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Addis Ababa University
College business and economics
School of Commerce

Post Graduate Studies

**The effect of media advertising on customers brand preference: the case of DKT
Ethiopia: Addis Ababa city**

By: Habtamu Tegbew Tadele

**A THESIS SUBMITTED TO THE DEPARTMENT OF MARKETING
MANAGEMENT, SCHOOL OF COMMERCE ADDIS ABABA UNIVERSITY IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ART MARKETING MANAGEMENT**

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ADDIS ABABA UNIVERSITY
COLLEGE OF BUSINESS AND ECONOMICS

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DEPARTMENT OF MARKETING MANAGEMENT

The Effect of Media Advertisement on DKT Ethiopia Customers: A Case of Addis Ababa City (Approval Sheet)

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Certification

This is to certify that this thesis entitled as “The effect of media advertisement on DKT Ethiopia product user customers brand preference in the case of Addis Ababa city, Ethiopia” submitted in partial fulfillment of the requirements for the award of the degree of MA in Marketing management, to the Department of marketing management, Addis Ababa University. This study is clearly done by Habtamu Tegbew Tadele (ID NO: GSR/6376/14) and is his authentic work and genuinely carried out by him. To the best of our knowledge, the work reported here has never been submitted earlier for award of any degree or diploma. Name of principal advisor:

Salamlamlk molla (Ph.D.) Signature: _____ Date: _____

Declaration

I, the undersigned, declare that the thesis comprises my own work. In compliance with internationally accepted practices, I have duly acknowledged and referenced all materials used in this work. I understand that non-adherence to the principles of academic honesty and integrity, misrepresentation/fabrication of any idea/data/fact/source will constitute sufficient ground for disciplinary action by the University and can also evoke penal action from the sources which have not been properly cited or acknowledged.

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ACRONYMS

AIDA..... Awareness, comprehension, conviction & action

ANOVA.....Analysis of variance

AMA.....American marketing association

BLUE..... Best linear unbiased estimates

BP/C..... Brand preference or Brand choice

CD-ROMs.....Compact disk read only memory

DKT ...D.K.TYAGI (named in honor of one of India's early family planning pioneers, Mr.

.....D.K.Tyagi

DVD.....Digital versatile disc

SPSS..... Statistical package for social science

TV..... Television

VIF..... Variance inflation factor

Abstract

Media advertisement has high contribution in making customers' brand preference decisions. the purpose of this research was to identify the effect of media advertisement on the customer's brand preference by taking evidence from DKT Ethiopia customers especially pharmacies and drug store in Addis Ababa city. The study has investigates the relationship between dependent variable customers brand preference decision and independent variables of print media advertising, broadcast media advertising, outdoor media advertising and electronics media Advertising. To do so, cross-sectional survey was conducted and primary data was collected using self-administered questionnaires from 384 employees of pharmacies and drug stores from Addis Ababa city. Both descriptive and inferential statistics approach of data analysis have been undertaken. The result of liner regression model provided empirical evidence on a positive significant effect of electronics media advertisement and broadcast media advertising on customers Brand preference; whereas print media advertising negative insignificant effect on customers Brand preference and outdoor media advertising has positive insignificant effect on customers Brand preference. The study recommended that the broadcast media advertising and electronic media advertising in the media advertisements plays the great role of influencing DKT Ethiopians customer's brand preference decisions. DKT Ethiopian marketing division should focus on its advertisement message and creativity in order to able to reach the right market segment effectively. This study analyzes customers brand preference with cross sectional data using only four variables and the data were taken from drug store and pharmacy only by employing smaller sample and linear regression model. Thus, further research may be undertaken to incorporate larger samples by employing other econometric models such as Heckman sample selection model and Tobit models by employing panel data with interviews and focus group discussions and by utilizing more variables used different cities and incorporating clinics, hospitals, pension and hotel.

Key word: DKT Ethiopia, print media advertising, broadcast media advertising, outdoor media advertising and electronics media advertising.

CHAPTER ONE:

1.1. Introduction

Background of the study

Since the dawn of civilization, there has been an informal concept of advertising. In the past, street vendors would sell their wares to passersby directly and use oral advertising to tout the advantages of their wares. However, once writing and paper were invented, advertising began to take on a more formal appearance (Piety, T. R., 2001).

Media concept has limited understanding as compared with world history concept. Even though news sheets emerged as early as 100 B.C., most forms of communication introduced in last 500 years for reaching large numbers of peoples. The development of mass media is influenced by tremendous social changes as a result of nations moved from agrarian- to industrial-based societies. Industrial revolution makes advancement in education and transportation, and increases the leisure time and urbanization, helped spur reader demand and hence the growth of newspapers, books and magazines. Public organization needs more information and growing entertainment, the innovation of technology facilitate the way of the creation of electronic based media in twentieth century. In today's product of information age, Satellite communications and the Internet are the most important communication means. They sparked by the demand for even more channels of communication that are faster, clearer and farther-reaching. (Baran, 2001).

During revolutionary war, Newspapers are the critical elements. During the turn of the twentieth century, investigative journalism and muckraking introduced, and newspapers began presenting more professional information without bias. Modern print media has struggled to stay cost-effective, accessible and reliable by redeeming outdated technology, and moving online to do so. Around 1930s, almost all families specially urbanized families started to use a radio that facilitates an effective way for politicians, especially presidents, to reach out to citizens. The introduction of television in 1930s and its increased uses decreased the demand of radio, but radio still provides political information. The modern presidents of the country also use television to provide information for peoples in times of crisis. Now, social media and the Internet offers more direct way for peoples to communicate. While series of newscasts still exist, younger viewers prefer soft news as a way to become informed. (Fellow, 2009).

Advertising media means a different media channels from which advertising was taken place and it is used for showing promotional content cases which can be communicated in any forms media advertising(text, speech, images, TV videos, radio, outdoor, online and soon) and non-media advertising(the set of advertising actions that do not appeal to the mainstream media). The non-media corresponds in particular to the actions of direct marketing, public relations, sponsorships, etc . In essence, those are the avenues through which businesses advertise their own goods and services to potential clients. Due to its ability to influence consumers' purchasing decisions, advertising poses one of the biggest problems for conventional economic models. Numerous studies and investigations have been done on this subject to fully comprehend what advertising actually entails. Advertising is a powerful tool for communication, and when an image and message are included, it becomes even more persuasive. According to Aaker (2013), it is a potent commercial tool that has the potential to influence people's thinking and behavior, which explains why it is used for various purposes by business behemoths, nonprofit organizations, and financial institutions. It concerns the movement or diffusion of information touching an idea, a service or a product (Aaker, 2013).

In fact there are many advertising 'media' such as newspapers (local, national, and free trade), magazine and journals, television (Local, national, Terrestrial, Satellite) cinema, outdoor advertising (Such as posters, Billboards bus sides) Armstrong and Kotler (2003).

The phrase "Brand Preference" refers to a consumer's preference for one brand over other brands of the same product that are offered on the market. Brand preference reveals the customers' preferences. According to Holbrook et al. (1982), brand preference is the degree to which respondents preferred and intended to stick with their service provider. The American Marketing Association (AMA) defines a brand as a name, term, sign, symbol, or design, alone or in combination, used to identify and set one seller's or group of sellers' products and services apart from those of rivals. A brand, in accordance with Choudhury (2001), is essentially the sum the particular satisfaction that it delivers to the customer who buys that specific brand, the sum total being its name, ingredients, price, packaging, distribution, reputation and ultimately to its performance.

Media for advertising is Kotler and Armstrong (2008) claim that advertising media is the means by which commercial messages are communicated to their target audiences. Larger companies are able to invest more and more in sophisticated ways to convince us to buy their products as advertising becomes increasingly important for businesses. In order to promote attitudes and cultures where consumers are

more likely to purchase their products, advertisers also have direct and indirect influence over media companies and their content. As a result, content dumping down is fairly common.

Advertising in print media includes that found in newspapers, magazines, brochures, and flyers. Print media have long been a preferred medium for advertising. It's common practice to advertise products in newspapers and magazines. For print media to be appealing to advertisers, it must be able to draw sizable readerships or a highly niche audience. For many years, the only significant media available to advertisers was magazines and newspapers, which have been used as advertising vehicles for more than 200 years.

Electronic Media: Electronic media means broadcast or storage media that take advantage of electronic technology. They may include television, radio, Internet, fax, CD-ROMs, DVD, and any other medium that requires electricity digital encoding of information (Belch et al. 2007)..

Another widely used form of advertising is outdoor advertising, which uses a variety of devices and strategies to draw customers outside. Outdoor advertisements typically take the form of billboards, kiosks, and various company-hosted events and tradeshow. Although billboard advertising is very common, it must be extremely succinct and attention-grabbing to draw in passersby. The kiosks serve as both an accessible outlet for the company's goods and a powerful tool for advertising those goods. Organizing numerous events or sponsoring them is a great way to promote your business. The business can plan trade shows or even exhibitions to promote its goods.

The term "broadcast advertising" refers to a variety of media, including radio, television, and the Internet. Since they were first introduced, television commercials have become very common. The length of the advertisement, the time of broadcast (prime time/peak time), and of course the popularity of the television channel on which the advertisement will be broadcast all have an impact on the price of television advertising.

Advertising remind, liking, and correct brand identification are three metrics commonly used to assess the quality of advertising, particularly once it has gone to air and is playing in the competitive environment with viewers seeing it in their home environment. Advertisers seek to increase Customers engagement with brands. However, Customers vary in what they find engaging and, as such, enhancing Customers engagement has been a challenge. Advertising has to be updated according to new trends in the world like new technologies, changing markets, changing legal frameworks *etc.* However, more challenges and trends increase the pressure on marketing and brand management. The purpose of ad is

to show identity and individuality of the brand, and ads goal is to give the brand a first class ticket throughout the life of it (Newstead & Romaniuk, 2010).

Due to that, this research focuses on investigating the effect of media advertising on customers brand preference to show how the above-mentioned variables influence customers brand preference on DKT Ethiopia in Addis Ababa city.

Many authors have researched about the relationship between advertising and customer's brand preference, but it is a question for the researcher in this study to know how media advertising influence customers for their decision-making. There are different definitions about media advertising, different points of view about its relationship with customers and with different scholars' viewpoint about how customers prefer. Consequently, this study analyzes the effect of media advertising on customers brand preference in DKT Ethiopia in Addis Ababa city.

1.1 Statement of problem

In today's competitive environment, staying on competitive position is a difficult task with many different challenges. Due to that, media advertising has an immense role to solve such problem to be competitive. A modern definition of advertising, according to Waijaya (2012), incorporates additional crucial components including media, audience, and goals. The marketing magazine defines advertising as a for-profit method of persuasion communication that employs mass and interactive media to reach large audiences in order to link a designated sponsor with consumers (a target audience) and disseminate knowledge about a product (goods, services, and ideas). (Sandra et al.). There are five basic factors: Paid communication, Sponsor is identified, Tries to inform or persuade, and Reaches a large audience and Message conveyed through many different kinds of largely non-personal mass media.

Researching customer's behavior is a difficult task, which needs a multidisciplinary approach of the economic, sociology, medicine, psychology, and statics point of view. Due to this, customer's behavior can be seen as an evergreen element of human existence as customers. The behavior of the customers coexists with other human behaviors' which is the result of its complexity, continuously generates new and dynamic behaviors, like a root that gives rise to new offspring that are never the same. Measuring the effectiveness of advertising has become a hot issue for most companies, especially in the tight economic environment. Which influence the company's top manager to ask the marketing managers, "How we know our right amount of spending on advertising? Moreover, what we gain from this

advertising investment? (Kotler & Armstrong, 2013). In today's competitive market, almost all companies advertise their products and services on television; radio, online and the company and they spend a valuable amount of money for advertising their products. For increasing the sale of their product, they are taking film stars or other celebrities in their advertisements of their products from which they incur additionally high amount of costs.

Generally, there are different studies conducted related to the different factors that affect customers brand preference. For example, Yang et al., (2007) studied one of the factors called social reference group on customers brand preference, Singh et al. (2012) conducted the two factors such as the celebrity endorsement, and type of advertising media,

Advertising media and customer age were used as the two variables in the study by (Adeole et al., 2005) to determine the effect of these variables on consumer brand preference. Additionally, (Vivekananthan, 2010) conducted research on three different aspects, including comprehension, communication, and information. While Tendon (2011) studied on four factors such as, source of awareness (advertising & sales promotion), age, gender, and education. Given what the aforementioned research by various scholars indicates, studies that were conducted on the impact of announcement on guests' brand preference by taking two factors; still, few scholars studies about were conducted by taking three and four factor. Gezachew (2012) also was taken four factors, including features of advertisement, contents of advertising message, types of advertising media, and reference group influence.

As far as the student researcher's knowledge is concerned, there are not enough studies or significant studies that inform about the impact of media advertisements on DKT Ethiopia brand preference in the context of Addis Ababa, particularly conceptually, theoretical and methodological gaps. so the research was undertaken to examine this impact using DKT Ethiopia as a case.

1.3 Research question

1. How do print advertisements affect consumers' brand preferences?
2. How do customers' preferences for brands change as a result of broadcast advertising?
3. How do outdoor advertisements affect consumer brand preference?
4. How do customers' preferences for brands change as a result of electronic media?

1.4 Objectives of the study

1.4.1 General objectives of the study

The overall objective of the study is to analysis the effect of media advertising on customers brand preference among service /product delivery institutions in Addis Ababa city, the case of DKT Ethiopia.

