0783	0.0193	-0.0413	-0.0788	0.0026
Advice	-0.0260	0.0154	-0.0010	-0.0306	0.0103
Sporting Ev	-0.0350	0.1269	-0.0692	-0.0060	-0.0151
Bargains	0.0807	-0.1003	0.0509	-0.0195	0.0323
Influence	-0.0665	0.0374	-0.0204	0.1007	0.1291
Newspaper	-0.0590	0.0934	-0.0907	0.0417	-0.0682
Sales	-0.1103	0.0998	-0.0803	-0.0241	-0.0814
Trip	-0.0272	-0.1071	0.0101	-0.0864	0.1226
Credit	0.0969	-0.0545	0.0399	-0.0169	0.2024

Table 27: Chi-Square of Vehicle Make and Psychographics	
Variable	Chi-Square Probability
I Shop for Specials	0.499
Others Come to Me for Advice	0.425
Rather Go to a Sporting Event Than a Dance	0.357
Saving Money By Shopping For Bargains	0.571
I Influence My Friends Purchase	0.487
I Read the Sports Page in the Newspaper	0.304
I Look for Advertisements of Sales	0.678
I Would Like to Take a Trip Around the World	0.422
I Like to Use a Credit Card to Purchase Things	0.053

The "use of a credit card to purchase things" question was significant when compared to the respondent's vehicle make (0.053). Table 28 compares the respondent's vehicle model with the nine psychographic questions using a chi-square analysis.

In Table 28 there was no relationship between a respondent's vehicle model and their psychographic intentions. The question of "influencing a friends purchase" approached significance (0.104) but was not accepted as a strong enough relationship.

The hypothesis H42: A relationship exists between a respondent's psychographics and current ownership was accepted because of the significant factors of "Credit" and "Make".

Table 28: Chi-Square of Vehicle Model and Psychographics

Variable	Chi-Square Probability
I Shop for Specials	0.289
Others Come to Me for Advice	0.595
Rather Go to a Sporting Event Than a Dance	0.304
Saving Money By Shopping For Bargains	0.400
I Influence My Friends Purchase	0.104
I Read the Sports Page in the Newspaper	0.476
I Look for Advertisements of Sales	0.642
I Would Like to Take a Trip Around the World	0.329
I Like to Use a Credit Card to Purchase Things	0.608

Lifestyle

Fifteen lifestyle factors were analyzed using correlations. The correlations were used to ascertain if relationships were present between a respondent's lifestyle and purchase intentions. Table 29 illustrates that several significant relationships was present. The number in each cell in the table is the correlation coefficient.

Table 29: Correlation Analysis of Lifestyle and Purchase Intent Profiles

	Imported Japanese	Domestic American	Domestic Japanese	Imported American	Imported Other
Golf	0.0664	0.0303	0.1536	0.0914	-0.0022
Home Dec.	-0.0774	-0.0531	-0.0558	0.0040	0.0213
Cat	-0.0036	-0.0643	-0.0254	0.0385	0.0420
Dog	-0.1300	-0.0241	-0.1261	-0.1131	-0.1026
Museum	0.1002	0.0372	-0.0150	0.0151	0.1433
Gardening	0.0496	0.0728	-0.0714	0.0192	-0.0254
Travel	0.0584	-0.0159	0.0552	-0.0337	0.0227
Computer	0.0035	-0.1319	-0.1055	-0.1964	-0.1387
Cable TV	0.0929	0.1027	0.0885	0.0869	-0.0019
Sports	-0.0379	-0.0112	-0.0198	0.0060	-0.0767
Exercise	0.0673	-0.0486	0.0505	0.0273	0.0672
CD Player	0.1995	-0.0045	0.1894	0.0651	0.1949
Fishing	-0.0948	0.1501	-0.0904	0.1113	-0.0731
Crafts	-0.0065	-0.0131	-0.0776	0.0143	-0.0715
R.V.	-0.1345	-0.0226	-0.1104	-0.0942	-0.0294

Several relationships are present in the data (for proababilities see the Appendix).

1. A positive relationship (correlation score of 0.1536) existed between "Golf" and the purchase intent of a Domestic Japanese vehicle (Prob. 0.0597).

2. A positive relationship (correlation score of 0.1433) existed between "Attending Museum/Art Events" and the purchase intent of an Imported Other vehicle (prob. 0.0792).

3. Two negative relationships were present among "Personal/Home Computers" and Imported American (correlation score of -0.1964 and prob. of 0.0157) and "Imported Other" (correlation score of -0.1387 and prob. of 0.0894).

4. The "Own a CD Player" had three purchase intentions that were significant. All three relationships were positive. A relationship existed with purchase intentions of an Imported Japanese (correlation score of 0.1995 and probability of 0.0144) a Domestic Japanese (correlation score of 0.1894, probability of 0.0198) and lastly, Imported Other (correlation score of 0.1949 and probability of 0.0165).

5. The last significant lifestyle factor was "Fishing" with a positive correlation (0.1501) with the purchase intention of a Domestic American vehicle (prob. 0.0649).

Several relationships were present among lifestyle factors and purchase intentions. H44: A relationship exists between a respondent's lifestyle and purchase intent was partially accepted.

Table 30 and 31 summarize the findings of comparing a respondent's current vehicle make and model to the fifteen lifestyle factors. A chi-square was used to test the hypothesis that a relationship exists between a respondent's lifestyle and vehicle ownership (Table 30).

Table 30: Chi-Square of Vehicle Make and Lifestyle	
Variable	Chi-Square Probability
Golf	0.476
Home Furnishing/Decorating	0.208
Own a Cat	0.836
Own a Dog	0.345
Attend Museum/Art Events	0.094
Gardening	0.034
Travel	0.914
Personal/Home Computers	0.210
Have Cable TV	0.233
Watching Sports on TV	0.381
Exercise	0.413
Own a CD Player	0.638
Fishing	0.678
Crafts	0.222
Recreational Vehicles	0.212

The lifestyle factors of "Attend Museums/Art Events" and "Gardening" had significant relationships to the Make of the respondent's current vehicle. The "Attend Museums/Art Events" was significant with a probability score of 0.094 and the "Gardening" factor had a very strong significance with a score of 0.034. The lifestyle factors were then compared to the respondent's current model ownership (Table 31).

