

Addis Ababa University
Bottled Drinking Water Marketing
and Consumer Buying Behavior in
Selected Cities of Ethiopia

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Abstract

Drinking bottled water has become a trivial habit in many people's everyday lives. Bad tap water taste or quality, fitness objectives or safety purposes, numerous reasons lead consumers to buy bottled water. Bottled water may even be necessary, for instance in case of temporary tap water contamination. The trend toward consuming more and more bottled water will keep increasing in the coming years. This flourishing market is profitable for a high number of companies, and employs thousands of people world-wide

The main purpose of this study is to provide an overview of the bottled water marketing situations in Ethiopia, by selecting some cities consumers' and their buying behavior of bottled water products. As a common approach to establish understanding of bottled drinking water marketing and Consumer buying behavior, which are a lucrative and accessible segment, selected cities consumers such as Addis Ababa, Ambo, and Adama have been sampled to investigate the research problem; Are marketing mix elements, Psychological, and Demographic factors affect consumer buying behavior of bottled water?

To conduct this study, a descriptive survey method was employed. For this purpose, questionnaire were used as the main instrument for the source of collection of data. Analysis on current bottled brands was also performed by exploring some collected bottled water brands. Data collected through these instruments were analyzed using statistical package for social science (SPSS) version 17.0 successfully. The result of the study reveals that some marketing mix elements had indirect relationship with consumers' bottled water buying behavior, and also demographic and Psychographic factors affect consumer purchase rate of bottled water. .

Finally, depending on these findings, some recommendation and implications for further research are forwarded as to how all the water bottler companies can play vital marketing role to satisfy the needs and wants of bottled water consumers.

Acronyms

- CAC:** Codex Alimentarius Commission- the inter governmental body for development of internationally recognized standards for food.
- PET:** Polyethylene terephthalates in polymerized form the organic compound Propylene(encyclopedia, 2005)
- PVC:** (Polyvinyl chloride) is prepared from the organic compound vinyl Chloride(encyclopedia, 2005)
- SPSS:** It is statistical packages for social science.

CHAPTER ONE

1. INTRODUCTION

1.1. Background of the Problem

Today we are living in dynamic and technological period. Business organizations are in continuous challenges that result from dynamic changes occurring in the environment. Business entities are competing for market share, good will, quality, customers, public image etc(Kotler,1984). So in order to survive and prosper an organization need to have a better marketing strategy and objectives than its competitors. To be successful organizations must do better job than their competitors of satisfying target consumers. Thus marketing strategies must be geared to the needs of consumers and also to the strategies of competitors. Based on its size and industry position, therefore, the company must decide how it will position itself relative to competitors in order to gain the strongest possible competitive advantages.

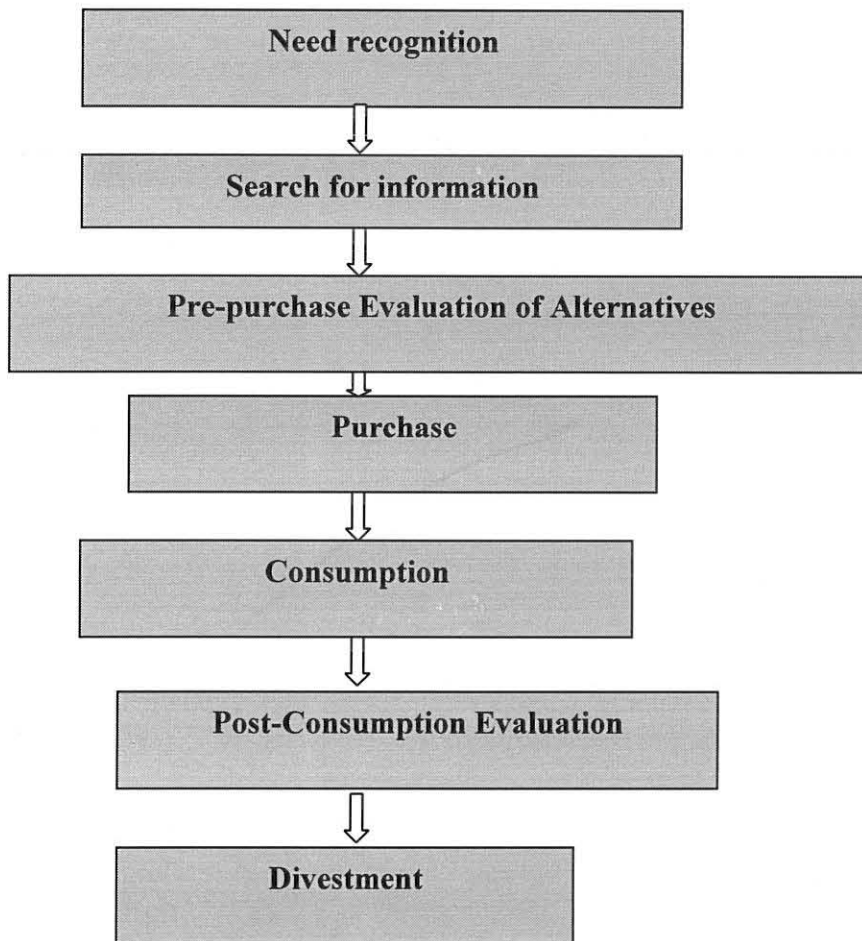
In relation to the above idea, businesses are also engaged in marketing activities or are affected by them on a daily basis, both in their business related roles and as consumers. A consumer is generally thought of as a person who identifies a need or desire, makes a purchase, and disposes of the product (Solomon: 2002:5). In many cases, however, different people may be involved in the purchasing sequences of events. In its early stages of development, the consumer purchase behavior reflecting an emphasis on the interaction between consumers and producer at the time of purchase. Most marketers now recognize the consumer behavior is on going process, not nearly what happens at the moment a consumer hands over money or a credit card and in turn receive some good or services. Consumer behavior may be viewed as a decision process. To understand consumer behavior, we must examine the events that precede and follow the purchase. As per (Boone and Kurtz 1992:211), the following are the most common decision process of the consumers.

1. Problem recognition
2. search

3. evaluation of alternatives
4. purchase decision
5. purchase act
6. post purchase evaluation

The consumer buying decision process model is also summarized by (Blackwell et al, 2001:71) as follows.

Figure 1:1: How consumers make decision for goods and services



Source: Blackwell et al, *Consumer behavior* (2001:71).

Consumers use the decision process in solving problems and taking advantage of opportunities. Such decision permits consumers to correct differences between their actual

and desired states. Feedback from each decision serves as additional experience on which to rely in making subsequent decisions.

Consumer purchase behavior can be affected by many factors. According to (Boone and Kurtz 1992:190), the main factors that affect the consumer purchase behavior are interpersonal and personal influences. There are three categories of interpersonal determinants of consumer behavior such as cultural influences, social influences, family influences. Personal determinants of consumer behavior are individual needs and motives, perceptions, attitude, and self concept. The interactions of these factors with interpersonal and personal influences decide what is purchased. Currently one of the items that is frequently purchased by the consumer is the bottled water all over the world. As a consumer frequently purchased item is concerned, the competitive, challenging and growing business sector all over the world is the bottled water market in beverage industry. As one market study pointed out that the bottled water businesses offers a tremendous opportunity for income and profit to companies on variety of levels. Over the past 10 years the bottled water market has increased by 208 percent, soft drink market increase by 32 percent, and coffee/tea, milk, beer/wine/sprits and juice market are decreased by 2 percent, 11 percent and 15 percent consecutively ([www. norlandinti.com](http://www.norlandinti.com)).

Gleick (2002:1) also supported this idea stating that sales and consumption of bottled water have skyrocketed in recent years. From 1988 to 2002, the sales of bottled water globally have more than quadrupled to over 131 million cubic meters annually. Bottled water sales worldwide are increasing at 10 percent per year, while the volume of fruit drinks consumed is growing less than 2 percent annually and beer and soft drink sales are growing at less than 1 percent per year (Datamonitor, 2005).

Regarding the definition of bottled water, “Bottled water” means, according to International Bottled Water Association (IBWA) code of practice, water that intended for human consumption and that is sealed in bottles or other containers with no added ingredients except that it may optionally contain safe and suitable antimicrobial agents. In addition the bottled water, as per of the international Bottled Water Association, also considers four additional categories of bottled waters (IBWA, 2000).

- **Artesian water/artesian well water** is bottled water from a well that taps a confined aquifer in which the water level stands at some height above the top of the aquifer.
- **Drinking water** is water that is sold for human consumption in sanitary containers and contains no added sweeteners or chemical additives (other than flavors, extracts or essences).
- **Sparkling Water** is water that after treatment and possible replacement with carbon dioxide contains the same amount of carbon dioxide that it had at emergence from the source.
- **Well water** is bottled water from a hole bored, drilled or otherwise constructed in the ground which taps the water of aquifer.

Moreover, there are different categories of bottled water changing from country to country, are not easy for consumers to differentiate one from the other now a days. In addition, bottled water brands do not ease the identification of the product, often showing misleading images on their bottles' labels, such as lakes and mountains when the water actually comes from municipal networks. Bottled water, which by the latest market definition consists of sparkling flavored water, sparkling unflavored water, still flavored water and unflavored water (Datamonitor,2005:7).