1.4.2 Specific objectives

1. To investigate the effect of Print Advertisement on customers brand preference in DKT Ethiopia
2. To analyze the effect of Broadcast Advertisement on brand preference in DKT Ethiopia
3. To examine the effect of Outdoor Advertisement on customers brand preference in DKT Ethiopia
4. To assess the effect of Electronic Media on customers brand preference in DKT Ethiopia

1.5 Significance of the study

It is accomplished, and thesis was assumed to benefit DKT Ethiopia by providing solution to the problem in its finding. It was play a vital role in order to investigate which type of media advertising more influential to reach the customers brand preference and provide possible solution to improve that. The researcher can also be beneficial by gaining know how about the effect of media advertisement on brand preference, how Print Advertisement influences their product choices, and know the relationship of Broadcast Advertisement and brand preferences, and consequently this leads the researcher having experiences and motivations for further investigation. It also initiates other researcher to study on untouched area of the research topics that are relate with the problem area of the topic.

1.6 Delimitation of the study

Geographically, this study is delimit to address only DKT Ethiopia product distributor pharmacies , clinics and drug store in Addis Ababa city, because the researcher cannot address all other cities due to time, financial constraints, and even the researcher's ability. Conceptually, the study is delimit to the effect of Print Advertisement, Broadcast Advertisement, Outdoor Advertisement and Electronic Media impact on customers brand preference in DKT Ethiopia Addis Ababa branches office.

The study was discuss theoretical concepts such as Rados (in Fine 1990), (As cited in Hilina, 2012) three explanations of how advertising work. In addition, models such as this study was be guided by the following three theories such as stimulus response theory, active learning theory, and low involvement theories, which more concerned with the variable under study as the researcher understanding was be used as supporting models for this study.

The study was covering the period from February 2023 to June, 2023. Methodologically the study is delimiting was focus on DKT/E customers specifically located from respondents of Addis Ababa. The study was use both descriptive and explanatory research design which embodied both qualitative and quantitative phases. Furthermore convenience non random sampling was be used to select respondents and structured questioner as data collection instrument. Moreover, empirical studies Print Advertisement, Broadcast Advertisement, Outdoor Advertisement and Electronic Media was be addressed

1.7 Limitation of study

The outcome of the study entirely depends on responses of the respondents include in the study. Moreover, as the sample is small considering the vast number of customers of DKT products in the country, the results might not be generalizable beyond the specific population from which the sample is drawn.

1.8 Organization of the study

This study was having five chapters deal with the effect of media advertising on customers brand preference in DKT Ethiopia in Addis Ababa city. It has five chapters. The first chapter dealt with the introductory parts including - background of the study, statement of the problem, general and specific objectives, research questions, research hypothesis, significance of the study, delimitation of the study, limitation of the study, chapter two dealt with literature review, its conceptual frame work and chapter three contains methodology of the research, the forth chapter dealt with research analysis and conclusion.

1.9 Operational Definition

Advertising in the media: Kotler and Armstrong (2008).The means by which commercial messages are conveyed to target audiences.

Branding is the process of differentiating and identifying one seller's good or service from those of other sellers' goods and services through the use of a name, term, design, symbol, or other feature (AMAD, 2012).

"Broadcast advertisement" refers to a variety of media, including radio, television, and the internet (Armstrong and Kotler, 2003).

Outdoor advertising: which uses a variety of devices and strategies to draw customers outside Billboards, kiosks, and various company-hosted events and tradeshow are the most typical forms of outdoor advertising (Armstrong and Kotler, 2003).

Brand preference:-refers to the indicators of the strength of brand with in the hearts and minds of customers. It is also called brand choice (BP/C) represents which brands are preferred under the assumptions of equality in price and availability of goods and services (MASB, 2019, (As Cited in 2010)).

Print media includes that found in newspapers, magazines, brochures, and flyers. Print media have long been a preferred medium for advertising. It's common practice to advertise products in newspapers and magazines (Armstrong and Kotler, 2003).

Electronic Media: According to Belch & Belch (2007), electronic media are broadcast or storage mediums that make use of electronic technology.

CHAPTER TWO

RELATED LITERATURE REVIEW

2. Introduction

This chapter was deals with relates to literature review from the perspective of both theoretical and empirical literature review as well as the conceptual framework of the study. The literature review part includes stimulus response theory, active learning theory and low involvement theory. Which is directly related to the variable under study and empirical review part addresses meaning and concept of advertising media, the effect of media advertising, importance of advertising media, and the concept of brand, brand preference and the findings of previous research work related to the topic.

2.1. Theoretical Literature Review

Theory means a systematic organization of knowledge applicable in a wide variety of circumstance, especially a system of assumptions, accepted principles and rules of procedure devised to analyze, predict, or to explain the nature or behavior of a specified set of phenomena (AHD, 2012). This study was be guided by the following three theories such as stimulus response theory, active learning theory, and low involvement theories, which more concerned with the variable under study as the researcher understanding.

Rados (in Fine 1990), (As cited in Hilina, 2012) came up with three explanations of how advertising work or three theories of advertising.

2.1.1 Stimulus response theory

Stimulus Response Theory: deals about something, which stimulates audiences by putting repeated “pressure” on them. The central concern of the advertiser in this case is the amount spent on advertising. According to this model, at low levels of spending returns to advertising investment increase as advertising increases, whereas the at high advertising levels, returns to advertising decreases as advertising increases. In advance to promote which relays on the salespersons capability to stay the right thing (stimulus) in order to get a positive reaction from the buyer (response); often referred to as the canned approach because a script is commonly used. Social, cultural, and individual factors can all have an impact on a customer's purchasing decisions. The factors that are cultural have the greatest and deepest

impact. The fundamental drivers of a person's desires and actions are their culture. Every culture has smaller subcultures that provide their members with more specialized means of identification and socialization. Nationality, religion, racial group, and geographic region are all components of subcultures. 2005 (Peter & Olson).

2.1.2 Active learning theory

According to this theory-, audiences seek to advertise for information and advertising conveys such information. The idea after this theory is when people are exposed to information, they move through series of stages from lack of knowledge to action. This idea dates back to the 1920s and it is known as AIDA, which stands for awareness, comprehension, conviction, and action, but the principle is the same. Marketers identify such decisions as high involvement decision. Advertisings function in such a marketing plan is not to lead to action, but create awareness, disseminate knowledge, and perhaps help the young person to make a decision.

2.1.3 Low involvement theory

Low involvement theory- according to this theory the person absorbs much advertising, perhaps most, while in a situation of absent-mindedness. The person is not paying much concentration because, the product is not too significant and the brand categories are attractive much alike.

2.2. Empirical literature review

Numerous empirical studies have been carried out to determine the factors that influence consumer brand preference across various nations. Many academics have identified the extent to which advertising influences brand preference among the various factors influencing brand preference. While only a few authors in the literature under review attest to the strong correlation between brand preference and advertisement, the majority of studies contend that advertisement has a significant impact on brand preference.

However, numerous other researchers found evidence to support the effect of advertising on consumer preference in their research across a range of product segments: In Enugu Metropolis, Anderson Ugwu (2012) carried out a study on packed water. The purpose of the study was to determine how much market factors affected consumer preference for different brands of packaged water. Questionnaires and oral interviews served as the data collection tools for this study. Distributors and buyers of packaged water products made up the respondents. It was determined through data analysis and interpretation that taste,

advertising, price, and product accessibility were the main factors influencing consumer brand preference for packaged water in cities.

Using the Alamro and Rowley model, Kashanizadeh and Esfidani (2014) study the factors influencing brand preference for audio and video products. This study adopts a pragmatic methodology. After collecting data via questionnaires, LISREL software performed an exploratory factor analysis. As a result, 7 factors that affect customer preferences were identified. Each of these elements was chosen as the study's general hypothesis. Through confirmatory factor analysis and path analysis, these hypotheses were investigated. The findings indicate that brand preference for Samsung products was influenced by brand awareness, advertising, features of value, and customer characteristics.

According to a study by Christian and Maurice (2013), brand preference for beer consumption was investigated in Nigeria in order to identify the variables influencing beer brand selection in the Port-Harcourt metropolis. Overall, the data analysis showed a strong correlation between advertising, peer group influence, situational variation, and beer consumers' brand preferences. In order to stay ahead of the competition, this finding has implications for creating a more successful advertising campaign program to increase consumer preference for their brand. .

Operators in the food and beverage industry face fierce competition for a larger market share, according to Ayanwale's 2005 study, "The Influence of Advertising on Consumer Brand Preference." This is a result of the industry having to contend with an increase in the number of different food and beverage brands available in the nation. It is crucial for manufacturers to comprehend the key elements that can draw customers to their own brand when there is fierce competition among businesses and brand choice exists for them on the market.

These serve as the foundation for marketing planning and implementation. This study's data came from a survey of 315 randomly chosen food and beverage consumers in three cities in southwest Nigeria. It investigated how advertising affected consumers' preference for Bournvita, one of the top food drinks in Nigeria's food and beverage industry. The findings showed that brand preference was equally influenced by advertising across genders and age groups. The majority of respondents (71.43%) preferred TV advertising over all other forms of Bournvita advertising. The importance of giving advertising a high priority for businesses that want to preserve their market share as well as grow it was highlighted.

((Melkamu, 2014) examined the influence of media advertising on consumers' purchasing decisions as well as the driving forces behind media advertising responses. This research was done on a particular banking brand. The study's findings showed that media advertisements were the most significant sources of information, and that the types of media advertisements (broadcast and print media ads) and the goals of media ad messages have a big impact on consumers' purchasing decisions. The results demonstrated that TV, with its audio-visual presentations, has the strongest influence on consumers' purchasing decisions. The crucial elements that encouraged consumers to respond to the bank's media advertisements were the educational ads, perceptions of the bank, the color of the logo, and the brand name to respond to the bank's media ads.

A study by Tendon (2011), revealed that 72.4percentage of respondents confirmed the awareness of tea brand being created by advertising where as 2.2% respondents felt that sales promotion schemes created awareness of the brands. With respect to aspect of tea brand, 63.8% of respondents considered quality of the product (tea) as the most important variable and only 12.9% of respondents considered advertising as the most important reason for the preference of tea.

According to a study by Adeole et al. (2005) on the impact of advertisements on consumers' brand preferences across various categories, television advertising is the most popular form of advertising among consumers, with newspaper and magazine advertising coming in second and third with 4.44% of the market share, respectively, among the five different media used for advertising. In a similar vein, Gizachew (2012) examined the same subject with a focus on electronics products and discovered that from the perspective of advertising media, television advertising is the most favored by consumers to gain awareness.

"Due to T.V.'s audio visual feature, it has a strong impact on the audience and this medium has the ability to deliver commercials to mass viewers," Gayathri & G (2012) note. Information is provided about products and brands by television advertisements. Television advertisements significantly affect consumers' purchasing decisions, according to research (Strong & Eftychia, 2006). According to the Jupiter Research In-Market Media Usage Survey conducted in 2007, 23% of respondents made a decision to buy something after watching a television commercial.

The research by Biruktawit (2017) on the impact of the Anchor Milk advertisement on consumer brand preference is noteworthy. A product-celebrity and audience-celebrity match is also necessary for

credibility and to attract target audiences' attention during advertising; otherwise, consumers might not pay attention, and the company might not achieve its predetermined goal of gaining a sizable market share and selling more Anchor milk. Because TV is one of the most popular sources of recreation for DKT Ethiopian customers due to its audio-visual communication,

Azagne Kefale (2020) concluded that media advertisements have a significant influence on consumers' decisions regarding the brands they prefer relative to personal perception, personal characteristics and product quality. As a result, the DKT Ethiopians should use more television advertisements.

2.3 Hypothesis of the study

Four hypotheses, each of which specifies and identifies the relationship between the variables that ultimately results in the effect of advertising on brand preference in the DKT industry (the main goal), have been put forth from the aforementioned conceptual framework.

H1: Consumer brand preference is significantly influenced by print advertising.

H2: Consumer brand preference is significantly influenced by broadcast advertising.

H3: Consumer brand preference is significantly influenced by outdoor advertising.

H4: Consumer brand preference is significantly influenced by electronic media advertising.

2.4. Conceptual framework of the study

The term conceptual framework represents the relationship of the dependent variables with that of independent variables. Dependent variable is a variable, which is influenced by independent variables while independent variable is a variable, which influence or affects the dependent variable. Therefore, for this study, the dependent variable is Customers brand preference and the independent variables are Print Advertisement, Broadcast Advertisement, outdoor advertisements, and Electronic Media. Therefore, to show the effect of independent variable such as print advertisement, Broadcast Advertisement, outdoor advertisements, and Electronic Media on the dependent variables called Customers brand preference, the following conceptual framework is constructed. The conceptual framework constructed from theory of media Advertisement.

