THE STUDY OF FACTORS INFLUENCING PURCHSE DECISION OF PASSENGER CAR IN THAILAND

# THE STUDY OF FACTORS INFLUENCING PURCHSE DECISION OF PASSENGER CAR IN THAILAND 


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#### Abstract

The intention and reason for study is to find out that the internal of passenger automobiles' factor that can impact on Thai customers' purchase decision, so that can kindly know how to improve passenger itself to gain more trust that make customers to decide to purchase passenger automobile. The research objective of this study is to determine the relationship between customers' purchase decision and the factors that may affect it. The factors include are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle.

There is a low positive relationship between product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, price, warranty, demographic lifestyle and purchase decision. And there is a medium positive relationship between product design and purchase decision. This means, the eleven factors, product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle can be developed to increase the level of purchase decision.


Keywords: passenger car in Thailand, purchase decision, product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle.

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## CHAPTER 1 INTRODUCTION

The customer's purchase decision and the factors related to it will be introduced primarily. The entire research will be presented at first. And the statement of problem, research objective, scope of research limitation of the study, intension and reason to study, assumptions, major research questions, benefit of study will present as well.

### 1.1 Background

At present, for competing with other competitors, a lot of companies have to draw the potential customers' attention, to get more market share. Mattar (2001) stated that customers' purchase decision is becoming the key factor that in the research of many years. The definition of customers' purchase decision is the sum total of a consumer's attitudes, preferences, intentions and decisions regarding the consumer's behavior in the marketplace when purchasing a product or service. The study of consumer behavior draws upon social science disciplines of anthropology, psychology, sociology, and economics.

Honda Company started its business in 1983 year, and nowadays, it becomes most significant automobile company in Thailand. Until 2008, there are two production factories in Thailand, until now, Honda already get the big success under the huge competition with other automobile companies, such as Toyota, Isuzu, Nissan, etc. There are so many dealers in every location of Thailand which can easily serve the customers and potential buyers. The manufactory of Honda is not only to meet the demand of domestic customers in Thailand, but also export the automobile to other countries in ASEN. The profit can gain from both inside and outside of Thailand. Honda has many dealers located in almost every province in Thailand. This is intended to provide Honda's customers with the broadest service coverage and meet the fast-changing demands of consumers.

The reason that the Honda cars are the top mind of Thai people, not only the high quality and the better outlook which match with customer's wants, but also because of the excellent after-sales service. Honda has create the good relationship with customers which make customers like to be one of Honda members, and that already go beyond the simply standard buyer-seller relationship. This relationship creation is the key to help Honda become the top automobile company in Thailand. And also Honda make commitment to provide the good cars and service make costumers feel more good compare to other brand cars.

## Thailand Automotive Production 2004-2013



Figure 1.1: Thailand automobile production during year 2004-2013

From the figure1.1, it shows that the production of automobile in Thailand increased from 2005 to 2009 between 1,125 to 1,394 thousand of units. And there was a drop from 1,394 to 999 thousand of units from year 2009 to 2010 . Then, the growth was continued form 999 to 1,645 thousand of units from year 2010 to 2011. However, it dropped from 1,645 to 1,458 thousand of units from year 2011 to 2012. After that, it recovered back to growth with 2,453 to 2,400 from year 2012 to 2014. The manufacture of automobile not only meet the demand of inside Thai market, but also the outside of Thailand.

Toyota is a Japanese automotive manufacturer headquartered in Toyota, Aichi, Japan. In March 2014 the multinational corporation consisted of 338,875 employees worldwide and, as of November 2014, is the eleventh-largest company in the world by revenue. Toyota was the largest automobile manufacturer in 2012 (by production) ahead of the Volkswagen Group and General Motors. In July of that year, the company reported the production of its 200 -millionth vehicle. Toyota is the world's first automobile manufacturer to produce more than 10 million vehicles per year. It did so in 2012 according to OICA, and in 2013 according to company data. As of July 2014, Toyota was the largest listed company in Japan by market capitalization and by revenue.

Nissan Motor Company Ltd, usually shortened to Nissan , is a Japanese multinational automobile manufacturer headquartered in Nishi-ku, Yokohama, Japan. Nissan was the sixth largest automaker in the world behind Toyota, General Motors, Volkswagen Group, Hyundai Motor Group, and Ford in 2013. Taken together, the Renault-Nissan Alliance would be the world's fourth largest automaker. Nissan is the leading Japanese brand in China, Russia and Mexico.

### 1.2 Statement of Problems

Automobile market behavior is significant interest because of substantial impacts of automobile production and use on a variety of business concerns including trade flows, business cycles, and energy demand. Additional, automobile sales growth has obviously proved the importance of city cars for urban Thais. That's is very important for the owner of automobile company to understand what kind of factors will impact on the customer's buying decision, so that can affect to the volume of automobile sales.

### 1.3. Intention and Reason for Study

The intention and reason for study is to find out that the internal of passenger automobiles' factor that can impact on Thai customers' purchase decision, so that can kindly know how to improve passenger itself to gain more trust that make customers to decide to purchase passenger automobile.

### 1.4 Research Objective

The research objective of this study is to determine the relationship between customers' purchase decision and the factors that may affect it. The factors include are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle.

### 1.5. Major Research Question: Sub-question development

## Major Research Question:

Is there have relationship between product quality, better fuel economy, after sale service, battery safety record, promotion and location, brand image, product design, product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle with customer's purchase decision towards passenger automobile in Bangkok.

## Sub-question Development:

1. Is there have relationship between ages with customer's purchase decision towards passenger automobile in Bangkok.
2. Is there have relationship between genders with customer's purchase decision towards passenger automobile in Bangkok.
3. Is there have relationship between income levels with customer's purchase decision towards passenger automobile in Bangkok.

### 1.6. Assumptions

For the validity and reliability of this study, researcher make the assumption as followed:

1. All the respondents have the thoughts that considered to purchase Honda automobile.
2. All the respondents are honest to express their truly options in this study.
3. The data that collect from questionnaire are valid and can accurately to represent for this study.

### 1.7 Scope of Research

In the study, the factors that impact on the customer's purchase decision Honda automobile industry in Bangkok will be determined. The factors include are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle. The targeted customers are the new people that never have purchased passenger car and are willing to have one brand new passenger car, and also the customer that already have experience to purchase passenger car and own it. The target customers are no and limitation on age and genders.

This paper describes eleven independent variables which are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle and only one dependent variable which is customer's purchase decision. There are 400 questionnaires were send to target population in the passenger service shop in Sukhumvit 66 Bangkok. In the questionnaires will be three section to cover all the independent variables and dependent variables. And judgment with convenience of non-probability sampling was applied during that time.

### 1.8 Benefit of the Study

The manager of sales and market manager can apply this research to determine the efficiency of their market strategies and sales technic. And also, they can use the information of this study to improve knowledge of understanding the real needs and wants when customers make the buying decision. So that, the owner of passenger car Company can know the key factors that determine the customer's purchase decision, then it will help to increase the sales of buying for get more revenues. The product quality, better fuel economy, after sale service, battery safety
record, promotion, location, brand image, product design, price, warranty, and demographic lifestyle can be adjusted after mangers apply this research to match customers' wants better.

### 1.9 Limitation of Research

The factors that impact on the customer's purchase decision Honda automobile industry in Bangkok will be studied by the researcher. There is a limitation for data collecting is only 400 questionnaires cannot cover all the target populations in Bangkok, and also the time period is only in the April 2015. Researcher cannot research other independent variables besides these eight independent variables which are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle and one dependent variable customer's purchase decision which is another limitation for this study. Because of those two limitations this study cannot cover the entire Honda automobile industry research.

## CHAPTER 2

## LITERATURE REVIEW

### 2.1 THEORY

## Product Quality

Product quality means to incorporate features that have a capacity to meet consumer needs (wants) and gives customer satisfaction by improving products (goods) and making them free from any deficiencies or defects. A combination of quantitative and qualitative perspectives for which each person has his or her own definition; examples of which include, "Meeting the requirements and expectations in service or product that were committed to" and "Pursuit of optimal solutions contributing to confirmed successes, fulfilling accountabilities"

There are five aspects of quality in a business context:

Producing - providing something.
Checking - confirming that something has been done correctly.

Quality Control - controlling a process to ensure that the outcomes are predictable.

Quality Management - directing an organization so that it optimizes its performance through analysis and improvement.

Quality Assurance - obtaining confidence that a product or service will be satisfactory. (Normally performed by a purchaser).

Product quality is a critical element for consumer decision making; consequently, consumers will compare the quality of alternatives with regard to price
within a category (Jin and Yong, 2005). According to Davis et al. (2003), product quality is directly related to the reputation of the firm that manufactures the product. However, National Quality Research Center or NQRC (1995) defined product quality as the degree to which a product provides key customer requirements (customization) and how reliably these requirements are delivered (reliability). Consumers often judge the quality of a product on the basis of a variety of informational cues that they associate with the product. Some of these cues are intrinsic to the products. As defined by Zeithaml (1988b), cues that are intrinsic concern physical characteristics of the products itself, such as product's performance, features, reliability, conformance, durability, serviceability and aesthetics. Product quality has direct impact on customer purchase decision and brand loyalty, especially during the time customers have less or no information of the products that they are going to purchase (Aaker, 1991; Armstrong and Kotler, 2003).

## Better Fuel Economy

Fuel consumption is one attribute valuation economy of car in each model. It is measured by number of distance by kilometer per liter. This attribute affect the price of car (Laohawilai, 1990).

Fuel economy is as important a factor in a consumer's choice of vehicle as are safety and reliability. The impact of volatile gasoline prices can be seen in all markets, with nine out of 10 respondents pointing to fuel economy as an important or very important consideration in their vehicle choice. Consumers across all markets expect to see greater emphasis on fuel efficiency and a significant shift to alternative-fuel vehicles in the coming decade. Electric/battery, water, hydrogen and solar were among the anticipated fuel sources for cars of the future (Car Online, 2009). Furthermore, Austin and Dinan (2005) assume that consumers fully value lifetime
fuel savings when considering fuel economy in their vehicle choices. There is no doubt that consumers do care about fuel costs, do value fuel economy, and that their interest in fuel economy increases when fuel prices increase (Mahadi and Gallagher, 2009). On the other hand, consumer demand for green products is growing. There is growing awareness of fuel-efficient and alternative fuel vehicles, and consumer research indicates a growing interest in purchasing more fuel efficient and low emissions "greener" vehicles. Consumer research shows that fuel savings is the primary factor influencing decisions to purchase green vehicle with concern about environmental impacts showing up as a secondary factor (Ernst and Young, 2010). According to Car Online Research (2009), more than one quarter of respondents said they currently own or lease a fuel-efficient vehicle while almost half said they are planning to buy or thinking seriously about buying a fuel-efficient vehicle. The numbers for alternative-fuel vehicles were lower. Just $2 \%$ of respondents currently own an alternative-fuel vehicle and $11 \%$ are planning to buy or thinking seriously about buying one. The most common type of alternative-fuel vehicle represented in the survey was gas or electric hybrids, named by about half of current alternative-fuel car owners.

## After Sale Service

Service is any act of performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Automobile manufacturers are classified into tangible good with accompanying service. This consists of a tangible good accompanied by one or more service to enhance its consumer appeal (Kotler, 1997). After sale service is the provision of service to customers after a purchase. Accordingly it may vary by product, service, industry and individual customer. The perception of success of such interactions is dependent on employees "who can adjust themselves to the personality of the guest", according to Micah Solomon. After sale service is also often referred to when describing the
culture of the organization. It concerns the priority an organization assigns to after sale service relative to components such as product innovation and pricing. In this sense, an organization that values good customer service may spend more money in training employees than the average organization, or may proactively interview customers for feedback.

After sales service refers to various processes which make sure customers are satisfied with the products and services of the organization. The needs and demands of the customers must be fulfilled for them to spread a positive word of mouth. In the current scenario, positive word of mouth plays an important role in promoting brands and products. After sales service makes sure products and services meet or surpass the expectations of the customers. After sales service includes various activities to find out whether the customer is happy with the products or not? After sales service is a crucial aspect of sales management and must not be ignored. After sales service plays an important role in customer satisfaction and customer retention. It generates loyal customers. Customers start believing in the brand and get associated with the organization for a longer duration. They speak well about the organization and its products. A satisfied and happy customer brings more individuals and eventually more revenues for the organization. After sales service plays a pivotal role in strengthening the bond between the organization and customers.

## Battery Safety Record

In terms of safety, consumers consider safety to be one of the most important considerations in buying a new or used vehicle. The vehicle safety performances are ratings before purchasing a vehicle (Harris, 2001). In addition, consumers are increasingly seeking safety features in their vehicles (Deloitte, 2010) and are willing to pay more for a vehicle to obtain improved safety levels (Harris, 2001).