Bottled water like any other consumer product also requires though studies regarding consumer attitude and purchase behavior to guide present and future marketing activities. The global market grew by 6.4 percent in 2005 to reach value of \$62.9 billion. The compound annual growth rate (CAGR) of the market in the period of 2001-2005, as indicated on table 1.3, was 7.4 percent compared to 3.6 percent the annual growth rate of soft drinking during the same period (Data monitor:2005).

Table 1.1. Global water market value.

Year	\$ Billion	% growth rate
2001	47.3	-
2002	51.3	8.4%
2003	46.1	9.4%
2004	59.1	5.4%
2005	62.9	<u>6.4%</u>
CAGR, 2001-2005		7.4%

Source: Data monitor, (2005), Global bottled water industry profile

Concerning bottled drinking water market, the history of bottled water in Ethiopia greatly related to the history of Ambo mineral drinking water. Other Burebaguna and Babile Botled drinking water are the followers of Ambo in producing bottle drinking water for Ethipian market. The Ambo bottled mineral water is considered as a pioneer of the largest bottled water market expansion domestically as well as globally. For instance the following table (Table 1:2) shows the overview of some bottled mineral drinking water in Ethiopia.

Table1.2. Overview of Some Bottled Drinking Mineral Water Producers in Ethiopia

S/ N	Plants	Established	Distance from capital city	Current market share %	Estimated current capital in million	Brand name
1	Ambo Mineral Water Factory	1938	117 kms	85	21 Birr	Ambo
2	Babile Mineral Water Factory	1953	526 kms	Unknown	6.5 Birr	Babile
3	Bure Baguna Mineral Water Factory	1992	410 kms	Unknown	20 Birr	Cool
4	Apex Water Bottling Company	2000	In Addis Ababa	Unknown	9 Birr	Royal Crown and Highland

Source: Marketing department of Ambo mineral water factory, 2009.

As indicated on the table, the Ambo bottled mineral drinking water factory, the pioneer of bottled water market in the country, is aged 78 years in the bottled drinking water market of Ethiopia. The others more than 12 bottled water factories are the late comers next to Ambo. In current Ethiopian bottled water market, there are many brands in competition one with the other to capture more consumers. For example, Babile bottled mineral water has a bigger market share in Eastern part of Ethiopia towns like Harar, Dire Dawa, Jijjiga as well as in Eastern Oromia towns. This factory was re-established 15 years ago and named as Babile Bottled Mineral Water and Beverage Factory, is producing soft-drinks called Mandarin, Arenchata, Lominat and Kinito bottled waters (Essayas:2007).

Bure Baguna (Cool) bottled mineral water brand is also the market leader in the North-Western part of the country and formulated a strong marketing strategies to compete with other bottled water brands in the remaining part of the country. As one can see from the table above, Ambo Bottled Mineral Water is the pioneer of the water bottling (beverage) industry in the country and it has achieved to capture the 85 percent of the bottled mineral water market in Ethiopia. Currently, other new bottled water brands playing the industry market in Ethiopia are: Highland Spring Bottled water, Aquaddis spring bottled water, Abissynia spring bottled water, 'Yes' mineral bottled water, Aqua safe bottled water, Origin purified mineral bottled water, Real bottled water, Cool bottled water and Prima aqua bottled water brands are the strong players in Ethiopian bottled water industry market(Essayas,2007).

Accordingly, many of the water bottler factories in Ethiopia approaches their bottled water customers as the whole market using the same techniques of production, pricing, distribution and promotion, that they use mass /undifferentiated/ marketing strategy. In undifferentiated marketing assumption the consumers have similar needs and wants and these needs can be satisfied by offering a similar water product brands. But this is not usually an appropriate approach in the face of rapidly growing and changing bottled water market nationwide and internationally. Consumers' tastes and preferences, lifestyle, income, occupation, and other demographic and psychographic variables are also those factors that affect the effectiveness of mass marketing strategy. Hence becoming

successful and attaining desired market share or maintaining current market share effectively and efficiently, are not such an easy task using this marketing management orientation.

On the other side, the packaging is also an important variable of the bottled water market success. All type of the bottled waters coexist and are regularly reshaped in order to better catch consumers' attention. The most recent trends in the small bottles category goes for supposedly handier bottles, e.g. 50cl bottles with a sport-type cap or one litter bottles for desk use (www.assets.panda.org).

Packaging used for water can also have very different shapes and colours and are made of different materials. For a long time, bottled water was only available in glass, very good but heavy materials. At the end of 1960s, water bottlers started to use packaging made of PVC (Polyvinyl chloride). In 1980s, a new kind of plastic started being used: PET (Polyethylene Terephthalate). PET is progressively replacing PVC because of its numerous advantages. Plastic, either PVC or PET, is the most frequently used material to make bottles of water: About 70 percent of the bottles used for bottled water are made of plastic. We can estimate that roughly 1.5 million tons of plastic are used world-wide to make bottles of water (Ferrier, 2001:18). On the other hand, as far as the bottled water market globally is concerned, it is expected to sustain steady growth rates during the forecast period, with a forecast expansion of 30.3 percent by 2010 (**Data monitor, 2005**).

The expansion of the bottled water market has been noticed by undependable evidence and referred to as the 'bottled water phenomenon' by the known author (McCarthy, 2004) . However, in Ethiopia very little or no empirical data has been found in this fastest growing sector, particularly no papers published by different academics, which mainly the reason for the necessity of this research.

Thus, the rationale to conduct this study on Bottled Drinking Water and Consumer Buying Behavior in Ethiopia was, to assess the bottled drinking water marketing and consumer buying behavior of bottled drinking water by taking selected cities consumers such as Addis Ababa, Ambo, and Adama as a study sample population. Therefore, the researcher

has tried to examine what and how marketing mix elements, Psychographic, demographic, factors affects consumer buying behavior of bottled water in Ethiopia.

1.2. Statements of the Problem

Markets are made up of people with money to spend . So consumer spending patterns are related to income. Consumer budget studies show that most consumers spend their income as part of family or house hold unit. Most families spend a good portion of their income on such 'necessities' as food, water, house rent or house payments, car and insurance (Perreault and McCarthy, 2003:108).

The individual consumer as a problem solver is also influenced by psychological variables, social influences, and the purchase situations so that good marketing strategy planning requires a good grasp of these factors. Consumer sets are exactly important for marketers who wish to attempt to influence alternative evaluation. Consumers evaluate goods and services based upon the benefits they offer (Lindquist and Sirgy, 2003:56). In its fullest sense, the marketing orientation is a philosophy of business which states that the consumer's want satisfaction is the economic and social justification of a company's existence.

In addition Consumers undertake complex purchase behavior when they are highly involved in a purchase and perceive significant differences among brands. According to (Kotler and Armstrong, 2003:197) consumers may be highly involved when the product is expensive, risky, purchased frequently, and highly self expressive. Typically, the consumer has much to learn about the product category. For example, a personal computer buyer may not know what attribute to consider. Their brands features, perhaps by describing the brands benefit using print media with long copy. Consumers use to motivate store sales people and the buyers acquaintances to influence the final brand choice. Consumer behavior consists of individuals in obtaining, using and disposing of economic goods and services, including the decision processes that precede and determine these acts (Boone and Kurtz, 1992:190). This definition applies to both the individual consumer and the industrial product purchasers. The major difference between the two, however, is that the industrial buyers are subject to additional influences from their organization. Similarly,

the purchaser and user of a product might not be the person, as when a parent picks out clothes or bottled waters for a teenager. In other cases, another person may act as a influencer providing recommendations for or against certain products without actually buying or using them.

As per (Solomon, 2003:6), consumers may take the form of organizations or groups. One or several persons may take the decision involved in purchasing products that will be used by many, as when a purchasing agent orders the companies office supplies. Furthermore, a consumer may purchase, use and/or dispose of a product, but these functions may be performed by different people. Consumers may also be thought out as role players who need different products to help them play their various parts.

Therefore, in the light of these and other related factors and concepts, the main purpose of this study is to examine the bottled drinking water market trend and consumer's buying behavior of bottled drinking water in Ethiopia by taking consumers of selected cities of Ethiopia such as Addis Ababa, Ambo and Adama who consumed bottled water in the last three months in Ethiopia as study sample frame.

Hence, this paper tries to identify the factors that affect bottled drinking water marketing activities and consumer buying behavior of some selected city consumers of bottled drinking water in Ethiopia. Though bottled drinking water market in Ethiopia is conducted by different companies, there are some problems regarding addressing the consumers perception, attitude and buying behavior of the bottled water product in the country. These problems have also certain impacts on the bottled drinking water product development and marketing activities of the factories that could be realized from a particular type of bottled water products.

Finally, the bottled drinking water marketing and Consumers' buying behavior of some selected cities of bottled water is affected .as a result of a combination of many various factors ,but this paper attempts to answer the following basic question:

Are Marketing Mix Elements, Psychographic, and Demographic factors affecting consumers' buying behavior of bottled water?

Essentially, from the research with the bottled water consumers setting, the researcher was argued that all marketing mix elements, psychographic, demographic factors affect consumer buying behavior towards the bottled water in Ethiopia.

