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SCHOOL OF GRADUATE STUDIES

FACTORS AFFECTING BRAND CHOICE OF LUBRICANT BUYERS IN ADDIS ABABA, ETHIOPIA

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Declaration

I, the under signed, declare that this thesis is my original work, prepared under the guidance of Dr. Mesfin Workineh. All sources of materials used for the thesis work have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

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St. Mary's University, Addis Ababa   June, 2020

Endorsement

This thesis has been submitted to St. Mary's University, school of graduate studies for examination with my approval as a university advisor.

Mesfin Workineh (PhD)   _____

          Advisor   Signature

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List of Abbreviation

ANOVA   Analysis of Variance

SPSS   Statistical Package for Social Sciences

API   American Petroleum Institute

SAE   Society of American Engineers

ACEA   Association Des Constructeurs Europeens D'Automobiles (European Automobile Manufacturers Association)

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Abstract

Customers consider certain attributes before purchasing any product and the choice depends on different defining variables to select the preferred one. The purpose of this study was to identify factors affecting brand choice of lubricant buyers in Addis Ababa. The defining variables included in this study were in view of brand image, price, performance and availability in the market. A sample of 400 lubricant buyers were selected using convenience sampling technique to distribute structured questionnaire. Based on the theoretical framework and objectives of the study 23 items were provided in a 5-point Likert scale to the respondents. The scale was used to elicit information from the sampled respondents in the city of Addis Ababa. Out of the distributed 400 questionnaires, 348 where returned correctly and used in the research work. The results of the study showed that most of respondents were influenced by brand image to choose the lubricant among the available ones. The study revealed that brand image, price, performance, and availability make a significant and positive contribution to lubricant brand choice of consumers in Addis Ababa. Hence, those who are engaged in marketing lubricants can refer influencing factors which were significant and can be used to make marketing strategies based on the findings.

Key words: brand choice, brand image, price, availability

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Historically, the concept of brand was first used by the ancient Egyptian brick-makers who drew symbols on bricks for identification (Farquhar, 1990). Other examples of the use of brands were found in Greek and Roman times; at that time, due to illiteracy shopkeepers identified their shops using symbols. Moreover, in the Middle-Ages, craftsmen marked their goods with stamps as a trademark by which to differentiate their skills. The next milestone of brand evolved in North America with the growth of cattle farming as a kind of legal protection, proof of ownership and quality signals (Christopher and McDonald, 2003) stated by Denanso(2017). The earliest signs of branding in Europe were the medieval societies' requirement that craftspeople put trademarks on their products to protect themselves and their customers against inferior quality. Brand and branding has been around for centuries to distinguish the goods of one producer from those of another. In the fine arts, branding began with artists signing their works. Brands today play several important roles that improve consumers' lives and enhance the financial value of firms.

Consumer behavior studies individuals and groups when they select, purchase, use and dispose products, ideas, services or experiences. There is a huge variety of consumers from a small child asking mum to buy a new game to an international corporation executive making a huge investment deal. Consumers seek items to satisfy their basic needs and desires. Consumer behavior is much more than studying what consumers buy. It attempts to understand how the decision-making process goes and how it affects consumers' buying behavior. (Solomon 2010, pp. 6-8.) Marketers study consumers buying patterns to solve where they buy, what they buy and why they buy. However, why consumers buy a specific product is not easy to solve because the answer is locked deep within the consumers' mind. (Kotler, Armstrong, Saunders and Wong, 2010, p. 160.)

The fierce competition in terms of product similarity in the market have led marketers to study factors that are influential in consumers' brand choice decisions and its indispensable to deal with the competitors, changing customer tastes and preferences by Das (2012) quoted by Khan and Rohi (2013). Marketer's ability to create strong brand depends on thoroughly understanding customers profile about why they prefer one brand over competitors. Strong

brand can be a powerful weapon to maintain competitive advantage and to be chosen by the customers.

The concept of 'lubricating oils' or lubricants is presumed to be derived from the time when humans used tools. Lubricating oil has been used for variety of purposes to reduce friction and corrosion on the moving surfaces, suppress heat generation, keep objects clean, and create insulation and rust preventive effects. According to records, olive oil was used to move stone or lubber in constructing colossal buildings in ancient Egypt; since then tallow which is animal fat was used as lubricant in the wheel axes of trams.

Grease which is used to describe lubricating materials originated from the Latin word 'Grussu' which means fat because grease looked like fat in the early days. In the middle ages as complicated machines made from iron and cooper were widely used, various lubricating materials such as sperm oil (waxy liquid obtained from sperm whales), castor oil, peanut oil, and rapeseed oil appeared, it was not intended to no lender used vegetable oil or animal fat and they were adopted mostly based on the experience of use instead of scientific analysis.

Nowadays, lubricants are highly developed using complex chemical methods designed to push their potential to the absolute limit. They feature synthetic formulations developed over countless hours of laboratory testing, and specially crafted additives to eliminate problems users have suffered with in the past. Making sure the world keeps moving, explore oil, grease and fluid ranges today (Total UK, 2019).

1.2 Background of the Industry

The history of the petroleum supply in Ethiopia goes back towards the end of emperor Minillik II regime, particularly in 1905 with the construction of the Addis Ababa Djibouti Railway. Foreign Petroleum Suppliers such as Agip, Shell and Caltex were engaged in supply of fuel to Vehicles. The suppliers' imports fuel through the port Djibouti by locomotive. Although this period considered as the landmark for the beginning of fuel Supply in Ethiopia. Prior to this, the industry characterized by monopoly market surrounded by various limiting procedures and laws which bound the companies to introduce and build their brand (Mekte, 2018).

The pioneer in the supply of fuel and lubricants were four foreign companies named Shell Ethiopia Limited, Total Ethiopia Share Company, Mobil Oil East Africa Limited and Agip. First Agip withdrawn from Africa in 2001 and Shell took Agip place and stayed up to 2008 only and replaced by Oil Libya. Similarly, when Mobil withdrawn from Africa in 2006, Total have taken over the business. And until September 2005 when the first domestic oil company National Oil Company (NOC) joined the sector, it was dominated by only the foreign companies (Mekte, 2018).

Currently, there are more than 25 oil companies who are importing and blending lubricants in Ethiopia as well as distributing fuel to the market. There is only one multinational oil company in Ethiopia-Total the remaining oil companies are share companies or privately-owned ones.

The major oil companies are Total, National Oil Ethiopia (NOC), Libiya Oil Ethiopia, Yetebaberut Biherawi Petroleum (YBP), Kobil Ethiopia Ltd, Gomeju Oil, Taf Oil.

1.3 Statement of the problem

Whenever there is contact in metal parts, it will result in wear and tear. To reduce the wear and tear in moving parts, lubricants come in to effect for the solution as the loss of the machinery parts are directly related to the efficiency and economy of the individual or for the firm.

From different ground consumers choice is limited to few brands from a range of brands available in the market. As various studies explained, Elias (2018), Denanneso (2017), Legesse and Mulugeta (2018), the brand preference of consumers might be affected by marketing strategy of firms. Moreover, consumers may have their own choice criteria in selection of a brand from a set of brands in a given product category.

As stated above, researches related to factors that influence for the purchase of a given product brand were explained by Elias (2018) which he found that the Price, Taste, Package, Brand name, State of origin, Advertisement and Social group have their own effect in the purchase decision of the beer customers. In another research work, Denaneso (2017) studied that there is relationship between automobile purchase preference with brand image, reliability, availability of spare parts, safety, price, fuel economy, durability and social value. According to Legesse and Mulugeta (2018), packaging, product quality, price, brand name, brand availability, brand image and advertisement were significantly associated with consumers brand choice for bottled water products. For the purchase of lubricants, customers have their own criteria to choose a given brand from the market. The customers have information and higher expectation.

The current lubricants market is getting tougher and tougher as new oil companies are entering the market having different competitive edge. Therefore, knowing those determining factors will show oil companies the competition edge and can act accordingly.

1.4 Research question

Based on the above foundational problem statement, the researcher posed the following questions to get clear picture and answer about the factors that influence for the brand choice of lubricants

1.4.1 Main research question

What are the factors that influence brand choice of lubricant buyers in Addis Ababa?

1.4.2 Sub research question

- What is the influence of brand image on brand choice of lubricants?
- What is the influence of price on brand choice of lubricants?
- What is the influence of performance quality on brand choice of lubricants?
- What is the influence of availability on brand choice of lubricants?

1.5 Research Objectives

The research work will have the below general and specific objectives.

1.5.1 General objective

The general objective of the research is to examine the factors affecting brand choice of lubricant buyers in Addis Ababa.

1.5.2 Specific objective

- To identify the effect of brand image on brand choice of lubricants
- To investigate the influence of price on brand choice of lubricants

- To examine the impact of performance quality on brand choice of lubricants
- To study the influence of availability on brand choice of lubricants

1.6 Significance of the study

The lubricants market in Ethiopia is growing rapidly that different lubricant brands are joining the market to satisfy the need of the industrial customers and consumers. The introduction of various brands from year to year led to tough competition, which in turn make consumers to face brand choice decision in the market. In such a situation, it becomes necessary for suppliers who exist or planning to join the industry should understand the major factors attracting buyers to one's own brand, so that they can succeed in the market. Furthermore, the study will give insight for other researchers to explore and investigate more in the area, in a broader scope and wider context. At last but not least, the research findings helpful for literature reference.

1.7 Scope of the study

This study would try to show the main factors that affect the buyers brand choice of lubricants. There are different factors that influence the choice of products in the face of customers. Denanso (2017) addressed the effect of brand image, reliability, price, availability of spare parts, safety, fuel consumption, durability and social value that influence the brand choice of a particular automobile brand in Addis Ababa. In another research conducted by Sisay (2017) discussed determinant factors for choice of automobile includes price, brand image, dealer's accessibility, and availability of spare parts. An exploratory study on the factors affecting customers' choice of commercial vehicle lubricant products done by Ahmed (2016) found that performance, quality, higher API (American Petroleum Institute) grade, lower price and brand value/goodwill.

The scope of the study was to identify different factors which include price, brand image, availability and performance that affect the lubricants choice in Addis Ababa. The geographical limitation chosen because of time, the concentration of lubricants shops and garages, allocated finance needed for the research work and the presence of lubricants users. Data collection targets were car owners or drivers, garage mechanics, lubricants shops and fuel station users.