Furthermore, the Deloitte study also predicted that the current economic crisis will leave customers to value vehicle safety more than before and seek vehicles with enhanced safety features. Consumers’ increasing demand for safety has led manufacturers to think and develop safety-related innovations and features (such as automatic crash notification, emergency assistance, and remote vehicle diagnostics) in their recent models (Deloitte, 2009; Dannenberg \& Burgard, 2007). Majority of the consumers would consider safety and make it as primary consideration in the purchase process of a new or used vehicle. In order to meet consumers' safety demand, most of the manufacturers are trying their best to develop safety-related innovations and features in the cars. Thus, consumer buying behavior is essential for car manufacturers to reach their target market with their customer knowledge.

## Promotion

Promotion refers to raising customer awareness of a product or brand, generating sales, and creating brand loyalty (Mulhern, 2009). It is one of the four basic elements of the market mix, which includes the four P's: price, product, promotion, and place. Promotion is also defined as one of five pieces in the promotional mix or promotional plan. These are personal selling, advertising, sales promotion, direct marketing, and publicity. A promotional mix specifies how much attention to pay to each of the five factors, and how much money to budget for each (Mulhern, 2009).

Fundamentally, there are three basic objectives of promotion. These are: to present information to consumers and others, to increase demand, to differentiate a product. The purpose of a promotion and thus its promotional plan can have a wide range, including: sales increases, new product acceptance, creation of brand equity, positioning, competitive retaliations, or creation of a corporate image (Mulhern, 2009). The term promotion is usually an "in" expression used internally by the
marketing company, but not normally to the public or the market, where phrases like "special offer" are more common.

Promotion can be done by different media, namely print media which includes newspaper and magazines, electronic media which includes radio and television, digital media which includes internet, social networking and social media sites and lastly outdoor media which includes banner ads, OOH (out of home). Digital media is a modern way of brands interacting with consumers as it releases news, information and advertising from the technological limits of print and broadcast infrastructures. Mass communication has led to modern marketing strategies to continue focusing on brand awareness, large distributions and heavy promotions (Mulhern, 2009). The fastpaced environment of digital media presents new methods for promotion to utilize new tools now available through technology. With the rise of technological advances, promotions can be done outside of local contexts and cross geographic borders to reach a greater number of potential consumers. The goal of a promotion is then to reach the most people possible in a time efficient and a cost efficient manner (Mulhern, 2009).

## Location

Ilian and Yasuo (2005) clarified location is the option for entering business. Also, Kala and Guanghua (2010) defined location as the selection where business is to be located, and locations should be small, medium or large or urban or rural. According to Kala and Guanghua (2010) concerning location to an option for locating the business into the rural or urban place and considering also which type of product and service the firm will provide.

Greening, Barringer, and Macy (1996) referred to location as an important issue that usually impact firm performance, although, it always be ignored. Kala and

Guanghua (2010) have noted that strategic location can really help domestic firms to accomplish absolute good performance. Location factors are much articulated, and the most important reasons are broad region in different socioeconomic place and the resource boundaries inside the country as well.

Guanghua (2010) declared, location of company has a very important function in the expansion of entrepreneurship. Greening, et al (1996); Guanghua (2010) asserted that there is a significant relationship between performance of small firm and location. To ascertain performance of firm, location is used as a meaningful. Kala and Guanghua (2010) described that to get positive firm performance, location as company strategy help domestic firms. Guanghua (2010) has also showed evidence of effect of location on emergence of entrepreneurs and consequently their performance.

## Brand Image

The impression in the consumers' mind of a brand's total personality (real and imaginary qualities and shortcomings). Brand image is developed over time through advertising campaigns with a consistent theme, and is authenticated through the consumers' direct experience. See also corporate image. The brand image refers to the way a market as a whole views a given company or product. Many companies attempt to create a strong brand that people identify with a given product.

Kotler and Keller (2009) described brand image as the perceptions and beliefs held by consumers about the brand. In today's dense marketplace, consumers often decide to purchase brands based on their image or identity. The identity of a brand is central to the brand's strategic vision since it embodies the basic characteristics that will sustain it over time; just as a person's identity provides direction, purpose and meaning (Aaker, 1996). Thus, a brand's identity is the sum of unique associations that consumers have when confronted with the brand (Keller, 2003). Corporate image in the service marketing literature was early identified as an important factor in the
overall evaluation of the service and the company (Bitner, 1991; Grönroos, 1984; Gummesson and Grönroos, 1988). Corporate image is a filter which influences the perception of the operation of the company.

## Product design

Product design is the process of creating a new product to be sold by a business to its customers. A very broad concept, it is essentially the efficient and effective generation and development of ideas through a process that leads to new products.

Automotive design is the profession involved in the development of the appearance, and to some extent the ergonomics, of motor vehicles or more specifically road vehicles. This most commonly refers to automobiles but also refers to motorcycles, trucks, buses, coaches, and vans. The functional design and development of a modern motor vehicle is typically done by a large team from many different disciplines included within automotive engineering. Automotive design in this context is primarily concerned with developing the visual appearance or aesthetics of the vehicle, though it is also involved in the creation of the product concept. Automotive design is practiced by designers who usually have an art background and a degree in industrial design or transportation design.

## Price

In ordinary usage, price is the quantity of payment or compensation given by one party to another in return for goods or services. In modern economies, prices are generally expressed in units of some form of currency. The last price at which a security, options contract, or commodity trades during the trading session. Price is a component in a number of technical and fundamental analysis strategies. The value of
a thing with real or perceived worth. Price represents the amount of value the market has assigned, fairly or unfairly, to a good or service. Normally, prices are expressed in terms of money. Prices tend to be regulated by the law of supply and demand; that is, a price of a good or service increases with smaller supply and/or greater demand. An amount of money exchanged for something of value.

## Warranty

A warranty has various meanings but generally means a guarantee or promise which provides assurance by one party to the other party that specific facts or conditions are true or will happen. This factual guarantee may be enforced regardless of materiality which allows for a legal remedy if that promise is not true or followed. A warranty may be express or implied, depending on whether the warranty is explicitly provided (typically written) and the jurisdiction. Warranties may also state that a particular fact is true at one point in time or that the fact will be continue into the future (a "promissory" or continuing warranty). Warranties provided in the sale of goods (tangible products) vary according to jurisdiction, but commonly new goods are sold with implied warranty that the goods are as advertised. Used products, however, may be sold "as is" with no warranties.

## Demographic lifestyle

The term demographic lifestyle can denote the interests, opinions, behaviors, and behavioral orientations of an individual, group, or culture and with an individual's demographic profile. Demographic lifestyle can be the factor that impact on the customer's purchase decision.

## Purchase Decision

Purchase Decision is the decision processes and acts of people involved in buying and using products. According to Walters \& Paul, 'Purchase Decision is the process whereby individuals decides what, when, where, how and from whom to purchase goods \& services. Consumer purchase decision refers to the multi-step decision-making process people engage in and the actions they take to satisfy their needs and wants in the marketplace. Consumer purchase decision is considered to be an inseparable part of marketing and Kotler and Keller (2011) state that consumer purchase decision is the study of the ways of buying and disposing of goods, services, ideas or experiences by the individuals, groups and organizations in order to satisfy their needs and wants. Buyer behavior has been defined as "a process, which through inputs and their use though process and actions leads to satisfaction of needs and wants" (Enis, 1974). Consumer purchase decision has numerous factors as a part of it which are believed to have some level of effect on the purchasing decisions of the customers. Alternatively, consumer purchase decision "refers to the purchase decision of final consumers, both individuals and households, who buy goods and services for personal consumption" (Kumar, 2010). The definition formed by Solomon et al (1995) describes consumer purchase decision as a process of choosing, purchasing, using and disposing of products or services by the individuals and groups in order to satisfy their needs and wants. Similar definition of consumer purchase decision is offered by Schiffman and Kanuk (2000) in which they describe it as behavior that consumers express when they select and purchase the products or services using their available resources in order to satisfy their needs and desires.

### 2.2. Previous Studies

Reza and Valeech (2013) studied Influence of Social Reference Groups on Automobile Buying Decision - Research on Young Executives. Influence of social
reference groups is one of the many subconscious factors that can form a consumer behavior for products used in public settings. This phenomenon also affects our preferences for particular brands or products and influences our purchase decisions relating to them. Every marketer strives to tap the subconscious factors that can help strengthen the brand associations and drive purchase. The study seeks to evaluate the influence of three major types of reference group influences i.e. informational influence, utilitarian influence, and value-expressive influence on the automobile buying behavior of young executives. In a country like Pakistan where purchasing power is low, young executives become one of the prospect buyers for automobiles. Thus the results would help marketers in designing marketing communication campaigns in a way that could trigger psychological bonding between the customer and the most influential reference group thus ensuring a strong positive response.

Lee and Govindan (2014) researched Emerging Issues in Car Purchasing Decision. The automotive industry is an important segment of the economy in any country as it links industries and services. It is the key driver of any growing economy. It plays an important role in growing the economy in each country and one way to strengthen the industry is to improve consumer insight into vehicle buying behavior. Besides, competitive pressure of automotive companies arising in Malaysia has led the companies to look for an edge to be competitive in automotive industry. Both the local and foreign cars are competing to get attention from the consumers. Therefore, the objective of this study is to identify the factors influencing consumer buying behavior towards national automobiles in the Malaysian perspective. The independent variables in this study consist of four dimensions, namely reliability, safety, fuel economy, and price. The sample sizes of this study are 171 out of 200 targeted respondents through online questionnaire with $85.5 \%$ return rate. The unit of analysis for this research consists of individual potential car buyers in Kuala Lumpur. In addition, this study focused on the determinant of consumers buying behaviour towards national cars in Kuala Lumpur with their rapid growth in car ownership. It is clear that the rapidly-expanding car market in the Federal Territory of Kuala Lumpur
is a direct product of the spectacular economic performance of these areas. The car markets in Kuala Lumpur plays a huge economic role towards the general development of Malaysia. The result is tested by using descriptive (frequency analysis) and statistical analysis (reliability analysis, and simple linear regression analysis). The result indicates that the three independent variables of car's reliability, safety, and price significantly influence consumer buying behaviour towards national cars in Kuala Lumpur. The result can assist the Malaysian automotive companies to increase their sales by focusing on those important factors.

Yee et al., (2011) investigated Consumers’ Perceived Quality, Perceived Value and Perceived Risk Towards Purchase Decision on Automobile. As the level of competition keep on increasing in Malaysia automobile market, it is essential for every automobile producer companies to understand customer insight in order to further increase their share of wallet. Thus, they need to understand what factors might influence their customers' decision in purchasing an automobile. Therefore, the objectives of this research is to study the relationships of perceived quality, perceived value and perceived risk that will effect on Malaysia consumer purchase decision towards cars. Approach: Survey using convenience sampling was done at Klang Valley to customers' age between 23-65 years old and above. Questionnaires were distributed to 200 respondents at the sampling location. Results: All the 200 sets of data were reliable where Cronbach's alpha is more than 0.6 . Pearson correlation also showed the strength of the relationship between those variables and normality assumption was meet. Results from multiple regression analysis showed the positive association between the three factors mentioned previously with purchase decision. Conclusion/Recommendations: The results from this research provide a platform for Malaysia automobile makers to understand consumer behavior and how it affects their purchase decision. In order to ensure that the findings of sample are representative and conclusive, future research should be include with larger number of respondents.

Gupta (2013) researched A Study of Buying Decision Influencers for Passenger Car Segment in New Delhi. Indian Automobile passenger car market is witnessed by the presence of many national and multi-national manufactures post liberalization 1991. The availability of many alternatives within the city provides an opportunity to the consumers to make a rational decision after considering all the options. Today is an era which is characterised by a consumer's market where the manufacturers and marketers not only takes into consideration the consumer orientation to make them satisfied but goes one step ahead of achieving consumer delight. Consumers look for those differentiating parameters, which may help them to make a best decision and can be proved as value to money proposition for them. It makes more important to analyse the consumer perceptions and behaviour of the passenger car owners which will give the feedback pertaining to designing the marketing strategies. The objective of this paper is to investigate those differentiating parameter and effect of reference group that influence the consumer buying behaviour of car owners within the city of New Delhi. The primary data was collected from 191 respondents, located in New Delhi using convenience sampling. The results revealed the strong influence of attributes like price, fuel efficiency in buying decision and importance of reference group.