In order to develop research objectives to focus data collection and analysis for the research problem stated above, the available literature on consumer attitude towards bottled water, consumers' buying behavior and current bottled water market trend in the world particularly in Ethiopia have been reviewed in chapter 2 of this paper.

1.3. Significance of the Study

The bottled water market industry is engaged in a fierce market competition and rapid growth in Ethiopia. Besides it is confronted by multiple marketing challenges. This study will provide input for the analysis of existing patterns of consumer buying behavior for bottled drinking water in Ethiopia by taking some consumers as a special reference. Furthermore, it is my belief that the finding of the study will help water bottling factories and other interested group who want to invest in this sub-beverage industry sector for the following reasons:

1. This research may be considered as an input to minimize the lack of academic research on the bottled water market area in the country.
2. The study may help firms and organizations improve their marketing strategies by understanding the consumer purchase decision process for bottled drinking water in Ethiopia.
3. It may help the new entrant of Bottling Water Companies to identify challenges that consumers of bottled water face in the current fierce bottled water market competition.
4. It may help the bottled water company managers to take important marketing actions and strategies to address the consumers' needs and wants of bottled water.

1.4. Objective of the Study

1. To identify whether or not the marketing mix elements stimulate or hinder consumers' act to purchase bottled drinking water.
2. To identify and analyze to what extent the different psychographic factors (such as perception and attitudes towards bottled drinking water) influence consumers' buying behavior.
3. To identify and analyze the relationship between different demographic factors and consumers' bottled drinking water buying behavior.
4. To identify the systematic relationship between bottled drinking water size and its price.

Along with four research objectives and 11 hypotheses that were developed for testing are listed and summarized in table 1.3.

Table 1.3. Summary of research objectives and hypotheses.

Research Objectives	Hypotheses
<p>RO1. How the marketing mix elements are affect consumer buying behavior of bottled water?</p>	<p>H1.1. Product price is inversely related with consumer buying behavior of bottled water</p> <p>H1.2 There is a significant influence of product availability factor on consumer bottled water buying behavior..</p> <p>H1.3. There is no relationship between product promotion and consumer Buying Behavior of bottled water in Ethiopia.</p> <p>H1.4. Bottled water brands have strong relationship with consumer buying behavior.</p>
<p>RO2. How do psychographic factors affect bottled water buying behavior of consumers?</p>	<p>H2.1. Perception towards bottled water is positively related to Bottled water buying behavior.</p> <p>H2.2. Attitude towards bottled water is positively related to bottled water buying behavior.</p>
<p>RO3. How do demographic factors affect bottled water buying behavior?</p>	<p>H3.1. There is no relationship between gender and bottled water buying behavior</p> <p>H3.2. There is positive relationship between age and bottled water buying behavior.</p> <p>H3.3. There is no significant relationship between bottled water buying behavior and education level</p> <p>H3.4. There is no significant purchase frequency difference among consumers having different income levels.</p>
<p>RO4. Is there significant relationship between bottled water purchased size and its price?</p>	<p>H4.1. There is no significant relationship between bottled water size and its price.</p>

Source: Developed for this research.

1.5 Scope of the Study

The major scope or delimitation of this study that the setting of this research is confined to some bottled water consumers in some selected cities of Ethiopia concerning their marketing activities and buying behavior of bottled water only because their consumption pattern may be different or similar from/with other domestic market segments. Addis Ababa, Ambo, and Adama towns were assumed to be cities where more than half percent of bottled water market coverage in Ethiopia takes place. For example, according to Ambo Bottled Mineral Factory (archive, 2009), Ambo Bottled Mineral Drinking Water alone comprises about 65 percent of total sales volume in Addis Ababa city. The agents sell about 15 percent, and the rest 20 percent is sold at Adama, Shashemane, and Ambo branches. Although the bottled water market is global, generalization of the findings of this research to the other bottled water market segment in the country can hopefully be seen as logical. Additionally this research will focus on Bottled drinking water marketing and Consumers' Buying Behavior Towards Bottled Water in Ethiopia by taking these mentioned cities consumers as a case rather than any particular brand.

1.6. Limitations of the Study

One of the limitations faced by the researcher was the budget constraints that bear its influence on the planned research coverage. Shortage or scarcity of secondary data about bottled water market trend especially in Ethiopian context, were also the problem faced in this study. Particularly unavailability of secondary data in official publication of government institutes was also the limitation faced while conducting this research. Even though much effort has been made to acquire the necessary information of the bottled water market profile from private bottler companies in the country, the trial was not successful although the university guaranteed that the aim of this research was only for academic consumption.

1.7. Organization of the Study

This paper has five chapters. The first chapter provides an overview of the thesis and provides background for the research: The Statement of the problem, Objectives, significance, scope and limitations of the study were summarized in this chapter.. The review of related literature focused on bottled drinking water and consumers' buying behavior of bottled water has been presented in chapter two. The Chapter three of this paper is details the methodology of the study. The fourth chapter covers answers to each research issue raised and which were emerged from the related literature review (data presentation and Analysis). And lastly, the summary, conclusions, recommendations and future research implications of the study have been presented in chapter five.

1.8. Definition of Key working Terms

Bottled water: In this paper bottled water referred to all packed drinking water in any size or format and sometimes known as Packaged water (IBWA,2000).

Consumer attitude: It represents what consumers like or dislike or a an evaluation of object or product. (Blackwell et al 2001).

Consumer perception: It is the process by which these sensations are selected organized and interpreted (Solomon, 2002).

Customer perceived value: The difference between total customer value and total customer cost (Kotler and Armstrong,2003)

Demographics: The study of human populations in terms of size, density, density, location, age, gender, race, occupation and others statistics.(Kotler and Armstrong,204).

IBWA: International Bottled Water Association is a trade association, representing the bottled water industry and has members more than 1200 US-based and international bottlers, distributors and suppliers produce and distribute 85% of the bottled water sold in the USA(IBWA,2000).

Price Collusion: Agreement between two or more producers to charge similar price on

similar products(Encarta Encyclopedia, 2005)

Psychographics : It is a term that consumer researchers use to describe consumer in terms of personality, traits and concept of self; attitude towards brands, activities, interests, and opinions, value systems, goods, and services consumed and media used patterns. (Lindquist & Sirgy, 2003).

Segmented marketing: A market coverage strategy in which a firm decides to target several market segments and designs separate offers for each. (kotler and Armstrong,2003)

Tap water: It is a limited resources that must be collected and distributed with increasing care.(Encarta Encyclopedia, 2005)

Undifferentiated market: A market- coverage strategy in which a firm decides to ignore market segment differences and go after the whole market with one offer. (Kotler and Armstrong,2003)

Chapter two

2. Review of Related Literature

2.1. Definition of Consumer Behavior

2.1.1. Consumer Behavior Defined:

The field of consumer behavior covers a lot of ground. According to (Solomon 2002:3) it is the study of the processes involved when individuals or groups select, purchase, use, or dispose of products, services, ideas, or experiences to satisfy needs and desires. Consumers take many forms, ranging from an eight-year-old child beginning her mother for Pakemon cards to an executive in a large corporation deciding on a multimillion dollar computer system. The item that is consumed can include anything from canned peas, a message, democracy and other great things.

In Addition (Boone and Kurtz, 1992), also define the concept consumer behavior as follows. It is the act of individuals in obtaining , using , and disposing of economic goods and services, including the decision processes that precede and determine these acts. Basically this definition applies to both the individual and industrial purchasing behavior, however, is that industrial buyers are subject to additional influences from within their organization.

The other known scholars (Kotler and Armstrong 2003:178) define the above idea in the following ways.

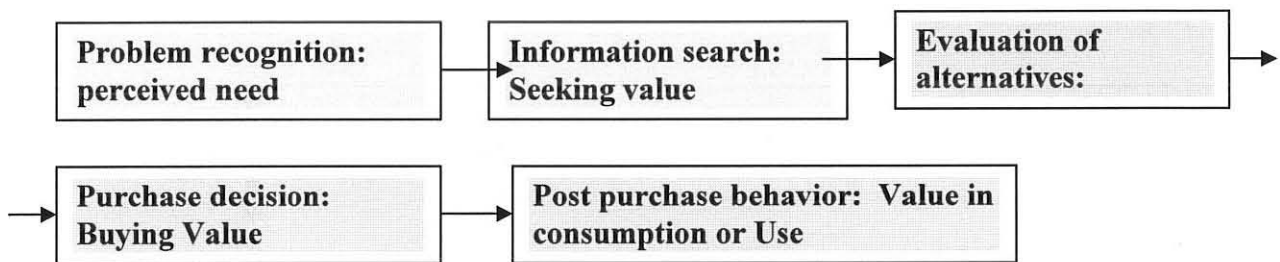
It refers to the buying behavior of final consumers-individuals and house holds who buy goods and services for personal consumption. All of these final consumers combine to make up the consumer market. Consumers around the world make many buying decisions every day. Most large companies research consumer buying decision in great detail to answer questions about what consumers buy, where they buy, how and how much they buy, when they buy, and why the buy. Marketers can easily study actual consumer purchases to find out what they buy, where, and how much they buy.