Conceptual frameworks of the study

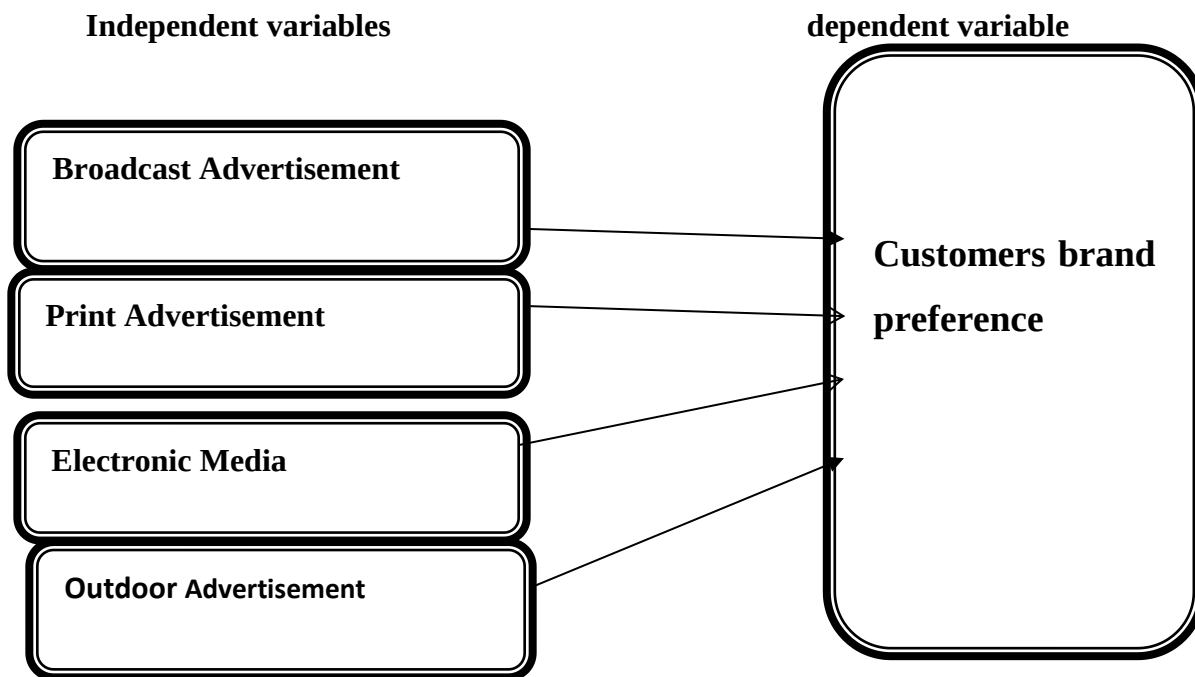


Figure 1 Conceptual framework adopted by the researcher

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology part of the research. It includes research approach, research design and research strategy, approaches to research methods, sources of data, data collection method & instruments, sampling methodology and data analysis techniques.

3.2. Research Design

This study's research design combined qualitative and quantitative phases with a descriptive and explanatory component. By using questionnaires as a method of data collection, the quantitative phase handled the survey and collected some measuring variable values. The qualitative phase, which employs an interpretive philosophy, uses a case study methodology to identify some findings from the study's subjective and dynamic issues. To describe the impact of media advertising on consumers' brand preferences and to identify the various factors that influence consumers' responses to media advertising in the DKT Ethiopia brand preference, descriptive research methodology was chosen.

3.3 Research Approach

There are two basic types of research approaches Kothari, C. (2004). These are deductive and inductive research approach. Reasoning deductively means testing these theories. Formulate a hypothesis based on existing theory, Collect data to test the hypothesis, Analyze the results: does the data reject or support the hypothesis. While inductive research approaches are applied when there is little to no existing literature on a topic, it is common to perform inductive research because there is no theory to test. Its stages are: Observation, Observe a pattern, and develop a theory (Streefkerk, 2019). Therefore, for this study, the researcher uses deductive research approaches to test hypothesis.

3.4 Population and Sampling Design

3.4.1 Target Population

The study was focused on investigating what is the effect of media advertising on customers brand preference in DKT/E. For this reason, the target population for the research study includes private and public pharmacies, clinics and drug store, which distribute DKT products in Addis Ababa City.

3.4.2. Sample method

The target population includes all DKt Ethiopia product users specifically located from respondents of Addis Ababa. The sample focuses on respondents from specific clinics, drug store and pharmacy with a technique use non probability convenient sampling, as it is relatively quick, convenient, and less expensive for collecting data (Sekaran and Bougie, 2009). The questionnaire was develop in this study consists four parts. The first part was regard Print Advertisement on customers brand preference; the second part consists of the Broadcast Advertisement on brand preference; the third part was effect of media Outdoor Advertisement on customers brand preference; fourth the part was effect of Electronic Media on customers brand preference.

3.4.3. Sample size

As for the sample size, it is suggested that 50 cases are very poor, 100 are poor, 200 are fair, 300 are good, 500 are very good and 1000 or more are excellent (Tabachnick & Fidell 2007). 500 questionnaires are therefore chosen in order to have useful data. Consequently, 384 people were chosen as the study's sample size.. In order to determine the sample size, an estimation of the expected proportion of success must be considered (Kothari, 2004). In this case, a more conservative proportion of success (p) which is 50% was selected together with a level of confidence of 95% (z), a sampling error no greater than 5% (e).

Where no = Sample size

e = Acceptable error

p = Proportion of success

q = Proportion of failure

z = Standard variant at a given confidence level.

$$No = \frac{Z^2 PQ}{e^2} = \frac{(1.92)^2 (0.5)(0.5)}{(0.05)^2} = 384$$
 z = Standard deviation at a specified level of confidence Taking into account all of these variables, a sample size of 384 was used for this study, which was adopted from Kothari (2004).

3.5 Sources of Data

The procedure for gathering the study's data is described in this section. The structured questionnaire used in this study was the main source of data. It was created and adopted from studies by Bakewell et al. (2003), Kotwal et al. (2008), and Latifet al. (2011) and was only slightly modified by the researcher to fit the current research goal. The secondary data came from media advertising books and articles Data gathering technique.

3.6 Method of Data collection

For this study, data collection instrument was develop based on reading professional Journals, books, adopt a tools used by other researchers etc. Therefore, the researcher was used questionnaire as a research instrument. In this instrument a series of questions was designed to obtain information, which is filling by all participants in the sample. The reason why the researcher selected questionnaire for data gathering instrument is the researchers has use simplest way to answer the questionnaires by respondents. The researcher has used 5-point Likert scale to investigate effect of media advertising on customers' brand preference in DKT Ethiopia.

3.7 Procedures of data collection

The primary sources of data used in the study were obtained through structured questionnaires. A five-point Likert scale was used to measure the five given constructs in this study. Prior to using the questionnaire, its reliability was tested using one DKT product. According to Yoo et al. (2000), respondents are better suited to give a reliable and valid response to a questionnaire if they have been exposed to or have experience with a particular brand. Respondents in this study were DKT consumers scattered throughout Addis Ababa.. The respondents were questioned about their experience with DKT as well as their willingness to take part in the survey. After that, questionnaires based on their perceptions, experiences, and prior exposures were given to them for completion. Before distributing to the chosen respondents, the concerned owners or managers must first give their consent. The survey was divided into three sections: The first section asks about the respondents' socio-economic situation, the second section focuses on the respondents' usage patterns for DKT products and their brand preferences, and the third section asks about the respondents' satisfaction with DKT products. In order to supplement the primary data, secondary data was collected through document analysis. A number of related books, journals, and articles on advertising and consumer brand loyalty were also examined. The 384 questionnaires were all manually distributed as part of the data collection procedures, and each respondent was given a printed copy of the questionnaire to complete on their own. The study focused on a select group of Addis Ababa residents and used primary data collected via a questionnaire. Before using the questionnaire, its dependability was tested in a single health center.

3. 8 Method of Data Analysis:

After the data was collected by questionnaire it was code and analyze by using statistical package tool for social science SPSS (V.26), because it intends to understand a complex reality and the meaning of actions in a given context. To analysis the data collect both descriptive statistics (mean, standard deviation, frequency and percentage) and inferential statistics was used. Descriptive statistics refers to a measurement unit that describes the feature of data in the study and its main aim is briefly summarizing the sample and the measurement done in particular research. In descriptive statistics, data was describe, present summarize, organize by a numerical calculation, by graphs and tables. For this study inferential statistics (multiple linear regressions) was also done.

3.7 Validity and Reliability

The most important criterion, it shows how well an instrument measures what it is meant to measure. It may also be viewed as useful. To put it another way, the degree to which differences detected by a measuring tool accurately reflect differences among the subjects of the test is known as validity (Kothari, 2004). A variety of actions were taken to guarantee the study's validity:

- By using 10% of the study's sample size, the validity of the questionnaire was tested.
- Information was gathered from respondents with experience using DKT's products and from trustworthy sources.
- To ensure the validity of the results, survey questions based on literature reviews and frames of references were used.

We should also inquire about a measure's reliability in addition to its validity. If a measurement produces consistent results over time, it is said to be reliable. In other words, consistent results are produced by reliable measures, which do not fluctuate (Ruane, 2005). The degree to which a measurement reproduces A pilot study with respondents was conducted to evaluate the instrument's internal reliability, and a Cronbach-Alpha reliability test was used. When a data collection tool has items that can be scored on a range of values, i.e., different items have different scoring points or attitude scales in which the item response is in a continuum, Cronbach's alpha is frequently used (Oluwatayo, 2012). A value of 0.6 or less typically denotes an unsatisfactory level of internal consistency (Malhotra & Birks, 2007). This coefficient ranges from 0 to 1.

3.9 Ethical Consideration

According to Saunders, Lewis, and Thornhill (2009), the definition of ethics in the context of research is "the appropriateness of the researcher's behavior in relation to the rights of the participants or subjects of the research work." Information was requested from respondents on a voluntary basis, the study's purpose was disclosed in advance, and information confidentiality was ensured. Additionally, the questionnaire's introduction section included a statement about the study's goal. Also avoided in the questionnaires were statements that were false or deceptive.

CHAPTER FOUR

RESULT AND DISCUSSION

INTRODUCTION

This chapter primarily examine the both descriptive statistics and inferential statistics part of the study, from which the predetermined sample size of the study was reduced from 384 to 380 due to the reason of respond questionnaire during the time of households survey, however, it is reliable and efficient from the ground that its response rate is about 98.96% compared to the recommended proportion of 80% (Visser A, 1996).

4.1 Demographic profile of respondents

The demographic profile of the respondents is shown in the following table along with their corresponding frequency and percentage.

4.1.1 Respondents' sexes

According to the demographic information for gender, there were 66 men and 316 women among the 380 respondents. Figure 4.1 demonstrates that, with a percentage of 82.6%, female respondents made up the majority of the target population. Male respondents made up 17.4% of the total.

Table 4.1 Personal Profile of the Respondents

No. Profile	Description	Responses (%)	Percentage
Sex	male	66	17.4
	female	316	82.6
Age	18-27	194	51.1
	28-37	159	41.8
	38-47	19	5

	47+	8	2.1
Marital status	Single	222	58.4
	Married	152	40
	divorce	2	0.5
	dead	4	1.1
Monthly salary	below 2000	29	7.6
	2001-4000	38	10
	4001-8000	130	34.2
	8001-15000	137	36.1
	15000+	46	12.1
Education background	Below secondary	12	3.2
	secondary	20	5.3
	College diploma	15	3.9
	College courses	30	7.9
	Degree	259	68.2
	Second degree and above	44	11.6
Current job Position	Student	4	1.1
	Unemployed	22	5.8
	Private employed	12	31.8
	Government employed	219	57.6
	Self employed	14	3.7

Religion	Orthodox	297	78.2
	Muslim	27	7.1
	Catholic	2	0.5
	protestant	53	13.9
	others	1	0.3
	total	380	100

Source: researcher's own compilation of Survey data 2023

The sample population age distribution was clearly depicted at table.4.1below where it is largely dominated by respondents who are at the age of 18- 27 years old covering 51.1%. The next higher group was 41.8 %, which falls under age categories of 28-37 years. The remaining groups 5% and 2.1% were under the age categories of 38-47 and 48 above years respectively. Here the data indicated that most of the respondents in the pharmacies and drug store are in the maturity age that are productive and can contribute for the achievement of DKT Ethiopia product usage in particular.

Table 4.1 below indicates single respondents dominated which covers 58.4% followed by married, divorced and dead with the proportion of 40%, .5% and 1.1% respectively to participate as respondents in the research.

The sample population age distribution was clearly depicted at table.4.1 below where it is largely dominated by respondents who are at the age of 18- 27 years old covering 51.1%. The next higher group was 41.8 %, which falls under age categories of 28-37 years. The remaining groups 5% and 2.1% were under the age categories of 38-47 and 48 above years respectively. Here the data indicated that most of the respondents in the pharmacies and drug store are in the maturity age that are productive and can contribute for the achievement of DKT Ethiopia product usage in particular.

The respondents have got monthly income from the range 1000 up to 15000 birr and above. This result indicates the majority (36.1%) of the respondents gets monthly income 8001-15000 birr, and the next 34.2 % of the respondents' income is between4001-8000 birr the rest 12.1%, 10% and 7.6% of the

respondents monthly income was 4001-8000 birr, 15000+ birr, 2001-4000 birr and below 2000 birr respectively.

Regarding educational level of the respondents, the below graph portray that the majority (68.2%) of the respondents were degree education background, 11.6%, 7.9%, 5.3% ,3.9% were post graduate holders, college courses, secondary education high school completes respectively and the remaining 3.2% below secondary education. Therefore, as most respondents were degree program educate, they are in a good position to understand and answer the question of DKT Ethiopian customers. The current job position of respondents where by majority 57.6% of them were government employed. In addition, the second higher respondents job position which covers 31.8% private employed, the remaining 5.8%, 3.7% and 1.1% fall under the job category unemployed, self-employed, and students, respectively. This data indicated that almost all employees of the DKT Ethiopia product distributor at the pharmacies and drugs were involved in this research, and this might give a good representation of the population of the study. The religion of respondents where by majority 78.2% of them were Orthodox, The second higher respondents' religion which covers 13.9% Muslims and finally 7.1% of the respondents are followers of protestant and catholic (others).