1.8 Limitation of the study

There are several methods of collecting primary data, particularly in surveys and descriptive researches and the researcher only used questionnaire type data collection. The target population were lube kiosk owners, garage mechanics, fuel station users and individual car

owners but car suppliers (OEMs – original equipment manufacturers), use lubricants for the vehicles they market in after sales service, were not included due to the scope of the study as it can be another dimension for future research work.

1.9 Organization of the study

The study is organized into five chapters. The chapters are comprised of: Introduction, Review of related Literature, Methodology, Data Presentation and Analysis and the last chapter summary, conclusion and recommendations.

The first chapter elaborated about the background, statement of the problem, research question, research objectives, significance of the study, scope of the study, and limitation of the study, organization of the study and definition of main terms use in the research work.

The second chapter deals with the theoretical and empirical review of related literature, conceptual frame work which is related to the influencing factors in the choice of lubricant brands. The third chapter covers the methodologies used in the research work which include the research approach, the research design used, the data types and sources used, population of the study, the sampling procedure followed, data collection instruments applied, the data analysis used, discussion on validity, reliability and the ethical considerations are well-thought-out.

The fourth chapter discusses about the research findings and discusses in detail. The last chapter comprises summery of the findings, conclusion and recommendation for future research work. References are put at the end of research work as per APA referencing style.

1.10 Definition of terms

Brand: The American Marketing Association defines a **brand** as "a name, term, sign, symbol, or design, or a combination of them, intended to identify the goods or services of one seller or group of sellers and to differentiate them from those of competitors." (Kotler and Keller, 2012, p. 241).

Brand Preference: It is a measure of brand loyalty in which a consumer will choose a particular brand in presence of competing brands, but will accept substitutes if that brand is not available.

Brand equity: is the added value endowed on products and services. It may be reflected in the way consumers think, feel, and act with respect to the brand, as well as in the prices, market share, and profitability the brand commands. (Kotler and Keller, 2012, p. 243)

Brand choice: is concerned with the selection and consumption of the brand (Bettman, Luce, Payne, 1998).

Brand image: the perceptions and beliefs held by consumers, as reflected in the associations held in consumer memory. (Kotler and Keller, 2012, glossary)

Purchasing behavior; As Pikini Rani (2014) tries to define purchasing behavior; it is the decision processes and acts of people involved in buying and using products

CHAPTER TWO
REVIEW OF RELATED LITERATURE

This chapter provides an insight to the readers about the theoretical review, empirical review, conceptual framework and hypothesis of the topic under study. There are also sub topics that are related to the theoretical and empirical findings.

2.1 Theoretical review

2.1.1 Consumer buying behavior

According to American Marketing Association definition, the dynamic interaction of affect and cognition, behavior, and the environment by which human beings conduct the exchange aspects of their lives or the obvious actions of consumers or the behavior of the consumer or decision maker in the market place of products and services.

The aim of marketing is to meet and satisfy target customers' needs and wants. The field of consumer behavior studies how individuals, groups, and organizations select, buy, use, and dispose of goods, services, ideas, or experiences to satisfy their needs and desires (Kotler, 2002). Both the marketing and environmental stimuli enter the buyer's consciousness in turn the buyer's characteristics and decision process lead to certain purchase decisions. The marketer's task is to understand what happens in the buyer's consciousness between the arrival of outside stimuli and the buyer's purchase decisions. As Keller (2002) stated, those buying behavior influenced by cultural, social, personal and psychological factors.

To achieve success in the modern marketing, studying consumer behavior maintain and increase the demand for companies' products only when the firm understand the feelings, desires, and buying motives of the consumers. Thus, the buyer behavior models are broadly classified into the following categories:

2.1.1.1 Economic model

According to the economic model of buying behavior, the buyer is a rational animal and his buying decisions are totally depended on the concept of utility. In other words, it explains an economic perspective of the customer. Here, consumer analyzes the pros & cons of purchasing a product. They considers the price, utility, quality, durability, reliability, service etc., of the product and then takes a decision. They purchases only those goods and services which are useful to them and available at reasonable prices. Thus, this type of model is also known as rational product buying motive (Buyer behavior model, 2017).

2.1.1.2   Learning model

Learning is an act of perception, reasoning, thinking and information processing about a particular product. It refers to the changes in consumer behavior and also the central topic in the study of human behavior (Buyer behavior model, 2017). Kotler (2002) explained that learning describes changes in an individual's behavior arising from experience. Learning theorists say that most human behavior is learned. Learning occurs through the interplay stimuli, cues, responses and reinforcement.

All theories of buyer behavior have been basically based on learning model namely, Stimulation- Response (or more popularly known as SR model). The SR theory is very useful to modern marketing and marketers. According to the SR theory, learning depends on drive, cue (stimulus), response and reinforcement. People have needs and wants. They are driven towards products and services (stimuli and cues), which they purchase (response); they expect a satisfying experience (rewards and reinforcements) and repeat behavior would depend on reinforcement received. (Buyer behavior model, 2017).

2.1.1.3   Psychoanalytic model

This model draws from Freudian psychology. It states that the individual consumer has some deep motives that drive them to make certain buying decisions. The buyer has some hidden fears, hidden desires and subjective longings (personal wishes). Their buying action can be affected by appealing to these desires. The psychoanalytical theory is credited to the work of noted psychologist Sigmund Freud. Freud introduced personality as a motivating factor in human behavior. According to this theory, the mental framework of a human being consists of three elements, namely: ID, super ego and ego. (Buyer behavior model, 2017). The id is instinctive or pleasure seeking element that the group of inborn desires that a man is born with. It includes the aggressive, destructive and sexual drives of man. The superego or the internal filter presents to the individual the behavioral expectations of society. The last one is the ego or the control device that maintains a balance between the id and the superego. The theory believes that a person is not able to satisfy all his needs within the boundaries of the society.

2.1.1.4   Sociological model

According to the sociological model, the individual buyer behavior is influenced by society, close groups, social classes, population, income, castes, communities, family life cycle and other cultural aspects. The buying decisions of individuals are not totally based on utility; he/she has a desire to follow the environment. (Buyer behavior model, 20174).

2.1.2 Brand image

A brand image is how the consumers perceive the brand (Aaker 1996, 69). Aaker (1991, p. 109-110) explains that brand image is a set of associations which might not even reflect the objective reality. In other word Baker (2003, p. 381) defined brand image as it is a holistic impression of the brand's position relative to its perceived competitors or is that image refers to a customer's perception at a specific point in time and thus leads to short term fluctuations; is consumer perceptions of a brand as reflected by the brand associations held in consumers' memory (Keller, 2013, p. 97).

People do not react to reality but to what they perceive to be reality. This perspective encourages a more consumer-centered approach to brands as the set of associations perceived by an individual, over time, because of direct or indirect experience of a brand. Every company strive to build strong and favorable brand image even if brand image is affected by many factors beyond company's control. A firm may face a negative or positive brand image in the face of the customers that is related to satisfying the psychological and social needs.

2.1.3 Brand equity

Rajagopal (2007), the brand equity may be understood as the highest value paid for the brand names during buy-outs and mergers. This concept may be defined as the incremental value of a business above the value of its physical assets due to the market positioning achieved by its brand and the extension potential of the brand. A set of brand assets and liabilities linked to a brand, its name and symbol that add to or subtract from the value provided by a product or service to a firm and/or to that firm's customer" (Aaker 1991). As per Kotler (2000) brand equity is highly related to how many customers are satisfied and incur if they switched to other brand, customer value the brand and sees as a friend, lastly, the customer is devoted to the brand. It is also related, according to Aaker (1991), to the degree of brand-name recognition, perceived brand quality, strong mental and emotional associations, and other assets such as patents, trademarks, and channel relationships.

2.1.4 Brand positioning

No company can win if its products and services resemble every other product and offering. As part of the strategic brand management process, each offering must represent the right kinds of things in the minds of the target market. Positioning is the act of designing a company's offering and image to occupy a distinctive place in the minds of the target market (Kotler and Keller, 2013). A product's position is the way the product is *defined by consumers* on important attributes - the place the product occupies in consumers' minds relative to competing products. Positioning starts with a product, a piece of merchandise, a

service, a company, an institution or even a person. But positioning is not about what you do to a product instead positioning is what you do to the mind of the prospect. A good positioning has the power of today and foot on the future as it is aspirational to improve and grow.

Brand once positioned by the company in the market may have to be repositioned over a period as the competitor may launch a brand close to the company's and cut into its market share. The shift in consumer preference may also cause the repositioning of the brand in the market. The repositioning of brand must be carefully done analyzing the age and sex response to the company's brand, packaging and advertising response, revenue generation in the new market/consumer segment and strength of the competitors (Rajagopal, 2007). Therefore, firms are expected to position the brand to be competitive in the market by applying different brand positioning methods.

2.1.5   Brand identity

Brands are denoted by their unique names, packaging and associated images. This makes up their brand identity in which they are designated to represent the brand's values and signals them to potential customers (Andrew, 2010, p. 86); comprises the ways that a company aims to identify or position itself or its product (Kotler, 2002, p. 178).

2.1.6   Brand Preference

Brand preference is the selective demand for a company's brand rather than a product; the degree to which consumers prefer one brand over the other. Firms having a good brand image in the mind of the customers, it will lead customers from trial to preferences of the brand.

2.1.7   Brand Resonance

Brand resonance deals with how the customer are attached to the specific brand. Brand resonance describes the nature of the relationship and the extent to which customers feel that they are familiar with the brand. (Keller, 2013). This resonance can be breakdown in to four categories.

Behavioral Loyalty. We can gauge behavioral loyalty in terms of repeated purchases and the amount or share of category volume attributed to the brand, that is, the "share of category requirements."

Attitudinal Attachment. Some customers may buy out of necessity—because the brand is the only product stocked or readily accessible, the only one they can afford, or other reasons. Resonance, however, requires a strong personal attachment. Customers should go beyond having a positive attitude to viewing the brand as something special in a broader context.

Sense of Community. Identification with a brand community may reflect an important social phenomenon in which customers feel a kinship or affiliation with other people associated with the brand, whether fellow brand users or customers, or employees or representatives of the company.

Active Engagement. Finally, perhaps the strongest affirmation of brand loyalty occurs when customers are *engaged*, or willing to invest time, energy, money, or other resources in the brand beyond those expended during purchase or consumption of the brand. (Keller, 2013).