In the above definitions of the consumer purchase behavior both scholars agree up on that the consumer purchasing behavior is the processes that can be acted while consumer purchase some thing else. Based on the above definition the central question for marketers is; how do consumers responds to various marketing efforts the company might use.

2.2. The Consumer Decision Process

The consumer decision process is the actions a person takes in purchasing and using products and services, including mental and social processes that precede and follow these actions. Behind the visible act of making a purchase lies a decision process that must be investigated. The purchase decision process is the stage a buyer passes through in making choice about good or services to buy (www.rohan.sdsu.edu accessed at 20 April 2010)

Figure 2.1. Five stages of consumer behavior



Source: Consumer behavior, retrieved Feb. 12, 2010 from http://www_rohan.sdsu.edu/

The five stages of consumer behavior (Figure 2.1) have been detailed as follows.

2.2.1. Problem Recognition (perceived a need): It is perceiving a difference between a person's ideal and actual situations big enough to trigger a decision and can be as simple as noticing an empty milk carton or it can be activated by marketing efforts.

2.2.2. Information Search (Seeking value): The information search stage

clarifies the options open to the consumer and may influence:

- Scanning one's memory to recall previous experiences with products or brands.
- Often sufficient for frequently purchased products.
- When past experience or knowledge is insufficient.
- The risk of making a wrong purchase decision is high.

- The cost of gathering information is low.

2.2.3. Alternative Evaluation(Assessing Value):

The information search clarifies the problem for the consumer by: 1) Suggesting criteria to use for purchase (2) yielding brand names that might meet the criteria (3) Developing consumer value perception. A consumer's evaluative criteria represent both the objective attributes of brand and the subjective factors (such as prestige). These criteria establish a consumer would consider acceptable from among all the brands in the product class of which he or she is aware.

2.2.4. Purchase Decision (Buying value).

There are about three possibilities from whom to buy; which depends on such consideration-terms of sale, past experience buying from the seller and return policy. When to buy-which can be influenced by store atmosphere, time pressure, a sale, pleasantness of the shopping experience and the other one is do not buy.

2.2.5. Post Purchase Behavior (Value in consumption or use):

It is the events after buying a product, the consumer compares it with expectations and is either satisfied or dissatisfied. Satisfaction or dissatisfaction affects consumer value perceptions, consumer communications , repeat-purchase behavior. Many firms work to produce positive post purchase communications among consumers and contribute to relationship building between sellers and buyers cognitive dissonance- the feeling of post purchase psychological tension or anxiety a consumer often experiences and firms often use ads or follow- up cans from sales people in this post-purchase stage to try to convince buyers that they made the right decision.

2.3. Involvement and Problem (Solving variations):

Consumers may skip or minimize one or more steps in the purchase decision process depending on the level of investment and the personal, social, and economic significance of the purchase. One of three characteristics of high involvement, purchase is expensive, and can have serious personal consequences or could reflect on one's social image.

2.4. Situational Influences:

Five situational influences are identified as follows:

- . **The purchase task:** The reasoning for engaging in the decision
- . **Social surrounding:** which include others present when a purchase decision is made
- . **Physical surroundings:** such as décor, music, and crowding in retail stores.
- . **Temporal effects:** such as time of day or the amount of time available.
- . **Antecedent states:** which include the consumer's mood or amount of cash on hand.

2.5. Psychological Influences on Consumer Behavior:-

Concepts such as motivation and personality, learning values, beliefs, and attitudes, and lifestyle are useful for interpreting buying processes and directing marketing efforts (www.rohan.sdsu.edu). Each of the concepts are detailed as follows.

2.5.1. Motivation and Personality:

2.5.1.1.Motivation- It is an energizing force that causes behavior that satisfies a need and once basic psychological needs are met, people seek to satisfy learned needs.

- 2.5.1.2. Personality:** It is a person's consistent behavior or responses to recurring situations. Research and cross cultural analysis suggest that key traits affect brand and product-type preferences, and residents of different countries have a national character, or a distinct set of personality characteristics common among people and society consecutively. Personality characteristics are often revealed in a person's self concept which is the way people see themselves and the way they believe others see them.
- 2.5.2. Perception-**It is the process by which an individual uses information to create a meaningful picture of the world by selecting, organizing, and interpreting. Perception is important because people selectively perceive what they want and it affects how people see risks in a purchase. Perception can have about five phases such as selective perception, selective exposure, selective comprehension, selective retention, subliminal perception.
- 2.5.3. Learning:** It includes those behaviors that result from repeated experience and thinking. Behavioral learning is the process of developing automatic responses to a situation build up through repeated exposure to it. Cognitive learning also involves making connections between two or more ideas or simply observing about the out comes of others behaviors and adjusting one's accordingly. Brand loyalty is a favorable attitude and consistent purchase of a single brand over time and differs across countries.
- 2.5.4. Attitudes and Belief:** Attitude is a learned predisposition to respond to an object or class of objects in a consistently favorable or unfavorable way shaped by our values and beliefs, which are learned. Which brand of toothpaste is most effective in preventing cavities and tooth decay? Does high price indicate high quality? Are Car sales people trustworthy? Do you think the economy will be better? Or worse about of the same a year from now? Each of these questions focus on beliefs(www.rohan.sdsu.edu). According to (Blackwell and et al 2001: 291), beliefs can be defined as subjective judgment about the relationship between

two or more things. Beliefs are based on knowledge. What you learned about a product determines what you believe about the product. Understanding a product image requires understanding consumers beliefs about the product.

A consumers' overall evaluation of a product sometimes accounts for most of his or her attitude. According to (Solomon 2002: 212-213) there are two kinds of Attitude models. Multi attribute attitude models have been extremely popular among marketing researchers. This type of model assumes that a consumers attitude(evaluation of an attitude object (Ao) will depend on the belief he or she has about several or many attribute of the object.

In general, attitude models are useful to understand what consumer like and dislike, strongly influence intentions. These attitudes are formed from one's beliefs and feelings about the attitude object.

2.6. Marketing Mix Elements and Consumer Buying Behavior

In consumer goods market there are four marketing mix elements. The four marketing mix elements are product, pricing, promotion, and placing. According to (Kotler and Armstrong, 2004:280) Consumer products are products and services bought by final consumers for personal consumption-which usually be classified further as convenience product, shopping products, special products and unsought products. These products differ in the ways consumers buy them and therefore in how they are marketed.

2.6.1. Individual Product Decision Influences Consumers' buying

The important decision by the marketers in development and marketing of individual product and services as per (Kotler and Armstrong, 2004: 283-285), are Product attribute, Branding, Packaging, Labeling, and Product support services.

2.6.1.1. Product Attributes: Developing a product or services involves defining the benefits that it will offer. These benefits are communicated and delivered by product attributes such as product quality, product features, product style and product designs.

2.6.1.2. Branding: A Brand is a name, term, sign, symbol, or design or a combination of these, identifies the maker or seller of a product or services. Consumers view a brand as an important part of a product, and brandings can add value to a product. For example, most consumers would perceive a bottle of white Line perfume as a high quality expense product. But the sam perfume in an marked bottle would likely be viewed as lower quality, even if the fragrances were identical.

2.6.1.3. Packaging: It involves designing and producing the container or wrapper for a product. The package includes a products primary container (the tube holding Colgate total toothpaste). It may also include a secondary package that is thrown away when the product is about to be used (the Card box containing the tube of Colgate). Finally, it can include a shopping package necessary to store, identify, and ship the products.

2.6.1.4 Labeling: Labels may range from simple taps attached to products to complex graphics that are part of the package. They perform several factions. At the very least the label identifies the product or brand, such as the name Sunkist stamped on oranges. The label might also describe several things about the product-which made it, where it was made, its contents, how it is to be used and how to use it safely. Finally, the label might promote the product through attractive graphics.

2.6.1.5. Product Support Services

Customer service is another element of product strategy. A company's offer to the market place usually including some support services which can be a minor

or a major part of the total offering. The first step is to survey consumers periodically to assess the value of current services and to obtain ideas for new ones. For example, Cadillac have regular focus group interviews with owners and carefully watches complains that come into its dealers. For thus careful monitoring Cadillac has learned that buyers are very upset by repairs that are not done correctly the first time.

2.6.2. Pricing Decision Can Influence Consumer Buying Behavior.

Price as an economic factor and pricing as economic mechanism have received considerable attention at the hands of economist. According to (Guppta and Sinha, 2007, p.54) some of the cost and demand concepts relevant to price determination include the following:

- Average Total Cost (ATC): It represents total cost per unit. It is arrived at by dividing total cost by the number of unit sold.
- Marginal Cost (MC): It includes the change in total cost resulting from producing an additional unit.
- Average Revenue (AR): It represents average revenue per unit sold. It is arrived at by dividing total revenue by the number of unit sold.
- Marginal Revenue: It includes the change in total revenue resulting from the sale of an additional unit.