Table 31: Chi-Square of Vehicle Model and Lifestyle	
Variable	Chi-Square Probability
Golf	0.965
Home Furnishing/Decorating	0.486
Own a Cat	0.592
Own a Dog	0.012
Attend Museum/Art Events	0.541
Gardening	0.238
Travel	0.322
Personal/Home Computers	0.889
Have Cable TV	0.401
Watching Sports on TV	0.091
Exercise	0.798
Own a CD Player	0.195
Fishing	0.998
Crafts	0.550
Recreational Vehicles	0.112

The lifestyle factors of "Own a Dog" and "Watching Sports on TV" were significant when compared to the respondent's Model ownership. The factor of owning a dog was very strong (0.012) while the factor of watching sports on TV was weaker (0.091) but still significant. The hypothesis was accepted: H45: A relationship exists between a respondent's lifestyle and current vehicle ownership.

Chapter 5

Discussion & Conclusion

In this chapter several areas of the research are discussed. A summary of the supported hypotheses are given. Additionally, the supported literature findings are stated with implications for future research. Concluding remarks by the author discuss recommendations for further research and a statement of opinion.

SUMMARY OF ACCEPTED HYPOTHESES

The following hypotheses were accepted:

H1: Country-of-origin is less important than other vehicle attributes for purchase intent.

H5: There are relationships between gender and believing a transplant vehicle is "American Made".

H6: There are relationships between gender and make and model of vehicle ownership.

H16: There are relationships between income and purchase/lease intentions.

H18: There are relationships between occupation and make and model of vehicle ownership.

H19: There are relationships between age and attitude on encouraging foreign investment.

H20: There are relationships between age and attitude on employment conditions at transplants.

H27: There are relationships between education and attitude on purchasing for employment.

H28: There are relationships between service in the military and attitude on encouraging foreign investment.

H34: There are relationships between occupation and attitude on encouraging foreign investment.

H35: There are relationships between occupation and attitude on employment conditions at transplants.

H36: There are relationships between occupation and attitude on purchasing for employment.

H41: A relationship exists between a respondent's psychographics and purchase intent.

H42: A relationship exists between a respondent's psychographics and current ownership.

H44: A relationship exists between a respondent's lifestyle and purchase intent.

H45: A relationship exists between a respondent's lifestyle and current vehicle ownership.

DISCUSSION OF HYPOTHESES

H1: Country-of-origin is less important than other vehicle attributes for purchase intent. Country-of-origin was the least important attribute to consumers when making a purchasing decision. These findings are a contradiction to previous research by Lee, Kim

and Miller, 1987; Bilkey & Nes, 1982; Nagashima, 1970; Dickerson, 1982, 1983; Tolbert, 1985; Kern, 1986, which found the "Made In" label to be very important to consumer decision making. Some of the previous research dealt with garments and small electrical appliances rather than a vehicle that requires a high degree of decision making due to the high cost of the vehicle. So consumers would make the decision based on more important attributes such as safety, reliability and performance rather than on where the vehicle was produced. Furthermore, this research supported previous research by the market research firm Yankelovich and partners that performance and reliability were important attributes to consider in purchase decision making for a vehicle ("Drawing a Bead", 1992).

H5: There are relationships between gender and believing a transplant vehicle is "American Made". Women felt that transplant vehicles were "American Made" vehicles. Women may use the definition of "American Made" as being the place of vehicle assembly. No analysis was done to compare descriptive demographics to the components of defining what "Made in the USA" means or the importance of various industry employment.

H6: There are relationships between gender and make and model of vehicle ownership. The relationship between gender and model of vehicle ownership contradicts previous research. This research found that women were more likely to own imported and transplant vehicles than domestic vehicles. The previous research found that women prefer American made products (Goodbody, 1991). The possibility exists that women consider their transplant vehicles to be "American Made" and thus would respond in the previous research

as they did. The previous research made no mention of what categories they were using to classify American products.

H16: There are relationships between income and purchase/lease intentions. The relationship between purchase intent of an American Imported vehicle and income is very interesting. As income decreased the intent to purchase or lease an American Imported vehicle increased. Imported American vehicles are usually the small, inexpensive, economy vehicles such as the Ford Festiva (Aspire) and the Chevrolet Geo Storm. It is not surprising that consumers with lower incomes would seek out less expensive automobiles which happen to be among the American Imports. It would appear that the respondents were very knowledgeable about country of origin and vehicle models to be able to declare this purchase intent. I am uneasy in asserting that my respondents have that much knowledge, but the relationship is highly significant (0.0057) while the r-square is 7%.

H18: There are relationships between occupation and make and model of vehicle ownership. The relationship of occupation and the make of the respondent's vehicle was significant. In the literature, Peters (1970) found that "occupational class income" was a relevant variable (the interaction of occupation and income) to use in explaining purchase behavior. That study found that a highly paid blue-collar worker made the same purchase decisions as a professional, white-collar worker paid about the same. So a lower paid blue-collar workers buying behavior was different than a higher paid blue-collar worker's purchasing behavior. My research did not include Peter's variable of "occupational class

income" but did in a way contradict his findings in that there was different purchase decisions at the manufacturer level based on occupation.

H19: There are relationships between age and attitude on encouraging foreign investment. *H28:* There are relationships between service in the military and attitude on encouraging foreign investment. *H34:* There are relationships between occupation and attitude on encouraging foreign investment. Additionally, some demographic variables were significant in a comparison of demographic variables and a person's attitude toward encouraging foreign investment to create American employment. Of the demographic variables only age and military service were positively related toward encouraging foreign investment. Interestingly, the age variables' significant parameter estimates was a positive number. This indicates that as that variable increased, the factor increased. As age increased the attitude the respondent held toward encouraging foreign investment increased.

In previous research (Dickerson, 1982, 1983; Tolbert, 1985) the variables of income and age were important variables in predicting a respondent's interest in country-of-origin. Dickerson (1982) found a bimodal age pattern. The oldest and youngest consumer age groups were found to be the least likely concerned with the import issue. Bilkey and Nes (1982) found contradictory research on certain demographic variables such as age, sex, and education and the acceptance of foreign products.

H27: There are relationships between education and attitude on purchasing for employment. *H36:* There are relationships between occupation and attitude on purchasing for employment. The lower the educational level the more important the respondent thought it was to support U.S. employment by buying American made vehicles. There was also a relationship between occupational category and purchasing American vehicles to support employment. Previous literature (Dornoff, Tankersley, White; 1974) stated that there was a significant difference based on educational level towards perceptions of imports with a very strong negative response to Japan. Additionally, respondents were more favorable in their perception of imports as the educational level increased.