2.1.8 Corporate image and reputation

In the current market, those successful companies have many functions different activities which may include mission, structure, and culture and so on and from which one is corporate brand personality. A corporate brand is distinct from a product brand in that it can encompass a much wider range of associations (Keller, 2013, p. 409).

As it is stated by Keller (2013), a corporate image will depend on several factors, such as the products a company makes, the actions it takes, and the way it communicates to consumers. The corporate brand image has its own effect on the purchase decision of the customer in their day to day activities. There are companies who use their corporate brand as an umbrella brand across their entire range of products and development costs are lower with umbrella names because there's no need to run "name" research or spend heavily on advertising to create recognition (Kotler and Keller 2012, p. 261).

When a firm design and deliver products and services that satisfy the needs and wants of the customer, the firm is building a brand reputation. As Harvard's Stephen Greyser notes, "Corporate reputation can serve as a capital account of favorable attitudes to help buffer corporate trouble." (Keller, 2013, p. 414). Hence, having a good brand reputation will help the firm to stand firm in this highly competitive market.

2.1.9 Brand Choice of Consumers

A primary goal in the marketing science is to describe, model, and finally predict the behavior of the consumers and their attitudes towards the products that form the market. Consumers look to purchase products and brands that are relevant to their needs, self-evident. But the ways in which they make choices are much more complex than quality or availability because they are so much more human (Di Somma, 2016).

Vasquez and Alvarez (2007) sited the work of Guadagni and Little (1983) who analyzed the influence of loyalty, promotions and price-related factors on purchasing behavior for coffee, figures prominently in the field. The work of Lattin and Bucklin (1989) on how prices, brand

preference and the presence or absence of promotion exerts an influence on coffee-brand choices is similarly relevant. Bell and Bucklin (1999) for their part, analyzed reference prices and previous experiences in the purchase of high-frequency products such as cookies and detergents, concluding that the actual price at the time of purchase, brand loyalty, the last brand that was purchased and reference price were the four outstanding variables in the process of brand choice. The study of Khan and Rohi (2013) resulted that the brand choice of youths appears to be influenced largely by the quality, brand image and recommendations by family and friends.

Brand image and price appear in most of the research finding determining the choice of a specific brand from the market. For those products which are seasonal, the availability of the product will be more concerning which affect the brand choice in addition to the other marketing mix elements.

2.1.9.1   Factors that determine the brand choice of buyers

Brand Image

People do not react to reality but to what they perceive to be reality. This perspective encourages a more consumer-centered approach to brands as the set of associations perceived by an individual, over time, as a result of direct or indirect experience of a brand (Baker, 2003). Kotler et al,. (1999) stated that even when competing offers look the same, buyers may perceive a difference based on company or brand images. Thus companies work to establish images that differentiate them from competitors.

Price

Price is the only element in the marketing mix that generates revenue stated by Baker (2003, p. 344) and Kotler and Keller (2012, p. 383). Dodds and Monroe (1985) found that price is an important cue to quality when other cues available are limited, when the product cannot be evaluated before purchase, and when there is some degree of risk inherent in making wrong choice.

Price has a strong impact on sales volume and market share in turn it has its own effect in the customers purchase decision. Firms may use different types of pricing strategy depending on the objective and marketing approaches for the newly introduced or for the existing products. Sometimes customers may feel those products having a higher selling price may be prestigious and those having a less price may be assumed below the minimum quality standard. Hence, the selling price have a lion share in the customers brand choice of products.

Performance Quality

Most products occupy one of four performance levels: low, average, high or superior. Performance quality is the level at which the product's primary characteristics operate. Firm have their own performance level measurement methods to evaluate the performance level of their products that may help high returns and market share if not it will have a negative consequence (Kotler, 2002, p. 329).

Brand performance describes how well the product or service meets customers' more functional needs. How well does the brand rate on objective assessments of quality? To what extent does the brand satisfy utilitarian, aesthetic, and economic customer needs and wants in the product or service category? Brand performance transcends the product's ingredients and features to include dimensions that differentiate the brand. Often, the strongest brand positioning relies on performance advantages of some kind, and it is rare that a brand can overcome severe performance deficiencies (Keller, 2103, p. 112-113). Weigand (1968) defines a product as 'a variety of promises to perform'. Performance will be judged according to the expectations that the individual has of the product, and it is important to remember that different people and organizations will have different perceptions and expectations of the product as stated by Baker (2003).

The performance evaluation is not only about the firm's own products and services but also about the competitor's performance also. Once the customer tries one product and if the performance quality of the product is not as per the expectation of the customer, he/she will not use that product in their future use and even they may avoid it.

Availability

Both product availability and lack of availability have the potential to trigger the intention to buy. The research demonstrates that, when lack of product availability is perceived positively, it influences purchase intentions via consumer involvement. However, when lack of product availability is perceived negatively, it influences purchase intentions via perceived feasibility, irrespective of consumer involvement. Two studies confirm the dual indirect effect of product availability on purchase intentions and its underlying processes (Yael & Mazursky & Kamins, 2013). Conlon and Mortimer (2010) found that exogenously removing top-selling products from a set of vending machines and analyzing substitution patterns and profit impacts of the changed product availability using nonparametric analyses and structural demand estimation and found substantial switching to alternate products, and evidence of misaligned incentives between upstream and downstream firms in the choice of which

products to carry. Hence, product availability has its own effect in the purchase decision and brand choice.

2.2 Empirical review

This part comprises prior researches that were done on this area in the past. It discusses the rationale of the researches which have related concepts with the research questions of this study their findings, methodologies, implications and recommendations for researchers and practitioners has been discussed.

There are several researched done on customer's brand choice and preferences by local researchers and those from abroad.

2.2.1 Brand Image

Research conducted by Legese and Mulugeta (2018) found that brand image was the dominant factor in brand choice of bottled water products compared to other factors and the same outcome was found by Khan and Rohi (2013) that youth brand preference in the purchase of mobile phones is the majorly influenced by brand image. As per the research work done by Denaneso (2018) stated factors affecting brand choice of automobile buyers in Addis Ababa, brand image has the most influential factor in the purchase of automobiles followed by other defining variables.

Hypothesis 1

Brand image has a significant direct effect on customer brand choice of lubricants

2.2.2 Price

Legesse and Mulugeta (2018) conducted a research to identify determinant factors of consumers brand choice on bottled water products and to examine relationship among determinants variables. Quantitative data has been collected and analyzed by using descriptive and multiple linear regression models and found that price is significantly associated with consumers brand choice for bottled water products. Zia and Sohail (2016) have found that price has the least effect in automotive industry in their research work "factors affecting consumer brand preference in automotive industry". Khan and Rohi (2013) investigated the factors affecting youth brand choice for mobile phones and got the findings of the study, the brand choice of youths appears to be influenced largely by the quality, brand image and recommendations by family and friends compared to price.

Hypothesis 2

Price has a significant direct effect on customer brand choice of lubricants

2.2.3 Performance

Perfecting product quality as numerous benefits for any company. The positive correlation between product quality and sales should be reason enough to make quality a top priority in a business strategy. Most of the time consumers compare the performance of the product with that of the competitors that rates better or worse. The product quality only checked by compare it with other competitive brand product. Najam and Maryam (2016) stated that at the time of pre-purchasing the consumer checked the product & compare it with another same product & make decision on the base of the results which product is better or not. The product performance has great impact on consumer behavior & their taste for selection the product with highly connection of product quality.

Hypothesis 3

Performance has a significant direct effect on customer brand choice of lubricants

2.2.4 Availability

Availability of a brand has its own effect in the purchase decision of the customers. Brand availability was statistically significant predictor variable to brand choice decision. Since most of bottled water brands in Ethiopia exhibits almost similar product attributes (taste, mineral content, size…), the brand which is distributed intensively can get the chance to be chosen by many consumers who look for ease of availability and consumption (Legesse and Mulugeta 2018). The research conducted by Islam, Kalam and Fahmida (2018) on factors affecting customers' brand choice behavior of semi processed frozen food products - a study in Khulna city, Bangladesh found that availability of the product is greater than the influence of any others (quality, taste, price and brand superiority), because this type of product is convenient product, consumers need it daily basis, so uninterrupted availability is an important concern to the consumers.

Hypothesis 4

Availability has a significant direct effect on customer brand choice of lubricants

2.3 Conceptual frame work

The preference and choice of a specific product in bunch of different brands is becoming very difficult as the firms delivering at most the best of their own to win the minds and heart of the customers.

Customers compare and rank different brands by focusing on their uniqueness designed service provided by his or her present company, in comparison to the chosen service provided

by other companies in his or her consideration set. The conceptual frame work is shown below.
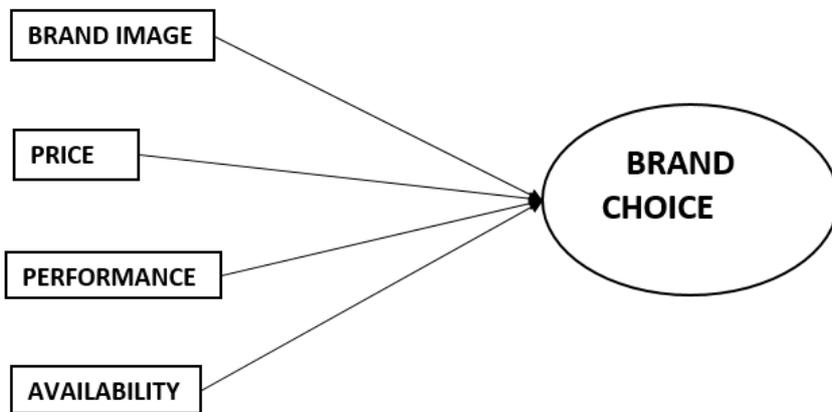
Figure 2.1 Conceptual frame work (compiled by the researcher)

CHAPTER THREE
METHODOLOGY

The methodology part of the research work include the research approach, the research design, data types and sources, population of the study, sampling procedures, data collection instruments, data analysis technique, validity and reliability and the ethical consideration during the research work.

3.1   Research Approach

There are two basic approaches to research, quantitative approach and the qualitative approach. Quantitative approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion (Kothari, 2004). Qualitative approach to research is concerned with subjective assessment of attitudes, opinions and behavior. Research in such a situation is a function of researcher's insights and impressions. Such an approach to research generates results either in non-quantitative form or in the form which are not subjected to rigorous quantitative analysis. Generally, the techniques of focus group interviews, projective techniques and depth interviews are used.