### 2.3 Hypothesis

H1o: There is no relationship between Product Quality and Purchase Decision H1a: There is a relationship between Product Quality and Purchase Decision

H2o: There is no relationship between Better Fuel Economy and Purchase Decision

H2a: There is a relationship between Better Fuel Economy and Purchase Decision

H3o: There is no relationship between After Sale Service and Purchase Decision

H3a: There is a relationship between After Sale Service and Purchase Decision

H4o: There is no relationship between Battery Safety Record and Purchase Decision

H4a: There is a relationship between Battery Safety Record and Purchase Decision

H50: There is no relationship between Promotion and Purchase Decision
H5a: There is a relationship between Promotion and Purchase Decision

H6o: There is no relationship between Location and Purchase Decision

H6a: There is a relationship between Location and Purchase Decision

H7o: There is no relationship between Brand Image and Purchase Decision H7a: There is a relationship between Brand Image and Purchase Decision

H8o: There is no relationship between Product Design and Purchase Decision H8a: There is a relationship between Product Design and Purchase Decision

H9o: There is no relationship between Price and Purchase Decision

H9a: There is a relationship between Price and Purchase Decision

H10o: There is no relationship between Warranty and Purchase Decision H10a: There is a relationship between Warranty and Purchase Decision

H11o: There is no relationship between Demographic lifestyle and Purchase Decision

H11a: There is a relationship between Demographic lifestyle and Purchase Decision

### 2.4. Research Frame work



Figure 2.1: Research Framework

## CHAPTER 3

## RESEARCH METHODOLOGY

### 3.1. Research Strategy

Zikmund (2003) stated that descriptive research is created to explain the characteristics of a population or incident. Descriptive research is the process to define the answers for who, what, where, when, and how questions. In The SPSS process, there are 2 most appropriate factors for descriptive research, the first one is frequencies, and the second one is means, this was stated by Ticehurst et al. (2003). The descriptive research is used to test the relationship between customers' purchase decision and the factors that may affect it. The factors include are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image and product design in Thailand.

Veal (2003) explained that the representative of population which is not a sample could be stated as biased. The procedures of selecting sample aimed to minimize bias which is in the sample.

The researchers used the sample survey method as the data collection process and preceded into the statistical test steps. And also used the survey method to distribute the composition of questionnaires to collect the information from the respondents. Zikmund (2003) stated that a survey is a technique of conducting research which could gather information from a sample of people by using questionnaires as a tool to collect information.

### 3.2 Sampling Design

### 3.2.1 Target Population

The researcher wanted to study about the relationship between product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle and customers’ purchase intention to repurchase towards Honda in Thailand

The researchers select both male and female age between 18 to 60 and who have considered and also purchased Honda car as the target population.

### 3.2.2 Sample Unit

The questionnaires are distributed to customers who have considered and also purchased Honda car as the target sample unit in Bangkok.

### 3.2.3 Sample Size

According to business research evaluation, the first question that the researcher face which is "How large of the sample size?" Instinctively, the bigger size of sample is more correct research. Statistical phase, error of random sampling is fluctuated with sample size differential. Enlarge of sample size reduce wideness of reliance at a given the reliance level and error. It is not essential to select all components of the population to direct the precision research (Zikmund, 2010).

The researcher will determine sample size by applying an equation proposed by Pongwichai (2009) which is the adaptation of Yamane (1973) at confidences level of $95 \%$ and precision levels $=0.05$

The total of sample size is

$$
\begin{gathered}
n=\frac{Z^{2} p(1-p)}{E^{2}} \\
n=\frac{1.96^{2} * 0.5(1-0.5)}{(0.05)^{2}}
\end{gathered}
$$

$$
\begin{aligned}
\mathrm{n} & =384.16 \text { samples } \\
& \approx 385 \text { samples }
\end{aligned}
$$

In the study, researcher decide to use 400 questionnaire in Honda service shop in Sukhumvit 66 Bangkok.

### 3.2.4 Sampling Procedure

The study, the researchers applied both probability and non-probability to find sampling unit. Zikmund (2003) stated that probability samples is the process of probability sampling which is randomly chosen and non-probability sampling is the probability of specific member of the population which is unknown information for the researchers. The sampling unit is an individual component or group of components point to the selection of the sample stated by Zikmund (2003).

The researchers conducted sampling procedure which is Convenience sampling. The details was stated by Zikmund (2003) which will be as the followings:

## Convenience Sampling

Convenience sampling, this kind of sampling which from people who are convenient or available to answers questions from researchers. The researchers distributed questionnaires to 400 respondents.

### 3.3 Variables

The study is to determine the relationship between customers' purchase decision and the factors that may affect it. The independent variables include are p product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand
image, product design, price, warranty, demographic lifestyle. And the dependent variable is customer's purchase decision.

### 3.4 Research Instrument

In the research, the questionnaire has been used to collect data for the following SPSS analysis.

Part1. Comprise of demographic and general information
Table 3.1: Level of Information Measurement and Criteria.

| Variable | Level of Measurement | Criteria Classification |
| :---: | :---: | :---: |
| 1. Gender | Nominal | 1. Male <br> 2. Female |
| 2. Age | Ordinal | 1 Between 20 to 30 Years <br> 2 Between 31 and 40 Years <br> 3 Between 41 and 50 Years <br> 451 Years and above5. Over 35 Years |

Table 3.1 (Continued): Level of Information Measurement and Criteria.

| 2. Income | Ordinal | 1. 0-10,000 BAHT <br> 2. 10,000-20,000BAHT <br> 3. 20,000-35,000 BAHT <br> 4. More than 35,000 BAHT |
| :---: | :---: | :---: |
| 3. Are you prepared to buy a new car | Nominal | 1. Yes 2. No |
| 5. What is in the mind of the price, before want buy a car | Ordinal | 1. 500,000-700,000 BAHT <br> 2. 700,000-900,000 BAHT <br> 3. $900,000-1,200,000$ BAHT <br> 4. $1,200,000-1,500,000$ BAHT <br> 5. $1,5000,000-2,000,000$ BAHT <br> 6. More than $2,000,000$ BAHT |
| 6. Before buying a car, what is the most concerned factors | Nominal | 1. Price <br> 2. Brand image <br> 3. After sale service <br> 4. Safety record <br> 5. Interior \& exterior <br> 6. fuel economy <br> 7. quality |
| 7. Where would you like to buy a car | Nominal | 1. 4 S store <br> 2. Dealers <br> 3. Online shopping <br> 4. Other |

(Continued)

Table 3.1 (Continued): Level of Information Measurement and Criteria.

| 8. The following what factors can affect your purchase intention | Nominal | 1. National policy <br> 2. Oil price fluctuations <br> 3. Sales promotion policy <br> 4. Rising incomes <br> 5. The convenience of payment by installments <br> 6. Public parking facilities |
| :---: | :---: | :---: |
| 9. In your budget, what additional features hope the car including | Nominal | 1. navigation <br> 2. Push start <br> 3. Parking sensor |
| 10. What brand are you attention to buy | Nominal | 1. TOYOTA <br> 2. HONDA <br> 3. MAZDA <br> 4. NISSAN <br> 5. Mitsubishi <br> 6. FORD |
| 11. Where you get the information of car | Nominal | 1. A friend introduced <br> 2 Advertising, television <br> 3. The introduction of the sales staff <br> 4. web query |

(Continued)

Table 3.1 (Continued): Level of Information Measurement and Criteria.

| 12. What is the main reason of you buy this brand | Nominal | 1. High performance cost ratio [] <br> 2. Cheap <br> 3. The overall quality is reliable <br> 4. Convenient maintenance and low cost <br> 5. Reliable after-sales service |
| :---: | :---: | :---: |
| 13. What is the main purpose of you to buy a car? |  | 1. Instead of walking <br> 2. Convenient for family travel <br> 3. Business need <br> 4. Improve the quality of life |
| 14. How are you going to buy car | Nominal | 1. Full purchase <br> 2. Payment by installment <br> 3. From a friend to borrow money to buy |
| 15. When buying a car, you want what kind of discount | Nominal | 1. Discount, return the cash <br> 2. Provide additional quality service free of charge <br> 3. gifts |
| 16.How many dealers visit, before you buying the car | Nomin | 1. Go to the nearest dealer, purchase soon <br> 2. 2-4 dealers, Comprehensive comparison <br> 3.The more the better, Comprehensive comparison |
| 17. What types of the car do you like | Nominal | 1. Small car <br> 2. compact car <br> 3. Luxury car <br> 4. SUV |

For part 2, all items were rated by respondents on a five-point Likert scale. Each questions scaled from Number 1 with the statement "Strongly Disagree" to number 5 with the statement "Strongly Agree". The weight (score) are set in each level as followed;

Strongly Agree $=5$ points
Somewhat Agree $=4$ points

Neutral $=3$ points

Somewhat Disagree $=2$ points

Strongly Disagree $=1$ point

### 3.5 Collection of Data

According to this study, reseacher have decided to use primary data collected through self-administered questionnaires which distribute to customers of Honda car in Bangkok. Survey is a mean of using an appropriated questionnaire to gather information for a sample of population (Zikmund, 2003). Before interviewees do the questionnaires, the researcher asked them whether they are Honda's customer. The survey questionnaires are distributed during first and second week of JUN 2015, at Honda service shop in Sukhumvit 66 Bangkok.

### 3.6 Reliability Analysis of Research Instrument

The researcher apply pilot test to examine the reliability of the questionnaire. The reliability test for this research is processed on computer program by using Cronbach's alpha coefficeient.

Table 3.2: Criteria of Reliability

| Cronbach's Alpha <br> Coefficient | Reliability Level | Desirability Level |
| :--- | :--- | :--- |
| $0.80-1.00$ | Very High | Excellent |
| $0.70-0.79$ | Medium | Good |
| $0.50-0.69$ | Low | Fair |
| $0.30-0.49$ | Very Low | Poor |
| Less than 0.30 |  | Unacceptable |

### 3.7 Statistical Treatment of Data

After the researchers have collected all the data, the researchers used the Statistical Package for the Social Sciences (SPSS) to analyze and summarize the data collected in data interpretation and hypothesis testing forms. There are 2 data analysis techniques applied in this study, which are Descriptive statistics and Pearson Correlation.

The descriptive analysis including frequency and percentage, were used in transforming the demographic profiles of respondents of term of 9 variables which are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image and product design, customers' purchase decision, all the data were summarized and presented into the understandable format.

The researchers also applied Pearson Correlation for the hypothesis testing in this study. Pearson Correlation technique is a parametric technique that helps researchers to find the relationship between variables (Simon, 2005). The Pearson Correlation gives a measurement for the strength of association between 2 variables. The correlation
coefficient (r-value) is in a range of +1.0 to -1.0 . There is a perfect positive linear association or negative linear association respectively. The level of strength of association between variables is shown in Table 3.2.

Table 3.3: R -value and measure the strength of association

| Correlation(r) | Interpretation |
| :---: | :--- |
| 0 | No linear association |
| 1 | Perfect positive linear association |
| 0.90 to 0.99 | Very high positive correlation |
| 0.70 to 0.89 | Hedium positive correlation |
| 0.40 to 0.69 | Low positive correlation correlation |
| 0 to 0.39 | Low negative correlation |
| -1 | Medium negative correlation |
| 0 to -0.39 | High negative correlation |
| -0.40 to -0.69 | Very high negative correlation |
| -0.70 to -0.89 |  |
| -0.90 to -0.99 |  |

## Chapter 4

Data Analysis

### 4.1 Descriptive Analysis

The following tables are the descriptive analysis of demographic characteristics which are the frequency and percentage distribution of respondent respectively. And tables also show the average mean and standard deviation of 11 variables.

Table 4.1: The Analysis of gender levels using Frequency and Percentage

| Gender |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  |  |  |  |  | Cumulative <br> Percent |
| Valid | male | 194 | 48.5 | 48.5 | 48.5 |
|  | female | 206 | 51.5 | 51.5 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.1 shows the gender of respondents in this research. It is viewed that among the 400 respondents, 194 respondents of the sample size are male and another 206 respondents are female. Therefore, there is a proportion $48.5 \%$ of male and $51.5 \%$ female respectively.

Table 4.2: The Analysis of age levels using Frequency and Percentage

|  | Age |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
|  |  |  |  |  |
| Valid | Fetween 20 to 30 Years | 120 | 30.0 | Cumulative <br> Percent |
|  | Between 31 and 40 Years | 170 | 42.5 | 30.0 |
| Percent | Valid Percent | 42.5 | 72.5 |  |
| Between 41 and 50 Years | 84 | 21.0 | 21.0 | 93.5 |
| 51Years and above | 26 | 6.5 | 6.5 | 100.0 |
|  | 400 | 100.0 | 100.0 |  |

From Table 4.2 shows the age of respondents in this research. It is viewed that among the 400 respondents, $120(30 \%)$ respondents of the sample size are between 20 to 30 years. $170(42.5 \%)$ respondents are between 31 and 40 years. 84 ( $21 \%$ ) respondents are between 41 and 50 years. $26(6.5 \%)$ respondents are 51 Years and above.

Table 4.3: The Analysis of monthly income levels using Frequency and Percentage

Monthly income

|  |  |  |  |  | Cumulative <br> Percent |
| :--- | :--- | ---: | ---: | ---: | ---: |
| Valid | Frequency | Percent | Valid Percent | 10,000 BAHT | 56 |
|  | 129 | 14.0 | 14.0 | 14.0 |  |
|  | 10,000—20,000BAHT | 32.3 | 32.3 | 46.3 |  |
|  | $20,000 — 35,000$ BAHT | 161 | 40.3 | 40.3 | 86.5 |
|  | More than35,000 BAHT | 54 | 13.5 | 13.5 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.3 shows the age of respondents in this research. It is viewed that among the 400 respondents, $56(14 \%)$ respondents of the sample size are $0-10,000$

BAHT. 129 (32.3\%) respondents are 20,000-35,000 BAHT. 161 (40.3\%) respondents are 20,000-35,000 BAHT. 54 (13.5\%) respondents are More than35, 000 BAHT.