4.2. Consumption pattern of respondents

4.2.1 Usage of DKT Ethiopia product

Respondents were questioned about their DKT usage frequency. This particular question was intended to determine whether the respondents are accurate representations of DKT users, and as shown in Table 4.2 and Figure 4.3, more or less of the study's participants are DKT regulars. 4.7% of the total respondents said they use DKT more than once a day, 9.2% said they use it every week, 3.4% said they use it every two weeks, 14.2% said they use it every month, 14.2% said they use it every year, and the remaining 62.6% said they use it in situations other than those mentioned.. Those respondents who explained that they use DKT product in other situations can be considered as the representative of occasional users.

Table 4.2 DKT product usage frequency of respondent

	USAGE DURATION OF RES			
	Frequency	Percent	Valid Percent	Cumulative Percent
Daily	18	4.7	4.7	4.7
weekly	35	9.2	9.2	13.9
TWO WEEKS	13	3.4	3.4	17.4
MONTHLY	54	14.2	14.2	31.6
YEARLY	22	14.2	14.2	37.4
None	238	62.6	62.6	100
Total	380	100	100	100

Source: own survey result (2023)

4.2.2 Duration of using DKT Ethiopia

As shown in table 4.3 below, 207 respondents (54.5%) have no prior history of using DKT, 77 respondents (20.3%) have used it for one year, and 16.6% have used it for one to four years. 33 respondents (or 8.7%) were left, and they had been customers for at least four to six years. This suggests that 20.3% of the respondents have been regular customers for a year or longer. This is advantageous for the study because the responses obtained from the questionnaire come from people with extensive knowledge of DKT products.

Table 4.3 usage duration of respondent

Frequency	Percent	Percent	Valid	Cumulative Percent
Below ONE YEARS	77	20.3	20.3	20.3
FROM ONE TO four YEARS	63	16.6	16.6	36.9
4-6 YEARS	16	4.2	4.2	41.1
6 above	17	4.5	4.5	45.5
none	207	54.5	54.5	100
Total	380	100	100	100

Source: own survey result (2023)

4.3 Descriptive Statistics

In this section, the collected data are analyzed using a variety of statistical data analysis tools, including mean, standard deviation, frequency, and cumulative percent. A 5-point Likert scale is used to evaluate all variables, with 1 denoting "strongly disagree" and 5 denoting "strongly agree." The descriptive statistics of all variables are summarized. As shown by the Comparison bases of mean of score of five point Likert scale instrument, Zaidaton & Bagheri (2009) stated that the mean score below 3.39 was considered as low, the mean score from 3.40 up to 3.79 was considered as moderate, and the mean score above 3.8 was considered as high. As a result, the analysis's details are presented as follows:

4.3.1 Print advertisement

Table 4.4 shows that five key characteristics of media advertising were used to examine the impact of these factors on the products and services offered by DKT Ethiopia. Print advertisements are something I frequently see in printed media (newspapers and magazines). I learned about the brand "DKT" from print advertisements that appeared in newspapers and magazines; I think these advertisements for the brand "DKT" are interesting and appear in reputable publications. 3.28(SD=1.165), 3.18(SD=1.097), 3.06(SD=1.089), 3.41(SD=1.061) respectively. Relatively all items of media advertisement scored below

the cut of point 3.23 this implies consumers are low influenced by print advertisement for brand preference of DKT Ethiopia products.

Table 4.4 Table of print advertisement

	Mean	Std. Deviation
I have frequently seen print advertisements Of brand “DKT” on Newspaper and Magazine.	3.28	1.165
I came to learn about brand “DKT” from print ads	3.18	1.097
I believe print ads of brand “DKT” are Advertised on well-known newspaper/magazine.	3.06	1.089
Print ads of brand “DKT” are Interesting	3.41	1.061
Aggregate	3.23	1.103

Source: own survey result (2023)

4.3.2 Broadcast Media Advertisement

To determine the extent to which these factors affected how media advertisements affected the products and services of DKT Ethiopia, the eleven overall fundamental broadcast advertisement attributes were examined. Relatively all items of media advertisement scored the mean score 3.69 this implies consumers are moderately influenced by broadcast advertisement for brand preference of DKT Ethiopia products.

4.3.2.1 Radio Advertisements

Table 4.5.1 shows that five key characteristics of radio advertisements were used to examine the impact of these factors on the products and services offered by DKT Ethiopia. I often listened to radio advertisements for the brand "DKT," and it was through these advertisements that I first learned about the company. The advertisers used in the radio ads of brand "DKT" have good communication skills, the message of the ads clearly gave me helpful information about DKT products, the radio ads of brand "DKT" are effective in building up its brand image, and the radio ads of brand "DKT" have an impact on the type of DKT products that I prefer. 3.42(SD=1.063), 3.88(SD=0.996), 3.22(SD=1.111), 3.46(SD=0.922), 3.86(SD=.866), 3.64 (SD=0.949) and 3.77(SD=0.890) respectively. Relatively all items of media advertisement scored the mean score 3.6 this implies consumers are moderately influenced by radio advertisement for brand preference of DKT Ethiopia products.

Table 4.5.1 frequency table of radio advertisement

	Mean	Std. Deviation
I have frequently listened to radio Advertisements of brand “DKT”.	3.42	1.063
I came to learn about brand “DKT” from radio ads	3.88	0.996
The radio ads of brand “DKT” attract my Attention and keep me interested	3.22	1.111
I believe that the advertisers used in the radio ads of brand “DKT” have good Communication skills	3.46	0.922
The message of the ads clearly provided me with useful information about DKT products	3.86	.866
Radio ads of brand “DKT” are effective in Building up its brand image	3.64	0.949
Radio ads of brand “DKT” have influence over the type of DKT products that I prefer	3.77	.890
Aggregate	3.6	0.9710

Source: own survey result (2023)

4.3.2.2TV advertisements

To investigate the extent of these factors on the impact of media advertisement on the DKT Ethiopia products and services, five fundamental characteristics of television advertising were used, as shown in Table 4.6. The TV ads for the brand "DKT" have caught my attention and maintained my interest. I think the advertisers used in the TV ads for the brand "DKT" were professionally competent, and the message of the ads clearly gave me the information I needed. I have frequently seen TV advertisements for the brand "DKT." With helpful information about the brand "DKT," TV advertisements for the brand are successful in enhancing its brand image and have an impact on the kind of DKT product I like. 3.76(SD=.852), 3.88(SD=0.996), 3.222(SD=1.111), 3.89(SD=0.822), 3.98(SD=.866), 4.00 (SD=.868) and 3.77(SD=0.890) respectively. Relatively all items of media advertisement scored the mean score is

3.8 this implies consumers are highly influenced by television advertisement for brand preference of DKT Ethiopia product.

Table 4.5.2 frequency table of TV advertisement

	mean	SD
I came to learn about brand “DKT” from TV ads	3.88	.996
The TV ads of brand “DKT” attract my Attention and keep me interested.	3.222	.111
I believe that the advertisers used in the TV ads of brand “DKT” were professionally competent	3.89	0.822
The message of the ads clearly provided me With useful information about brand “DKT”.	3.98	.866
TV ads of brand “DKT” are effective in Building up its brand image.	4.00	.868
TV ads of brand “DKT” have influence over the type of DKT product that I prefer.	3.77	0.890
Aggregate	3.8	0.75

Source: own survey result (2023)

4.3.3 Outdoor advertisement

To investigate the extent of these factors on the impact of media advertisement on the DKT Ethiopia products and services, five fundamental outdoor advertisement attributes were used, as shown in Table 4.6. I frequently see outdoor advertisements, I learned about the brand "DKT" from these advertisements, they keep me informed about the DKT brands that are available, and they catch my attention. The ads' clear message gave me helpful information about DKT Brand "DKT, outdoor advertising had a positive impact on my opinion of the brand, and brand "DKT" outdoor ads have an impact on the kinds of DKT products I prefer. 3.56(SD=0.909), 3.54(SD=0.979), 3.37(SD=1.068), 3.42(SD=1.101), 3.47(SD=.901), 3.35 (SD=1.056), 3.3(SD=3.015) and 3.29(SD=1.021) respectively. Relatively all items of media advertisement scored the mean score 3.4 this implies consumers are moderately influenced by outdoor advertisements for brand preference of DKT Ethiopia products.

Table 4.6 frequency table of outdoor advertisement

	Mean	Std. Deviation
I came to learn about brand “DKT” from Outdoor ads.	3.56	0.909
Outdoor ads help me keep up-to-date about the DKT brands available.	3.54	0.979
Up-to-date information	3.37	1.068
frequently seen outdoor	3.42	1.101
Outdoor ads of brand “DKT” attract my c	3.47	0.901
The message of the ads clearly provided me with useful information about DKT	3.35	1.056
Outdoor advertising positively affected my attitude towards brand “DKT	3.3	1.015
Outdoor Ads of brand “DKT” have influence over the types of DKT products that I prefer	3.29	1.021
Aggregate	3.4	1.006

Source: own survey result (2023)

4.3.4. Electronics ads

To investigate the extent of these factors on the impact of media advertisement on the DKT Ethiopia products and services, five fundamental television advertisement attributes were used, as shown in Table 4.7. I learned about brand "DKT" through electronic advertisements, which also assist me in staying current on the DKT brands that are available, grab my attention, and clearly convey useful information about brand "DKT." As a result, brand "DKT" has benefited from electronic advertising. 3.36(SD=0.930), 3.25(SD=1.041), 3.31(SD=1.021), 3.34(SD=1.063), and 3.39(SD=1.053), respectively. The average score for electronics media advertisements was 3.33, which suggests that

consumers are not greatly influenced by electronics advertisements when choosing the brand of DKT Ethiopia products.

Table 4.7 frequency table of electronics advertisement

	Mean	SD
I came to learn about brand “DKT” from Electronics ads	3.36	0.930
Electronics ads help me keep up-to-date about the DKT brands available.	3.25	1.041
Electronics ads of brand “DKT” attract my attention	3.31	1.021
The message of the ads clearly provided me with useful information about DKT brand “DKT”.	3.34	1.063
Electronics advertising positively affected my attitude towards brand “DKT “	3.39	1.053
Aggregate	3.33	1.02

Source: own survey result (2023)

4.3.5. Brand preference

Table 4.8 below indicates that “I can easily remember Brand's "DKT" emblem/mark and packaging” with a mean value of 3.36 (SD=1.032) indicates advertisement has a strong influence on brand preference. I can instantly remember the symbol and packaging of DKT brand and packaging (M=3.37, SD=0.986), DKT is a beautiful image in my mind (M=3.47, SD=1.061), Brand "DKT" company has credibility (M=3.52, SD=1.021), The DKT brand is meets health standards and standards (M=3.64, SD= 0.947) , DKT are health and well-being of the dairy industry is one of the leading brands in the market (M=3.58, SD=0.947), Compared to other healthcare providers and the DKT that are the best quality, the brand of the products is of the best quality (M=3.59, SD 0.958), I'd rather have a DKT self-esteem than a self-esteem (M=3.67, SD=1.049), I'm pretty sure I’m going to be able to get a good price for the quality of the products I’ve paid for other products(M=3.80, SD=1.013), I'm looking for the most satisfying(M=3.84, SD=0.977), I am fully satisfied with the quality of Brand "DKT"(M=3.85, SD=0.997)

and I recommended use DKT products to others($M=4.00$, $SD=0.884$) . Overall, aggregate mean value of brand preference was 3.62, which means the all items are influenced moderately.

Table 4.8 frequency table of brand preference source

	mean	SD
I can easily differentiate between a competitive DKT health manufacturer and Dkt brand product	3.37	1.043
I can easily remember Brand's "DKT" emblem/mark and packaging	3.36	1.032
I can instantly remember the symbol and packaging of DKT brand and packaging	3.37	0.986
DKT is a beautiful image in my mind.	3.47	1.061
Brand "DKT" company has credibility	3.52	1.021
The DKT brand is meets health standards and standards	3.64	0.947
DKT are health and well-being of the dairy industry is one of the leading brands in the market	3.58	0.947
Compared to other healthcare providers and the DKT that are the best quality, the brand of the products is of the best quality	3.59	.958
I'd rather have a DKT self-esteem than a self-esteem	3.67	1.049
I'm pretty sure i'm going to be able to get a good price for the quality of the products i've paid for other products.	3.80	1.013
I'm looking for the most satisfying	3.84	0.977
I am fully satisfied with the quality of Brand "DKT"	3.85	0.997
I recommended use DKT products to others	4	0.884
Aggregate	3.62	0.97

Source: own survey result (2023)

4.4INFERNTAIL STATISTICS

Researchers can infer trends, make assumptions about a population, and predict assumptions about assumptions about a population using inferential statistics, which are generated by intricate mathematical

calculations (bhattacherjee, 2012). They differ from descriptive statistics in that they are intended to explicitly test hypotheses.