Mixed methods research is an approach to inquiry that combines or associates both qualitative and quantitative forms. But the researcher chose to use the quantitative approach as the research deals with how one variable affects another in a population by quantifying one relation to the other.

3.2   Research Design

Researchers have mixed different styles of inquiries for many years and now a day they have recognized that all methods have their inherent strength and weaknesses. Most researchers broadly classify research designs in to two types: exploratory and conclusive. Conclusive research further classified in to descriptive and causal (explanatory) research design.

Exploratory research design deals with exploring into the phenomenon. In case of marketing research, it is used in cases when the problem must be defined more precisely and to gain additional insights before an approach can be developed. Exploratory design focuses on collecting either primary or secondary data using an unstructured formal or informal procedure to interpret them. Among all the three classified research designs, exploratory research design incorporates the least amount of scientific method and consistency because of aims and structures (Shukla, 2008).

Descriptive research design is typically concerned with determining the frequency with which an event occurs or the relationship between two variables namely to make prediction of market and consumer behavior and to describe of certain group.

Causal (explanatory) research design is more appropriate when the research objective include the need to understand the reason why certain market phenomenon happen as they do. Therefore, the researcher chose to use explanatory research type since the research work deals with understanding the effects of those factors on the buyer's choice.

3.3   Data types and sources

While deciding about the method of data collection to be used for the study, there are two types of data - primary and secondary data. The primary data are those which are collected afresh and for the first time, and thus happen to be original in character. The secondary data, on the other hand, are those which have already been collected by someone else and which have already been passed through the statistical process.

The researcher used primary data as a source of data and the means to collect the primary data is through self- administered questionnaire. The source for the primary data is lubricants shops owners, automotive garages mechanics, drivers and fuel station users in different parts of Addis Ababa.

3.4   Population of the study

Population is defined as the complete set of units of analysis that are under investigation, while element is the unit from which the necessary data is collected (Davis 2000, pp. 220); Creswell (2009) defined a population as a group of individuals who have the same characteristic. The population for the research work was car drivers, station user, those who owns multi branded lubricant shops and garage mechanics as they are marketers and users of the lubricants in their day to day activities. The population taken for the research work is Addis Ababa because of the existence of roughly 60% of the vehicles (Ethiopian Transport Authority, public data from the website). Here the lubricant shops expected to respond their brand choice depending on personal preference and not related to the margin or other advantage they get from the brand sale.

3.5   Sampling Procedure

All items in any field of inquiry constitute a 'Universe' or 'Population.' A complete numeration of all items in the 'population' is known as a census inquiry. It can be presumed that in such an inquiry, when all items are covered, no element of chance is left, and highest accuracy is obtained.

Sampling involves selecting a relatively small number of elements or characteristics from a larger defined group of elements and expecting that the information gathered from the small group of elements will provide accurate judgment about the larger group (Shukla, 2008); Sampling is conducted when conducting a census is impossible due to different reasons like cost, time, convenience and other reason or when census is unreasonable (Shukla, 2008). A sample of convenience is the terminology used to describe a sample in which elements have been selected from the target population based on their accessibility or convenience to the researcher and also sometimes referred to as 'accidental samples' because elements may be drawn into the sample simply because they just happen to be situated, spatially or administratively, near to where the researcher is conducting the data collection. The main assumption associated with convenience sampling is that the members of the target population are homogeneous. The population under study one way another are related to the use of lubricants and the convenience sampling method is applied.

As the number of consumers are unknown and difficult to prepare source list, the researcher uses from unknown population. According to Davis (2000) as cited by Israel (2009), a large population's sample size can be calculated by using the formula:

$$n = \frac{Z^2 p(1-p)}{e^2}$$

n=stands for the sample size which will be drawn

e = level of precision or sometimes called sampling error (is ranges in which the true value of the population would be estimated.

p= population proportion

Z= level of confidence

The sample have been drawn from maximum variability of the population (P=0.5) with 95% level of confidence with 5% precision level.

Therefore,

$$n = \frac{1.96^2 \; x0.5x(1-0.5)}{0.05^2} = 384$$

It is customary that adding 10% of the sample size to compensate for the questionnaires that are distributed but may not be returned to the researcher and the total samples size will be 422.

3.6   Data collection Instruments

The type of the questionnaire was structured, closed ended and attention was given for the question-sequence to be effective. Hence, the questionnaire was composed of two parts. The

first part comprises the demographic information of respondents; the second part covered on the factors that were considered to influence the respondent's lubricant brand preference constructed into five Likert scale from strongly disagree (1) to strongly agree (5). The data was collected by a self-administered face to face survey throughout different lube kiosks, automotive garages, car drivers and gas stations.

3.7 Data Analysis Technique

Data analysis essentially consists of applying statistical techniques to a data base to make inferences about variables or study objects; data analysis consists of a series of activities that can involve the application of several different statistical techniques in a variety of different ways. These activities must be closely coordinated so that all the information necessary for decision making is extracted from a data base.

There are several steps which are required to prepare the data ready for analysis and the steps generally involve data editing, coding, data entry and data cleaning (Shukla, 2008). To test and analyzing the role of independent variable – brand image, price, performance and availability on dependent variable; brand choice, the researcher used Reliability analysis, Multiple Regression Analysis (MRA). Pearson correlation coefficient also used to show the interdependence between the independent and dependent variables.

The regression equation is stated below:

$$y_i = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \in$$

Where,

yi = Brand choice

β_0 = y intercept/constant

β1= the beta weight or regression coefficient of brand image

β2= the beta weight or regression coefficient of price

β3= the beta weight or regression coefficient of performance

β4= the beta weight or regression coefficient of availability

x_1= brand image

x_2= price

x_3 =performance

x_4 = availability

3.8 Validity and Reliability

Validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested or it refers to the extent to which a test measures what we wish to measure (Kothari, 2004). Shukla (2008) defined as validity is the extent to which

differences in observed scale scores reflect the true difference among objects on the characteristics being measured.

As per Kothari (2004), content validity is the extent to which a measuring instrument provides adequate coverage of the topic under study. If the instrument contains a representative sample of the universe, the content validity is good. Its determination is primarily judgmental and intuitive. It can also be determined by using a panel of persons who shall judge how well the measuring instrument meets the standards, but there is no numerical way to express it. Therefore, the researcher will apply a consistent and valid sampling procedure to achieve the validity of the research work.

Reliability has to do with the accuracy and precision of a measurement procedure and reliable measuring instrument does contribute to validity, but a reliable instrument need not be a valid instrument. Two aspects of reliability exist and namely stability and equivalence deserve special mention. The stability aspect is concerned with securing consistent results with repeated measurements of the same person and with the same instrument and the degree of stability determined by comparing the results of repeated measurements. The equivalence aspect considers how much error may get introduced by different investigators or different samples of the items being studied. A good way to test for the equivalence of measurements by two investigators is to compare their observations of the same events. (Kothari, 2004).

For this study Cronbach's alpha used to assess the internal consistency of variables in the research instrument. Cronbach's alpha is a coefficient of reliability used to measure the internal consistency of the scale; it represents number between 0 and 1.

3.9 Ethical Consideration

Research, however novel its discoveries, is only of any value if it is carried out honestly. There are two aspects of ethical issues in research:

The individual values of the researcher relating to honesty and frankness and personal integrity.

The researcher's treatments of other people involved in the research, relating to informed consent, confidentiality, anonymity and courtesy (Walliman, 2011).

Hence, the researcher conducted the research in ethical manner that the thoughts, ideas and works of others acknowledged accordingly and the sources of the data are credited with a proper citation. Accordingly, the researcher treated participants with due ethical consideration and followed proper way to inform respondents with full consent and inform to respond for questionnaires with confidence and understanding the purpose of the thesis, follow ethical way to record, analyze and present the findings of the research work.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

The data presentation and analysis part of the research work include the reliability test of the tool, presenting descriptive analysis that include demographic profile of respondents, brand choice dimensions, inferential statistics which may include correlations, linear regression, normality assumption, Multicollinearity test, regression analysis and hypothesis testing.

4.1 Results/findings of the study

4.1.1 Reliability Test

Cronbach's alpha usually used in the studies to assess the internal consistency of the research instrument. Cronbach's α (alpha) is a coefficient of reliability used to measure the internal consistency of a test or scale; it resulted as a number between 0 and 1. As the value approaches to 1 the more is the internal consistency of the items, which means all the items measure the same variable.

The result of the coefficient alpha for this study's instrument was found to be 0.907, as indication of acceptability of the scale for further analysis since all the four items of brand choice dimensions (brand image, price, availability and performance) measure the same variable, which is brand choice. Besides the overall reliability test, the items under each of the four brand choice dimensions are also tested to check if they measure the same dimension or not. All of the dimension consistency test result was in acceptable range meaning greater than 0.7 and the values for the independent variables are 0.909, 0.845, 0.91, and 0.83 which corresponds to brand image, price, performance and availability of lubricant respectively.

The value of the reliability test is place in the following tables below:

Table 4.1 Overall Reliability Test

Dimensions	Cronbach's Alpha	Number of Items	Valid
Bran Image	0.909	7	348
Price	0.845	5	348
Performance	0.91	3	348
Availability	0.83	5	348
Brand Choice	0.805	3	348
Overall	**0.907**	**23**	**348**

4.1.2 Descriptive Analysis

4.1.2.1 Demographic Profile of Respondents

Out of the 400 questionnaires sent out, only 348 were returned during a period of three weeks.

The first part of the questionnaire consists of the demographic characteristics of respondents. This part of the questionnaire requested a limited amount of information related to personal and demographic status of the respondents. Accordingly, the following variables about the respondents were summarized and followed by table. The variables includes; gender, age, employment and highest education level.

From the total respondents, the male lubricant buyers constituted the highest percentage (69.3%) while their female counterparts only constituted (30.7%) of the total respondents. This implies that the majority of direct lubricant buyers are male. From this, we can conclude that most of the lubricants buyers or users are male compared to female counterparts.

The age profile of respondents is led by the age group 26-35 which represents 35.6% of the sample followed by the age group 36-45 which comprises of 31.6% of the total sample. The third highest respondent age group is 16-25 representing 23% and the remaining age group was those respondents aged above 45. From this that we can consider that age group 26-35 buyers or respondents are mostly work related to lubricants.