Table 4.4: The Analysis of mind of price levels using Frequency and Percentage
mind of price

|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | 500,000-1,000,000 BAHT | 52 | 13.0 | 13.0 | 13.0 |
|  | 1,000,000-2,000,000 | 95 | 23.8 | 23.8 | 36.8 |
|  | BAHT |  |  |  |  |
|  | 2,000,000-3,000,000 | 197 | 49.3 | 49.3 | 86.0 |
|  | BAHT |  |  |  |  |
|  | More than 3,000,000 BAHT | 56 | 14.0 | 14.0 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.4 shows the age of respondents in this research. It is viewed that among the 400 respondents, 52 ( $13 \%$ ) respondents of the sample size are 500,000 1,000,000 BAHT. 95 (23.8\%) respondents are 1,000,000-2,000,000 BAHT. 197 (49.3\%) respondents are $2,000,000-3,000,000$ BAHT. 56 (14\%) respondents are More than $3,000,000$ BAHT.

Table 4.5: The Analys is of where to buy levels using Frequency and Percentage
where to buy

|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | Online shopping | 36 | 9.0 | 9.0 | 9.0 |
|  | Dealers | 77 | 19.3 | 19.3 | 28.3 |
|  | 4S store | 218 | 54.5 | 54.5 | 82.8 |
|  | Other | 69 | 17.3 | 17.3 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.5 shows the age of respondents in this research. It is viewed that among the 400 respondents, 36 ( $9 \%$ ) respondents of the sample size are Online shopping. 77 (19.3\%) respondents are Dealers. 218 ( $54.5 \%$ ) respondents are 4 S store. 69 ( $17.3 \%$ ) respondents are other.

Table 4.6: The Analys is of where get information levels using Frequency and Percentage
where get information

|  |  | Frequency | Percent | Valid Percent | Cumulative <br> Percent |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Valid | A friend introduced | 26 | 6.5 | 6.5 | 6.5 |
|  | Advertising, television | 81 | 20.3 | 20.3 | 26.8 |
|  | The introduction of the sales staff | 231 | 57.8 | 57.8 | 84.5 |
|  | web query | 62 | 15.5 | 15.5 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.6 shows the age of respondents in this research. It is viewed that among the 400 respondents, $26(6.5 \%)$ respondents of the sample size are A friend introduced. 81 ( $20.3 \%$ ) respondents are Advertising, television. 231 (57.8\%) respondents are the introduction of the sales staff. $62(15.5 \%)$ respondents are web query.

Table 4.7: The Analysis of purpose to buy levels using Frequency and Percentage
purpose to buy


From Table 4.7 shows the age of respondents in this research. It is viewed that among the 400 respondents, 38 ( $9.5 \%$ ) respondents of the sample size are Instead of walking. 93 (23.3\%) respondents are Convenient for family travel. 201 (50.3\%) respondents are Business need. 68 ( $17 \%$ ) respondents are Improve the quality of life.

Table 4.8: The Analysis of how to buy levels using Frequency and Percentage

| how to buy |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Full purchase | 32 | 8.0 | 8.0 | 8.0 |
|  | Payment by installment | 86 | 21.5 | 21.5 | 29.5 |
|  | From a friend to borrow moneyto buy | 224 | 56.0 | 56.0 | 85.5 |
|  | From bank to borrow money to buy | 58 | 14.5 | 14.5 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.8 shows the age of respondents in this research. It is viewed that among the 400 respondents, $32(8 \%)$ respondents of the sample size are Full purchase. 86 ( $21.5 \%$ ) respondents are Payment by installment. 224 ( $56 \%$ ) respondents are From a friend to borrow money to buy. $58(14.5 \%)$ respondents are I From bank to borrow money to buy.

Table 4.9: The Analysis of what type to buy levels using Frequency and Percentage

|  |  |  |  | Cumulative <br> what type to buy |
| :--- | ---: | ---: | ---: | ---: |
|  | Frequency | Percent | Valid Percent | Percent |
| Valid | Small car | 26 | 6.5 | 6.5 |

From Table 4.9 shows the age of respondents in this research. It is viewed that among the 400 respondents, 32 ( $8 \%$ ) respondents of the sample size are Full purchase. 86 ( $21.5 \%$ ) respondents are Payment by installment. 224 (56\%) respondents are From a friend to borrow money to buy. $58(14.5 \%)$ respondents are I From bank to borrow money to buy.

Table 4.10: The Analys is of brand choice levels using Frequency and Percentage

| brand choice |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  |  |  |  |  | Cumulative <br> Percent |
| Valid | FOYOTA | 60 | 15.0 | 15.0 | 15.0 |
|  | HONDA | 118 | 29.5 | 29.5 | 44.5 |
|  | NISSAN | 222 | 55.5 | 55.5 | 100.0 |
|  | Total | 400 | 100.0 | 100.0 |  |

From Table 4.10 shows the age of respondents in this research. It is viewed that among the 400 respondents, $60(15 \%)$ respondents of the sample size are TOYOTA. 118 (29.5\%) respondents are HONDA. 222 (55.5\%) respondents are NISSAN.

Table 4.11: The Analysis of Product Quality using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| The position of seat is very comfortable | 400 | 2 | 5 | 4.06 | . 723 |
| The visibility for the driver's seatis good | 400 | 2 | 5 | 4.05 | . 734 |
| The Honda/Toyota/Nissan car is stable at high speeds | 400 | 2 | 5 | 4.04 | . 741 |
| The Honda/Toyota/Nissan car stop smoothly when apply the brakes | 400 | 2 | 5 | 4.06 | . 726 |
| Valid N (listwise) | 400 |  |  |  |  |

Table 4.12: The Analysis of Better Fuel Economy using Mean and Standard Deviation

## Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Honda/Toyota/Niss an car can help to save fuel cost | 400 | 3 | 5 | 4.07 | . 709 |
| Honda/Toyota/Niss an car can provide new technology of hybrid | 400 | 3 | 5 | 4.06 | . 716 |
| Drive Honda/Toyota/Nissan car can get significantlyless than 25 miles to the gallon | 400 | 2 | 5 | 4.04 | . 738 |
| Valid N (listwise) | 400 |  |  |  |  |

Table 4.13: The Analysis of After Sale Service using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| I can get the repair service immediately after I request | 400 | 2 | 5 | 4.07 | . 712 |
| I can get the insurance service immediately after I need | 400 | 3 | 5 | 4.06 | . 713 |
| Employees are always willing to help me. | 400 | 3 | 5 | 4.08 | . 703 |
| Employees made me feel comfortable in dealing with them. | 400 | 3 | 5 | 4.07 | . 712 |
| Valid N (listwise) | 400 |  |  |  |  |

Table 4.14: The Analysis of Battery Safety Record using Mean and Standard Deviation

Descriptive Statistics


Table 4.15: The Analysis of Promotion using Mean and Standard Deviation

Descriptive Statistics


Table 4.16: The Analysis of Location using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: |
| It's very easyto find store of <br> Honda/Toyota/Nissan when | 400 | 3 | 5 | 4.07 | .716 |
| I want to purchase car <br> There are service centers of | 400 |  | 2 |  | 5 |
| Honda/Toyota/Nissan in <br> every region of Bangkok <br> Valid N (listwise) | 400 |  |  | 4.06 |  |

Table 4.17: The Analysis of Brand Image using Mean and Standard Deviation

Descriptive Statistics


Table 4.18: The Analysis of Product design using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: |
| The design of <br> Honda/Toyota/Nissan is <br> match my fashion attitude | 400 | 2 |  | 5 | 4.08 |
| I prefer the design of <br> Honda/Toyota/Nissan <br> compare to other brand of <br> automobiles <br> Valid N (listwise) | 400 |  | 2 |  | 5 |

Table 4.19: The Analysis of Price using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: |
| The price of <br> Honda/Toyota/Nissan is <br> acceptable | 400 | 2 |  | 5 | 4.07 |
| The price of <br> Honda/Toyota/Nissan cloth | 400 |  | 2 |  | 5 |
| is affordable |  |  |  |  |  |
| Valid N (listwise) | 400 |  |  |  |  |

Table 4.20: The Analysis of Warranty using Mean and Standard Deviation

## Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| The warranty is trustable of | 400 | 2 | 5 | 4.06 | . 726 |
| Honda/Toyota/Nissan |  |  |  |  |  |
| Honda/Toyota/Nissan | 400 | 2 | 5 | 4.05 | . 754 |
| Service Center can provide |  |  |  |  |  |
| good warranty for me, when |  |  |  |  |  |
| I contact it. |  |  |  |  |  |
| Valid N (listwise) | 400 |  |  |  |  |

Table 4.21: The Analysis of Demographic lifestyle using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :--- | ---: | ---: | ---: | ---: | ---: |
| The feature of <br> Honda/Toyota/Nissan can <br> match my lifestyle of | 400 | 2 |  | 5 | 4.06 |
| Thailand. <br> The function of <br> Honda/Toyota/Nissan is <br> easy to use under my <br> lifestyle. <br> Valid N (listwise) | 400 |  | 2 |  | 5 |

Table 4.22: The Analys is of Purchase Decision using Mean and Standard Deviation

Descriptive Statistics

|  | N | Minimum | Maximum | Mean | Std. Deviation |
| :---: | :---: | :---: | :---: | :---: | :---: |
| I will purchase | 400 | 2 | 5 | 4.06 | . 720 |
| Honda/Toyota/Nissan car when my budget is allowed |  |  |  |  |  |
| Honda/Toyota/Niss an car is my first choice | 400 | 2 | 5 | 4.06 | . 723 |
| I would encourage others to purchase | 400 | 2 | 5 | 4.05 | . 734 |
| Honda/Toyota/Nissan car |  |  |  |  |  |
| Valid N (listwise) | 400 |  |  |  |  |

### 4.2 Variables analysis

Researcher has done MLR (Multinomial Logistic Regression) to see which independent variables have significantly impact on brand choice. The result shows that independent and dependent variables are significant.

Table 4.23: Model Fitting Information
Model Fitting Information

|  | Model Fitting <br> Criteria | Likelihood Ratio Tests |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Model | -2 Log <br> Likelihood | Chi-Square | df | Sig. |
| Intercept <br> Only <br> Final | 510.681 |  |  |  |

Table 4.24: Likelihood Ratio Tests
Likelihood Ratio Tests

|  | Model Fitting <br> Criteria | Likelihood Ratio Tests |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | :---: | :---: |
| Effect | -2 Log <br> Likelihood of <br> Reduced <br> Model | Chi-Square | df | Sig. |  |  |
| Intercept | $366.819^{\mathrm{a}}$ | .000 | 0 | . |  |  |
| (Continued) |  |  |  |  |  |  |

Table 4.24(Continued): Likelihood Ratio Tests

| BSR | 397.788 | 30.969 | 12 | .002 |
| :--- | ---: | ---: | ---: | ---: |
| PQ | 383.539 | 16.720 | 14 | .271 |
| BFE | 385.809 | 18.990 | 12 | .089 |
| ASS | 381.750 | 14.931 | 14 | .383 |
| PR | 379.233 | 12.414 | 12 | .413 |
| LOC | 384.216 | 17.397 | 8 | .026 |
| BI | 392.674 | 25.855 | 14 | .027 |
| PD | 380.838 | 14.019 | 12 | .300 |
| PRCE | 374.075 | 7.256 | 6 | .298 |
| WARRANT | 381.691 | 14.872 | 6 | .021 |
| Y |  |  |  |  |

The chi-square statistic is the difference in -2 loglikelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0 .
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Researcher has done MLR of personal info on brand choice reveals a number of significant variables including:

Table 4.25: Model Fitting Information
Model Fitting Information

|  | Model Fitting <br> Criteria | Likelihood Ratio Tests |  |  |
| :--- | ---: | ---: | ---: | ---: |
| Model | -2 Log <br> Likelihood | Chi-Square | df | Sig. |
| Intercept <br> Only <br> Final | 768.627 |  |  |  |

Table 4.26: Likelihood Ratio Tests
Likelihood Ratio Tests

| Effect | Model Fitting Criteria | Likelihood Ratio Tests |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | -2 Log <br> Likelihood of Reduced Model | Chi-Square | df | Sig. |
| Intercept | $654.359^{\text {a }}$ | . 000 | 0 |  |
| sex | 655.752 | 1.393 | 2 | . 498 |
| age | 663.246 | 8.888 | 6 | . 180 |
| income | 659.637 | 5.278 | 6 | . 509 |
| price | 669.328 | 14.969 | 6 | . 020 |
| place | 658.603 | 4.244 | 6 | . 644 |

Table 4.26 (Continued): Likelihood Ratio Tests

| information | 668.228 | 13.870 | 6 | .031 |
| :--- | ---: | ---: | ---: | ---: |
| purpose | 673.017 | 18.659 | 6 | .005 |
| payment | 656.828 | 2.469 | 6 | .872 |
| type | 711.350 | 56.991 | 6 | .000 |