H20: There are relationships between age and attitude on employment conditions at transplants. *H35:* There are relationships between occupation and attitude on employment conditions at transplants. Age and occupation were again significant factors in the relationship with employment conditions at a transplant manufacturer. The more positive employment conditions were judged so by older respondents.

Among the lifestyle-purchase intent analysis several factors were relevant. It must be kept in mind that purchase intent is a weaker measure than actual behavior. But definite implications are present that could affect marketing strategy and media planning. Domestic Japanese vehicle purchase intenders played golf while imported other purchase intenders liked to attend museums and art events. An income factor could be present in affecting the relationship between museum/art attenders and imported other purchase intenders if the

imported other vehicles were German luxury sedans such as Mercedes and BMW's. A negative relationship exists between personal/home computer owners and not wanting to purchase Imported American or Imported Other vehicles and a close but not significant relationship was almost present with not wanting to purchase a Domestic American vehicle. Furthermore, people who own CD players would like to purchase Imported Japanese vehicles, Domestic Japanese vehicles and Imported Other vehicles. These high technology owning people definitely do not want to purchase any type of American owned manufactured vehicle. This would be important for marketing strategy in selecting and targeting market segments and designing media to appeal to those segments. Lastly, the relationship between fishing and wanting to purchase a Domestic American vehicle seems to be a logical extension of the "traditional American" segment.

When comparing what the respondent currently drives, relationships existed between the respondent's "Make" and "Attending Museum/Art Events" and "Gardening". Comparing the respondent's current "Model" found that "Own a Dog" and "Watching Sports on TV" were significant. Several implications for media promotion strategies could be determined from these results. For example (from the Chi-Square Tables in the Appendix) respondents who owned dogs were more likely to drive an American domestic model of vehicle (American Owned and American Assembled). Future media advertising could design a campaign with dogs pictured in the vehicles.

ADDITIONAL COMPARISONS

Table 32 was used to compare the vehicle's age against the vehicle's make and model. No research hypothesis was tested. But a significant relationship did exist between the vehicle's age and make (0.0051). Imports and Transplants were likely to be owned longer by the respondents.

Table 32: Multiple Regression Comparison of Current Vehicle Attributes and Years Owned Current Vehicle

Variable	Parameter Estimate	Standard Error	Prob > |T|
Make	0.0592	0.0207	0.0051
Model	0.0023	0.0282	0.9351

METHODOLOGY

The sampling methodology was very effective. The high response rates made non-response bias almost obsolete and not a consideration in the analysis. Additionally, upon completion of the survey, many respondents made positive comments to the surveyor. These comments ranged from the expression of interest in the subject matter to gratitude for having something to do while they were forced to wait for their vehicle to be finished. Out of the 153 respondents, 36 (24%) requested that the results of the survey be sent to them. In the future, researchers should consider using a similar sample gathering technique.

RECOMMENDATIONS

Recommendations to consider when sampling would include:

1) A location where the subjects use the products or have familiarity with them.

2) A waiting area where respondents would have room to participate (chairs, tables, etc.).

3) Adequate time while waiting to fill out the survey.

4) Attain permission to survey at the location or place of business early in the research design.

5) Gather data across several time periods to get a more random sample taking into consideration business hours and peak times.

Some additional considerations to attain a *high response rate*:

6) Have an adequate number of supplies such as pencils and clipboards for peak times.

7) Be sure to identify that you are affiliated with an educational institution and not associated with the place of business.

8) Explain the purpose of the research to the respondents.

9) Be sure to greet the respondent with an open, friendly manner and to express gratitude upon completion and return of the survey.

QUESTIONNAIRE

For future research, I would recommend including on the questionnaire some type of qualifying question to separate respondents who are really knowledgeable and have an

informed opinion on the topic versus those who do not. I attempted to do this by using separate categories for respondents who were familiar with the vehicle industry by either having worked, themselves, or knowing friends or family members in the industry. Common sense would assume that these 'familiar' respondents would have a more in depth knowledge of the topics under consideration. Surprisingly, according to my data, there were no significant differences among the 'familiar' respondents and respondents in general. I think the reasoning for this was that the questions that I used to compare the two categories of respondents did not adequately test the knowledge of the respondents.

Furthermore, I had two respondents (an older woman and a middle-aged woman) who were unable to complete the survey due to a self-reported unfamiliarity with the vehicle industry. In the future, I would want to include some kind of basic awareness type questions to gauge how familiar the respondent was with the topic area before asking several attitude and opinion questions.

AMBIGUITY

Due to the nature of the research, I felt on several occasions that I was surveying too much and that I needed to focus more. Looking back, I understand now that because this area has not previously been researched and because of the nature of the industry, ambiguity has to exist. By taking previous research from several areas I had hoped to develop a framework that could support such a monstrous endeavor. By using literature from the garment

industry to multi-attribute theory from marketing sources, a foundation could be established to try and define "what is an American made vehicle".

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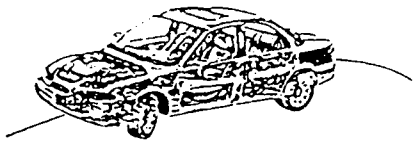
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Wright, B.G. (1989/1990). The Toyota plant in Kentucky: Anticipated changes and actual consequences, a study that examines the preliminary reports and findings related to the Toyota Motor plant in Georgetown, Kentucky and explores the expected outcome. University of Louisville. (from Masters Abstracts International).

You might think it's easy to tell a domestic car from an imported one... (1992). Association of International Automobile Manufacturers, Inc. Arlington, VA.

APPENDIX

Table 33: Numerical Categorization of Lifestyle Factors		
	Feminine	Masculine
Home Furnishing/Decorating	25.4	6.8
Crafts	28.0	5.9
Attend Museums/Art Events	31.2	17.8
Flower Gardening	23.0	7.3
Own a Cat	24.1	13.4
Golf	9.6	21.9
Watching Sports on TV	13.3	21.8
Personal/Home Computers	14.5	24.0
Fishing	10.5	23.0
Recreational Vehicles	8.9	24.0
Own a Dog	13.5	18.7
Travel	17.3	22.1
Have Cable TV	18.4	22.5
Exercise	22.0	23.0
Own a CD Player	22.5	18.8



1. If you could buy any vehicle (car, truck, etc.) in the world, what would you buy?
(Please write your choice on the line)

_____

2. What make/model do you drive most?

Make:_____
Model:_____

How long have you had this vehicle? _____yrs.