Considering the current employment of the respondents, 37.1% of the lubricant buyers are employees in private organizations. Lubricants shops owners/workers comprise 31.0% of the sample. 13.2% of the respondents are self-employed and garage mechanics represents 10.9% of the respondents. The remaining covered with other category. From this we can see that most of the lubricant users are private employed respondents.

The level of literacy of respondents is led by those who hold first degree comprising 41.4% which is followed by diploma level representing 24.1%. Those who achieved secondary school were 17.5% of the total respondents. Those respondents having Master and above were 10.3% followed by 6.6% primary literacy level. From this it can be noticed that first degree holders purchase more lubricants for use.

Table 4.2 demographic profile of respondents

Item			Frequency	Valid Percent
Gender	Male		241	69.3
	Female		107	30.7
	Total		**348**	**100.0**
Age	16-25		80	23.0
	26-35		124	35.6
	36-44		110	31.6
	>45		34	9.8
	Total		**348**	**100.0**
Education Status	Primary School		10	2.9
	Secondary School		54	15.5
	Diploma		51	14.7
	First Degree		197	56.6
	Masters and Above		36	10.3
	Total		**348**	**100.0**
Employment	Garage mechanic/owner		38	10.9
	Lube shop		96	27.6
	Self Employed		46	13.2
	Government Employee		21	6.0
	Private employee		141	40.5
	Other		6	1.7
	Total		**348**	**100.0**

(Source: Researcher's survey, 2020)

4.1.2.2 Mean and Standard Deviation

In order to analyze the respondents overall brand choice, a total of 23 questions were grouped into the five dimensions of brand choice which are: Brand Image, Price, Performance, Availability and Brand Choice.

In order to compare the respondents brand choice on lubricants, descriptive statistics of mean and standard deviation are used. The mean indicates to what extent the sample group averagely agrees or disagrees with the different statements. The higher the mean the more the respondents agree with the statement while the lower the mean the more the respondents disagree with the statement. In addition, standard deviation shows the variability of an observed response. As the standard deviation measures how much the respondents respond a given statement in varied ways. If the response is somewhat similar, the value for deviation will be minimum and if it varies more it will be higher.

4.1.2.3 Brand Image

Baker (2003, p. 381) defined brand image as it is a holistic impression of the brand's position relative to its perceived competitors or is that image refers to a customer's perception at a specific point in time and thus leads to short term fluctuations.

Table 4.3 Descriptive statistics of brand image

		Mean
Brand Image	During purchasing, I search so many information about the lubricant brands that I was not previously aware of.	3.26
	I consider any lesser-known brand lubricant.	3.16
	I know that it is important to know the brand name alongside my desired attributes.	3.58
	I always go for the well-known branded products.	3.54
	Lesser-known brand does not necessarily mean inferior quality.	3.36
	I feel more secure when I buy lubricant with a well-known brand.	3.81
	The brand of lubricants which has good name influence me to purchase.	3.97

(Source: Researcher's survey, 2020)

From the table above "The brand of lubricants which has good name influence me to purchase" has the highest mean square value of 3.97 and "I consider any lesser-known brand lubricant" is the least mean square value of 3.16. The standard deviation for all means are greater than 1 and which shows that there is higher variation in the response of the respondents.

4.1.2.4 Price

Price of a product has major role in the choice of specific brand. The researcher included price parameters to assess the effect on the brand choice of lubricants in Addis Ababa. The mean values range from 2.97 from the lowest value to the highest 3.47 mean value of a given lubricants choice parameter.

Table 4.4 Descriptive statistics of price

		Mean
Price	Price of lubricant influences the brand choice.	3.32
	My monthly income affects my brand choice while buying.	3.17
	Low price is one of my priorities when making a buying decision.	2.97
	I prefer any lubricant brand that is reasonably priced.	3.34
	My brand of lubricant gives me value for money.	3.47

(Source: Researcher's survey, 2020)

From the above table that illustrates the mean value for price of lubricants. The mean value for "My brand of lubricant gives me value for money" has the highest value of 3.47 and "Low price is one of my priorities when making a buying decision" has the least value of 2.97. It can be concluded that the brand that the customers buy give value for the money but low price is not a priority to choose a specific brand.

4.1.2.5 Performance

Performance quality is the level at which the product's primary characteristics operate. Firm have their own performance level measurement methods to evaluate the performance level of their products that may help high returns and market share if not it will have a negative consequence. (Kotler, 2002, p. 329).

Table 4.5 Descriptive statistics of performance quality

		Mean
Performance	The quality of lubricant influences the brand choice.	3.32
	Real service (purpose) of lubricant influences the brand of my choice.	3.43
	I see the performance level indicators international approvals in the package (API, ACEA, SAE and others).	3.31

(Source: Researcher's survey, 2020)

From the above performance mean square table, "Real service (purpose) of lubricant influences the brand of my choice" has the highest score of 3.43 and the item "I see the performance level indicators international approvals in the package (API, ACEA, SAE and

others)" has the least compared to other parameters having mean value of 3.31. Hence, lubricants buyers may not thoroughly see the performance approvals in the packages.

4.1.2.6 Availability

In general, it is common to consider product availability as a positive signal about the product. That is, when the product is available to purchase, the consumer typically finds it as a good thing and when it not available, there are potentially negative consequences towards a specific brand of product. Here, the same is true for lubricant buyer that they want availability to choose the best one as per their perception and experience.

Table 4.6 Descriptive statistics of availability

		Mean
Availability	I buy what I find in the market.	3.05
	I choose the best one from available lubricants.	3.72
	If my preferred brand is not available in the store, I will buy any kind of brand available.	3.03
	If the brand I choose not available, I will wait for some sometime until it is available.	3.15
	The current Forex (hard Currency) shortage the country is facing have its own effect on availability of lubricants of my choice.	3.39

(Source: Researcher's survey, 2020)

From the mean value availability table, we can see that "I choose the best one from available lubricants" has the highest mean value of 3.72. It can be said that as per the customer's perception, the preferred lubricant is the excellent one. The mean value for "I buy what I find in the market" have mean value of 3.05. This shows that customers consider other parameters since they are neutral on the basis of what is available in the market.

4.1.2.7 Brand Choice

Consumer buying decision eventually is influenced by the number of factors or reasons; this concept of decision making is rooted historically in personal, psychological, demographic, and social concerns of the consumer. There are numerous reasons to buy a brand in a given situation, but the objective was to study the behavior of the consumer regarding his/her purchasing attitude by examining the significant dominant reasons of buying a specific lubricants in a given situation.

Table 4.7 Descriptive statistics of brand choice

		Mean
Brand Choice	Some lubricants shops/fuel stations persuasiveness influences my choice of purchase.	3.14
	When I feel that I can afford the cost of the specific lubricant brand, I decide to buy it.	3.45
	I believe that a well-known branded lubricant always better in quality than a lesser known brand.	3.45

(Source: Researcher's survey, 2020)

From the above table, we can see that mean values for "When I feel that I can afford the cost of the specific lubricant brand, I decide to buy it" and "I believe that a well-known branded lubricant always better in quality than a lesser known brand" have equal value of 3.45. The mean value "Some lubricant shops/fuel stations persuasiveness influences my choice of purchase" having 3.14 mean value. From this we can infer the customers are neutral on persuasiveness from marketers.

4.1.3 Inferential Statistics

4.1.3.1 Correlation Analysis

Correlation analysis was used that measures the relationship between two items which expresses quantitatively the magnitude and direction of the liner relationship between two variables. Amongst the measures of relationship, Karl Pearson's coefficient of correlation is the frequently used measure in case of statistics of variables. Multiple correlation coefficient, partial correlation coefficient, regression analysis, etc., are other important measures often used by a researchers (Kothari, 2004).

Pearson correlation coefficient, the most commonly used types of correlation coefficient which the researcher used, reveal magnitude and direction of relationships (either positive or negative) and the intensity of the relationship (-1 to 1). In this section a correlations analysis were done to examine whether relationships do exist between variables which are hypothesized in the framework of the second chapter of the research work. The results would enable the researcher to determine the regression on the dependent variable. If the value for the coefficient is 1, it shows that there is perfect positive relationship and if the value became -1, the relationship between the variables is negative. The value of 0 shows there is no linear relationship between the variables.

Table 4.8 Correlation between dependent and independent variable and with each other

		Brand Choice	Brand Image	Price	Performance	Availability
Correlations						
Brand Choice	Pearson Correlation Sig. (2-tailed)	1				
Brand Image	Pearson Correlation Sig. (2-tailed)	.620**	1			
Price	Pearson Correlation Sig. (2-tailed)	.500**	.461**	1		
Performance	Pearson Correlation Sig. (2-tailed)	.398**	.357**	.315**	1	
Availability	Pearson Correlation Sig. (2-tailed)	.555**	.406**	.405**	.294**	1
**. Correlation is significant at the 0.01 level (2-tailed).						

(Source: Researcher's survey, 2020)

As per table 4.7 above, the coefficients show that the four factors measuring influencing factors in brand choice were all positively correlated within the range of 0.398 to 0.620; all were significant at $P= 0.01$ level.

Out of the four independent variables, price and performance showed a moderate positive relation 0.500 and 0.398 with brand choice while brand image and availability showed a higher level of positive relation 0.620 and 0.555 with the brand choice.

Table 4.7 also shows the correlation of the independent variables within themselves. It can be noted that all variables are positively correlated with each other where relatively strongest correlation goes to the one between brand image and price ($p= 0.461$) while the correlation is relatively low for availability with performance ($p= 0.294$).

4.1.3.2 Test for Linear Regression Model Assumptions

First, linear regression needs the relationship between the independent and dependent variables to be linear. It is also important to check for outliers since linear regression is sensitive to outlier effects. Secondly, the linear regression analysis requires all variables to be multivariate normal. This assumption can best be checked with a histogram or normality curve. Normality can be checked with a goodness of fit test and if the data is not normally distributed a non-linear transformation might fix this issue. Thirdly, linear regression assumes

that there is little or no Multicollinearity in the data. Multicollinearity occurs when the independent variables are too highly correlated with each other.