4.4.1 Analysis of Correlation

According to Marczyk, Dematteo, and Festinger (2005), correlations are arguably the simplest and most practical way to measure the association between two or more variables. The correlation analysis, which examines the strength of relationships between the studied variables, is used in this study. To investigate the relationships between the elements of an advertisement and brand preference, the Pearson's correlation test, one of the most widely used, was applied. To determine whether there is a strong or weak relationship between the variables, the correlation coefficient (r) was then looked at. The two variables are said to be closely related if the correlation coefficient (r) is closer to -1 or +1. In contrast, when r is close to 0, it denotes a weak correlation between the two variables (Coakes, 2005). Cohen (1998) suggests the following interpretation for the strength of correlations: Power of the correlation

- ❖ $r = -.10$ to $+.29$ Small effect (weak)
- ❖ $r = -.30$ to $+.49$ Medium effect (moderate)
- ❖ $r = -.50$ to $+1.0$ large effect (strong)

In accordance with this premise, a bivariate two-tailed correlation analysis was performed with all fundamental constructs. The study was supported by the findings of Jain and Sharma (2012), who found a strong and positive relationship between brand preference and broadcast, electronic, and outdoor advertising. Additionally, there was a moderate relationship between print media advertisements and brand preference and a strong relationship between advertising (broadcast, electronics, and outdoor) and brand preference. Therefore, it was possible to draw the conclusion that brand preference (the dependent variable) was positively correlated with all independent variables. As a result, the alternative hypothesis is accepted and the null hypothesis is rejected.

Table 4.9 correlation statistical table

Correlation statistical table						
Correlations						
		Print advertising	Outdoor advertising	Electronics advertising	Branding advertising	Broadcast advertising
Print media advertisement	Pearson Correlation	1	.415**	.410**	.344**	.471**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	380	380	380	380	380
Outdoor media advertisement	Pearson Correlation	.415**	1	.657**	.509**	.526**
	Sig. (2-tailed)	.000		.000	.000j	.000
	N	380	380	380	380	380
Electronics media advertisement	Pearson Correlation	.410**	.657**	1	.619**	.524**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	380	380	380	380	380
Brand preference	Pearson Correlation	.344**	.509**	.619**	1	.574**

	Sig. (2-tailed)	.000	.000	.000		.000
	N	380	380	380	380	380
Broadcast media advertisement	Pearson Correlation	.471**	.526**	.524**	.574**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	380	380	380	380	380

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

Source: own survey result (2023)

4.3.2. Test of Regression Assumptions

4.4.2.1 Multicollinearity test

The variance inflation factor (VIF), which measures the degree of multicollinearity in regression analysis, is used in this study to test for multicollinearity. The VIF factor should be less than 10, ideally just above one. The table below demonstrates the lack of multicollinearity. The degree to which the other independent variables in the model can explain the specified independent variable's variability is indicated by its tolerance. If this value is extremely low (less than 1), it means that there may be multiple collinearities as a result of the high multiple correlation with other variables (Field, 2005). According to Collinearity Statistics, the table below demonstrates that multicollinearity is not present.

Table 4.10 collinearity statistics

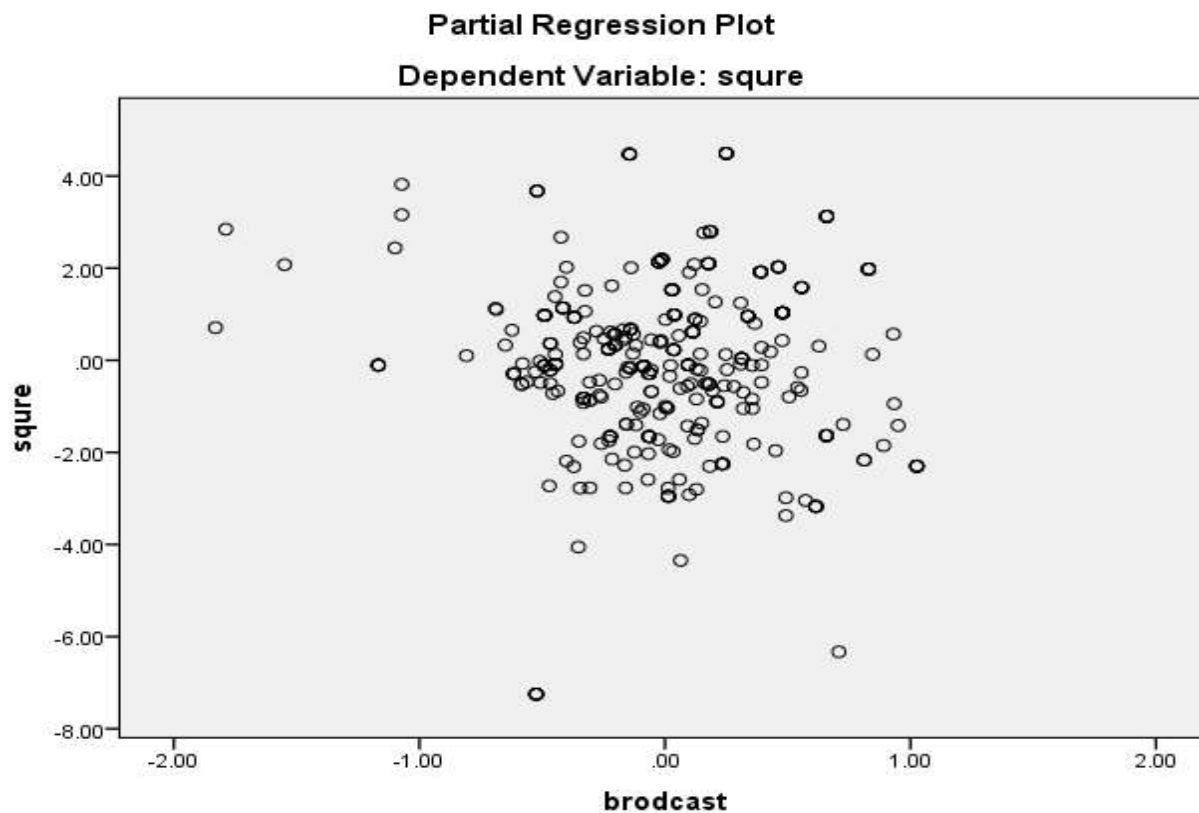
Collinearity Statistics	
Tolerance	VIF
0.617	1.621
0.781	1.28
0.618	1.618
0.508	1.967

Source: own survey result (2023)

4.4.2.2 Heteroscedasticity test

Heteroscedasticity is the lack of a constant variance for each disturbance term depending on the explanatory variables' chosen values. The estimates won't be the Best Linear Unbiased Estimates (BLUE) if they are present in the data (Gujarati, 2004; p. 398). Using the Brushi-Pagan test, the data were examined for heteroscedasticity (Wooldridge, 2004). The outcome indicated that the P-value ($P=0.8353$) was not determined to be significant. As a result, the null hypothesis of a constant variance was upheld, indicating that the dataset was not heteroscedastic.

Figure 4.1 Heteroscedasticity test



Source: own survey result (2023)

4.4.2.3 Normality Test

Test of linear relationships the assumption is that brand preference and broadcast, print, electronic, and outdoor media are linearly related. It is assumed that changes in media advertisement variables (the independent variables) will have a linear impact on brand preference (the dependent variable). The linear

relationship between each independent variable and the dependent variable is depicted in the plot below.

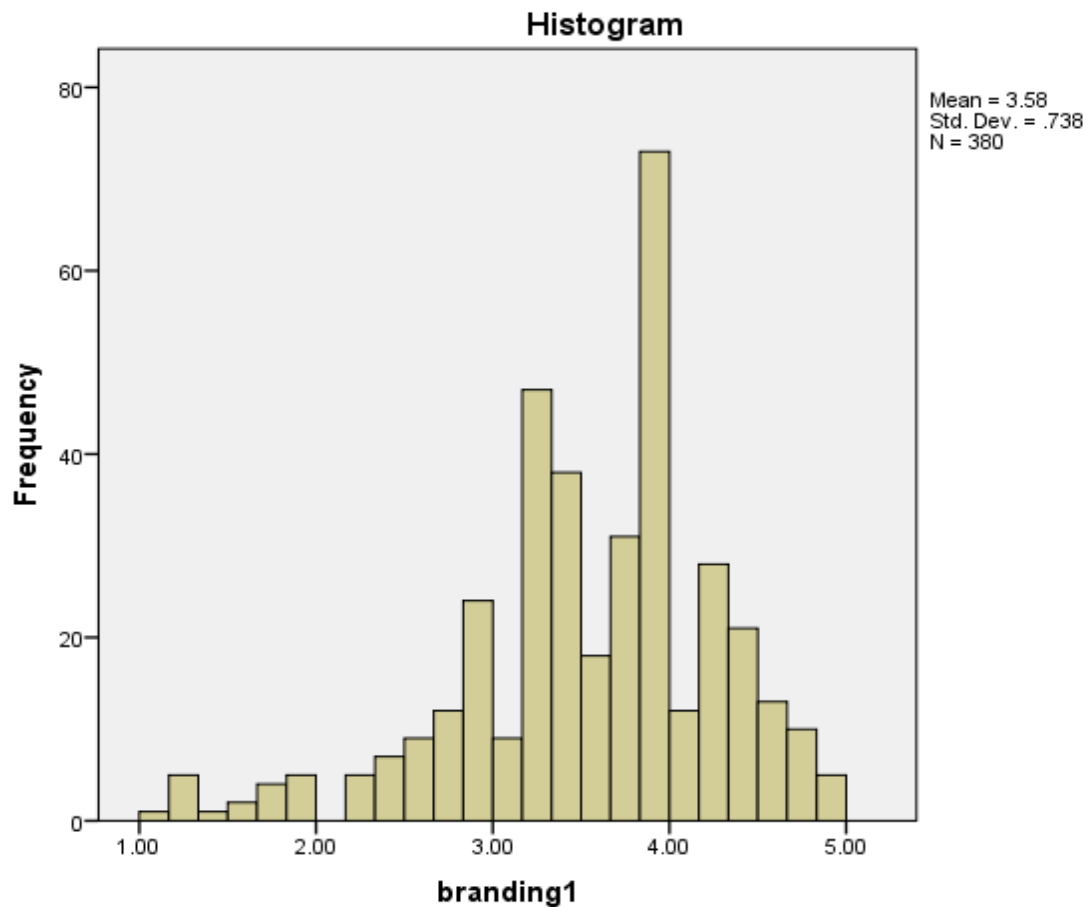


Figure 2Linearity relationship test

Source: own survey result (2023)

Kurtosis and skewness test

Run descriptive statistics to obtain skewness and kurtosis as this is another common way to check for normality. Hair et al. (1998) stated that when the data are normally distributed, the skewness and kurtosis should fall within the range of +2 to -2. The low difference between mean and median, along with the skewness and kurtosis tests, are the primary methods for determining whether the data are normal, according to Paurav Shukala (2009). Accordingly, positive skewness values indicate that data points on the low value (left hand side of the bell curve) are clustered together, and negative skewness values indicate that data points on the high value (right hand side of the bell curve) are clustered together. The data points gathered in the center with long, thin tails, according to positive kurtosis values. values of

kurtosis less than 0 indicate that the distribution of data points is essentially flat. Values greater or less than 1.96 are sufficient in small samples to prove the data's normality. However, this criterion should be changed to 2.58 in large samples (200 or more) with small standard errors, and in extremely large samples no criterion should be applied, meaning that significance tests for skewness and kurtosis should not be used (Ghasemi, 2012). With the aid of SPSS 26.0, a normality analysis for four variables was carried out. As a result, all four of the study's variables were found to have skewness within the range of 2 while brand preference and the independent variables had kurtosis below 2.58. Because of the large sample size and normally distributed input data, size of 380. Table 4.12: Skewness and kurtosis test of normality.

Table 4.11 skewness and kurtosis test of normality

Descriptive Statistics					
	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Outdoor media advertisement	380	-.965	.125	.814	.250
Print media advertisement	380	-.676	.125	.924	.250
Electronics media advertisement	380	-.693	.125	.345	.250
Branding media advertisement	380	-.768	.125	.926	.250
Broadcast media advertisement	380	-.649	.125	1.496	.250
Valid N (listwise)	380				

Source: own survey result (2023)

4.3.3 Multiple Linear Regression Analysis

According to Hair et al. (2004), multiple regression analysis is a statistical method that examines the linear relationships between a dependent variable and a number of independent variables by estimating the coefficients for the equation for a straight line. Because the correlation table only displays the relationship between the variables—not their exact unit changes or the strength and degree of their relationship—four hypotheses were tested using multiple regression analysis. The R² value indicates the percentage of variation in the dependent variable (brand preference) that can be accounted for by the model (advertising dimensions).

The variation of the four advertising variables accounts for 47% of customer brand preference, according to the model summary in the table below, which displays an R² value of 0.472. However, other factors outside the model account for about 53% of customer brand preference.

Table 4.121 multiple liner regression analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.687a	.472	.467	.53894	1.942

a. Predictors: (Constant), broadcast, print, outdoor, electronics2

b. Dependent Variable: branding1

Source: own survey result (2023)

Source: own survey result (2023) AN

OVA reveals whether the model is generally considered to be acceptable from a statistical perspective, that is, whether the independent variables are capable of accurately predicting the outcome variable to a significant extent. The media variables with the four independent variables significantly predict the dependent variable (Brand preference) with $F=68.303$ and $\text{sig}=0.000$, as shown in the above table. The F-test is used to determine the overall likelihood that the relationship between the dependent variable and all of the independent variables will arise by accident. The study's F-test result was 68.303, with a significance level of 0.000, indicating that the likelihood of these results occurring by chance is less than 0.01 and that the variation that the model explains is not merely due to chance. The strength of that relationship is not directly addressed by the ANOVA table, despite the fact that it is a useful test of the model's capacity to account for any variation in the dependent variable. The coefficients of the regression line are displayed in Table 4.13. If all other predictors remain constant, the sign of the coefficient indicates whether the predicted response rises or falls when the predictor rises.