Some of the following questions ask you to place an "X" on the line for your choice. For example:
Do you prefer red cars?
If you really like red cars you'd answer:
Like _X_: __: __: __: __ Dislike

If you really dislike red cars you'd answer:
Like __: __: __: __: _X_ Dislike

_____

3. Do you feel that vehicles made by Toyota in Kentucky and Honda in Ohio are "American Made". (Please mark an "X" on the line showing your opinion)

YES __: __: __: __: __ NO

4. In your opinion, do you think it's important to try to encourage new manufacturing plants and jobs in the U.S., even if the company is owned by foreigners. (Please circle a number of your choice.)

5. VERY IMPORTANT
4. IMPORTANT
3. NEUTRAL
2. UNIMPORTANT
1. VERY UNIMPORTANT
0. NO OPINION

5. If you had a friend who worked for Toyota in Kentucky, would you think his/her job was:
(Please mark an "X" on the line showing your opinion)

1. SECURE	__: __: __: __: __	UNSECURE
2. POOR PAY	__: __: __: __: __	GOOD PAY
3. GOOD FOR U.S	__: __: __: __: __	BAD FOR U.S.
4. POOR BENEFITS	__: __: __: __: __	GOOD BENEFITS

6. Do you think it's important to buy American vehicles to help support employment in the U.S.? (Please mark an "X" on the line for your choice)

YES___: ___: ___: ___: ___NO

7. In your opinion, which is important to employment in the U.S. auto/truck industry?

	Not Important				Most Important
1. PARTS MANUFACTURERS	1	2	3	4	5
2. DESIGN AND ENGINEERING	1	2	3	4	5
3. ASSEMBLING THE VEHICLE	1	2	3	4	5
4. MAKING THE ENGINE/TRANSMISSION	1	2	3	4	5
5. SALES/DEALER NETWORKS	1	2	3	4	5

8. Currently, there is no agreed upon definition to describe what a "Made in USA" vehicle is. If you had to define what "Made in USA" means, which definition(s) do you think is most important?

Not Important Most Important

1. WHO MADE IT

1 2 3 4 5

2. WHERE THE PARTS WERE MADE (Content)

1 2 3 4 5

3. WHERE THE CAR WAS PUT TOGETHER (Assembly)

1 2 3 4 5

9. When thinking of purchasing/leasing a vehicle, please rate what aspects you think are most important?

	Not Important				Most Important
1. PRICE	1	2	3	4	5
2. RELIABILITY	1	2	3	4	5
3. SAFETY FACTORS	1	2	3	4	5
4. MILES PER GALLON	1	2	3	4	5
5. PERFORMANCE	1	2	3	4	5
6. COUNTRY WHERE MADE	1	2	3	4	5
7. OPTIONS AVAILABLE	1	2	3	4	5
8. SIZE	1	2	3	4	5
9. STYLE	1	2	3	4	5
10. INSURANCE RATINGS	1	2	3	4	5
11. MANUFACTURER'S REPUTATION	1	2	3	4	5
12. WARRANTY	1	2	3	4	5

10. How likely are you to purchase/lease the following vehicles: (Please circle the number of your choice)

	Very Unlikely				Very likely	Does Not Matter
	1	2	3	4	5	0
An IMPORTED vehicle from a JAPANESE company	1	2	3	4	5	0
A DOMESTIC vehicle from an AMERICAN company	1	2	3	4	5	0
A DOMESTIC vehicle from a JAPANESE company	1	2	3	4	5	0
An IMPORTED vehicle from an AMERICAN company	1	2	3	4	5	0
An IMPORTED vehicle from some OTHER company (Italian, German, Korean)	1	2	3	4	5	0

11. Have you ever worked in the auto industry? (manufacturers, suppliers, dealers)

1. YES 2. NO

12. Do/did any of your friends or family work in the auto industry?

1. FRIEND
2. FAMILY
3. NONE

13. Please circle the number of your choice for the following statements. In general:

	Strongly Agree				Strongly Disagree
I shop a lot for "specials"	5	4	3	2	1
My friends and neighbors often come to me for advice.	5	4	3	2	1
I would rather go to a sporting event than a dance.	5	4	3	2	1
A person can save a lot of money by shopping around for bargains.	5	4	3	2	1
I sometimes influence what my friends buy.	5	4	3	2	1
I usually read the sports page in the newspaper.	5	4	3	2	1
I usually look for advertisements for announcement of sales.	5	4	3	2	1
I would like to take a trip around the world.	5	4	3	2	1
I like to use a credit card to purchase things.	5	4	3	2	1

14. Please mark an "X" on the line in front of the activities and interests you enjoy.

___GOLF
___HOME FURNISHING/DECORATING
___OWN A CAT
___OWN A DOG
___ATTEND MUSEUMS/ART EVENTS
___GARDENING
___TRAVEL
___PERSONAL/HOME COMPUTERS
___HAVE CABLE TV
___WATCHING SPORTS ON TV
___EXERCISE
___OWN A CD PLAYER
___FISHING
___CRAFTS
___RECREATIONAL VEHICLES
___OTHER_____

15. Are you:

1. FEMALE 2. MALE

16. Have you ever served in the U.S.armed forces?

1. YES 2. NO

17. Which best describes your current occupation?

1. Operators, Fabricators and Laborers
2. Service
3. Technical, Sales and Administration
4. Farming, Forestry and Fishing
5. Precision Production, Craft and Repair
6. Managerial & Professional specialty
7. Armed Forces
8. Self-Employed
9. Homemaker
10. Retired
11. Student
12. Other

18. What is the highest level of education you have finished?

1. GRADE SCHOOL
2. SOME HIGH SCHOOL
3. HIGH SCHOOL
4. TECHNICAL SCHOOL
5. SOME COLLEGE
6. COLLEGE
7. GRADUATE OR PROFESSIONAL DEGREE

19. What is your age?

1. 15-24 YEARS OF AGE
2. 25-34 YEARS OF AGE
3. 35-44 YEARS OF AGE
4. 45-54 YEARS OF AGE
5. 55-64 YEARS OF AGE
6. 65 YEARS OR OLDER

20. What range best describes your total household income for last year before taxes?

1. LESS THAN $9,999
2. $10,000-$14,999
3. $15,000-$24,999
4. $25,000-$34,999
5. $35,000-$49,999
6. GREATER THAN $50,000

21. I would like to know if you have any comments or complaints you would like to tell me about, concerning the subjects in this survey. Please use the space below.