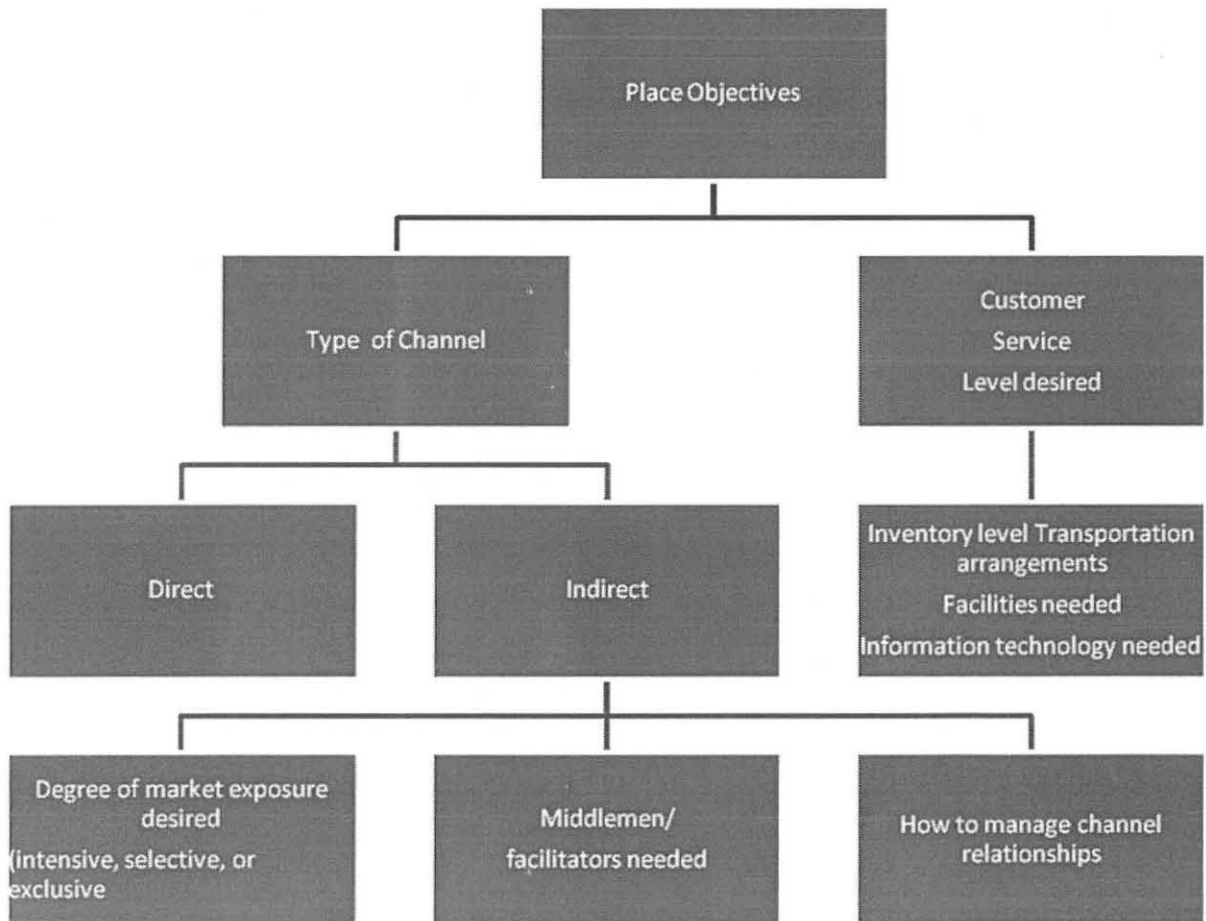
Pricing is undoubtedly one of the most important decision areas of marketing mix; price and sales volume together decide the revenue of the business. As the price and sales volume together decide the revenue of any business (Ibid). In the narrowest sense, price is the amount of money charges for a product or service. More broadly, price is the sum of all the values that consumers exchange for the benefit of having or using the product or service(Kotler and Armstrong 2004:345). Historically, price has been the major factor affecting buyer choice. This is still time in poorer nations like Ethiopia, among poorer groups, and with commodity products.

However, non-price factors have become more important in buyer-choice behavior in recent decades.

2.6.3. Product Placing Can Affect Consumers' Buying Behavior

The offering customers a good product at reasonable price is not the whole story. Managers of business must also think about place-making goods and services available in the right quality and locations-when customers target markets have different needs, a number of place variations may be required (Perreault et al, 2003:234). The following figure summarizes the importance of placing in consumer market as follows;

Figure 2.2. Strategy decision areas in place



Source: Perreault and MacCarthy, 2003. Essentials of marketing. McGraw-Hill, New York.

The above figure (Figure 2.2) gives an overview of the many important strategy decision areas of distribution that a marketing manager must make concerning place of products. Production a product or service and making it available to buyers require building relationships not just with customers, but also with key suppliers and resellers in the companies supply chain.

2.6.4. Promotion Can Influence Consumers Buying Behavior

Promotion is a communication process in marketing that is used to create a favorable predisposition toward a brand of product or services, an idea, or even a person (Semenik, 2002:7). The promotion mix is a blend of communication tools used by a firm to carry out the promotion process and to communicate directly with target markets. These communication tools include advertising, the internet, direct marketing and e-commerce, sales promotion, event sponsorships, point-of-purchase, displays public relation, and personal selling (Semenik, 2002: 8).

Advertising tends to be the most glamorous and elaborate of all the promotional tools. The following table (Table: 2.4) lists the approximate amount invested in the different tools of promotion in 1999.

Table: 2.1. Promotion industry expenditure by type of promotion (in billions of dollar).

No	Promotional Mix tool	Annual expenditures
1	Advertising	201.00
2	Premium incentives	25.30
3	Point-of-Purchase	13.70
4	Specialty items	13.20
5	Sponsorships	6.80
6	Couponing	6.45
7	Interactive	1.02
8	Sampling	1.01

Source: Semenik, Rechar J,2002. Promotion and integrated marketing communication, 2nd ed. p. 10, Thomson Asia Pte.Ltd. Singapore.

Production companies, in our case Bottled water companies, must do more than make good products-they have to inform consumers about product benefit and carefully positioning products in consumers minds to influence consumer purchase behavior. To do this, they must skillfully use three mass promotion tools in addition to personal selling, which targets specific buyers are:- advertising , sales promotion and public relations.

2.7. **Global Bottled Water Market Trend**

About 70 percent of the earth is covered with water. However, not all are suitable for human consumption. Oceans make up for 97 percent and the polar ice shields another 2 percent, which leaves less than 1 percent of all the water on the earth as fresh water that we can actually use. Water sources are usually either surface waters, such as rivers or catchments reservoirs, or underground waters derived from rainfall percolated through the ground to reach the ground water. The quality of water will vary considerably and is, in most dependent upon the area in which it is found. According to dieticians, one or two liters of water per day is the recommended daily amount to consume to stay healthy, depending on age and lifestyle. To be health and full of life means consuming essential mineral elements. Facilitating digestion and to assume a constant preservation of the precious water of the organization (www.sigla.com).

“Water, water every where, but not a drop to drink” from the Rhyme of the ancient Mariner” is perhaps a fitting description of the attitude of many consumers living in cities and other areas to day, who are increasingly looking toward bottled water as a means of meeting some or all of their daily requirements. As fresh water supplies, are further stretched to meet the demands of industry, agriculture and an ever-expanding population, the shortage of safe and accessible drinking water will become a major challenge in many parts of the world (WHO, 2000). According to WHO in the make of several major outbreaks involving food and water, there is a growing concern for the safety and quality of drinking water. While bottled water is widely available in both industrialized and developing countries, it may represent a significant cost to the consumer. Consumers may

have various reasons for purchasing bottled drinking water, such as taste, convenience and others.

The Beverage Marketing Corporation defines the bottled water market segment as “retail PET, retail bulk, home and office delivery, vending, domestic sparkling and imports” but excluding “flavored and enhanced water.” (BMC:2008).

While the term bottled water is widely used the term packaged water is perhaps more accurate. Water sold in countries for consumption can come in cans, laminated boxes and even plastic bags. Bottled water is drinking water packaged in plastic or glass containers. The dominant one is water packaged in new polyethylene terephthalate bottles and sold retail. Another method of packaging is in larger high density polyethylene plastic bottles, or polycarbonate plastic bottled often used with water coolers.(www.wikipedia.com). However, according to (WHO,2000) bottled water is most commonly sold in glass or disposable plastic bottles. Bottled water also comes in various sizes from single servings to large carboys holding up to 80 liters. Depending on the climate, physical activity and culture, the drinking water needs for individuals vary, but for high consumers it is estimated to be about two liters per day for a 60kg person and one liter per a day for a 10kg child (WHO, 2000). In relation to the above idea (IBWA,2000) describes bottled water as water that is intended for human consumption and that is sealed in bottles or other containers with no added ingredients except that it may optionally contain safe and suitable antimicrobial agents.

Similarly, according to (Aslam, 2006), bottled water is not guaranteed to be any healthier than tap water. In fact, roughly 40 percent of bottled water begins as tap water, often the only difference is added minerals that have no health benefits.

Table 2.2. Per Capita Bottled Water Consumption by Country, 1999 to 2004.