4.1.3.3 Normality Assumption

To conduct many advanced statistical techniques, researchers have to assume that the data provided is normal (means it is symmetrical on a bell curve) and free of outliers. In simple terms, if the data was plotted on a bell curve, the highest number of data points will be available in the middle and the data points will reduce on either side in a proportional fashion as we move away from the middle. The skewness and kurtosis analysis can provide some idea with regard to normality. Positive skewness value suggest clustering of data points on the low values (left hand side of the bell curve) and negative skewness value suggest clustering of data points on a high values (right hand side of the bell curve). Positive kurtosis values suggest that the data points have peaked (gathered in center) with long tails. Kurtosis values below 0 suggest that the distribution of data points is relatively flat (i.e. too many cases in the extreme) (Shukla, 2008).
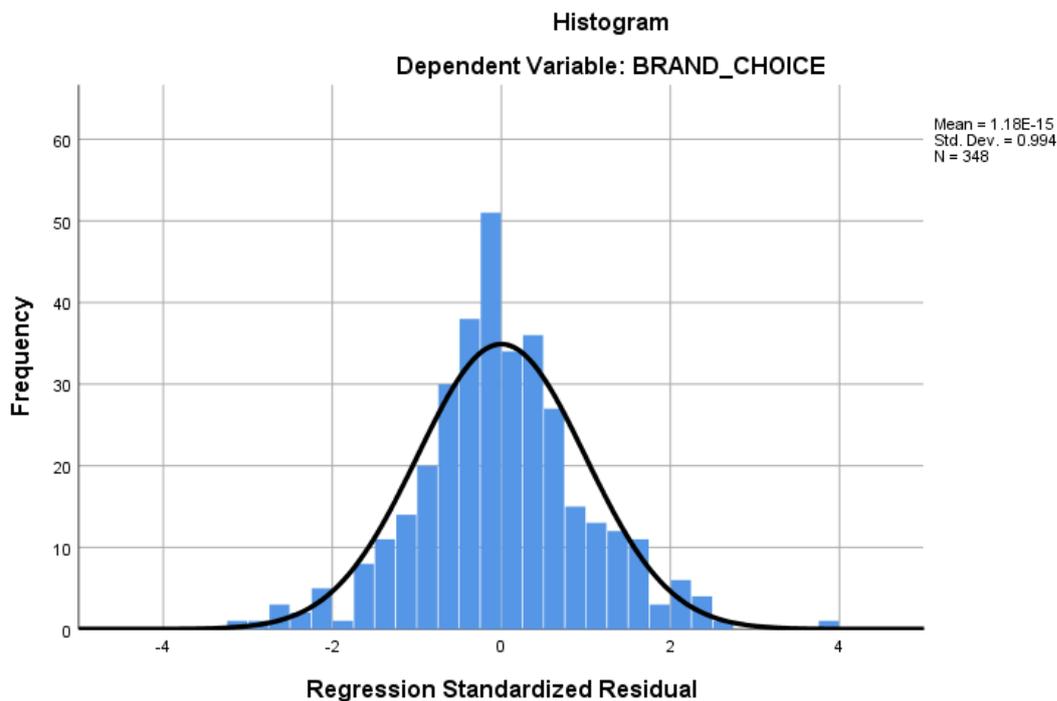
Figure 4.1 Normality curve

4.1.3.4 Multicollinearity Test Assumption

In regression, Multicollinearity occurs when independent variables in the regression model are more highly correlated with each other than with the dependent variable. When the independent variables the regression model are highly correlated with one another; they are

basically measuring the same thing. In other words, when two variables are highly correlated, they both communicate essentially similar information (Denanso, 2017). One way to assess Multicollinearity is to examine correlations among the independent variables. If a correlation matrix demonstrates correlations of 0.90 or higher among the independent variables, they may be a problem with Multicollinearity. Hair et al. (2006) argued that correlation coefficient below 0.90 may not cause serious Multicollinearity problem, cited by Denanso (2017). Multicollinearity can also be detected using tolerance value and variance inflator factor (VIF) value. An insignificant tolerance value point to the variable under discussion is almost a perfect liner combination of the independent variables already in the equation and that it should be dropped out from to the equation. Multicollinearity does not exist among all the independent variables provided that the tolerance value of all the independent variables was greater than 0.1 and the VIF values of all the independent variables are also less than 10. The below table demonstrates that the value for tolerance is greater than 0.1 and VIF value less than 10.

Table 4.9 Multicollinearity

Model		Collinearity Statistics	
		Tolerance	**VIF**
1	Brand Image	.698	1.434
	Price	.716	1.397
	Performance	.829	1.207
	Availability	.761	1.314
a. Dependent Variable: Brand choice			

(Source: Researcher's survey, 2020)

4.1.3.5 Regression Analysis

Multicollinearity poses a problem only for multiple regressions (which is also the case for this study) because simple regression requires only one predictor. Multicollinearity exists when there is a strong correlation between two or more predictors in a regression model.

In the previous table that was done to assess the Multicollinearity, the values for tolerance and VIF values are above 0.1 and below 10 respectively. The values indicated that there is no Multicollinearity between the independent variables that can prevent the regression analysis. But the values are within the acceptable range, regression was made between the dependent and the four defining independent variables.

The study model summary is presented in the table below. This summary is used to identify influencing factors for brand choice of lubricant dimensions used in this study. As it is shown in the table, R squared is 0.532 and adjusted R squared is 0.526 suggesting that that 52.6% of the variation in dependent variable is explained by independent variables used in the model. This implies that 52.6% variation in brand choice is affected by brand image, price, performance and availability.

Table 4.10 Model summery

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.729[a]	.532	.526	.65463
a. Predictors: (Constant), Brand Image, Price, Performance and Availability				
b. Dependent Variable: Brand Choice				

(Source: Researcher's survey, 2020)

Analysis of Variance - ANOVA is presented in table 4.10 is used to address the general objective of the study. In addition, this analysis is used to identify appropriateness or fitness of the model in estimating effect of marketing the independent variables on brand choice. The researcher used multivariate linear regression method to run regression analysis. F-statistic is 97.404 significant at $p < 0.001$ indicating that the model appropriateness for the study. This implies that the independent variables are significantly affects brand choice. This result tells us that there is less than a 0.1% chance that an F-ratio would happen, if the null hypothesis proposed about F-ratio were true.

Table 4.11 ANOVA table

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	166.965	4	41.741	97.404	.000[b]
	Residual	146.989	343	.429		
	Total	313.954	347			
a. Dependent Variable: Brand Choice						
b. Predictors: (Constant), Brand Image, Price, Performance, Availability						

(Source: Researcher's survey, 2020)

The below table demonstrates coefficients for the constant and for the independent variables.

Table 4.12 Regression coefficients

Coefficients					
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.284	.160		1.774	.077
	Brand Image	.355	.042	.378	8.550	.000
	Price	.150	.040	.166	3.794	.000
	Performance	.094	.031	.123	3.037	.003
	Availability	.310	.044	.298	7.047	.000
a. Dependent Variable: Brand Choice						

(Source: Researcher's survey, 2020)

The strength of each predictor (independent variable) influencing the criterion (dependent variable) can be investigated with standardized Beta coefficient. The regression coefficient explains the average amount of change in the dependent variable that is caused by a unit change in the independent variable. The larger value of Beta coefficient an independent variable has, brings the more support to the independent variable as the more important determinant in predicting the dependent variable (Denanso, 2017).

From the above table we can have the following general formula for the model under the study.

$$y = \beta_0 + \beta_1 x_1 + +\beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon$$
$$BC = \beta_0 + \beta_1 BI + \beta_2 PR + \beta_3 PERF + \beta_4 AV$$
$$BC = 0.284 + 0.378 BI + 0.166 PR + 0.123 PERF + 0.298 AV$$

The regression model from the above equation result shows that keeping other variables constant 0.378 unit increases in brand image will bring a unit increase in the buying decision of brand choice. 0.166 unit increase in price will have a unit increase impact on brand choice of lubricants and 0.123 unit increase of performance will have a unit increase impact on buying decision of lubricant. At the last, 0.298 unit increase of availability of lubricants will have a unit increase of brand choice of lubricants in Addis Ababa.

4.1.3.6 Hypothesis Testing and Interpretation of Results

Table 4.13 Hypothesis testing and interpretation results

Hypotheses	Result	Reason
H1: Brand image has a significant direct effect on customer brand choice of lubricants	H1: Accepted	*β =0.378, p<0.05*
H1: Price has a significant direct effect on customer brand choice of lubricants	H1: Accepted	*β =0.166, p<0.05*
H1: Performance has a significant direct effect on customer brand choice of lubricants	H1: Accepted	*β =0.123, p<0.05*
H1: Availability has a significant direct effect on customer brand choice of lubricants	H1: Accepted	*β =0.298, p<0.05*

(Source: Researcher's survey, 2020)

As the significance value of F statistics shows a value of maximum of 0.003 for the independent variables, which is less than p<0.05. Thus, the model was significant and fit. The strength of each predictor (independent variable) influencing the criterion (dependent variable) can be investigated via standardized Beta coefficient. The regression coefficient explains the average amount of change in the dependent variable that is caused by a unit change in the independent variable. The larger value of Beta coefficient an independent variable has, brings the more support to the independent variable as the more important determinant in predicting the dependent variable.

4.2 Discussion

In this section, the major findings will be summarized and the results of this research will be further elaborated.

The demographic profile of the respondents, lubricants buyers are in different categories and representatives for most groups of the society. When looking into the gender profile of the respondents, it was found that male customers outnumbered their female counterparts.

The second parameter of the demographic profile of respondents in this survey reveals that the age group of the population between the ages 26 and 35 followed by the age category of 36-44. The age group which is above 50 years of constituted a smaller percentage of the total population.

With regards to the current job, 40.5% stated that they are employees at private organizations followed by lube kiosks owners groups (27.6%). The remaining share on employment

comprises those who owns or works in garages, self-employed, government or other categories.

When considering the education level of the respondents, the study has found that 41.4% of the respondents were first degree holders, 24.1% diploma and 17.5% of them completed high school. The remaining two categories accounted 10.3% and 6.6% which corresponds for masters and above and primary school respectively.

When having a look into what the respondents replied on the questionnaires, although they gave a more or less positive feedback for independent variables, questions related to brand image and performance received the highest mean scores while the lowest went to availability.

The four independent variables had a positive correlation and the variables have different magnitudes of correlation with brand choice as revealed from the Pearson's Correlation Coefficient. Accordingly, Brand Image and Availability had the highest correlation, while Performance got a low correlation.