If you would like to receive the results of this survey, please write your address below:

I appreciate your time and thought.
Thank You

The first number in each cell in the table is the correlation coefficient while the second number listed is the probability factor.

Table 35: Correlation Analysis of Psychographic Profiles and Purchase Intent					
	Imported Japanese	Domestic American	Domestic Japanese	Imported American	Imported Other
Specials	-0.0783 0.3441	0.0193 0.8147	-0.0413 0.6172	-0.0788 0.3397	0.0026 0.9754
Advice	-0.0260 0.7536	0.0154 0.8517	-0.0010 0.9907	-0.0306 0.7107	0.0103 0.9006
Sporting Ev	-0.0350 0.6726	0.1269 0.1217	-0.0692 0.4015	-0.0060 0.9426	-0.0151 0.8554
Bargains	0.0807 0.3280	-0.1003 0.2206	0.0509 0.5358	-0.0195 0.8128	0.0323 0.6949
Influence	-0.0665 0.4206	0.0374 0.6481	-0.0204 0.8044	0.1007 0.2200	0.1291 0.1155
Newspaper	-0.0590 0.4765	0.0934 0.2556	-0.0907 0.2712	0.0417 0.6139	-0.0682 0.4083
Sales	-0.1103 0.1805	0.0998 0.2229	-0.0803 0.3284	-0.0241 0.7701	-0.0814 0.3223
Trip	-0.0272 0.7427	-0.1071 0.1921	0.0101 0.9023	-0.0864 0.2950	0.1226 0.1363
Credit	0.0969 0.2397	-0.0545 0.5066	0.0399 0.6280	-0.0169 0.8377	0.2024 0.0130

Table 26: Correlation Analysis of Lifestyle and Purchase Intent Profiles					
	Imported Japanese	Domestic American	Domestic Japanese	Imported American	Imported Other
Golf	0.0664 0.4194	0.0303 0.7107	**0.1536** **0.0597**	0.0914 0.2643	-0.0022 0.9785
Home Dec.	-0.0774 0.3463	-0.0531 0.5157	-0.0558 0.4965	0.0040 0.9610	0.0213 0.7952
Cat	-0.0036 0.9649	-0.0643 0.4313	-0.0254 0.7566	0.0385 0.6392	0.0420 0.6087
Dog	-0.1300 0.1130	-0.0241 0.7679	-0.1261 0.1229	-0.1131 0.1667	-0.1026 0.2101
Museum	0.1002 0.2227	0.0372 0.6489	-0.0150 0.8553	0.0151 0.8545	**0.1433** **0.0792**
Gardening	0.0496 0.5468	0.0728 0.3727	-0.0714 0.3837	0.0192 0.8150	-0.0254 0.7566
Travel	0.0584 0.4776	-0.0159 0.8456	0.0552 0.5011	-0.0337 0.6811	0.0227 0.7817
Computer	0.0035 0.9660	-0.1319 0.1054	-0.1055 0.1975	**-0.1964** **0.0157**	**-0.1387** **0.0894**
Cable TV	0.0929 0.2582	0.1027 0.2082	0.0885 0.2797	0.0869 0.2885	-0.0019 0.9818
Sports	-0.0379 0.6448	-0.0112 0.8914	-0.0198 0.8096	0.0060 0.9417	-0.0767 0.3493
Exercise	0.0673 0.4129	-0.0486 0.5523	0.0505 0.5380	0.0273 0.7389	0.0672 0.4127
CD Player	**0.1995** **0.0144**	-0.0045 0.9562	**0.1894** **0.0198**	0.0651 0.4273	**0.1949** **0.0165**
Fishing	-0.0948 0.2487	**0.1501** **0.0649**	-0.0904 0.2698	0.1113 0.1738	-0.0731 0.3723
Crafts	-0.0065 0.9374	-0.0131 0.8725	-0.0776 0.3437	0.0143 0.8613	-0.0715 0.3833
R.V.	-0.1345 0.1007	-0.0226 0.7822	-0.1104 0.1772	-0.0942 0.2501	-0.0294 0.7201

```
data three; infile 'realdata.dat';
input id 1-3 make 5 model 6 years 7-9 transplt 10 jobs 11 secure 12
pay 13 us 14  benefits 15 buy 16 parts 17 design 18 assemble 19
engine 20 dealer 21 country 22 content 23 assembly 24 price 26
reliable 27 safety 28 mpg 29 perform 30 where 31 options 32 size 33
style 34 insure 35 reput 36 warranty 37 impjap 39 domam 40 domjap 41
impam 42 impoth 43 worked 44 frndfam 45 specials 47 advice 48 dance 49
bargains 50 influenc 51 newspap 52 sales 53 trip 54 credit 55 golf 57
home 58 cat 59 dog 60 museum 61 garden 62 travel 63 computer 64
cable 65 sports 66 exercise 67 cdplay 68 fishing 69 crafts 70 rv 71
other 72 gender 74 military 75 occupat 76-77 school 78 age 79 income 80;
if _n_ le 99 then id=int (id/10);
if id le 77 then group='west'; else group='south';

w_price=price-where;
w_reliab=reliable-where;
w_safe=safety-where;
w_mpg=mpg-where;
w_perf=perform-where;
w_opts=options-where;
w_size=size-where;
w_style=style-where;
w_insure=insure-where;
w_reput=reput-where;
w_warr=warranty-where;

condits=mean (of secure pay us benefits);

proc means n mean std t prt; var w_price w_reliab w_safe w_mpg w_perf
w_opts w_size w_style w_insure w_reput w_warr;

title 'Country of Origin Compared to Other Attributes';

proc corr; var price--warranty;
title 'Correlations of Attributes';

proc glm;
model transplt = age gender school military income;
proc glm;
model make = age gender school military income;
proc glm;
model model= age gender school military income;
proc glm;
model domjap = age gender school military income;
proc glm;
model impjap = age gender school military income;
proc glm;
model domam = age gender school military income;
proc glm;
model impam = age gender school military income;
proc glm;
model impoth = age gender school military income;
```

```
proc glm;
model jobs = age gender school military income;
proc glm;
model condits = age gender school military income;
proc glm;
model buy = age gender school military income;


proc glm;
model years = make model;

title 'Hypotheses Testing Using GLM';

proc anova; class occupat; model transplt = occupat;

proc anova; class occupat;model jobs = occupat;

proc anova; class occupat;model buy = occupat;

proc anova; class occupat; model condits = occupat;

proc anova; class occupat; model make = occupat;

proc anova; class occupat; model model = occupat;

title 'ANOVA: Occupation Versus Attitudes';

proc ttest; class worked;
var parts design assemble engine dealer country content assembly;
title 'Experienced Respondents Versus Inexperienced Respondents';

proc anova; class frndfam;
model parts design assemble engine dealer country content assembly=frndfam;
title 'Respondents Knowing Someone in Industry Versus Other Respondents';

proc corr; var specials--other;with impjap--impoth;
title 'Purchase Intent';

proc freq; tables (specials--other)*(make model)/expected chisq;
title 'Ownership';

proc ttest; class group;
var school age income;
title 'T-tests by Location';

proc freq;
title 'Frequencies of Sample';

proc print;
run;
```