Table 4.13 ANOVA table

ANOVA					
	Sum of squares	DF	Mean square	F	sig
regression	793.157	4	198.289	68.303	0.000
residual	1088.653	375	2.903		
total	1881.810	379			

Source: own survey result (2023)

a. Dependent Variable: Brand Preference

b. Predictors: (Constant), advertisement (print advertising, broadcast, electronics and outdoor

Table 4.14 The outcome of a multiple regression analysis between the explanatory variables advertisements (print, broadcast, electronic, and outdoor) and the response variable (brand preference) is shown table 14 below.

The outcome indicated that broadcast Advertisement has the strong influence on brand preference with the value 0.429. It explains that 42.9 percent variation in Consumer brand preference cause due to broadcast Advertisement, which is significant at less than 0.001. Therefore, the study concluded that broadcast Advertisement positively and significantly affected consumers' preference of DKT Ethiopia product and services. According to various researchers, they may also have a positive impact on consumers' brand preferences (Gezachew et al., 2012; Ghafoor et al., 2013). According to respondents' responses, outdoor advertising, broadcast media advertisements, and electronics have a significant impact on brand preference. These effects have values of 0.429, 0.074, 0.361, and 0.05 respectively, which are significant at less than 1%. Thus, the influence of broadcast media advertisements on consumers' preferences for DKT is both positive and significant. The results of the current study are therefore supported by the body of previous research. However, print advertising has little to no impact. Additionally, Table 4.14's findings showed that all independent variables affected or contributed to consumer brand preference. According to the regression chart below, a one-unit increase in broadcast

media advertising would translate into a 0.429-unit increase in brand preference. Brand preference will increase by 0.361 units for every unit of electronics media advertising. Brand preference will increase by 0.074 units for every unit of outdoor media advertising. However, a one-unit increase in customer print media for a specific DKT Ethiopia product would result in a 0.005-unit drop in brand preference.

Table 4.14 coefficient table

model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.559	.188		2.974	0.003
	Print media	-.005	.039	-.006	-.127	.899
	Outdoor media	.074	.051	.076	1.461	.145
	Electronics media	.361	.047	.400	7.664	.000
	Broadcast media	.429	.063	.327	6.815	.000

a. Dependent Variable: branding1

Source: own survey result (2023)

The constant, beta value, and p-value of the variables used to assess the significance of the set hypothesis are displayed in the coefficient table above. P-values of .899, .000, .000, .145, and .145, respectively, indicate the print advertisement, broadcast advertisement, electronics, and outdoor advertisement variables' significance levels. Additionally, they have standardized coefficients of -.006, 0.327, .400, and 0.076.

The prediction equation for the “effect of components of advertisement towards brand preference” is given as; $Y1 = -0.006 X1 + 0.076 X2 + 0.400X3 + 0.327X + 0.559$

The consumer preference for brands is positively impacted by all of the advertisement component measures. Print and outdoor advertising have p-values above 0.005, which suggests that there is no meaningful relationship between them and brand preference. The remaining hypothesis (which is related to print advertisement and outdoor advertising) was rejected because the coefficients of the predictor variables are statistically significant at less than 5%. Instead, alternative hypotheses related to broadcast advertisement and electronics advertisement were accepted. Which type of advertisement contributed the most independently to the prediction of the dependent variable among the listed advertisement media was one of the goals the study set out to achieve. So, a standardized Beta coefficient can be used to examine the strength of each predictor's (independent) influence on the criterion's (dependent) variable. A unit of change in the independent variable results in an average change in the dependent variable, which is explained by the regression coefficient. An independent variable is more strongly supported as a more significant predictor of the dependent variable when it has a higher value of beta coefficient. The significance of each independent variable's coefficient was also examined using the t-tests. Generally speaking, as table 4.14 clearly demonstrates, among the three predictors, multiple linear regressions (Beta coefficients) analysis revealed that broadcast advertisement is the second most significant variable for consumers' brand preference. However, as indicated by the significance level $p > 0.05$, print and outdoor advertisements have no discernible impact on consumers' brand preferences. This shows that consumers of DKT Ethiopia products do not give their association with print advertisements much thought when making purchasing decisions. Ads for electronics and broadcast media have an impact of 0.400 and 0.27, respectively. This shows how the dependent variable is expected to change for each unit increase in the predictor. This means that, assuming that all other factors remain constant; one could forecast a gain of 32.7% on brand preference for every additional point or value in broadcast advertisement. For each additional electronic device, the same is true in terms of advertising.

Reliability analysis is concerned with the research instrument's internal consistency, which is the extent to which results are consistent over time and an accurate representation of the whole population under study (Thatcher, 2010). An instrument's reliability refers to its capacity to guarantee the consistency of the phenomena it is intended to record. In order to get input on the reliability, pilot testing was also done among another study participants and 30 samples was used to test the reliability of the tool. Using

Cronbach's alpha to demonstrate how the variables are best suited for the questionnaire, the effect of media advertising on DKT brand preference were evaluated. Based on the following table, the tool used was shown as reliable with acceptable value of Cronbach alpha.

Table 4.15: Reliability test Cronbach alpha value,

Components	Cronbach's Alpha	N of Items
Print advertising	0.811782	5
Broadcast advertising	0.827816	11
Outdoor advertising	0.891858	8
Electronics advertising	0.866902	5
Brand preference	0.926	13
Overall variables	0.836024	5

Source: own survey result (2023)

4.4 Hypothesis testing

The results of the hypothesis test, which determine whether the hypothesis is accepted or rejected, are shown in the above table based on the coefficient value and P value.

H1: Consumer brand preference and broadcast media advertising have a positive and significant relationship. With a beta value of 0.327 and a p-value of 0.00, which is less than 0.05, broadcast media advertising has a positive and significant impact on consumer brand preference of DKT Ethiopia products. Accept the alternative theory as a result.

H2: Consumer brand preference and electronics media advertising have a positive and significant relationship. Source factor has a positive and significant impact on consumer brand preference for DKT Ethiopia products, as shown by the results, with a coefficient value of 0.400 and a p-value less than 0.05. Therefore, accept alternative hypothesis.

H3: There is a weak and unimportant correlation between brand preference and print media advertising. With a value of -0.06 and a p-value of 0.899, which is greater than 0.05, print media advertising has a negative and insignificant impact on brand preference for DKT Ethiopia products, as shown in the above table. Therefore reject the competing theory.

H4: Consumer brand preference and outdoor media advertising have a positive but insignificant relationship. With a coefficient value of 0.076 and a p-value of 0.145, which is greater than 0.05, the source factor has a negative and insignificant effect on consumer brand preference for DKT Ethiopia products, according to the results. Therefore, reject the competing theory.

Table 4.162 hypothesis test

Hypothesis Proposed	Hypothesis	Decision result
(H1)	Outdoor media advertisement has no influenced the brand preference	reject
(H2)	print media advertisement has no influenced customers brand preference	reject
(H3)	Electronics media have influence brand preference	Accepted
(H4)	broadcast media have influence brand preference	Accepted

Source: own survey result (2023)

4.5 Discussions

According to data analysis on the survey, 17.4% of respondents were men and the remaining 82.6% were female. The higher percentage of female respondents and results indicate that there are more female DKT product consumers of DKT product than male consumers. On the other hand the majority of the respondent was between the age range of 18 to 27 and 28 to 37years which accounted for 51.1 and 41.8 of the respondent people respectively. The outcome show that younger and adult consumers of DKT product user greater than old age stage consumers.

The other demographic variables are education level majority of the respondents 68.2% of respondents are holds degree and 11.6% are holds master and above education level. On the other hands marriage status majority of the respondents are single followed by married 58.4%, 40% respectively. The final demographic variables are current employment situations the major and large respondents are government employee follow by private employee 57.6 and 31.8 respectively.

According to the analysis of the respondents, print, outdoor, and electronic advertising had mean values of 3.62, 3.4, 3.33, and 3.23 respectively, while broadcast advertising had the highest mean value. This suggests that the majority of respondents cited broadcast advertising as the main advertising factor that led them to prefer DKT and to select the company's brand as their top choice, followed by electronics,

outdoor advertising, and print advertisement, in that order. The correlation results confirmed that there is a positive and significant relationship between brand preference and broadcast advertisements, electronics advertisements, print advertisements, outdoor advertisements, and brand preferences. Additionally, the outcome showed that the strongest correlation was discovered between broadcast advertisement and brand preference.

Regression analysis's findings are that all independent variables, including broadcast and electronics have a positive and significant impact on consumer brand preference. Other academic works provide support for these findings. According to Grossa L. (2015), there is a strong, positive, and significant correlation between advertising and consumers' brand preferences. The results of this study show that broadcast advertising significantly and favorably affects consumer brand preference. This conclusion is supported by other works that have demonstrated how consumer brand preferences are influenced by various media platforms. According to Sammar F. and Samreen L.'s (2015) research, banner and skyscraper advertisements with big picture and copy layouts have a significant impact on consumer brand preferences.

Overall, the findings showed that the independent variables used in the research explained 52.8% of the variance in consumer brand preference, accounting for 47.2% of the variance in customer brand preference ($RSquare = 0.472$). Therefore, 47.2% of the variations in customer brand preference could be attributed to the influence of advertising. Show that the most important factor to have a favorable and significant impact on brand preference is broadcast advertising.

The survey's findings show that print advertising has little bearing on Addis Ababa-based DKT Ethiopia customers' brand preferences. The built-in regression analysis demonstrates this. The print advertisement's p-value is above 0.05, indicating that there is no evidence of a significant relationship between it and brand preference. Additionally, it can be seen in the descriptive statistics on consumer perceptions of print advertisements. The majority of respondents do not view these advertisements for DKT Ethiopia products with much positivity. With a mean response of 3.23 and a standard deviation of 1.103, respondents' attitudes toward the print advertisements were moderate. The hypothesis H1 is reject.

This outcome conflicts with a 2012 study conducted in India by P Sawant, who looked at how advertisements affected men's wear consumers' preferences. She discovered that print media was the most successful at influencing men's preferences. According to the research, this is because men can

repeatedly see print advertisements, which leaves them with a lasting impression of the brand and the variety of options. The Sunday supplements of English newspapers, lifestyle magazines, and film magazines were found to be relevant to men's decision-making. Examining the effects of broadcast and electronics were the study's second and third goals Hypothesis H3 and H4 are accepted.

Table 4.17 hypothesis discussion

Hypothesis	Analysis Used	Result	finding	reason
H01: Print Advertisement does not play a significant role on the attributes of brand preference on DKT Ethiopia companies of Addis Ababa.	Multiple Regression	Ho: Fail to Reject H1:Rejected	negative Insignificant	$\beta = -0.006$, $p > 0.05$.
H02: outdoor Advertisement does not play a significant role on the attributes of brand preference on DKT Ethiopia companies of Addis Ababa.	Multiple Regression	Ho: Fail to Reject H1:Rejected	Positive insignificant	$B = 0.76$ $P > 0.05$
H03: broadcast Advertisement plays a significant role on the attributes of brand preference on DKT Ethiopia companies of Addis Ababa.	Multiple Regression	Ho: Rejected H1:Fail to Reject	Positive Significant	$\beta = .327$ $P < 0.05$
H04: electronics Advertisement plays a significant role on the attributes of brand preference on DKT Ethiopia companies of Addis Ababa.	Multiple Regression	Ho: Rejected H1:Fail to Reject	Positive Significant	$B = .400$ $P < 0.05$

Source: own survey result (2023)

CHAPTER FIVE-

SUMMARY CONCLUSIONS AND RECOMMENDATIONS

Here the findings and conclusions were presented with the aim of reaching the research purpose and In order to accomplish the research objective and respond to the research questions, the findings and conclusions were presented here. Additionally, the conclusions for management, theory, and upcoming research were given. Also the implications for management, theory and future research were stated.

5.1 Summary

The data analyzed using descriptive statistics, correlation and regression major findings were presented below in a summarized as follows: Based on the data majority of the respondent's sex is female (82.6%) and male (17.4%). This data indicates that females are more in proportion as compared to male pharmacies and drug stores. The majority of respondents' age which goes from 18-27 years scored 51.1%, A degree was the most common type of educational background among respondents (36.1%), and the majority of respondents' monthly incomes ranged from 8001 to 15,000. The results of the regression analysis also demonstrate that print, broadcast, outdoor, and electronic media advertisements all significantly affect consumer preference for the DKT Ethiopia brand. The dependent variable, DKT Ethiopia brand preference, and the independent variables, broadcast media advertisement, outdoor media advertisement, electronics media advertisement, and print media advertisement, have strong correlations. The regression analysis demonstrated that the independent variables have a significant impact on consumer preference for the DKT Ethiopia brand, as it is also mentioned in the analysis section of this paper.

5.2 Conclusions

To draw customers and stick in their minds, broadcast advertising is a major marketing strategy that is followed by electronic and outdoor tools. It significantly affects the products that customers choose from DKT Ethiopia. Customers are aware of and rely on their brands' advertisements. Their decision-making when making a purchase is aided by this memory. Any business's products or services must receive the appropriate exposure, and advertising is the best way to do this. Promotion is a strategy used to advertise products or services to the general public on radio or television. By drawing attention to them and portraying them favorably, the advertiser hopes to increase sales of these goods or services. The

advertiser's goal is to connect with potential clients, change their perceptions and preferences for the DKT Ethiopia brand. For people to continue to be interested in their products, they invest a lot of money. To be successful, they must comprehend how brand preference is influenced by the media used for broadcast media advertisement, outdoor media advertisement, electronics media advertisement, and print media advertisement. Customers are aware of and rely on their brands' advertisements. Their decision-making when making a purchase is aided by this memory. Any business's products or services must receive the appropriate exposure, and advertising is the best way to do this.