Liters per person						
Country	1999	2000	2001	2002	2003	2004
Italy	155	160	164	167	179	184
Mexico	117	124	130	143	157	169
UAE	110	114	119	133	145	164
France	118	126	131	141	148	142
Spain	102	105	109	112	127	137
Germany	101	102	103	105	121	125
U.S.A	64	67	74	82	85	91
Bahrain	50.5	53.7	56.9	60.2	63.3	66.6
Israel	23.1	29.1	37.9	47	55.6	60.5
Poland	28.6	33.1	37.8	44.6	47.9	48.5
Canada	24.4	27.1	29.7	32.2	33	34.3
Norway	17.7	17.6	19.5	20.1	19.4	22.1
Finland	11.3	12	12.7	13.2	13.9	41.1
India	1.7	2.1	2.6	3.3	4	4.8
South Africa	1.3	1.6	1.9	2.2	2.2	2.4
Ethiopia	?	?	?	?	?	?
Other World consumption including unmentioned country	16.4	17.8	19.3	21.3	23	24.2

Source: Beverage Marketing Corporation, 2005

The above Table 2.2. provides on in- depth knowledge of the global bottled water consumption. Per capita consumption of bottled water, by country, is shown from 1999 through 2004. Units are liters per person per year. Italy, Mexico, the UAE lead the table with over 160 liters per person per year. European countries dominate the top of the list, poorer countries congregate at bottom, providing some indicative of both the limited availability and the high cost of bottled in developing countries. Ethiopia is one of the poorer countries who provides a very limited number of bottled water to the market. But still the bottled water consumption of per capita bottled water of Ethiopia is unknown. This can be the research area for any interested groups of bottled market researchers in the country.

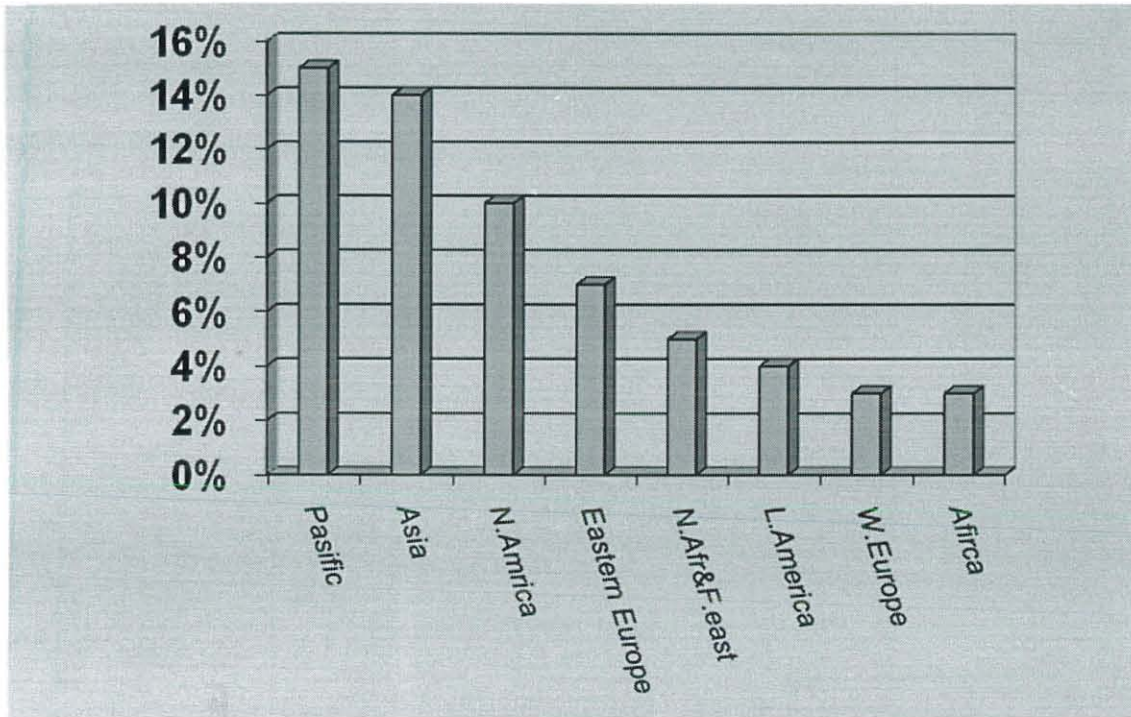
Table: 2.3. Total bottled water consumption by region (1997-2004)

Region	Thousands in Cubic meters/years							
	1997	1998	1999	2000	2001	2002	2003	2004
Europe	34,328	36,074	39,965	42,276	44,520	47,037	51,788	53,661
North America	25,398	25,822	29,695	31,850	34,734	38,349	41,788	44,715
Asia	12,472	14,820	17,647	20170	24824	29783	32795	35,987
South America	5,484	6362	7323	8528	9915	11437	12677	13807
Africa/Middle East/Oceania	2459	2808	3092	3456	3837	4302	4499	4823
All others	508	1953	737	891	1033	1592	1407	1597
Total	80,649	87,838	98,459	108,171	118864	132418	144492	154,380

Source: Beverage Marketing Corporation, 2005.

Table 2.3 summarizes world bottled water consumption by region. Most regions have doubled their bottled water consumption and in the case of South America – almost tripled it. Globally, bottled water consumption has risen for 80,649 thousand cubic meters in 1997 to 154,311 in 2004. Africa consumed merely 4,823 thousand cubic meters in 2004. The worst culprit was Europe at 53,661 thousand cubic meters in 2004- a surprising figure when we consider it also has some of the world’s most reliable and clean supplies of tap water. In general, the annual increase of bottled water consumption in the world is summarized in (figure 2.3) as follows.

Figure 2.3. Annual increase of bottled water consumption in the world by region (1999-2003).



Source: Beverage Marketing Corporation, 2005.

According to (Howard,2000) bottled water market is the fastest growing beverage industry in the world, worth up to \$22 billion a year . Bottled water market is partly fueled by concerns over the safety of municipal water and by the marketing of many brands which portray them as being healthier than tap water. The study of the World Wildlife Fund also indicates that bottled water sales were rising because people were worried about pollution. People attitudes toward tap water are being shaped by the pollution which is checking the river and streams. But the study conducted by University of Geneva’s known researcher (Ferrier, 2000) concluded that the only difference between some bottled water and tap water may be no safer, or healthier, than tap water in many countries which selling for up to 1000 times the price. As per of (Howard,2003), the bottled water standards in the United sates are at least as protective as those for tap water, and the industry is making a concerted effort to develop international standards(see appendices 2.1).

In general, as (Ferrier,2001) bottled water can be identified in three major types.

1. **Natural mineral water-** is an extremely specific product responding to strict criteria. It is wholesome under ground still or aerated water, protected against pollution hazards and characterized by a constant level of mineral and trace elements. This water can not be treated, nor added any exogenous elements, such as flavors or additives.

2. **Spring water-**is also underground water protected against pollution hazards. It can not be treated but it doesn't need to have a constant mineral composition water from different springs can be sold under the same brand name.

3. **Purified water-** surface or under ground water that has been treated in order to be suitable for human consumption. It differs from tap water only through the way it is distributed in bottles rather than through pipes and its price.

Based on the above bottled water categories, many bottled water consumers believe that the natural mineral water have medical properties or offer other health benefits. Such waters are typically of high mineral content and in some cases, significantly above the concentrations normally accepted in drinking water. According to (WHO,2000) report on drinking mineral water, such water have a long tradition of use and are often accepted in the basis that they are considered foods rather than drinking water, and although certain mineral waters may be useful in providing essential micro-nutrients, such as calcium. World Health Organization is still unaware of any convincing evidence to support the beneficial effect of consuming such mineral waters. The following tables (2.4. and 2.5). shows the worlds ten major bottled mineral water provider countries and the ten least bottled mineral water provider countries in the world consecutively.

Table 2.4. The Bottled mineral Water Brand in the world (Ten major provider countries).

No.	Country	Number of brands	Some major brand names
1	India	43	Aava, Asfa blue, Aguafina, Hello, Yelgris
2	Australia	55	Adams Ale, Crystal spring, Ente, Gigis water, Winifred spring
3	Chania	66	Alpha, Bejian, Hong, Haomen, Tai mau, Rong, prince.
4	Brazil	74	Acqua Sadia, Aquaplus, Crystal tropical, Daflora, Uba, Xuk.
5	Spain	169	Acqua Deus, Aqua Doy, Aqua sana, Fuente Alta, Pallars , Neval , Nafree
6	U.S.A	183	Alaska Chill, Alps water, Castle Rock, Col fax, Dannony, Water boy.
7	French	216	Acqua corsa, Arvie, Canyon, Vemet, Volvic, Ziria, Valon.
8	Canada	492	Abenakis, Avani, Canada's Choice, champlam, Yukon Spring, Sparta.
9	Germany	526	Alask, Alosa, Azur, Witasberg, Zack, Zelal, Zott Aqua.
10	Italy	586	Acetosena, Acqua Panna, Acqua Lilia, Alpia, Amata, Amica,

Source: www.mineralwaters.com

Table 2.5. Mineral bottled water in the world (Ten least provider countries)

S/N	Countires	Number of bottled mineral water brand	World class brand name
1	Cambodia	One brand	Water O
2	Cuba	One brand	Ciego Montero
3	Djibouti	One brand	Crystal
4	Dominica	One brand	Loubiere
5	Estonia	One brand	V'a'rcka.
6	Ethiopia	One brand	Ambo
7	Gabon	One brand	Andza
8	The Gambia	One brand	Naturelle
9	Kuwait	One brand	AlRawdatain
10	Zimbabwe	One brand	Glendak spring