Correlation Analysis

12 'VAR' Variables: PRICE RELIABLE SAFETY MPG PERFORM WHERE OPTIONS SIZE STYLE INSURE REPUT WARRANTY

Correlation Analysis

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
PRICE	151	4.2384	0.8618	640.0000	2.0000	5.0000
RELIABLE	151	4.7616	0.6294	719.0000	1.0000	5.0000
SAFETY	152	4.5066	0.8299	685.0000	1.0000	5.0000
MPG	151	3.9205	0.8758	592.0000	1.0000	5.0000
PERFORM	150	4.4400	0.8313	666.0000	1.0000	5.0000
WHERE	151	3.2649	1.3842	493.0000	1.0000	5.0000
OPTIONS	150	3.7400	0.9372	561.0000	1.0000	5.0000
SIZE	150	3.8600	0.8901	579.0000	1.0000	5.0000
STYLE	150	3.9333	1.0597	590.0000	1.0000	5.0000
INSURE	150	3.9867	0.9965	598.0000	1.0000	5.0000
REPUT	150	4.4067	0.8521	661.0000	1.0000	5.0000
WARRANTY	151	4.2980	0.9716	649.0000	1.0000	5.0000

Correlation Analysis

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

	PRICE	RELIABLE	SAFETY	MPG	PERFORM	WHERE
PRICE	1.00000 0.0 151	0.37588 0.0001 151	0.19421 0.0169 151	0.29411 0.0003 150	0.23193 0.0044 149	0.04990 0.5442 150
RELIABLE	0.37588 0.0001 151	1.00000 0.0 151	0.53646 0.0001 151	0.36287 0.0001 150	0.57690 0.0001 149	0.13813 0.0919 150
SAFETY	0.19421 0.0169 151	0.53646 0.0001 151	1.00000 0.0 152	0.44963 0.0001 151	0.38324 0.0001 150	0.08160 0.3208 150
MPG	0.29411 0.0003 150	0.36287 0.0001 150	0.44963 0.0001 151	1.00000 0.0 151	0.50794 0.0001 150	0.15364 0.0614 149
PERFORM	0.23193 0.0044 149	0.57690 0.0001 149	0.38324 0.0001 150	0.50794 0.0001 150	1.00000 0.0 150	0.20540 0.0123 148
WHERE	0.04990 0.5442 150	0.13813 0.0919 150	0.08160 0.3208 150	0.15364 0.0614 149	0.20540 0.0123 148	1.00000 0.0 151
OPTIONS	0.23333 0.0041 150	0.39800 0.0001 150	0.21712 0.0076 150	0.17155 0.0364 149	0.39973 0.0001 148	0.15308 0.0623 149
SIZE	0.11373 0.1658 150	0.33414 0.0001 150	0.23196 0.0043 150	0.21717 0.0076 150	0.36486 0.0001 149	0.21355 0.0089 149
STYLE	0.30381 0.0002 150	0.35720 0.0001 150	0.18288 0.0251 150	0.10298 0.2114 149	0.36385 0.0001 148	0.22920 0.0049 149
INSURE	0.22228 0.0063 150	0.35766 0.0001 150	0.50099 0.0001 150	0.51986 0.0001 149	0.35073 0.0001 148	0.12490 0.1291 149
REPUT	0.20957 0.0103 149	0.59394 0.0001 149	0.41694 0.0001 150	0.37929 0.0001 149	0.60071 0.0001 148	0.18449 0.0248 148
WARRANTY	0.24898 0.0021 151	0.41134 0.0001 151	0.56395 0.0001 151	0.41189 0.0001 150	0.46286 0.0001 149	0.18744 0.0216 150

Correlation Analysis

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

	OPTIONS	SIZE	STYLE	INSURE	REPUT	WARRANTY
PRICE	0.23333	0.11373	0.30381	0.22228	0.20957	0.24898
	0.0041	0.1658	0.0002	0.0063	0.0103	0.0021
	150	150	150	150	149	151
RELIABLE	0.39800	0.33414	0.35720	0.35766	0.59394	0.41134
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	150	150	150	150	149	151
SAFETY	0.21712	0.23196	0.18288	0.50099	0.41694	0.56395
	0.0076	0.0043	0.0251	0.0001	0.0001	0.0001
	150	150	150	150	150	151
MPG	0.17155	0.21717	0.10298	0.51986	0.37929	0.41189
	0.0364	0.0076	0.2114	0.0001	0.0001	0.0001
	149	150	149	149	149	150
PERFORM	0.39973	0.36486	0.36385	0.35073	0.60071	0.46286
	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
	148	149	148	148	148	149
WHERE	0.15308	0.21355	0.22920	0.12490	0.18449	0.18744
	0.0623	0.0089	0.0049	0.1291	0.0248	0.0216
	149	149	149	149	148	150
OPTIONS	1.00000	0.40866	0.58193	0.24775	0.36944	0.26374
	0.0	0.0001	0.0001	0.0023	0.0001	0.0011
	150	149	149	149	148	150
SIZE	0.40866	1.00000	0.46730	0.29500	0.40138	0.21352
	0.0001	0.0	0.0001	0.0003	0.0001	0.0087
	149	150	149	149	148	150
STYLE	0.58193	0.46730	1.00000	0.14817	0.30966	0.28595
	0.0001	0.0001	0.0	0.0713	0.0001	0.0004
	149	149	150	149	148	150
INSURE	0.24775	0.29500	0.14817	1.00000	0.44870	0.53696
	0.0023	0.0003	0.0713	0.0	0.0001	0.0001
	149	149	149	150	148	150
REPUT	0.36944	0.40138	0.30966	0.44870	1.00000	0.50399
	0.0001	0.0001	0.0001	0.0001	0.0	0.0001
	148	148	148	148	150	149
WARRANTY	0.26374	0.21352	0.28595	0.53696	0.50399	1.00000
	0.0011	0.0087	0.0004	0.0001	0.0001	0.0
	150	150	150	150	149	151