Compared to the four independent variables, brand image has the most important for the buyers to choose a specific brand of lubricants. A brand image is how the consumers perceive the brand (Aaker 1996, 69). Aaker (1991, p. 109-110) explains that brand image is a set of associations which might not even reflect the objective reality as it is sited by Denanso (2017).

Legese and Mulugeta (2018) found that brand name has a statistically significant and positive relationship with consumers brand choice decision for bottled water. Hence, the brand image of the lubricant is the major influencing factor in determining the brand choice in the market. In another research that was done by Khan and Rohi (2013), found that brand image was the key influencing variable in youth choice of mobile apparatus. Rabiul and et al., (2014) found the same result that brand image have its influence in the choice of toiletries products.

As per the findings of research work done by Legese and Mulugeta (2018) and Shiva (2014), price is an important factor that found to be significant predictor of brand choice decision for bottled water and edible oil. Price in general has always been a determinant factor on consumers' brand choice when selecting a product or service. It is assumed that when a consumer is facing a buying decision in a product category, they observe a price to take into account on their current inventory position in the category. The research findings strengthened that price has its own influence in the purchase decision of lubricants.

From the research finding, availability of lubricants in the market has its own effect in the brand choice of lubricants. A research made by Minurul, Kalam and Fahmida found that availability of Semi Processed Frozen Food Products has higher influence compared to other factors like distribution system, quality, taste and price of the product.

Performance quality of lubricants has describes how well the product or service meets customers' more functional needs and sometimes we say brand performance as well to explain how the company is working on its products. Lubricants has their own performance indicators and respondents replied the same for their preference.

CHAPTER FIVE

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The last chapter of this study revolves around the major findings of the study and what we can conclude from the findings and give recommendation based on these findings. This chapter, moreover, highlighted the limitations of this work and indicated future research areas for anyone interested in the applicability of brand choice of lubricants in retaining customers.

5.1 Summary of Findings

The primary purpose of this study was to investigate the factors affecting brand choice of lubricant buyers in Addis Ababa. To analyze the brand choice of lubricants, four determinant factors are considered namely brand image, price, performance, and availability. The sample size is selected using convenience sampling technique with five-point Likert scale having 23 items. The analysis was done, and the descriptive and inferential results are presented for conclusion and recommendation.

The finding of the analysis indicated that males purchase/use lubricants more compared to women counterparts. Age group 26-35 are more related to lubricant related activities, private employees are more engaged in lubricants purchase or related to lubricants activities condition and those having first degree responded more compared to other ones which showed that they are working on lubricant related or need lubricant for their cars, machines or other.

At the beginning of the study it was hypothesized that all the four factors of brand choice had significant impact on brand choice. After the analysis was done, the findings revealed that the major dimension which affects the brand choice of lubricant buyers had a positive related with the brand choice and alternative hypothesis is accepted.

5.2 Conclusion

The influencing factors of brand choice of lubricants analyzed by SPSS version 26.0. The study found that all of the brand choice dimensions brand image, price, performance and availability, had been found influential factors on the consumers brand choice of lubricants in Addis Ababa.

The result showed brand image had determining factor and those who built a good brand image benefit from it and other who are currently in the market and those who are joining the market could have a potential to increase the current competition to another level. Hence, those known brands should do more and those who are joining the market should think more.

Price is the second defining factor in the brand choice of lubricants. Consumers consider the price of the lubricants while they make buying decision. Lubricant performance quality has a positive and significant relationship in the branch choice buying decision. A brand having a relative better quality has the tendency to be chosen by the customer. The last variable that the research work addressed was availability of lubricant in the market. Availability of lubricants has a positive and significant relation in the brand choice of lubricants. Hence, availability of lubricant has its own effect in addition to those other variables that are addressed in this research work.

Hypothesis is developed to analyze the significance of each variables and found that all are accepted. This leads to the conclusion that a one-unit increase in all of the dimensions, results in a positive increase in brand choice of a specific brand of lubricant. The findings of the research provided good insight for the industry stakeholders to maximize market share, sales volume to be competent in this fierce competitive market and retain customers by analyzing those influencing factors to have customers for the business.

5.3 Limitation of the study

The first and foremost limitation in the research work was the current pandemic (Covid-19). It made things difficult as any contact with the infected person led to be victim of the virus and due to this distributing, the questionnaire and contacting people was challenging in addition to the state of emergency in effect. The researcher also faced financial burden and the time constraints that getting respondents was tough as most of the people are working from home and getting feedback was also very hard. But the researcher tried all the best to complete the research work.

The questionnaire prepared and distributed to the respondents was the same questions assuming that all respondents are working related to lubricants. But one thing to mention here is that the lubricants shops are expected to respond their personal preference and some may consider, even if I have informed about their personal specific brand choice, the questionnaire related to margin that they get from the specific brand.

The last thing that can be raised is that, there are no other research works done in the area of influencing factors of brand choice of lubricants. Hence, most of the references are made on vehicles and bottled water including beer preference research work findings. Therefore, the research work could be a pioneer to address the research gap that exists.

5.4 Recommendation

The findings of the study and conclusions made on this research lead the following possible recommendations for those it concerns.

Brand image of a product has paramount effect on the brand choice of the consumer and the same result is found in the research. Hence, those who are involved should build their brand image to get a place in the minds of the customers which may help the consumers an easy decision to buy a specific brand of lubricant and intern the company benefit from the transaction.

The other variables which were used in this research work has their own significant effect on the brand choice of lubricants namely price, performance, and availability of the lubricants. The current Forex shortage affected the availability of the lubricants in the market and may escalate the price as the demand and supply chain cannot be achieved. Therefore, suppliers, resellers and those involved should work on the influencing factors to win the market in line with the basic marketing mix elements.

5.5 Recommendations for Future Research

The present study was conducted to investigate the underlying factors of lubricants brand choice in Addis Ababa, Ethiopia. Therefore, there is scope for other researchers to study on factors affecting lubricant choice in other major cities and towns as this research only presented the findings in Addis Ababa only. In other way, the researcher only considered those individual respondents (consumers) who are working in garages, lubricant shops, and drivers and in fuel stations and future researcher may consider corporate level brand choice assessment as the defining variables may differ what is used in this research.

Besides that, this study used the four variables that are brand image, price, performance quality and availability, which explain or influence only 52.6% percent of the variance in buyers brand choice. Therefore, future researcher may investigate other variables which have a potential to influence the variance in lubricants brand choice.

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Appendices

Appendix 1: Questionnaire in English
Questionnaire on Factors affecting Brand Choice of Lubricant

Dear Respondents,

My name is Ashenafi Girmachew studying Master Program at St. Mary's University School of

Marketing Management. I have designed the following questionnaire for the purpose of my thesis work, the objective of my study is to" **examine factor affecting the brand choice of lubricants in Addis Ababa.** This questionnaire consists of two sections: **section I** deals with the general information, **section II, influencing factor for the brand choice of lubricants**.

The information you provide in this survey will be used for the stated purpose and it will be held confidential. I appreciate your voluntary and valuable participation in this survey. I really thank you in advance for sharing your valuable experience and time for completing the questionnaire. Would you please take some fifteen minutes to fill the questionnaire? Please do not write your name on the questionnaire.

Tel: +251913878422

E-mail: ashuti112@gmail.com

Sincerely yours,

Ashenafi Girmachew

Part I General information

Instruction: Please Mark "✓" before your Choice for Each Question.

1. Age:

16- 25 ☐   26- 35 ☐   3. 36-44 ☐   45 and above ☐

2. Gender:

Female ☐   Male ☐

3. Highest educational level obtained:

Primary education ☐   Secondary education ☐

Diploma ☐   First Degree ☐   Master's and above ☐

4. What is your occupation?

1, Garage Mechanic/Owner ☐   2, Lubricants shop ☐

3, Self Employed ☐   4, Government Employee ☐

5, Private employee ☐   6. Others ------------------------

Part 2: Factors Affecting Brand Choice of Lubricant Buying Decision

Direction: Please indicate your degree of agreement/disagreement with the following statements by putting"✓" in the appropriate number. (1-Strongly disagree; 2-Disagree; 3-Neutral; 4-Agree and 5-Strongly agree) Key: BI= Brand Image, PR=Price, PER=Performance, A=Availability and Brand Choice=BC.

S No	Items	Strongly Disagree	Dis Agree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
BI-1	During purchasing, I search so many information about the lubricant brands that I was not previously aware of.					
BI-2	I consider any lesser-known brand lubricant.					
BI-3	I know that it is important to know the brand name alongside my desired attributes.					
BI-4	I always go for the well-known branded products.					

S No	Items	Strongly Disagree	Dis Agree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
BI-5	Lesser-known brand does not necessarily mean inferior quality.					
BI-6	I feel more secure when I buy lubricant with a well-known brand.					
BI-7	The brand of lubricants which has good name influence me to purchase.					
PR-1	Price of lubricant influences the brand choice.					
PR-2	My monthly income affects my brand choice while buying.					
PR-3	Low price is one of my priorities when making a buying decision.					
PR-4	I prefer any lubricant brand that is reasonably priced.					
PR-5	My brand of lubricant gives me value for money.					
PER-1	The quality of lubricant influences the brand choice.					
PER-2	Real service (purpose) of lubricant influences the brand my choice.					
PER-3	I see the performance level indicators international approvals in the package (API, ACEA, SAE and OTHERS).					
A-1	I buy what I find in the market.					
A-2	I choose the best one from available lubricants.					
A-3	If my preferred brand is not available in the store, I will buy any kind of brand available.					
A-4	If the brand I choose not available, I will wait for some sometime until it is available.					
A-5	The current Forex (hard Currency) shortage the country is facing have its own effect on availability of lubricants of my choice.					

S No	Items	Strongly Disagree	Dis Agree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
BC1	Some lubricants shops/fuel stations persuasiveness influences my choice of purchase.					
BC2	When I feel that I can afford the cost of the specific lubricant brand, I decide to buy it.					
BC3	I believe that a well-known branded lubricant always better in quality than a lesser known brand.					