The chi-square statistic is the difference in -2 loglikelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0 .
a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

For parameter estimates, reseacher found the followings:

- Age $1 \& 2$ are significant factors in choosing Toyota over Nissan
- For 100000-200000 price range (price2), customer will choose Toyota over Nissan
- With the introduction of sales staff (info30, customer would choose Toyota over Nissan
- Between Honda \& Nissan, there are no significant variables of choice

Table 4.27: Parameter Estimates

| brand choice ${ }^{\text {a }}$ |  | B | df | Sig. | $\operatorname{Exp}(\mathrm{B})$ | 95\% Confidence Interval for $\operatorname{Exp}(\mathrm{B})$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Lower Bound |  |  |  | Upper <br> Bound |
| TOYOTA | [PQ1=2] |  | 16.255 | 1 | . 999 | $\begin{array}{r} 11468026 . \\ 240 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ1=3] | 15.526 | 1 | . 985 | 5531175.9 48 | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ1=4] | -1.056 | 1 | . 529 | . 348 | . 013 | 9.345 |
|  | [PQ1=5] | -. 279 | 1 | . 742 | . 756 | . 143 | 3.999 |
|  | [PQ2=2] | -16.982 | 1 | . 998 | 4.216E-8 | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ2=3] | -46.112 | 1 | . 993 | $9.416 \mathrm{E}-21$ | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ2=4] | -16.069 | 1 | . 997 | 1.050E-7 | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
|  | [PQ3=2] | -57.077 | 1 | . 993 | $1.628 \mathrm{E}-25$ | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ3=3] | 17.016 | 1 | . 995 | $\begin{array}{r} 24537403 . \\ 939 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ3=4] | . 132 | 1 | . 779 | 1.141 | . 455 | 2.860 |
|  | [PQ3=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
|  | [PQ4=2] | 11.719 | 1 | . 998 | $\begin{array}{r} 122927.86 \\ 3 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
|  | [PQ4=3] | -15.561 | 1 | . 998 | 1.746E-7 | . 000 | . ${ }^{\text {b }}$ |

(Continued)

Table 4.27 (Continued): Parameter Estimates

| [PQ4=4] | -. 091 | 1 | . 955 | . 913 | . 040 | 20.703 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [PQ4=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE1=3] | 14.100 | 1 | . 994 | 1329504.6 22 | . 000 | . |
| $[B F E 1=4]$ | -. 686 | 1 | . 105 | . 504 | . 220 | 1.154 |
| [BFE1=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE2=3] | 2.167 | 1 | . 999 | 8.734 | . 000 | b |
| [BFE2=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE3=2] | 1.097 | 1 | 1.000 | 2.995 | . 000 | . |
| [BFE3=3] | -16.586 | 1 | . 995 | $6.265 \mathrm{E}-8$ | . 000 | b |
| [BFE3=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE3=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS1=2] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS1=3] | 15.711 | 1 | . 994 | $\begin{array}{r} 6658226.3 \\ 64 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
| [ASS1=4] | -. 045 | 1 | . 915 | . 956 | . 414 | 2.204 |
| [ASS1=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS2=3] | -30.584 | 1 | . 992 | 5.216E-14 | . 000 | . ${ }^{\text {b }}$ |
| [ASS2=4] | $0^{\text {c }}$ | 0 |  |  |  |  |

(Continued)

Table 4.27 (Continued): Parameter Estimates


Table 4.27 (Continued): Parameter Estimates

(Continued)

Table 4.27 (Continued): Parameter Estimates

| $\begin{aligned} & \text { [LOCATI } \\ & \text { ON2=5] } \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [BII=3] | $0^{\text {c }}$ | 0 |  |  |  |  |
| $[\mathrm{Bl} 1=4]$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $[B \mid 1=5]$ | $0^{\text {c }}$ | 0 | . |  |  |  |
| [ $\mathrm{BI} 2=2$ ] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ $\mathrm{BI} 2=3$ ] | -16.758 | 1 | . 984 | 5.275E-8 | . 000 | . |
| $[\mathrm{BI} 2=4]$ | . 167 | 1 | . 914 | 1.181 | . 058 | 24.001 |
| [ $\mathrm{BI} 2=5$ ] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ $\mathrm{B} \mid 3=2]$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $[B \mid 3=3]$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $[B \mid 3=4]$ | $0^{\text {c }}$ | 0 | . |  | . |  |
| $[B \mid 3=5]$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PDN1=2] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PDN1=3] | . 631 | 1 | . 320 | 1.880 | . 542 | 6.520 |
| [PDN1=4] | . 793 | 1 | . 081 | 2.210 | . 906 | 5.391 |
| [PDN1=5] | $0^{\text {c }}$ | 0 | . |  |  |  |
| [PDN2=2] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PDN2=3] | $0^{\text {c }}$ | 0 | . |  | . |  |
| [PDN2=4] | $0^{\text {c }}$ | 0 |  |  |  |  |

(Continued)

Table 4.27(Continued): Parameter Estimates

| [PDN2=5] | $0^{c}$ | 0 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { [PRICE1 } \\ & =2] \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PRICE1 $=3]$ | $0^{c}$ | 0 |  |  |  |  |
| [PRICE1 $=4]$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [PRICE1 } \\ & =5] \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [PRICE2 } \\ & =2] \end{aligned}$ | $0^{c}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [PRICE2 } \\ & =3] \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [PRICE2 } \\ & =4] \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [PRICE2 } \\ & =5] \end{aligned}$ | $0^{c}$ | 0 |  |  |  |  |
| [WARRA <br> NTY1=2] | $0^{c}$ | 0 |  |  |  |  |
| [WARRA <br> NTY1=3] | $0^{c}$ | 0 | . |  |  |  |
| [WARRA <br> NTY1=4] | $0^{\text {c }}$ | 0 |  |  |  |  |

Table 4.27(Continued): Parameter Estimates


Table 4.27(Continued): Parameter Estimates

| [PQ1=5] | -. 777 | 1 | . 231 | . 460 | . 129 | 1.640 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [PQ2=2] |  |  |  | 177056206 |  |  |
|  | 42.018 | 1 | . 995 | 471831296 0.000 | . 000 | . ${ }^{\text {b }}$ |
| [PQ2=3] | -32.139 | 1 | . 982 | 1.102E-14 | . 000 | . |
| [PQ2=4] | -2.798 | 1 | . 000 | . 061 | . 032 | . 117 |
| [PQ2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PQ3=2] | -72.069 | 1 | . 987 | $5.020 \mathrm{E}-32$ | . 000 | . ${ }^{\text {b }}$ |
| [PQ3=3] | 17.243 | 1 | . 989 | 30797408. 806 | . 000 | . ${ }^{\text {b }}$ |
| [PQ3=4] | . 365 | 1 | . 268 | 1.441 | . 755 | 2.753 |
| [PQ3=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PQ4=2] | -28.063 | 1 | . 995 | $6.493 \mathrm{E}-13$ | . 000 | . ${ }^{\text {b }}$ |
| [PQ4=3] | -56.995 | 1 | . 987 | $1.767 \mathrm{E}-25$ | . 000 | . ${ }^{\text {b }}$ |
| [PQ4=4] | -13.108 | 1 | . 989 | $2.030 \mathrm{E}-6$ | . 000 | . ${ }^{\text {b }}$ |
| [PQ4=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE1=3] | 13.270 | 1 | . 994 | $579644.88$ | . 000 | . ${ }^{\text {b }}$ |
| $[B F E 1=4]$ | -. 298 | 1 | . 355 | . 743 | . 395 | 1.396 |
| [BFE1=5] | $0^{\text {c }}$ | 0 |  |  |  |  |

(Continued)

Table 4.27(Continued): Parameter Estimates

| [BFE2=3] | 29.458 | 1 | . 984 | $\begin{array}{r} 621614411 \\ 2050.009 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [BFE2=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE3=2] |  |  |  | 215000430 |  |  |
|  | 39.909 | 1 | . 993 | 988747584 .000 | . 000 | . ${ }^{\text {b }}$ |
| [BFE3=3] | -16.911 | 1 | . 989 | $4.524 \mathrm{E}-8$ | . 000 | . ${ }^{\text {b }}$ |
| [BFE3=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BFE3=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS1=2] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS1=3] | 14.976 | 1 | . 992 | 3191288.8 76 | . 000 | . ${ }^{\text {b }}$ |
| [ASS1=4] | -. 278 | 1 | . 380 | . 757 | . 407 | 1.409 |
| [ASS1=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS2=3] | -43.876 | 1 | . 981 | $8.804 \mathrm{E}-20$ | . 000 | . ${ }^{\text {b }}$ |
| [ASS2=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [ASS3=3] | 31.752 | 1 | . 983 | $\begin{array}{r} 615990692 \\ 83195.190 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |

(Continued)

Table 4.27(Continued): Parameter Estimates

| [ASS3=4] | 2.376 | 1 |  | 10.760 | 10.760 | 10.760 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [ASS3=5] | $0^{c}$ | 0 |  |  |  |  |
| [ASS4=3] | . 163 | 1 | . 681 | 1.178 | . 540 | 2.566 |
| [ASS4=4] | -. 069 | 1 | . 826 | . 934 | . 505 | 1.726 |
| [ASS4=5] | $0^{\circ}$ | 0 |  |  |  |  |
| [BSR1=2] | 14.136 | 1 | . 997 | 1378273.4 | . 000 | . ${ }^{\text {b }}$ |
| [BSR1=3] | 30.320 | 1 | . 988 | $\begin{array}{r} 147170737 \\ 95319.486 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
| [ $\mathrm{BSR} 1=4$ ] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BSR1=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BSR2=3] | 27.784 | 1 | . 991 | $\begin{array}{r} 116521610 \\ 2863.962 \end{array}$ | . 000 | . ${ }^{\text {b }}$ |
| [BSR2=4] | 13.518 | 1 | . 988 | 742638.82 9 | . 000 | . ${ }^{\text {b }}$ |
| [BSR2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BSR3=3] | $0^{\text {c }}$ | 0 | . |  |  |  |
| [ $\mathrm{BSR3}=4$ ] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [BSR3=5] | $0^{c}$ | 0 | . |  |  |  |
| [PR1=3] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PR1=4] | $0^{\text {c }}$ | 0 |  |  |  |  |

(Continued)

Table 4.27(Continued): Parameter Estimates

| [PR1 $=5$ ] | $0^{\text {c }}$ | 0 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| [PR2=3] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PR2=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PR2=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PR3=3] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PR3=4] | $0^{\text {c }}$ | 0 |  |  |  |  |
| [PR3=5] | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [LOCATI } \\ & \text { ON1=3] } \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [LOCATI } \\ & \text { ON1=4] } \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [LOCATI } \\ & \text { ON1=5] } \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| [LOCATI $\mathrm{ON} 2=2]$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [LOCATI } \\ & \text { ON2=3] } \end{aligned}$ | -15.299 | 1 | . 991 | $2.269 \mathrm{E}-7$ | . 000 | . ${ }^{\text {b }}$ |
| $\begin{aligned} & {[\text { LOCATI }} \\ & \text { ON2=4] } \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $\begin{aligned} & \text { [LOCATI } \\ & \text { ON2=5] } \end{aligned}$ | $0^{\text {c }}$ | 0 |  |  |  |  |
| $[\mathrm{Bl} 11=3]$ | $0^{\text {c }}$ | 0 |  |  |  |  |

(Continued)

Table 4.27(Continued): Parameter Estimates


Table 4.27(Continued): Parameter Estimates

(Continued)

Table 4.27(Continued): Parameter Estimates

| [WARRA NTY2=2] <br> [WARRA NTY2=3] <br> [WARRA NTY2=4] <br> [WARRA NTY2=5] <br> [DL1=2] <br> [DL1=3] <br> [DL1=4] <br> [DL1=5] <br> [DL2=2] <br> [DL2=3] <br> [DL2=4] <br> [DL2=5] | $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ $0^{\circ}$ | 0 0 0 0 0 0 0 0 0 0 0 0 0 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Since only p-value of PQ2 is less than .05 , therefore Beta of PQ2 is significant. As a result, we can reject $\mathrm{H}^{1}{ }_{0}$ : beta PQ1-4=0 and accept $\mathrm{H}^{1}$ a at least one of beta PQ1-4 is not equal to 0 (i.e. Beta of PQ2). That means, of all independent variables, only product quality significantly influences customer's brand choice decision in choosing HONDA over NISSAN.

Because no p-values of all other independent variables' beta are less than .05 , therefore we cannot reject any other hypotheses.