Correlation Analysis

5 'VAR' Variables: SCHOOL AGE INCOME MILITARY GENDER

Simple Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
SCHOOL	151	5.1523	1.4594	778.0000	1.0000	7.0000
AGE	151	2.8874	1.3930	436.0000	1.0000	6.0000
INCOME	145	4.7310	1.4252	686.0000	1.0000	6.0000
MILITARY	152	1.8026	0.3993	274.0000	1.0000	2.0000
GENDER	153	1.6993	0.4600	260.0000	1.0000	2.0000

Correlations of Demographic Variables 565
18:56 Thursday, April 20, 1995

Correlation Analysis

Pearson Correlation Coefficients / Prob > |R| under Ho: Rho=0
/ Number of Observations

	SCHOOL	AGE	INCOME	MILITARY	GENDER
SCHOOL	1.00000	-0.01446	0.28468	0.06083	-0.05929
	0.0	0.8601	0.0005	0.4596	0.4696
	151	151	145	150	151
AGE	-0.01446	1.00000	0.44698	-0.45012	0.01887
	0.8601	0.0	0.0001	0.0001	0.8181
	151	151	145	150	151
INCOME	0.28468	0.44698	1.00000	-0.06658	-0.03264
	0.0005	0.0001	0.0	0.4279	0.6967
	145	145	145	144	145
MILITARY	0.06083	-0.45012	-0.06658	1.00000	-0.29069
	0.4596	0.0001	0.4279	0.0	0.0003
	150	150	144	152	152
GENDER	-0.05929	0.01887	-0.03264	-0.29069	1.00000
	0.4696	0.8181	0.6967	0.0003	0.0
	151	151	145	152	153

TABLE OF CREDIT BY MAKE

CREDIT MAKE

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
1	23	6	2	31
	19.709	9.4437	1.8477	
	15.23	3.97	1.32	20.53
	74.19	19.35	6.45	
	23.96	13.04	22.22	

(Continued)

TABLE OF CREDIT BY MAKE

CREDIT MAKE

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
2	24	12	2	38
	24.159	11.576	2.2649	
	15.89	7.95	1.32	25.17
	63.16	31.58	5.26	
	25.00	26.09	22.22	

(Continued)

TABLE OF CREDIT BY MAKE

CREDIT MAKE

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
3	28	8	2	38
	24.159	11.576	2.2649	
	18.54	5.30	1.32	25.17
	73.68	21.05	5.26	
	29.17	17.39	22.22	

(Continued)

TABLE OF CREDIT BY MAKE

CREDIT MAKE

Frequency Expected Percent Row Pct Col Pct	0	1	2	Total
4	12 19.073 7.95 40.00 12.50	17 9.1391 11.26 56.67 36.96	1 1.7881 0.66 3.33 11.11	30 19.87

CREDIT MAKE

Frequency Expected Percent Row Pct Col Pct	0	1	2	Total
5	9 8.9007 5.96 64.29 9.38	3 4.2649 1.99 21.43 6.52	2 0.8344 1.32 14.29 22.22	14 9.27

TABLE OF CREDIT BY MAKE

CREDIT MAKE

	0	1	2	Total
Total	96 63.58	46 30.46	9 5.96	151 100.00

Frequency Missing = 2

STATISTICS FOR TABLE OF CREDIT BY MAKE

Statistic	DF	Value	Prob
Chi-Square	8	15.348	0.053
Likelihood Ratio Chi-Square	8	14.285	0.075
Mantel-Haenszel Chi-Square	1	2.534	0.111
Phi Coefficient		0.319	
Contingency Coefficient		0.304	
Cramer's V		0.225	

Effective Sample Size = 151
Frequency Missing = 2
WARNING: 40% of the cells have expected counts less than 5. Chi-Square may not be a valid test.

TABLE OF MUSEUM BY MAKE

MUSEUM MAKE

Frequency Expected Percent Row Pct Col Pct	0	1	2	Total
0	69 63.178 45.39 69.70 71.13	26 29.961 17.11 26.26 56.52	4 5.8618 2.63 4.04 44.44	99 65.13

(Continued)

TABLE OF MUSEUM BY MAKE

MUSEUM MAKE

Frequency Expected Percent Row Pct Col Pct	0	1	2	Total
1	28 33.822 18.42 52.83 28.87	20 16.039 13.16 37.74 43.48	5 3.1382 3.29 9.43 55.56	53 34.87

TABLE OF MUSEUM BY MAKE

MUSEUM MAKE

	0	1	2	Total
Total	97 63.82	46 30.26	9 5.92	152 100.00

Frequency Missing = 1

STATISTICS FOR TABLE OF MUSEUM BY MAKE

Statistic	DF	Value	Prob
Chi-Square	2	4.736	0.094
Likelihood Ratio Chi-Square	2	4.641	0.098
Mantel-Haenszel Chi-Square	1	4.692	0.030
Phi Coefficient		0.177	
Contingency Coefficient		0.174	
Cramer's V		0.177	

Effective Sample Size = 152
Frequency Missing = 1

TABLE OF GARDEN BY MAKE

GARDEN MAKE

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
0	65	21	4	90
	57.434	27.237	5.3289	
	42.76	13.82	2.63	59.21
	72.22	23.33	4.44	
	67.01	45.65	44.44	

(Continued)

TABLE OF GARDEN BY MAKE

GARDEN MAKE

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
1	32	25	5	62
	39.566	18.763	3.6711	
	21.05	16.45	3.29	40.79
	51.61	40.32	8.06	
	32.99	54.35	55.56	