Appendix 1: questionnaire in Amharic

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কোড	বিবৃতি সমূহ	দৃঢ় ভাবে একমত	একমত	নিরপেক্ষ	দ্বিমত	দৃঢ় ভাবে দ্বিমত
BI-2	□□□□□□□ □□□□□ □□□□ □□□□□ □□□ □□□□□ □□□ □□□□ □□□ □□□ □□□ □□□□□□□□□					
		1	2	3	4	5
BI-3	□□□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□ □□□ □□(Brand Name) □□□□□ □□□□□□ □□□ □□□□□ □□□ □□□ □□□□ □□□□ □□□					
BI-4	□□□□□□□□ □□□□ □□□ □□□□ □□□□□ □□ □□□ □□□□ □□□(Brand Name) □□□ □□□□□ □□□□ □□□□□□					
BI-5	□□□□ □□□□ □□□□ □□□□ □□□□□□					
BI-6	□□□ □□□□ □□□(Brand Name) □□□ □□□□ □□□ □□□ □□ □□□ □□□□□					
BI-7	□□□□ □□□□□ □□□□ □□□ □□□ □□ □□□ □□□□ □□□□□ □□□□□□					
BI-8	□□ □□ □□□ □□□□□ □□□ □□□ □□ (Brand Name) □□□□□ □□□□ □□□□□□□					
PR-1	□□□□□ □□□ □□□ □□□ □□□□□ □□□ □□□ □□(Brand Name) □□□ □□ □□□□ □□□□□□□					
PR-2	□□□□ □□□ □□□□ □□□□□ □□□ □□□ □□□ (Brand Name) □□□ □□□ □□ □□□□ □□□□□□□					
PR-3	□□□ □□□ □□□□ □□□□ □□□□□□□ □□□□ □□□ □□□□ □□ □□□□					
PR-4	□□□□□ □□ □□□□□ □□□□□ □□□□□ □□□□□ □□□□ □□□□□□□					
PR-5	□□□□□ □□□□ □□□ □□□□(Brand Name) □□□□□ □□□□ □□ □□□□□					
PER-1	□□□□□□ □□□□ □□□ □□□□ □□□□ □□ (Brand Name) □□□□ □□ □□□□ □□□□□					
PER-2	□□□□□ □□□□□ □□□□□□ □□□□□ □□□□□ (□□□□)-(□□□ □□□□ □□□ □□□□ □□□□ □□□□ □□ □□□…□□□) □□□□□ □□□(Brand) □□ □□□□ □□□□□□					

कोड	मूल्यांकन मापदंड	अत्यधिक असहमत	असहमत	तटस्थ	सहमत	अत्यधिक सहमत
		1	**2**	**3**	**4**	**5**
PER-3	मापदंड और मानकों का पालन उत्पाद गुणवत्ता मानकों (API, ACEA, SAE and OTHERS) का अनुपालन					
A-1	उत्पादों में उपयोग सामग्री कीमत पर प्रभाव डालती है::					
A-2	उत्पाद सामग्री कीमतों पर निर्भर करती है::					
A-3	उच्च गुणवत्ता ब्रांड(Brand Name) कीमत में अंतर पैदा करता है और उपभोक्ता निर्णय प्रभावित करता है					
A-4	गुणवत्ता ब्रांड नाम वाले(Brand Name) उत्पादों कीमत प्रतिस्पर्धा में अंतर पैदा करते हैं					
A-5	उत्पाद में उपयोग प्रौद्योगिकी कीमत पर प्रभाव डालती है और उपभोक्ता मूल्यांकन प्रभावित करती है तथा कीमत पर असर डाला है					
BC1	उत्पादन प्रक्रिया लागत कीमत पर असर / प्रभाव डालती है और कीमत पर प्रभाव डाला है::					
BC2	उत्पाद वितरण प्रक्रिया कीमत पर असर डालती प्रक्रिया का कीमत प्रभावित करती है					
BC3	कच्चे माल की लागत उत्पादन कीमत पर असर डालती और कीमत प्रभावित करती है					

x

APPENDIX 3: Reliability Statistics and Tests

Case Processing Summary			
		N	%
Cases	Valid	348	100.0
	Excluded[a]	0	.0
	Total	348	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.780	5

Scale: Brand Image

Case Processing Summary			
		N	%
Cases	Valid	348	100.0
	Excluded[a]	0	.0
	Total	348	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.909	7

Scale: Price

Case Processing Summary			
		N	%
Cases	Valid	348	100.0
	Excluded[a]	0	.0
	Total	348	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.845	5

Scale: Performance Quality

Case Processing Summary		N	%
Cases	Valid	348	100.0
	Excluded[a]	0	.0
	Total	348	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.919	3

Scale: Availability

Case Processing Summary		N	%
Cases	Valid	348	100.0
	Excluded[a]	0	.0
	Total	348	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.830	5

Scale: Brand Choice

Case Processing Summary		N	%
Cases	Valid	348	100.0
	Excluded[a]	0	.0
	Total	348	100.0
a. Listwise deletion based on all variables in the procedure.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.805	3

Appendix 4: Normality Test of the Data – Histogram, P-P Plot and Skewness/Kurtosis

Histogram
Dependent Variable: BRAND_CHOICE

Mean = 1.18E-15
Std. Dev. = 0.994
N = 348

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: BRAND_CHOICE
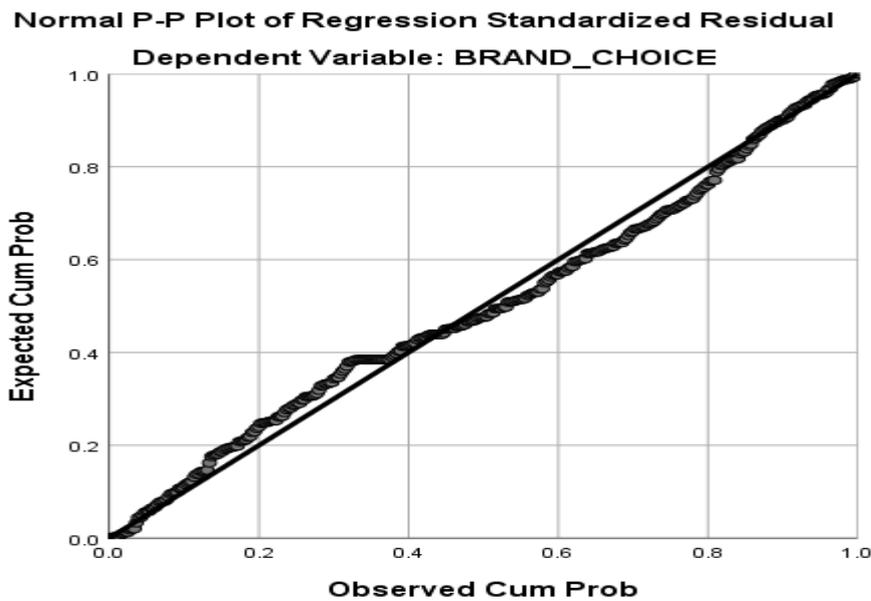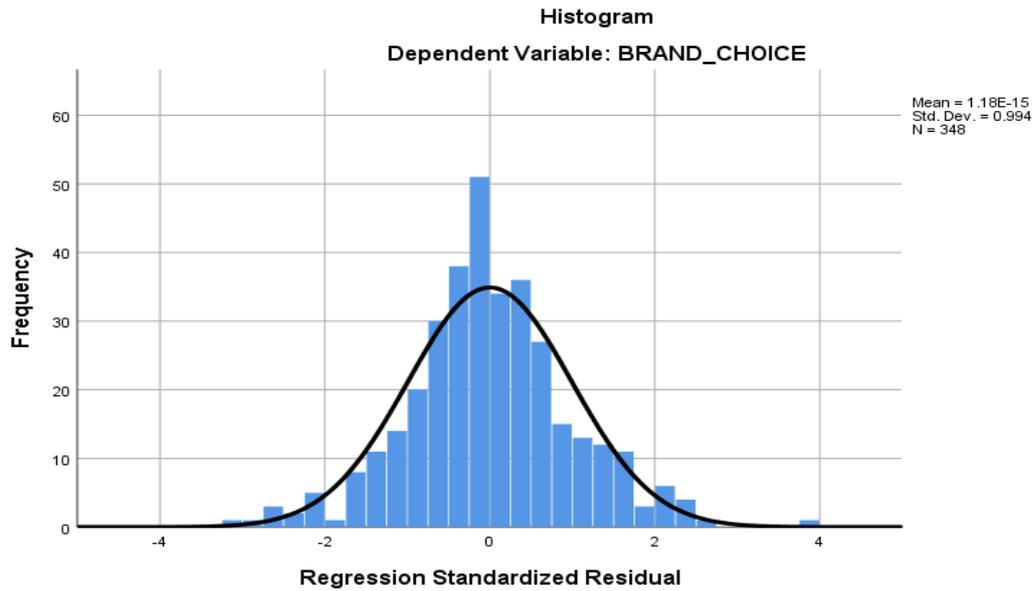
Statistics		Brand Image	Price	Performance	Availability	Brand Choice
N	Valid	348	348	348	348	348
	Missing	0	0	0	0	0
Skewness		-1.204	-.840	-.704	-1.097	-.765
Std. Error of Skewness		.131	.131	.131	.131	.131
Kurtosis		.809	-.305	-.766	.523	.320
Std. Error of Kurtosis		.261	.261	.261	.261	.261

APPENDIX 5: Model Summary

<table>
<tr><th colspan="5">Model Summary[b]</th></tr>
<tr><th>Model</th><th>R</th><th>R Square</th><th>Adjusted R Square</th><th>Std. Error of the Estimate</th></tr>
<tr><td>1</td><td>.729[a]</td><td>.532</td><td>.526</td><td>.65463</td></tr>
</table>

a. Predictors: (Constant), Brand Image, Price, Performance and Availability

b. Dependent Variable: Brand Choice

<table>
<tr><th colspan="7">ANOVA[a]</th></tr>
<tr><th colspan="2">Model</th><th>Sum of Squares</th><th>df</th><th>Mean Square</th><th>F</th><th>Sig.</th></tr>
<tr><td>1</td><td>Regression</td><td>166.965</td><td>4</td><td>41.741</td><td>97.404</td><td>.000[b]</td></tr>
<tr><td></td><td>Residual</td><td>146.989</td><td>343</td><td>.429</td><td></td><td></td></tr>
<tr><td></td><td>Total</td><td>313.954</td><td>347</td><td></td><td></td><td></td></tr>
<tr><td colspan="7">a. Dependent Variable: Brand Choice
b. Predictors: (Constant) Brand Image, Price, Performance and Availability</td></tr>
</table>