Promotion is a strategy used to advertise products or services to the general public on radio or television. By drawing attention to them and portraying them favorably, the advertiser hopes to increase sales of these goods or services. The advertiser's goal is to connect with potential clients, change their perceptions and preferences for the DKT Ethiopia brand. For people to continue to be interested in their products, they invest a lot of money. To be successful, they must comprehend how brand preference is influenced by the media used for broadcast media advertisement, outdoor media advertisement, electronics media advertisement, and print media advertisement.

5.3 Recommendations

These research findings will help the DKT Ethiopians to identify the right market segment and positing its product and brand. This study also support DKT Ethiopians to construct appropriate marketing communication and media advertisement tools besides the right media choice. Generally speaking, the following recommendations were made based on the discussions and analysis made: Television (T.V.) and radio have the highest influence among other media types, and this has been widely acknowledged. Electronics and outdoor media advertisements are next in line for their influence on consumer brand preference decisions. Because TV is one of the most popular sources of recreation for DKT Ethiopians customers in Addis Ababa city due to its audio-visual communication, the company should run more television commercials. Electronics, outdoor advertising, and print media are important to consider for DKT Ethiopians because they are new media that many of their customers use. DKT needs to look into this further. Nowadays, with the development of technology, DKT Ethiopia is the best brand to prefer in electronics media advertisements. The researcher advises DKT management to concentrate on the media advertisement selection, not only for television but also for electronics, in order to ensure that their target market and customers can be reached. The research has also made it abundantly clear that broadcast and electronic media advertisements have a significant impact on DKT Ethiopian customers' service

decisions and brand preferences in Addis Ababa. The research also confirmed that broadcast media advertisements clearly inform their sizable audiences that they have a positive correlation, and the findings of this study's hypothesis were accepted

The majority of DKT Ethiopian customers base their decisions on the influence of broadcast media ads, and electronic media ads promoted. Because the majority of customers now access information via television and mobile devices. It is advised that the DKT Ethiopian marketing division concentrate on its advertisement message and creativity to focus on the aforementioned variables so that it can be able to effectively reach the target market segment, as the new and attractive creative media advertisements with advanced features are having highly influencing features while making their DKT Ethiopian customers' preferences.

5.4 Limitations and Direction for Future Research

The DKT product was the sole subject of this study, which looked at how advertisements affected consumers' brand preferences. It is possible to research how advertisements affect consumer brand preference in other economic sectors. In particular, print advertising, broadcast advertising, electronics advertising, and outdoor advertising were the four areas of focus of the study. Other types of advertisements that have not been covered in this research, such as covert advertisements, celebrity advertisements, and social media advertisements, can be included in or viewed separately for a variety of studies.

According to the study, different forms of advertising have a limited impact on consumers' preferences for DKT products. As a result, more research is needed to assess the effects of other elements that influence brand preference in the industry, including distribution channel, packaging, availability, taste/quality, and the like.

REFERENCES

Aaker. (2013). brand equity and advertising .Psychology press.

Adeole *et al.*, (2005) examined the impact of advertisement on Customers brand preference in different area

Agrawal, k. (2012). Impact of advertisement on the brand preference of aerated drink. Journal of Marketing & management review, 2(2), 147-158.

AHD. (2012). American Heritage Dectionary .

Austin, S. (2015). Attitudes toward Advertising. digital news report, university of Oxford.

Ayanwale, A. B., Alimi, T., &Ayanbimipe, M. A. (2005).The influence of advertising on consumer brand preference. Journal of social sciences, 10(1), 9-16.

Azagne kefale (2020) examined the impact of media advertisement on customer brand preference in DKT Ethiopia bahir dar branch office

Baran, S. (2001). Introduction to mass communication. Media Literacy and culture.

BD. (2018). Business dictionary .

Belch, G., & Belch, M. (2001). Advertising and Promotion. An IMC perspective, (4 ed.). New York: Mc Grawhill, Irwin Publications.

Belch, G., & Belch, M. (2003). Advertising and Promotion: An Integrated Marketing Communications Perspective (6th ed ed.). New York: Irwin/McGraw-Hill.

Belch, G., & Belch, M. (2007). Advertising and PromotionAn Integrated Marketing Communications perspective (8th ed ed.). New York: McGraw-Hill, Irwin Publications

(bhattacherjee, (2012) study sample on inferential statistics

Biruktawit. (2017). the effect of advertising on brand preference: the case of anchor milk. In Addis Ababa

Choudhury (2001) an Overview of their Distribution and Conservation Status

Christian & Maurice (2013) factors influencing preference for a brand of beer in Port-Harcourt metropolis and determine their relationship with brand preference of beer consumption.

David, W., & al., C. e. (2009). Strategic marketing (9th ed ed.). McGraw Hill Singapore.

Doyle (1989) Journal of Marketing Management Volume 5,

Ebrahim, R. (2011). A Study of Brand Preference: An Experiential View.

Fellow, A. (2009). American Media History (2, illustrated ed.). Cengage Learning.

Field, (2005)suggesting the possibility of multicollinearity

Gayathri, & G, S. (2012). Impact of Television Advertisement on Teenagers in Delhi and NCR.
<http://www.cpmr.org.in/opinion/vol2/> .

George, D., & Mallery, P. (2010). SPSS for Windows Step by Step: a Simple Guide and Reference, 17.0 Update, 10th.

Gezachew, E. (2012). The influence of advertising on consumers brand preference with reference to electronics products. university of Hawassa .

Ghafoor, et al., 2013 The influence of advertising on consumers brand preference.

Hair et al., (1998) skewness and kurtosis should be within the range of +2 to -2 when the data are normally distributed.

Holbrook et al. (1982). The experiential aspects of consumption: Consumer fantasies, feeling, and fun. Journal of Consumer Research, 9, 132-140.

Holbrook, M. B., & Hirschman, E. C. (1982). The experiential aspects of consumption: Consumer fantasies, feelings, and fun. Journal of consumer research, 9(2), 132-140.

Jain and Sharma (2012), the positive and strong relationship between outdoor advertising, electronics adverteng, broadcast advertising and brand preference.

kaberi bhattacharyya (2011) the role of media in influencing customers' brand choice: some observations. Global Media Journal: Indian Edition . Jun2011, p1-10. 10p. 1 Chart

Kashanizadeh and Esfidani, (2014) investigate the factors influencing brand preference on audio and video products using the Alamro and Rowley model.

Kothari, C. (2004). Research Methodology: methods and techniques (second revised edition ed.). New Delhi: Nea Age International (p) limited publisher.

Kotler, P., & Armstrong, W. (2008, 2012). Principles of Marketing (12th ed ed.). Prentice Hall.

Kotler, P., Keller, K., & Koshy, A. (2009). Marketing Managemen. Pearson Prentice Hall.

latif, e. (2011). effect of television advertizing on children. european journal of economics, finance and administrative sciences.

MASB, 2019, (As Cited in 2010)). Introducing the Marketing Accountability Standards Board (MASB) and its Common-Language Marketing Dictionary: Background, Description, Vision, and Prospects

Melkamu (2014) analyzed the effect of media advertising on consumers' buying behavior

Merugu, N. (2016). Different Types of advertising. Available at: [http://www.scribd.com/doc/22601183 different types of advertising/](http://www.scribd.com/doc/22601183-different-types-of-advertising/). 55

Newstead, K., & Romaniuk, J. (2010). The relative effectiveness of 15-30 second television advertisement. Journal of advertising research, 50 (1), 69.

Niazi, G. S. K., Siddiqui, J., Alishah, B., & Hunjra, A. I. (2012). Effective advertising and its influence on consumer buying behavior. Information management and business review, 4(3), 114-119.

PauravShukala (2009) stated that skewness and kurtosis test

Peter, P., & Olson, J. (2005). Consumer Behavior and Marketing Strategy. McGraw-Hill Higher Education.

Piety, T. R.,(2001) An Exploration of the Psychology of Advertising, Addiction, and the Implications for Commercial Speech

Rados (in Fine 1990), (As cited in Hilina, 2012) three explanations of how advertising work or three theories of advertising.

Rahman, M. N. (2012). Impact of Advertisement: An empirical study of FMCG products in KSA. Asian Journal of Multidimensional Research, 1 (3), 2278-4853.

Saunders, M., Lewis, P., &Thornhill, A. (2012).Research methods for business students (6. utg.). Harlow: Pearson.

(Shukla, 2009) skewness and kurtosis test

Singh et al. (2012) conducted the two factors such as the celebrity endorsement, and type of advertising media,

Streefkerk, R. (2019). Inductive vs deductive reasoning.

Strong, C., & Eftychia, S. (2006). The influence of family and friends on teenage smoking in Greece. Marketing Intelligence & Planning, 119-126.

Tabachnick & Fidell (2007), (Experimental Designs Using ANOVA)

Taleghani & Almasi (2011) on the effect of perceived advertising found significant and positive effect on brand awareness, brand associations, and image

Tendon, R. (2011). Impact of advertising on the brand preference of tea.

(Thatcher, 2010) accurate representation of the whole population under study measures by reliability test

Vivekananthan, V., 2010. A study on influence of advertisement in consumer brand preference (special reference to soft drink market in Manmunnai north ds division Batticaloa).

wijaya, B. (2012). the development of hierackhy of effect model in Advertising. Universitas Bakrie,jakarta.

(Wooldridge, 2004) heteroscedasticity using Breusch-Pagan test

Yang, W., Thordarson, P., Gooding, J. J., Ringer, S. P., & Braet, F. (2007). Carbon nanotubes for biological and biomedical applications. *Nanotechnology*, 18(41), 412001.

(Zikmund, 2003) The correlation coefficient is a statistical measure of the association between two numerical variables.

APPENDEIX

Appendices 1.1 questionnaire

A Questionnaire was filled by distributors and consumers of the DKT Ethiopia product.

Dear Participant,

This study is to be conducted as part of a research project which shall be submitted in partial fulfillment of Masters of Art Degree in Marketing Management at Addis Ababa University, school of commerce. This questionnaire is meant to collect information about the effect in the **effect of media advertising on customers brand preference the case of DKT Ethiopia.**

Your keen participation in supplying the required data is highly essential for the successful completion of the study. The information you provide will be kept confidential and be used only for an academic purpose.

I would like to thank you in advance for your participation and sharing your busy schedule. You can contact me using my phone number 931316818. Please do not hesitate to ask or to call me if you have any doubt on the questions.

Sincerely,

Habtamu Tegnaw

Part I: Demographic and General Information Questions Please CIRCLE the appropriate items that best describes your answer

Please CIRCLE the appropriate items that best describes your answer

1. Your gender is:

1) Male

2) Female

2. Which one of the following age categories do you currently fall in?

1) 18-27 Years

3) 38-47 Years

2) 28-37 Years

4) 48 Years and above

3. What is your marital status?

- | | |
|------------|-------------|
| 1) Single | 3) Divorced |
| 2) Married | 4) Widowed |

4. What is the highest educational level you have attained?

- | | | |
|-------------------------|--------------------------|--------------------|
| 1) Below high school | 2) High school | 4) College Diploma |
| 3) Some College courses | 6) Second degree & above | 5) first Degree |

5. What is your average monthly Income in Birr?

- | | |
|------------------------|-------------------------|
| 1) Below Birr 2,000 | 4) Birr. 8,001 – 15,000 |
| 2) Birr. 2,001 – 4,000 | 5) Above Birr. >15,000 |
| 3) Birr. 4,001 – 8,000 | |

6, what is the size of your family? _____

7, what is your religion? A) Muslim B) Orthodox C) Others

8. Your Current Working Status?

- | | |
|--|----------------------------------|
| [1] Student | [2] Junior Manager |
| [3] Part-time Employed/ Graduate Trainee | [4] Senior Manager |
| [5] Officially Employed | [6] Entrepreneur / Self Employed |

Part II Consumption pattern of DKT

1. How often do you DKT?

- | | |
|-------------------------|--------------------------------|
| 1) More than once a day | 4) Once every two weeks |
| 2) Once a day | 5) More than once in a week 3) |
| Once in a week | 6) others |

2. How long have you been using DKT products?

- 1) Less than 1year 3) 4 - 6 years
2) 1 - 3 years 4) above 6 years
- 89

3. Which brand of DKT products do you usually prefer to use?

1. Sensation xtra 2. Implant
3. Injectable 4. IUCD
5. Lemlem ORS 6.never use 7. Please list if you have use other product

5. last 12 months which DKT product was used.

1. Sensation xtra 2. Implant
3. Injectable 4. IUCD
5. Lemlem ORS 6.never use 7. Please list if you have use Other product

Part III Impact of Advertisement on Brand Preference

Please circle one of the numbers from 1-5 at the answer of your choice among the five alternatives for each of the statements in the box DKT below. Where 1=strongly disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=strongly agree

Note: Please note that —DKT represents the company you have already chosen under question number 3 (your preferred DKT products).