TABLE OF GARDEN BY MAKE

GARDEN MAKE

	0	1	2	Total
Total	97	46	9	152
	63.82	30.26	5.92	100.00

Frequency Missing = 1

STATISTICS FOR TABLE OF GARDEN BY MAKE

Statistic	DF	Value	Prob
Chi-Square	2	6.757	0.034
Likelihood Ratio Chi-Square	2	6.726	0.035
Mantel-Haenszel Chi-Square	1	5.911	0.015
Phi Coefficient		0.211	
Contingency Coefficient		0.206	
Cramer's V		0.211	

Effective Sample Size = 152
Frequency Missing = 1

TABLE OF DOG BY MODEL

DOG MODEL

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
0	25	27	18	70
	32.906	22.137	14.957	
	21.37	23.08	15.38	59.83
	35.71	38.57	25.71	
	45.45	72.97	72.00	

(Continued)

TABLE OF DOG BY MODEL

DOG MODEL

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
1	30	10	7	47
	22.094	14.863	10.043	
	25.64	8.55	5.98	40.17
	63.83	21.28	14.89	
	54.55	27.03	28.00	

TABLE OF DOG BY MODEL

DOG MODEL

	0	1	2	Total
Total	55	37	25	117
	47.01	31.62	21.37	100.00

Frequency Missing = 36

STATISTICS FOR TABLE OF DOG BY MODEL

Statistic	DF	Value	Prob
Chi-Square	2	8.929	0.012
Likelihood Ratio Chi-Square	2	9.026	0.011
Mantel-Haenszel Chi-Square	1	6.839	0.009
Phi Coefficient		0.276	
Contingency Coefficient		0.266	
Cramer's V		0.276	

Effective Sample Size = 117
Frequency Missing = 36

TABLE OF SPORTS BY MODEL

SPORTS MODEL

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
0	19	11	14	44
	20.684	13.915	9.4017	
	16.24	9.40	11.97	37.61
	43.18	25.00	31.82	
	34.55	29.73	56.00	

(Continued)

SPORTS MODEL

Frequency / Expected / Percent / Row Pct / Col Pct	0	1	2	Total
1	36	26	11	73
	34.316	23.085	15.598	
	30.77	22.22	9.40	62.39
	49.32	35.62	15.07	
	65.45	70.27	44.00	

TABLE OF SPORTS BY MODEL

SPORTS MODEL

	0	1	2	Total
Total	55	37	25	117
	47.01	31.62	21.37	100.00

Frequency Missing = 36

STATISTICS FOR TABLE OF SPORTS BY MODEL

Statistic	DF	Value	Prob
Chi-Square	2	4.803	0.091
Likelihood Ratio Chi-Square	2	4.699	0.095
Mantel-Haenszel Chi-Square	1	2.306	0.129
Phi Coefficient		0.203	
Contingency Coefficient		0.199	
Cramer's V		0.203	

Effective Sample Size = 117
Frequency Missing = 36
WARNING: 24% of the data are missing.

AGE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	27	17.9	27	17.9
2	40	26.5	67	44.4
3	34	22.5	101	66.9
4	30	19.9	131	86.8
5	13	8.6	144	95.4
6	7	4.6	151	100.0

Frequency Missing = 2

INCOME	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	4	2.8	4	2.8
2	7	4.8	11	7.6
3	24	16.6	35	24.1
4	17	11.7	52	35.9
5	30	20.7	82	56.6
6	63	43.4	145	100.0

Frequency Missing = 8

GENDER	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	46	30.1	46	30.1
2	107	69.9	153	100.0

Frequencies of Sample 594
18:56 Thursday, April 20, 1995

MILITARY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	30	19.7	30	19.7
2	122	80.3	152	100.0

Frequency Missing = 1

Frequencies of Sample 595
18:56 Thursday, April 20, 1995

SCHOOL	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	2	1.3	2	1.3
3	29	19.2	31	20.5
4	12	7.9	43	28.5
5	38	25.2	81	53.6
6	39	25.8	120	79.5
7	31	20.5	151	100.0

Frequency Missing = 2

Frequencies of Sample 596
18:56 Thursday, April 20, 1995

OCCUPAT	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	6	3.9	6	3.9
2	20	13.1	26	17.0
3	21	13.7	47	30.7
4	1	0.7	48	31.4
5	2	1.3	50	32.7
6	45	29.4	95	62.1
8	11	7.2	106	69.3
9	5	3.3	111	72.5
10	10	6.5	121	79.1
11	21	13.7	142	92.8
12	11	7.2	153	100.0

AIADA
AMERICAN INTERNATIONAL AUTOMOBILE DEALERS ASSOCIATION

June 30, 1994

Jill Liebler
The University of Tennessee Knoxville
Retail and Consumer Sciences
Room 230, College of Human Ecology
215 West Cumberland Avenue
Knoxville, TN 37996-1900

Dear Jill:

I hope you got the poster and materials I sent for your thesis. I found some other information I thought would be helpful concerning Americans and their perceptions about automobiles and country of origin.

A USA Today/CNN/Gallup Poll of March, 1994 found that:

- 68% of Americans now believe that the quality of domestic cars has improved versus 51% in 1990.
- 79% of those polled said they would by a U.S. product over a slightly better Japanese product if both were priced equally.

A 1993 poll by the Yankelovich Monitor found:

- People who say they buy American vehicles to support the U.S. economy and U.S. jobs:

	1987	1990	1993
16-29 yrs.	34%	41%	50%
30-49 yrs.	43%	45%	52%
50+ yrs.	59%	59%	66%
Total:	45%	48%	56%

- 55% of the people polled said they feel guilty buying a non-American made product vs. 49% who said they felt that way in 1988.

Again, let me know who you plan to survey and what type of survey you'll be doing. Good luck.

Sincerely,

Lori L. Weaver
Public Relations Manager

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VITA

Jill Annette Liebler was born to the parents of Edward and Mary Ann Liebler on November 10, 1969 in Indianapolis, Indiana. She attended elementary school in Zionsville, Indiana. She then moved to Midland, Michigan and graduated from H.H. Dow High School in 1988. She received a B.B.A. in Marketing from the University of Notre Dame in 1992.

In the following year she worked at The Dow Chemical Company through Kelly Services on a Super Absorbent Polymer Technical Service and Development Team and as a Sales Associate at Elder-Beerman department store in Swimwear and Seasonal.

She entered the University of Tennessee-Knoxville in the fall of 1993. She graduated with an M.S. in Retail and Consumer Sciences and a minor in Statistics in May of 1995. She intends to find employment as a market researcher in the Southeast, United States.