Table 4.28: brand choice * I will purchase Honda/Toyota/Nissan car when my budget is allowed Crosstabulation

## brand choice * I will purchase Honda/Toyota/Nissan car when my budget is allowed Crosstabulation

|  |  |  | I will purchase Honda/Toyota/Nissan car when my budget is allowed |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | slightly disagree | moderate | slightly agree | strongly agree |  |
| brand choice | TOYOTA | Count | 0 | 11 | 24 | 25 | 60 |
|  |  | \% within brand choice | 0.0\% | 18.3\% | 40.0\% | 41.7\% | 100.0\% |
|  | HONDA | Count | 0 | 29 | 57 | 32 | 118 |
|  |  | \% within brand choice | 0.0\% | 24.6\% | 48.3\% | 27.1\% | 100.0\% |
|  | NISSAN | Count | 2 | 46 | 117 | 57 | 222 |
|  |  | \% within brand choice | 0.9\% | 20.7\% | 52.7\% | 25.7\% | 100.0\% |
| Total |  | Count | 2 | 86 | 198 | 114 | 400 |
|  |  | \% within brand <br> choice | 0.5\% | 21.5\% | 49.5\% | 28.5\% | 100.0\% |

For Toyota, more than $80 \%$ agree that they will purchase the car given the budget (Honda $75 \%$, Nissan $77 \%$ ). However, for those who agree to purchase the car given if they have budget, more than $50 \%$ are Nissan customer.

Table 4.29: brand choice * Honda/Toyota/N is san car is my first choice Crosstabulation
brand choice * Honda/Toyota/Nissan car is my first choice Crosstabulation

|  |  |  | Honda/Toyota/Nissan car is my first choice |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | slightly disagree | moderate | slightly agree | strongly agree |  |
| brand choice | TOYOTA | Count | 2 | 12 | 22 | 24 | 60 |
|  |  | \% within <br> brand choice | 3.3\% | 20.0\% | 36.7\% | 40.0\% | 100.0\% |
|  | HONDA | Count | 0 | 23 | 66 | 29 | 118 |
|  |  | \% within brand choice | 0.0\% | 19.5\% | 55.9\% | 24.6\% | 100.0\% |
|  | NISSAN | Count | 0 | 53 | 108 | 61 | 222 |
|  |  | \% within brand choice | 0.0\% | 23.9\% | 48.6\% | 27.5\% | 100.0\% |
| Total |  | Count | 2 | 88 | 196 | 114 | 400 |
|  |  | \% within brand choice | 0.5\% | 22.0\% | 49.0\% | 28.5\% | 100.0\% |

$40 \%$ of customer said that Toyota is their first choice compared to only $25 \%$ \& $27 \%$ for Honda \& Nissan.

Table 4.30: brand choice * I would encourage others to purchase Honda/Toyota/Nissan car Crosstabulation

## brand choice * I would encourage others to purchase Honda/Toyota/Nissan car Crosstabulation

|  |  |  | I would encourage others to purchase Honda/Toyota/Nissan car |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | slightly disagree | moderate | slightly agree | strongly agree |  |
| brand choice | TOYOTA | Count | 2 | 10 | 23 | 25 | 60 |
|  |  | \% within brand choice | 3.3\% | 16.7\% | 38.3\% | 41.7\% | 100.0\% |
|  | HONDA | Count | 1 | 27 | 58 | 32 | 118 |
|  |  | \% within brand choice | 0.8\% | 22.9\% | 49.2\% | 27.1\% | 100.0\% |
|  | NISSAN | Count | 1 | 49 | 115 | 57 | 222 |
|  |  | \% within brand choice | 0.5\% | 22.1\% | 51.8\% | 25.7\% | 100.0\% |
| Total |  | Count | 4 | 86 | 196 | 114 | 400 |
|  |  | \% within brand choice | 1.0\% | 21.5\% | 49.0\% | 28.5\% | 100.0\% |

$40 \%$ of customer said that they would encourage others to purchase Toyota.

Table 4.31: brand choice * Gender Crosstabulation
brand choice * Gender Crosstabulation

|  |  |  | Gender |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | male | female |  |
| brand choice | TOYOTA | Count | 28 | 32 | 60 |
|  |  | \% within brand choice | 46.7\% | 53.3\% | 100.0\% |
|  |  | \% within Gender | 14.4\% | 15.5\% | 15.0\% |
|  | HONDA | Count | 55 | 63 | 118 |
|  |  | \% within brand choice | 46.6\% | 53.4\% | 100.0\% |
|  |  | \% within Gender | 28.4\% | 30.6\% | 29.5\% |
|  | NISSAN | Count | 111 | 111 | 222 |
|  |  | \% within brand choice | 50.0\% | 50.0\% | 100.0\% |
|  |  | \% within Gender | 57.2\% | 53.9\% | 55.5\% |
| Total |  | Count | 194 | 206 | 400 |
|  |  | \% within brand choice | 48.5\% | 51.5\% | 100.0\% |
|  |  | \% within Gender | 100.0\% | 100.0\% | 100.0\% |

Female slightly prefer Toyota (53\%) \& Honda (53\%) over Nissan. However, Nissan dominate in both male (57\%) \& female (54\%) segments.

Table 4.32: brand choice * Age Crosstabulation
brand choice * Age Crosstabulation

|  |  |  | Age |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Between <br> 20 to 30 <br> Years | Between <br> 31 and 40 <br> Years | Between <br> 41 and 50 <br> Years | 51Years <br> and above |  |
| brand choice | TOYOTA | Count | 19 | 28 | 11 | 2 | 60 |
|  |  | \% within brand choice | 31.7\% | 46.7\% | 18.3\% | 3.3\% | 100.0\% |
|  | HONDA | Count | 38 | 54 | 20 | 6 | 118 |
|  |  |  | 32.2\% | 45.8\% | 16.9\% | 5.1\% | 100.0\% |
|  | NISSAN | Count | 63 | 88 | 53 | 18 | 222 |
|  |  | \% within brand choice | 28.4\% | 39.6\% | 23.9\% | 8.1\% | 100.0\% |
| Total |  | Count | 120 | 170 | 84 | 26 | 400 |
|  |  |  | 30.0\% | 42.5\% | 21.0\% | 6.5\% | 100.0\% |

The age between 31 and 40 years of customers more prefer to purchase TOYOTA (46.7\%), HONDA (45.8\%), NISSAN (39.6\%).

Table 4.33: brand choice * Monthly income Crosstabulation
brand choice * Monthly income Crosstabulation


Most customers who want to purchase TOYOTA (40.0\%), HONDA (37.3\%), NISSAN (41.9\%) have monthly income level of $20,000-35,000$ BAHT.

Table 4.34: brand choice * price in mind Crosstabulation
brand choice * price in mind Crosstabulation


The majority customers can accept price of car between $2,000,000-3,000,000$ BAHT around $50 \%$.

Table 4.35: brand choice * where to buy Crosstabulation
brand choice * where to buy Crosstabulation


More than $50 \%$ of (Toyota, Honda, Nissan) customers purchased their cars from the 4 S store.

Table 4.36: brand choice * where get information Crosstabulation
brand choice * where get information Crosstabulation

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline \multicolumn{3}{|l|}{\multirow[t]{2}{*}{}} \& \multicolumn{4}{|c|}{where get information} \& \\
\hline \& \& \& A friend introduc ed \& Advertising , television \& The introducti on of the sales staff \& web query \& Total \\
\hline \multirow[t]{3}{*}{brand choice} \& TOYO TA \& \begin{tabular}{l}
Count \\
\% \\
Within \\
brand \\
choice
\end{tabular} \& \[
\begin{array}{r}
5 \\
8.3 \%
\end{array}
\] \& \[
\begin{array}{r}
15 \\
25.0 \%
\end{array}
\] \& \[
\begin{array}{r}
30 \\
\\
50.0 \%
\end{array}
\] \& 10
\(16.7 \%\) \& \[
\begin{array}{r}
60 \\
\\
100.0 \\
\%
\end{array}
\] \\
\hline \& \begin{tabular}{l}
HOND \\
A
\end{tabular} \& \begin{tabular}{l}
Count \\
\% \\
Within \\
brand \\
choice
\end{tabular} \& \[
3.4 \%
\] \& \[
\begin{array}{r}
31 \\
26.3 \%
\end{array}
\] \& \[
\begin{array}{r}
62 \\
52.5 \%
\end{array}
\] \& 21
\(17.8 \%\) \& \[
118
\]
\[
100.0
\]
\[
\%
\] \\
\hline \& \begin{tabular}{l}
NISSA \\
N
\end{tabular} \& \begin{tabular}{l}
Count \\
\% \\
Within \\
brand \\
choice
\end{tabular} \& \[
\begin{array}{r}
17 \\
7.7 \%
\end{array}
\] \& \[
\begin{array}{r}
35 \\
15.8 \%
\end{array}
\] \& \[
\begin{array}{r}
139 \\
62.6 \%
\end{array}
\] \& 31
\(14.0 \%\) \& \[
\begin{array}{r}
222 \\
\\
100.0 \\
\%
\end{array}
\] \\
\hline Total \& \& \begin{tabular}{l}
Count \\
\% \\
Within \\
brand \\
choice
\end{tabular} \& \[
\begin{array}{r}
26 \\
6.5 \%
\end{array}
\] \& \[
\begin{array}{r}
81 \\
20.3 \%
\end{array}
\] \& \[
\begin{array}{r}
231 \\
\\
57.8 \%
\end{array}
\] \& 62

$15.5 \%$ \& $$
\begin{array}{r}
400 \\
\\
100.0 \\
\%
\end{array}
$$ <br>

\hline
\end{tabular}

The customers who are more $50 \%$ get the information for purchasing cars from the introduction of the sales staff of TOYOTA, HONDA and NISSAN.

Table 4.37: brand choice * purpose to buy Crosstabulation
brand choice * purpose to buy Crosstabulation


The main reason that customer purchase TOYOTA, HONDA and NISSAN are for the business needs which has around $50 \%$.

Table 4.38: Multinomial Logit Model for the all independent variables and dependent variable

Likelihood Ratio Tests

| Effect | Model <br> Fitting <br> Criteria | Likelihood Ratio Tests |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $-2 \text { Log }$ <br> Likelihood <br> of <br> Reduced <br> Model | Chi- <br> Square | df | Sig. |
| Intercept | $3.088^{\text {a }}$ | . 000 | 0 |  |
| MeanPQ | $2.649^{\text {b }}$ | 9.561 | 1 | . 028 |
| MeanBFE | $4.464{ }^{\text {b }}$ |  | 1 |  |
| MeanASS | $7.432^{\text {b }}$ | 4.344 | 1 | . 000 |
| MeanBSR | $3.850^{\text {b }}$ | 0.762 | 1 | . 005 |
| MeanPR | $4.811^{\text {b }}$ | 1.723 | 1 | . 064 |
| MeanLOCATION | $8.819^{\text {b }}$ | 5.731 | 1 | . 009 |
| MeanBI | $4.951^{\text {b }}$ | 1.863 | 1 | . 000 |
| MeanPDN | $5.271^{\text {b }}$ | 2.182 | 1 | . 000 |
| MeanPRICE | $5.708^{\text {b }}$ |  | 1 |  |
| MeanWARRANTY | $4.317^{\text {b }}$ |  | 1 |  |
| MeanDL | $7.078{ }^{\text {b }}$ | 3.990 | 1 | . 004 |

The results of all cross tabulation tables strongly support hypotheses that all variables included in the model have positively and linearly relationship with separately intention as shown below:

Table 4.39: Crosstabulation between Product Quality and Purchase Decision

MeanPQ* MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanPQ | 3.00 | 0 | $\begin{array}{r} 1 \\ 1 \\ 0 \\ 4 \\ 1 \\ 1 \\ 3 \\ 0 \\ 2 \\ 0 \\ 13 \end{array}$ | 0 | 1 | 0 | 0 | 2 |
|  | 3.67 | 0 |  | 0 | 0 | 0 | 1 | 2 |
|  | 4.00 | 0 |  | 0 | 0 | 0 | 1 | 1 |
|  | 4.33 | 0 |  | 7 | 3 | 4 | 0 | 18 |
|  | 4.67 | 0 |  | 14 | 4 | 6 | 5 | 30 |
|  | 5.00 | 1 |  | 16 | 32 | 31 | 1 | 82 |
|  | 5.33 | 1 |  | 18 | 27 | 26 | 7 | 82 |
|  | 5.67 | 0 |  | 23 | 20 | 38 | 10 | 91 |
|  | 6.00 | 0 |  | 8 | 17 | 22 | 7 | 56 |
|  | 6.33 | 0 |  | 3 | 13 | 18 | 2 | 36 |
| Total |  | 2 |  | 89 | 117 | 145 | 34 | 400 |

Table 4.40: Crosstabulation between Better Fuel Economy and Purchase Decision

MeanBFE * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 | Total |
| MeanBFE | 3.00 | 1 | 3 | 5 | 4 | 3 | 0 | 16 |
|  | 3.33 | 1 | 4 | 16 | 14 | 5 | 4 | 44 |
|  | 3.67 | 0 | 1 | 15 | 16 | 26 | 4 | 62 |
|  | 4.00 | 0 | 2 | 19 | 30 | 36 | 4 | 91 |
|  | 4.33 | 0 | 2 | 30 | 32 | 44 | 11 | 119 |
|  | 4.67 | 0 | 1 | 4 | 17 | 26 | 10 | 58 |
|  | 5.00 | 0 | 0 | 0 | 4 | 5 | 1 | 10 |
|  |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.41: Crosstabulation between After Sale Service and Purchase Decision