	Statements	Strongly	Disagree	Neutral	Agree	Strongly
1.	Print Advertisement					
1.1	I have frequently seen print advertisements Of brand “DKT” on Newspaper and Magazine					
1.2.	I came to learn about brand “DKT” from print ads					
1.3.	I believe print ads of brand “DKT” are Advertised on well-known newspaper/magazine					
1.4.	Print ads of brand “DKT” are Interesting					
2.	Broadcast Advertisement					
2.1	<i>Radio Ads</i>					
1.1.1.	I have frequently listened to radio Advertisements of brand “DKT”.					
1.1.2.	I came to learn about brand “DKT” from radio ads					
1.1.3	The radio ads of brand “DKT” attract my Attention and keep me interested					
1.1.4	I believe that the advertisers used in the radio ads of brand “DKT” have good Communication skills.					

1.1.5	The message of the ads clearly provided me with useful information about DKT products					
1.1.6.	Radio ads of brand “DKT” are effective in Building up its brand image.					
2.2	<i>Television Ads</i>					
2.2.1.	I have frequently seen TV advertisements of brand ‘DKT’					
2.2.2	I came to learn about brand “DKT” from TV ADS					
2.2.3	The TV ads of brand “DKT” attract my attention and keep me interested					
2.2.4	I believe that the advertisers used in the TV ads of brand “DKT” were professionally competent					
2.2.5	The message of the ads clearly provided me with useful information about brand “DKT”					
2.2.6	TV ads of brand “DKT” are effective in Building up its brand image					
2.2.7	TV ads of brand “DKT” have influence over the type of DKT product that I prefer					
3	<i>Outdoor Advertisement</i>					
3.1	I have frequently seen outdoor advertisements (Billboards, posters, Street furniture, transits of vehicles...) of brand “DKT”.					

3.2	I came to learn about brand “DKT” from Outdoor ads.					
3.3	Outdoor ads help me keep up-to-date about the DKT brands available.					
3.4	Outdoor ads of brand “DKT” attract my attention					
3.5	The message of the ads clearly provided me with useful information about DKT brand “DKT”.					
3.6	Outdoor advertising positively affected my attitude towards brand “DKT “					
3.7	Outdoor Ads of brand “DKT” have influence over the types of DKT products that I prefer					

4.	Electronic Media					
4.1.	I came to learn about brand “DKT” from Electronics ads					
4.2	Electronics ads help me keep up-to-date about the DKT brands available					

4.3	Electronics ads of brand “DKT” attract my attention					
4.4	The message of the ads clearly provided me with useful information about DKT.					
4.5	Electronics advertising positively affected my attitude towards brand “DKT “					

5. Brand preference

	Statements	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	I can easily differentiate between a competitive DKT health manufacturer and Dkt brand product					
2	I can easily remember Brand's "DKT" emblem/mark and packaging					
3	I can instantly remember the symbol and packaging of DKT					

	brand and packaging					
4	DKT is a beautiful image in my mind.					
5	Brand "DKT" company has credibility					
6	The DKT brand is meets health standards and standards					
7	DKT are health and well-being of the dairy industry is one of the leading brands in the market					
8	Compared to other healthcare providers and the DKT that are the best quality, the brand of the products is of the best quality					
9	I'd rather have a DKT self-esteem than a self-esteem					
10	I'm pretty sure i'm going to be able to get a good price for					

	the quality of the products i've paid for other products.					
11	I'm looking for the most satisfying					
12	I am fully satisfied with the quality of Brand "DKT"					
13	I recommended to other DKT product.					

Thankyou

Appendices 1.2 Frequency table of media advertisement

Marital status of respondent

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	66	17.4	17.4	17.4
	female	314	82.6	82.6	100.0
	Total	380	100.0	100.0	

MARITAL STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SINGLE	222	58.4	58.4	58.4
	DIVORCED	152	40.0	40.0	98.4
	MARIED	2	.5	.5	98.9
	DEAD	4	1.1	1.1	100.0
	Total	380	100.0	100.0	

EDUCATIONAL STATUS

EDUCATIONAL STATUS					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	secondary education below	12	3.1	3.2	3.2
	secondary education	20	5.2	5.3	8.4
	diploma	15	3.9	3.9	12.4
	college courses	30	7.9	7.9	20.3

	masters and above	259	68.0	68.2	88.4
	masters and above	44	11.5	11.6	100.0
	Total	380	99.7	100.0	
Missing	System	1	.3		
Total		381	100.0		

RELEGIOUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Orthodox	297	78.0	78.2	78.2
	MUSLIUM	27	7.1	7.1	85.3
	CATOLIC	2	.5	.5	85.8
	PROT	53	13.9	13.9	99.7
	other	1	.3	.3	100.0
	Total	380	99.7	100.0	
Missing	System	1	.3		
Total		381	100.0		

SALARY OF RESPONDANTS					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BELOW 2000	29	7.6	7.6	7.6
	2001-4000	38	10.0	10.0	17.6
	4001-8000	130	34.1	34.2	51.8
	8001-15000	137	36.0	36.1	87.9
	15000+	46	12.1	12.1	100.0
	Total	380	99.7	100.0	

Missing	System	1	.3		
Total		381	100.0		

EMPLOYMENT STATUS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	STUDENT	4	1.0	1.1	1.1
	UNEMNPOLOY	22	5.8	5.8	6.8
	EMPOYEED	121	31.8	31.8	38.7
	PRIVATE EMPLOYEE	219	57.5	57.6	96.3
	GOVERMENT EMPLOYEE	14	3.7	3.7	100.0
	Total	380	99.7	100.0	
Missing	System	1	.3		
Total		381	100.0		

TIME USAGE DKT PRODUCT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	ONE YEARS	103	27.0	27.1	27.1
	AGO				
	FOUR YEARS	20	5.2	5.3	32.4
	AGO				
	FIVE YEARS	40	10.5	10.5	42.9
	AGO				
	TEN YEARS	28	7.3	7.4	50.3
	AGO				
	none	189	49.6	49.7	100.0
	Total	380	99.7	100.0	
Missing	System	1	.3		
Total		381	100.0		

Correlation statistical table

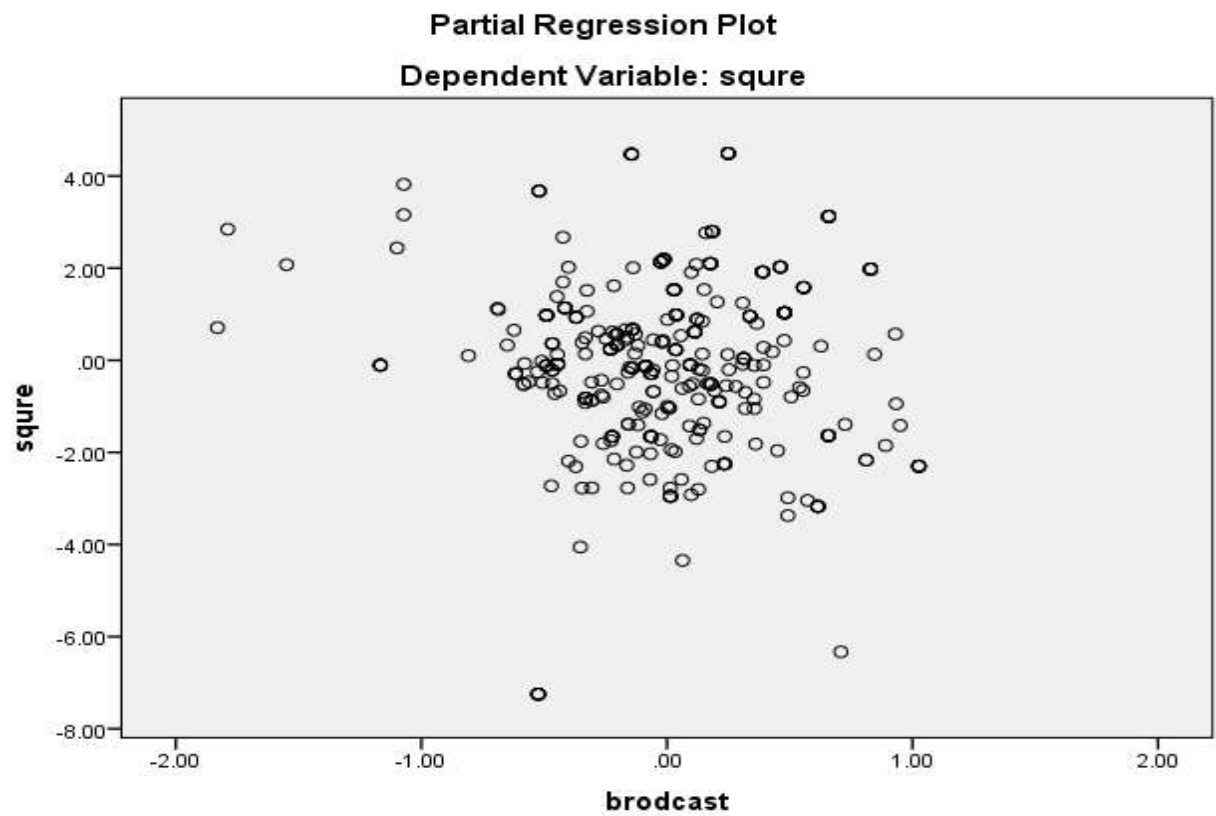
		Print advertising	Outdoor advertising	Electronics advertising	Branding advertising	Broadcast advertising
print	Pearson	1	.415**	.410**	.344**	.471**
	Correlation					
	Sig. (2-tailed)		.000	.000	.000	.000
	N	380	380	380	380	380

OUTDOOR	Pearson	.415**	1	.657**	.509**	.526**
	Correlation					
	Sig. (2-tailed)	.000		.000	.000	.000
electronics2	N	380	380	380	380	380
	Pearson	.410**	.657**	1	.619**	.524**
	Correlation					
branding1	Sig. (2-tailed)	.000	.000		.000	.000
	N	380	380	380	380	380
	Pearson	.344**	.509**	.619**	1	.574**
broadcast	Correlation					
	Sig. (2-tailed)	.000	.000	.000		.000
	N	380	380	380	380	380
	Pearson	.471**	.526**	.524**	.574**	1
	Correlation					
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	380	380	380	380	380

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

Table 4.16 collinearity statistics

Collinearity Statistics	
Tolerance	VIF
0.617	1.621
0.781	1.28
0.618	1.618
0.508	1.967



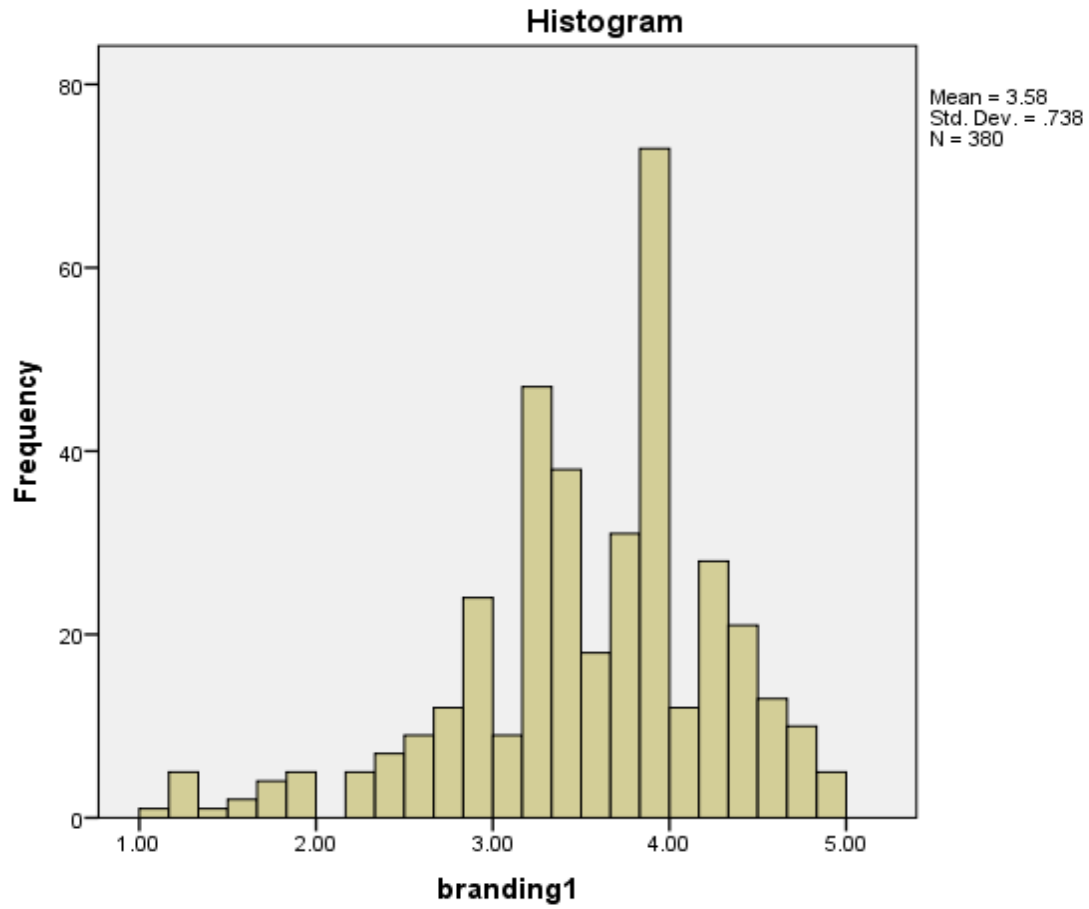


Figure 4.3 Linearity relationship test