Source: www.mineralwaters.com

2.8. Differences among Other Bottled Drinking Water and Bottled Mineral Drinking Water

What is mineral water? Natural mineral water means microbiologically wholesome water organization in underground water table or deposits and emerging from spring tapped at one or more natural or bore exits. Natural mineral water can be clearly distinguished from ordinary drinking water (WHO:2000). Bottled natural mineral water is bottled at source and receives no treatments to alter either the chemical or micro biological quality of the water. It is characterized by its constant composition of mineral salts and refreshing and pleasing taste to the palate. A bottled natural mineral water can only be exploited subject to permission from the responsible Authority in every country. Each countries responsible authority set directives and standards for bottled natural mineral water. The authority identifies bottled water based on standards and directives according to their microbiologically wholesome or not, water origination and whether it is emerging from a spring tapped at one or more natural bore exists. It must be clearly distinguished from ordinary drinking water by its mineral content, constituents and original state. It must not undergo than filtration nor include additional ingredients other than carbon dioxide. However, many consumers are still thinking of that some bottled mineral water are perhaps one of the most health drinking available(www.glasswater.com). If we are interested in drinking bottled mineral water as opposed to tap or other type of beverages, there are a few of mineral waters known benefits(WHO,2000)

1. Mineral water is extremely helpful in replenishing not only water that is naturally lost from the body, but it also helps to balance electrolytes due to the fact that mineral water is full of electrolytes (minerals) which naturally dissolve in the water.
2. Mineral water is also known to help combat bacteria and funguses .
3. Mineral water is consumed by many on a daily basis to help detoxify the body of potentially harmful substances.
4. Finally, many individuals that drink mineral water on a daily basis do so far its therapeutic properties. Many believe that mineral water can reduce pain, aches and swelling due to the inflammation of muscles and joints. Other believe that mineral

water can play a role in curing types of diseases and chronic conditions.(<http://www.glass.com>)

But bottled mineral drinking water is one of the bottled water products which is assumed to be different form tap water. Sometimes some people in Ethiopia also can not tell the difference between bottled water and tap water. Noting the brand preferences of mineral water by consumers, it will not be surprising if none of the daily consumers can test any differences between bottled water brands and/or to mention the differences among tap water, spring water and mineral water(Table 2.6.) summarizes the differences between natural mineral water, spring, tap and other drinking water.(Wainwright cited in ZHAO, 2006).

Table 2.6. Differences among mineral water, spring water, tap and other drinking water

	Natural Mineral Water	Spring Water	Tap water and Other Drinking Water
1. Source specified	√	√	X
2. Must be bottled at source	√	X	X
3. Must specify Content	√	X	X
4. May not be treated	√	X	X
5. Consistent content every time	√	X	X
6. Safe to drink	√	√	√

Source: Wainwright cited in ZHAO, 2006 from <http://www.thirstypeople.co.uk>.

2.9. Bottled Water Packages

Increasingly, major materials used by companies to bottle water are plastic(PET and VLS), aluminum and glasses. According to Ferrier (2001 :21-23) the three major materials used by bottling companies are identified as follows.

2.9.1. Plastic Packages:

Plastic packages are widely used for bottled water packaging. Although PVC is still used, PET is increasingly used for many reasons: it is brighter than PVC, very transparent and it almost looks like glass. PET is shatter-resistant and easy to work on. Its light weight (20% lighter than PVC) enables to reduce plastic quantities needed to make a bottle.

2.9.2. Aluminum Packages:

When recycled, aluminum doesn't lose its properties, no matter how many times it is re-used. Treating used aluminum enables to reduce by 95 percent energy needs, as compared to direct producing aluminum from bauxite. Cans account for 50 percent of used aluminum produced in world is recycled.

2.9.3. Glass Packages:

As aluminum, Glass doesn't lose its properties when recycled. Glass bottles can be washed and refilled about 80 times. In Switzerland, 85 percent of glass is re-cycled and 77 percent of new glass produced comes from used glass. Introducing used glass in the manufacturing of new glass products enables to reduce by 20 percent energy needed.

2.10. International Standards for Bottled Drinking Water

The global bottled water industry is in a very powerful position, but is also under increased scrutiny and criticism. Water bottling companies have far too much control and are relatively uncontrolled in most places globally. The citizens of every nation in the world need to stop purchasing bottled water and replace these containers with more durable and reusable containers, and also make our tap water of higher quality so we can rely on it for our drinking supply (Grossman, 2004).

Bottled water are governed by regulation like which are set out in the food standards code. According to Australia Bottled Water institute (ABWI:2004) Water bottlers must comply with all requirements of the code including labeling and other information requirements; contaminants and Residues, microbiological and processing requirements and the food safety regulations.

Although there are relatively few regulations on what bottled water can contain, people have differing opinions on possible benefits and drawbacks of bottled water brands containing harmful substances. According to a four- year scientific study by the Natural Resources Defense Council, over a third of the tasted brands contains contaminants such as arsenic and carcinogenic compounds. This study of 103 different brands encompassing over 1000 bottles showed that one-third of the water in these bottles exceeded state or industry safety standards .Some global agencies such as the World Health Organization have neutral feelings regarding possible health benefits or drawbacks from the consumption of bottled water. Some countries and concerned citizens are bringing water bottling plants to a halt (Ibid).

The inter-governmental body for development of internationally recognized standards for food is the Codex Alimentarius Commission (CAC). WHO, one of the co-sponsors of the CAC, has advocated the use of the guidelines for drinking water quality as the basis for derivation for all bottled waters. The CAC has developed a Codex standard for Natural mineral water and all associated code of practice. The Codex standard describes the product and its labeling, Compositional and quality factors, including limits for certain chemicals, hygiene, packaging and labeling. The Codex code of practice for connecting, processing and marketing natural mineral water provides guidance to the industry on a range of good manufacturing practices matters, while CAC standards and recommendations are not strictly mandatory, Codex health and safety requirements are recognized the World Trade Organization (WTO) representing the international consensus for protection and any deviation from Codex recommendation may require a scientifically-based justification (Ferrier, 2001).

This Commission is currently developing a draft of a Codex standard for bottled water (packaged) water to cover drinking water under existing Codex standard and code of practice, natural mineral water must confirm to strict requirements concerning, for example, their direct collection and bottling with out further treatment from a natural source, such as spring or well. In Comparison, the draft codex standard for bottled (Packaged) water has been proposed to include waters from other sources, in addition to springs and wells, and treatment to improve their safety and quality. The distinctions

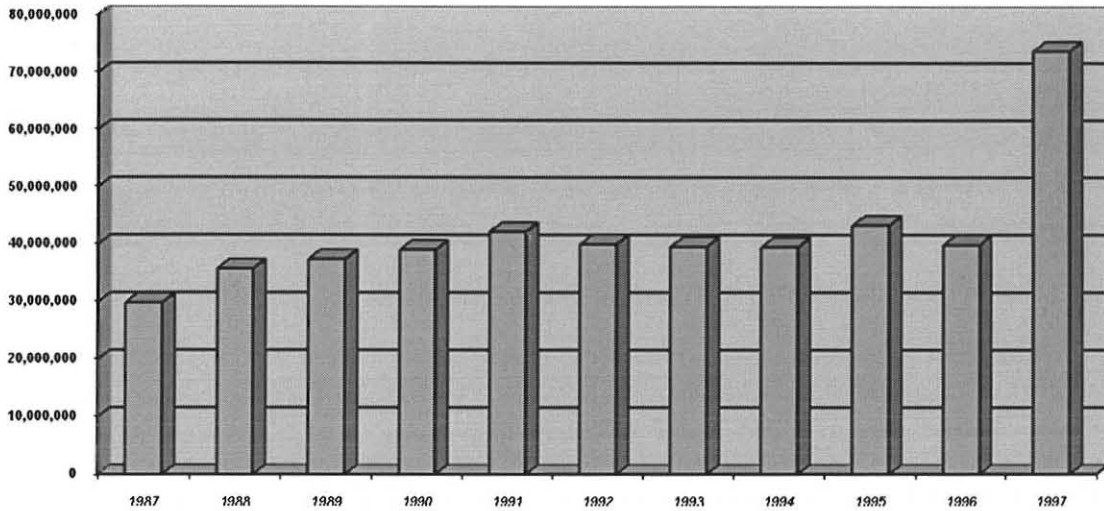
between these standards are, specially relevant in regions where natural mineral waters have a long cultural history. <http://www.worldwater.org/>

According to World Food Organization, it should be noted that neither the CAC nor WHO offer certification of any bottled or mineral water products. In this regard, WHO does not permit its name or emblem to commercial purposes. While many countries have national standards for bottled waters and some have national certification schemes, no universally accepted international certification scheme now exists (Gleich,2004).