MeanASS * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanASS | 3.00 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
|  | 3.25 | 0 | 4 | 5 | 7 | 1 | 1 | 18 |
|  | 3.50 | 1 | 2 | 11 | 8 | 8 | 2 | 32 |
|  | 3.75 | 1 | 1 | 27 | 16 | 9 | 4 | 58 |
|  | 4.00 | 0 | 1 | 29 | 35 | 41 | 4 | 110 |
|  | 4.25 | 0 | 4 | 13 | 23 | 38 | 8 | 86 |
|  | 4.50 | 0 | 0 | 3 | 20 | 41 | 10 | 74 |
|  | 4.75 | 0 | 0 | 1 | 7 | 6 | 4 | 18 |
|  | 5.00 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.42: Crosstabulation between Battery Safety Record and Purchase Decision

MeanBSR * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanBSR | 3.00 | 0 | 1 | 2 | 0 | 1 | 0 | 4 |
|  | 3.33 | 0 | 4 | 12 | 14 | 14 | 2 | 46 |
|  | 3.67 | 1 | 0 | 27 | 23 | 19 | 4 | 74 |
|  | 4.00 | 0 | 3 | 18 | 20 | 26 | 5 | 72 |
|  | 4.33 | 1 | 3 | 13 | 33 | 54 | 18 | 122 |
|  | 4.67 | 0 | 2 | 17 | 27 | 26 | 4 | 76 |
|  | 5.00 | 0 | 0 | 0 | 0 | 5 | 1 | 6 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.43: Crosstabulation between Promotion and Purchase Decision

MeanPR * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanPR | 3.00 | 0 | 4 | 7 | 1 | 3 | 1 | 16 |
|  | 3.33 | 0 | 3 | 15 | 11 | 4 | 3 | 36 |
|  | 3.67 | 2 | 0 | 18 | 18 | 18 | 3 | 59 |
|  | 4.00 | 0 | 3 | 21 | 30 | 33 | 5 | 92 |
|  | 4.33 | 0 | 2 | 23 | 30 | 54 | 14 | 123 |
|  | 4.67 | 0 | 1 | 2 | 23 | 28 | 2 | 56 |
|  | 5.00 | 0 | 0 | 3 | 4 | 5 | 6 | 18 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.44: Crosstabulation between Location and Purchase Decision

## MeanLOCATION * MeanPD Crosstabulation

Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanLOCATION | 2.50 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
|  | 3.00 | 1 | 5 | 40 | 23 | 8 | 5 | 82 |
|  | 3.50 | 1 | 2 | 2 | 2 | 3 | 0 | 10 |
|  | 4.00 | 0 | 4 | 36 | 56 | 80 | 14 | 190 |
|  | 4.50 | 0 | 0 | 0 | 1 | 1 | 0 | 2 |
|  | 5.00 | 0 | 1 | 11 | 35 | 53 | 14 | 114 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.45: Crosstabulation between Brand Image and Purchase Decision

MeanBI * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanBI | 2.67 | 0 | 0 | 1 | 1 | 0 | 0 | 2 |
|  | 3.00 | 0 | 2 | 1 | 1 | 1 | 1 | 6 |
|  | 3.33 | 0 | 4 | 9 | 15 | 8 | 3 | 39 |
|  | 3.67 | 1 | 1 | 32 | 18 | 15 | 5 | 72 |
|  | 4.00 | 0 | 3 | 25 | 25 | 33 | 6 | 92 |
|  | 4.33 | 1 | 3 | 17 | 37 | 59 | 14 | 131 |
|  | 4.67 | 0 | 0 | 4 | 18 | 23 | 3 | 48 |
|  | 5.00 | 0 | 0 | 0 | 2 | 6 | 2 | 10 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.46: Crosstabulation between Product design and Purchase Decision

MeanPDN * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanPDN | 2.00 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
|  | 2.50 | 1 | 0 | 1 | 1 | 1 | 0 | 4 |
|  | 3.00 | 0 | 4 | 3 | 3 | 2 | 0 | 12 |
|  | 3.50 | 1 | 3 | 67 | 18 | 13 | 6 | 108 |
|  | 4.00 | 0 | 2 | 9 | 55 | 25 | 4 | 95 |
|  | 4.50 | 0 | 4 | 7 | 36 | 99 | 14 | 160 |
|  | 5.00 | 0 | 0 | 2 | 4 | 5 | 9 | 20 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.47: Crosstabulation between Price and Purchase Decision

## MeanPRICE * MeanPD Crosstabulation

Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanPRICE | 1.50 | 0 | 1 | 2 | 9 | 3 | 2 | 17 |
|  | 2.00 | 0 | 0 | 5 | 6 | 8 | 5 | 24 |
|  | 2.50 | 0 | 0 | 0 | 8 | 3 | 1 | 12 |
|  | 3.00 | 1 | 2 | 4 | 8 | 1 | 0 | 16 |
|  | 3.50 | 1 | 5 | 28 | 18 | 24 | 3 | 79 |
|  | 4.00 | 0 | 2 | 30 | 36 | 33 | 7 | 108 |
|  | 4.50 | 0 | 3 | 20 | 25 | 59 | 7 | 114 |
|  | 5.00 | 0 | 0 | 0 | 7 | 14 | 9 | 30 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.48: Crosstabulation between Warranty and Purchase Decision

## MeanW ARRANTY * MeanPD Crosstabulation

Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanWARRANTY | 2.00 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
|  | 3.00 | 1 | 4 | 5 | 3 | 1 | 0 | 14 |
|  | 3.50 | 0 | 4 | 37 | 31 | 17 | 7 | 96 |
|  | 4.00 | 0 | 3 | 25 | 38 | 45 | 6 | 117 |
|  | 4.50 | 0 | 2 | 20 | 39 | 68 | 15 | 144 |
|  | 5.00 | 0 | 0 | 2 | 6 | 14 | 6 | 28 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

Table 4.49: Crosstabulation between Demographic lifestyle and Purchase Decision

MeanDL * MeanPD Crosstabulation
Count

|  |  | MeanPD |  |  |  |  |  | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 2.50 | 3.00 | 3.50 | 4.00 | 4.50 | 5.00 |  |
| MeanDL | 2.00 | 1 | 0 | 0 | 0 | 1 | 0 | 2 |
|  | 2.50 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
|  | 3.00 | 1 | 4 | 5 | 4 | 2 | 0 | 16 |
|  | 3.50 | 0 | 4 | 35 | 27 | 20 | 11 | 97 |
|  | 4.00 | 0 | 3 | 20 | 40 | 44 | 9 | 116 |
|  | 4.50 | 0 | 2 | 25 | 38 | 63 | 12 | 140 |
|  | 5.00 | 0 | 0 | 4 | 8 | 14 | 2 | 28 |
| Total |  | 2 | 13 | 89 | 117 | 145 | 34 | 400 |

### 4.3 Hypothesis testing

In the study, researchers tested the relationship between independent and dependent variables. After collecting data process, researchers managed data and analyzed by using SPSS program. There are 11 hypotheses in this research, researchers decided to use correlation analysis to test the relationship between two variables within each hypothesis. The data was collected by using questionnaires to measure as interval scale, and using Pearson correlation to use in this research.

H1o: There is no relationship between Product Quality and Purchase Decision H1a: There is a relationship between Product Quality and Purchase Decision

Table 4.50: The Analysis of relation between Product Quality and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

Correlations

|  |  | MeanPQ | MeanPD |
| :--- | :--- | ---: | ---: |
| MeanPQ | Pearson Correlation | 1 | $.212^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanPD | Pearson Correlation | $.212^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level ( 2 -tailed).

As indicated in the Table 4.35, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than 0.01 ( $0.001<0.01$ ). It means that null hypothesis was rejected at the 0.01 significant level. At 0.212 , it means that there is a low positive relationship between product quality and purchase decision.

H2o: There is no relationship between Better Fuel Economy and Purchase Decision H2a: There is a relationship between Better Fuel Economy and Purchase Decision

Table 4.51: The Analysis of relation between Better Fuel Economy and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

## Correlations

|  |  | MeanPD | MeanBFE |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | 1 | $.277^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanBFE | Pearson Correlation | $.277^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

[^0]As indicated in the Table 4.36, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than 0.01 ( $0.001<0.01$ ). It means that null hypothesis was rejected at the 0.01 significant level. At 0.277 , it means that there is a low positive relationship between better fuel economy and purchase decision.

H3o: There is no relationship between After Sale Service and Purchase Decision H3a: There is a relationship between After Sale Service and Purchase Decision

Table 4.52: The Analysis of relation between After Sale Service and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

Correlations

|  |  | MeanPD | MeanASS |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | 1 | $.359^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanASS | Pearson Correlation | $.359^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level ( 2 -tailed).
As indicated in the Table 4.37, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than $0.01(0.001<0.01)$. It means that null hypothesis was rejected at the 0.01 significant level. At 0.359 , it means that there is a low positive relationship between after sale service and purchase decision.

H4o: There is no relationship between Battery Safety Record and Purchase Decision H4a: There is a relationship between Battery Safety Record and Purchase Decision

Table 4.53: The Analysis of relation between Battery Safety Record and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

|  | Correlations |  |  |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | MeanPD | MeanBSR |
|  | Sig. (2-tailed) | 1 | $.188^{* *}$ |
|  | N |  | .000 |
| MeanBSR | Pearson Correlation | $.188^{* *}$ | 400 |
|  | Sig. (2-tailed) | .000 | 1 |
|  | N | 400 | 400 |

**. Correlation is significantat the 0.01 level (2-tailed).

As indicated in the Table 4.38, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than 0.01 ( $0.001<0.01$ ). It means that null hypothesis was rejected at the 0.01 significant level. At 0.188 , it means that there is a low positive relationship between battery safety record and purchase decision.

H5o: There is no relationship between Promotion and Purchase Decision

H5a: There is a relationship between Promotion and Purchase Decision

Table 4.54: The Analysis of relation between Promotion and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

Correlations

|  |  | MeanPD | MeanPR |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | 1 | $.306^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanPR | Pearson Correlation | $.306^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level ( 2 -tailed).

As indicated in the Table 4.39, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than $0.01(0.001<0.01)$. It means that null hypothesis was rejected at the 0.01 significant level. At 0.306 , it means that there is a low positive relationship between promotion and purchase decision.

H6o: There is no relationship between Location and Purchase Decision
H6a: There is a relationship between Location and Purchase Decision
Table 4.55: The Analysis of relation between Location and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

| Correlations |  |  |  |
| :--- | :--- | ---: | ---: |
|  |  |  | MeanLOCATIO <br> NeanPD |
| MeanPD | Pearson Correlation | 1 | $.346^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanLOCATION | Pearson Correlation | $.346^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated in the Table 4.40, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than $0.01(0.001<0.01)$. It means that null hypothesis was rejected at the 0.01 significant level. At 0.346 , it means that there is a low positive relationship between location and purchase decision.

H7o: There is no relationship between Brand Image and Purchase Decision

H7a: There is a relationship between Brand Image and Purchase Decision

Table 4.56: The Analysis of relation between Brand Image and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

Correlations

|  |  | MeanPD | MeanBI |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | 1 | $.276^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanBI | Pearson Correlation | $.276^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level (2-tailed).
As indicated in the Table 4.41, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than 0.01 ( $0.001<0.01$ ). It means that null hypothesis was rejected at the 0.01 significant level. At 0.276 , it means that there is a low positive relationship between brand image and purchase decision.

H8o: There is no relationship between Product Design and Purchase Decision

H8a: There is a relationship between Product Design and Purchase Decision
Table 4.57: The Analysis of relation between Product Design and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

| Correlations |  |  |  |
| :--- | :--- | ---: | ---: |
|  | MeanPD | MeanPDN |  |
| MeanPD | Pearson Correlation | 1 | $.493^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanPDN | Pearson Correlation | $.493^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level ( 2 -tailed).

As indicated in the Table 4.42, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than 0.01 ( $0.001<0.01$ ). It means that null hypothesis was rejected at the 0.01 significant level. At 0.493 , it means that there is a medium positive relationship between product design and purchase decision.

H9o: There is no relationship between Price and Purchase Decision
H9a: There is a relationship between Price and Purchase Decision

Table 4.58: The Analysis of relation between Price and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

Correlations

|  |  | MeanPD | MeanPRICE |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | 1 | $.133^{* *}$ |
|  | Sig. (2-tailed) |  | .008 |
|  | N | 400 | 400 |
| MeanPRICE | Pearson Correlation | $.133^{* *}$ | 1 |
|  | Sig. (2-tailed) | .008 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated in the Table 4.43, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.008 which lower than 0.01 ( $0.008<0.01$ ). It means that null hypothesis was rejected at the 0.01 significant level. At 0.133 , it means that there is a low positive relationship between price and purchase decision.

H10o: There is no relationship between Warranty and Purchase Decision
H10a: There is a relationship between Warranty and Purchase Decision
Table 4.59: The Analysis of relation between Warranty and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

Correlations

|  |  |  | MeanWARRAN <br> TY |
| :--- | :--- | ---: | ---: |
| MeanPD | Pearson Correlation | 1 | $.389^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanWARRANTY | Pearson Correlation | $.389^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated in the Table 4.44, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than $0.01(0.000<0.01)$. It means that null hypothesis was rejected at the 0.01 significant level. At 0.389 , it means that there is a low positive relationship between warranty and purchase decision.

H11o: There is no relationship between Demographic lifestyle and Purchase Decision H11a: There is a relationship between Demographic lifestyle and Purchase Decision

Table 4.60: The Analysis of relation between Demographic lifestyle and Purchase Decision by using Pearson Product Moment Coefficient Correlation (Bivariate)

| Correlations |  |  |  |
| :--- | :--- | ---: | ---: |
|  |  | MeanPD | MeanDL |
| MeanPD | Pearson Correlation | 1 | $.248^{* *}$ |
|  | Sig. (2-tailed) |  | .000 |
|  | N | 400 | 400 |
| MeanDL | Pearson Correlation | $.248^{* *}$ | 1 |
|  | Sig. (2-tailed) | .000 |  |
|  | N | 400 | 400 |

**. Correlation is significant at the 0.01 level (2-tailed).

As indicated in the Table 4.45, the result from this hypothesis indicated that the significant (2-tailed test) is equal 0.000 which lower than $0.01(0.000<0.01)$. It means that
null hypothesis was rejected at the 0.01 significant level. At 0.248 , it means that there is a low positive relationship between demographic lifestyle and purchase decision.

## Chapter 5

Summary, Conclusions and Recommendations

### 5.1 Introduction

The research objective of this study is to determine the relationship between customers' purchase decision and the factors that may affect it. The factors include are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle.

### 5.2 Summary Demographic Factors

Table 5.1: Summary the highest percentage of each variable of demographic factor

| Demographic <br> factor | Characteristic | Frequency (f) | Percentage (\%) |
| :--- | :--- | :--- | :--- |
| Gender | Female | 206 | 51.5 |
| Age | Between 31 and 40 <br> Years | 170 | 42.5 |
| Income | 20,000-35,000 <br> BAHT | 161 | 40.3 |
| Mind of price | 2,000,000- <br> $3,000,000 ~ B A H T ~$ | 197 | 49.3 |
| Where to buy | 4S store | 54.5 |  |
| Where get <br> information | The introduction of <br> the sales staff | 231 | 57.8 |
| Purpose to buy | Business need | 201 | 50.3 |


| How to buy | From a friend to <br> borrow money to <br> buy | 224 | 56.0 |
| :--- | :--- | :--- | :--- |
| What type to <br> buy | Luxury car | 228 | 57.0 |
| Brand choice | NISSAN | 222 | 55.5 |

The distribution of demographic variables of the sample indicated that the majority respondents are equal which number of respondents is female age level in range 31-40 years old, income is $20,000-35,000$ BAHT, mind of price is $2,000,000-3,000,000$ BAHT, and will buy at 4 s store, get information of the sales staff, for business need, money form friend borrow and want luxury car, willing to buy Nissan.

### 5.3 Summary of Hypothesis Testing

Based on the research objectives, Pearson's Correlation analysis was employed to this study. After analyzing the hypotheses, all the null hypotheses were rejected. The results are summarized as follows:

Hypothesis 1: There is a relationship between Product Quality and Purchase Decision. At 0.212 , it means that there is a low positive relationship between product quality and purchase decision.

Hypothesis 2: There is a relationship between Better Fuel Economy and Purchase Decision. At 0.277 , it means that there is a low positive relationship between better fuel economy and purchase decision.

Hypothesis 3: There is a relationship between After Sale Service and Purchase Decision. At 0.359 , it means that there is a low positive relationship between after sale service and purchase decision.

Hypothesis 4: There is a relationship between Battery Safety Record and Purchase Decision. At 0.188 , it means that there is a low positive relationship between battery safety record and purchase decision.

Hypothesis 5: There is a relationship between Promotion and Purchase Decision. At 0.306 , it means that there is a low positive relationship between promotion and purchase decision.

Hypothesis 6: There is a relationship between Location and Purchase Decision. At 0.346 , it means that there is a low positive relationship between location and purchase decision.

Hypothesis 7: There is a relationship between Brand Image and Purchase Decision. At 0.276 , it means that there is a low positive relationship between brand image and purchase decision.

Hypothesis 8: There is a relationship between Product Design and Purchase Decision. At 0.493 , it means that there is a medium positive relationship between product design and purchase decision.

Hypothesis 9: There is a relationship between Price and Purchase Decision. At 0.133 , it means that there is a low positive relationship between price and purchase decision.

Hypothesis 10: H10a: There is a relationship between Warranty and Purchase Decision. At 0.389 , it means that there is a low positive relationship between warranty and purchase decision.

Hypothesis11: There is a relationship between Demographic lifestyle and Purchase Decision. At 0.248 , it means that there is a low positive relationship between demographic lifestyle and purchase decision.

### 5.4 Discussion and Implication

## For demographic factors:

From these results, it can be inferred that majority of passage car customers, being female age level in range $31-40$ years old, income is $20,000-35,000$ BAHT, mind of price is $2,000,000-3,000,000$ BAHT, and will buy at 4 s store, get information of the sales staff, for business need, money form friend borrow and want luxury car, willing to buy Nissan.

## For Hypotheses:

Hypothesis One (H1): Based on the result of hypotheses one, it shows that there is a low positive relationship between product quality and purchase decision. It indicates that passage car companies should improve their product quality which would meet customers purchase decision.

Hypothesis Two (H2): Based on the result of hypotheses one, it shows that there is a low positive relationship between better fuel economy and purchase decision. It
indicates that passage car companies should improve their better fuel economy which would meet customers purchase decision.

Hypothesis Three (H3): Based on the result of hypotheses one, it shows that there is a low positive relationship between after sale service and purchase decision. It indicates that passage car companies should improve their $b$ after sale service which would meet customers purchase decision.

Hypothesis Four (H4): Based on the result of hypotheses one, it shows that here is a low positive relationship between battery safety record and purchase decision. It indicates that passage car companies should improve their battery safety record which would meet customers purchase decision.

Hypothesis Five (H5): Based on the result of hypotheses one, it shows that there is a low positive relationship between promotion and purchase decision. It indicates that passage car companies should improve their promotion which would meet customers purchase decision.

Hypothesis Six (H6): Based on the result of hypotheses one, it shows that there is a low positive relationship between location and purchase decision. It indicates that passage car companies should improve their location which would meet customers purchase decision.

Hypothesis Seven (H7): Based on the result of hypotheses one, it shows that there is a low positive relationship between brand image and purchase decision. It indicates that passage car companies should improve their brand image which would meet customers purchase decision.

Hypothesis Eight (H8): Based on the result of hypotheses one, it shows that there is a medium positive relationship between product design and purchase decision. It indicates that passage car companies should improve their product design which would meet customers purchase decision.

Hypothesis Nine (H9): Based on the result of hypotheses one, it shows that there is a low positive relationship between price and purchase decision. It indicates that passage car companies should improve their price which would meet customers purchase decision.

Hypothesis Ten (H10): Based on the result of hypotheses one, it shows that there is a low positive relationship between warranty and purchase decision. It indicates that passage car companies should improve their warranty which would meet customers purchase decision.

Hypothesis Eleven (H11): Based on the result of hypotheses one, it shows that there is a low positive relationship between demographic lifestyle and purchase decision. It indicates that passage car companies should improve their demographic lifestyle which would meet customers purchase decision.

### 5.5 Conclusion

In the study, the factors that impact on the customer's purchase decision passenger automobile industry in Bangkok will be determined. The factors include are product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle. There are 400
questionnaires were send to target population in the passenger car service shop in Sukhumvit 66 Bangkok.

There is a low positive relationship between product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, price, warranty, demographic lifestyle and purchase decision. And there is a medium positive relationship between product design and purchase decision. This means, the eleven factors, product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, demographic lifestyle can be developed to increase the level of purchase decision.

As the conclusion, to increase the level of purchase decision, product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, product design, price, warranty, and demographic lifestyle should focus to develop for more benefit in the future.

### 5.6 Recommendation

A number of recommendations are indicated by the researchers based on the research findings, observations and the analysis. Product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, price, warranty, and demographic lifestyle has low positive relationship with purchase decision, therefore the management team should maintain and also develop the product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, price, warranty, and demographic lifestyle of passage cars.

### 5.7 Further Study

In this study, the researchers sought to identify Product quality, better fuel economy, after sale service, battery safety record, promotion, location, brand image, price, warranty, and demographic lifestyle will effect on customer's purchase decision of passage cars in Bangkok. It is suggested the further studies of the expectations together with perceptions of microeconomic factors such as GDP, GNP, CPI in order to identify the factors that influence purchase decision.

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## APPENDIX

## Questionnaire

## Part I Demographic and General information

1.Your gender:
[] Male [] Female
2. Please tick $(\sqrt{ })$ on the age bracket which best describes the range in which your age falls:
[] Between 20 to 30 Years
[] Between 31 and 40 Years
[] Between 41 and 50 Years
[] 51Years and above
3. Your monthly income:
[ ]0—10,000 BAHT
[ ]10,000-20,000BAHT
[ ]20,000-35,000 BAHT
[ ] More than35, 000 BAHT
4. What is in the mind of the price, before want buy a car:
[ ]500,000-1,000,000 BAHT
[ ] $1,000,000-2,000,000$ BAHT
[ ]2,000,000-3,000,000 BAHT
[ ] More than 3,000,000 BAHT
5. Where would you like to buy a car:
[] 4S store
[] Dealers
[] Online shopping
[] Other
6. Where you get the information of car:
[] A friend introduced
[] Advertising, television
[] The introduction of the sales staff
[] web query
7. What is the main purpose of you to buy a car?
[] Instead of walking
[] Convenient for family travel
[] Business need
[] Improve the quality of life
8. How are you going to buy car:
[] Full purchase
[] Payment by installment
[ ] From a friend to borrow money to buy
[] From bank to borrow money to buy
9. What types of the car do you like?
[] Small car
[] compact car
[] Luxury car
[ ]SUV

## Part II Brand Choice

1. Which brand of car in Thailand is your favorite?
__ TOYOTA ___ HONDA ___ NISSAN

## Part III. Measuring Variables

Please answer the following question by mark " $\sqrt{ }$ " in the space given below and do kindly answer truthfully and complete all questions.

| Variable | Strongly <br> Disagree | Slightly <br> Disagree | Moderate | Slightly <br> Agree | Strongly <br> Agree |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ | $\mathbf{5}$ |
| Product Quality |  |  |  |  |  |
| 1. The position of seat is very comfortable |  |  |  |  |  |
| 2. The visibility for the driver's seat is good |  |  |  |  |  |
| 3. The Honda/Toyota/Nissan car is stable at high speeds |  |  |  |  |  |
| 4. The Honda/Toyota/Nissan car stop smoothly when apply <br> the brakes |  |  |  |  |  |
| Better Fuel Economy, |  |  |  |  |  |
| 1. Honda/Toyota/Nissan car can help to save fuel cost |  |  |  |  |  |
| 2. Honda/Toyota/Nissan car can provide new technology of <br> hybrid |  |  |  |  |  |
| 3. Drive Honda/Toyota/Nissan car can get significantly less <br> than 25 miles to the gallon |  |  |  |  |  |
| After Sale Service |  |  |  |  |  |
| 3. I I can get the repair service immediately after I request the insurance service immediately after I need |  |  |  |  |  |


| 4. Employees made me feel comfortable in dealing with <br> them. |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Battery Safety Record |  |  |  |  |  |
| 1. when battery is low, the system of Honda/Toyota/Nissan <br> car can inform me immediately |  |  |  |  |  |
| 2. There is extra battery can be used after battery broken |  |  |  |  |  |
| 3. The battery can provide enough power when I request |  |  |  |  |  |
| Promotion |  |  |  |  |  |
| 1. Honda/Toyota/Nissan has attractive sales promotion than <br> other brands |  |  |  |  |  |
| 2. Honda/Toyota/Nissan has more monetary sales <br> promotion such as discounts and coups |  |  |  |  |  |
| 3. Honda/Toyota/Nissan has more non-monetary sales <br> promotion such as sweepstakes, free gifts and loyalty <br> programmers |  |  |  |  |  |
| Location |  |  |  |  |  |
| 1. It's very easy to find store of Honda/Toyota/Nissan when <br> I want to purchase car |  |  |  |  |  |
| 2. There are service centers of Honda/Toyota/Nissan in <br> every region of Bangkok <br> Honda/Toyota/Nissan |  |  |  |  |  |
| Brand Image |  |  |  |  |  |
| 2. Honda/Toyota/Nissan comes to my mind at firs when |  |  |  |  |  |



| budget is allowed |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 2. Honda/Toyota/Nissan car is my first choice |  |  |  |  |  |
| 3. I would encourage others to purchase <br> Honda/Toyota/Nissan car |  |  |  |  |  |

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[^0]:    **. Correlation is significant at the 0.01 level ( 2 -tailed).