2.11. Bottled Water Market Trend in Ethiopia

The history of bottled water market is limited to very few mineral bottler companies in Ethiopia. Since time immemorial the water tower of Africa has been feeding its life increase giving minerals to all creatures of the mysterious zone of Africa. Ethiopia the candle of mankind, is known as the source of life and water in the ancient records and the very present day of archeological findings. But in bottled waters providing to the market Ethiopia counted as the least place. Except few bottled mineral drinking water companies, water bottling in Ethiopia has a short market history but a fast growing market in the sector. For example, (CSA,1999) from 1987 to 1997 bottled water market was increased by an average 11.7 percent. (see Figure 2.4.) below.

Figure 2.4. Domestic production of Bottled mineral water/Liters from 1987-1997.



Source: *CSA, Survey of the Manufacturing and Electricity industries, Annual issues(1999).*

Figure 2.4., shows the combined production and consumption volume of Bottled mineral drinking water by all local producers in ten years period. Scrutiny of figure 2.4 reveals the production of mineral water marked by significant growth and the supply of bottled water reach the peak volume of 73.7 million liters in 1997 registration an average annual growth rate 11.7 percent which is by far greater than world bottled water market 10% per year in the last ten years period.

Since Ethiopia adopted a free market economic policy in 1992, and in line with this has promoted private investment, many water bottler companies were emerged. The following table (Table 2.7) implies the preview of the water bottling companies in Ethiopia.

Table 2.7. Over View of Current Water Bottling Companies in Ethiopia




S/N	Company Name	Brand	Legal Status	Manager Name	Paid Capital in thousand/birr
1	Debrabirhan Spring Water PLC	Aqua safe	PLC	Gebeyaw Takele	6000.00
2	Great Abyssina PLC	Abyssinia	PLC	Gobezayhu Zerihun	60,000.00
3	Electro Commercial Share Company	Origin	Share Company	Roberto Gabrsi	10,130.00
4	Moha Soft Drinks Share Co.	Cool	Share Company	Getachew Birbo	105,000.00
5	Nile Spring Water PLC	YES	PLC	Ali Abdulkader	2,000.00
6	Prima Spring Development plc	Aqua Prima	PLC	Henoke Mullatu	40,000.00
7	Apex Bottling Company	Highland	PLC	Mikael Birane	30,000.00
8	Pacific Industries PLC	OASIS	PLC	Meftuhe Abdulgefar	2,000.00
9	Burayu Spring Water PLC	Aqua Addis	PLC		13,000.00
10	Ambo Mineral Water	Ambo	Share Company	Johann Krige	300,607.00
11	Petram PLC	Babile	PLC	Dendine Disade	3,019.00






Source: Ministry of Trade and Industry (January, 2010).





There is also a significant increase of various bottled water brand in Ethiopia which targeted undifferentiated marketing approach and reveals all water bottlers in the country are assuming their customers as homogenous market(See figure 2.5). But as Bottled water market reality exhibits in Ethiopia, bottled water markets are rarely homogenous in benefits wanted, purchase rate, price and their response to products. Regarding this idea (Walker et al 2003,:151) noted that variation among markets in product preferences, size, and growth in demand, media habits, and competitive structures further affect the differences and response rates. Because of these reasoning market segmentation has become increasingly important in the development of marketing strategies for bottled water market in the country. Specially, as manager of Apex bottling company put it, it is quite common in Ethiopia to emulate another establishment (Essayas ,2007). So that the

literature of bottled water in Ethiopia revealed that all bottled water companies are the same of undifferentiated or mass marketing orientation. But in Ethiopia all targeted market are not drinking bottled water for the same benefit and usages.

Figure 2.5. Current Bottled Water Brands in Ethiopia

S/ N	Target Market	Brand Name	Illustration	Product Type	Current Price/bottle
1	Undifferentiated	Ambo		Mineral water	5-8 birr
2	Undifferentiated	Real spring		Purified mineral water	5-8 birr
3	Undifferentiated	Abyssinia		Natural Spring water	5-8 Birr

4	Undifferentiated	Origin		Purified Mineral Water	5-8 Birr
5	Undifferentiated	Royal Tonic		Tonic Water	5-8 birr
6	Undifferentiated	Aqua Bilen		Natural Spring Water	5-8 birr
7	Undifferentiated	YES		Natural Mineral Water	5-8 birr
8	Undifferentiated	Aqua addis		Natural Spring Water	5-8 birr

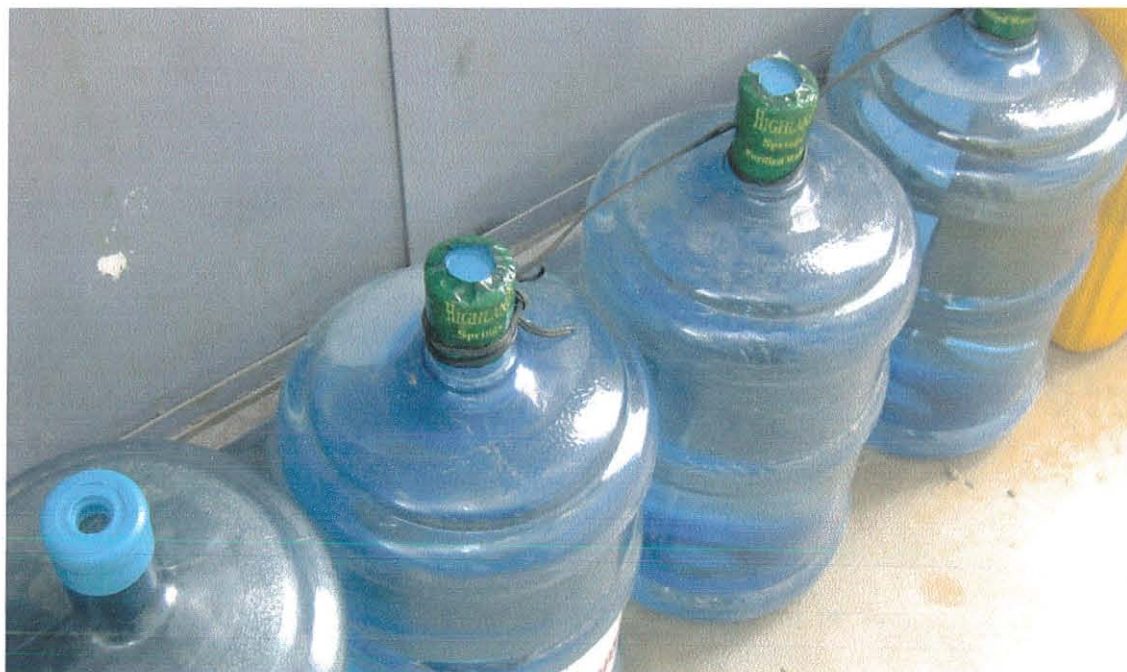
9	Undifferentiated	Aqua Safe		Pure Natural Spring Water	5-8 birr
10	Undifferentiated	Prima Aqua		Purified Natural Water	5-8 birr
11	Undifferentiated	Highland		Natural Mineral Water	5-8 birr
12	Undifferentiated	Babile		Mineral water	5-8 birr

Source: Developed for this research

As it can be seen from figure 2.5, in current bottled water market of Ethiopia, there are about 12 bottled water brands which are the most player in the industry. All, except Ambo, Babile and Cool, were established after 1990. Before 1990 bottled water consumers in Ethiopia were consuming Ambo mineral drinking water and these were no alternatives. As (Essayas: 2009) indicated at that time not every one needs to drink Ambo; some need flat water and the market was needed to come up with a different product. The success of High land natural spring water was easily noticed by other investors and now

different other brands (see Table 2.7), are available in the market. According to (Kaleyesus 2009), Bottled water has advantage over tap water as it encourages saving and is clean or at least easy to keep it clean and of course it is easy to handle and manage. Even in areas where tap water is safe to drink, demand for bottled water is increasing- producing unnecessary garbage and consuming vast quantities of energy. Although in the industrialized world bottled water is often no healthier than tap water it can cost up to 10,000 times more. (Aslam:2006). The demand for bottled water in Ethiopia is also likely to rise significantly and export to neighboring countries even to Middle East and beyond is an increasingly growing possibility.

Figure 2.6. New bottled water package introduced to the market by Highland spring water company



Source: Developed for this research

Area of outlet: Garjii imperial hotel area in one retail shop.

Content: 25 liters

Price: Including package 205 birr.

2.12. Bottled Water Quality Standards and Control in Ethiopia

The bottled water industry in Ethiopia is set to be subjected to strict standard established by the Quality and Standard Authority of Ethiopia. Aimed at reducing related health problems, the standard will be sent to The Ministry of Trade and Industry soon to be adopted as regulation. Studies have shown that chemicals called phthalates, which are known to affect testosterone and other hormones, can seep into bottled water. It was found that water that had been stored for 10 weeks in plastic or glass bottles contained phthalates, suggesting that the chemicals could be coming from the plastic cap or liner(www.nazret.com)

(Mulu, 2009) also pointed out that in Ethiopia 7.4 percent of bottled drinking water sold commercially could be considered unfit for human consumption and consumers of bottled water in Ethiopia should be aware of this.

Standardizing in the field of water quality including definition of terms, sampling of waters, measurement and reporting of water characteristics as well as limits of acceptability for water quality is being controlled by Quality and Standard Authority/technical committee, which is known as QSAE/TC 78, organized from:

1. Ethiopian health and Nutrition Research Institute- Chairman
2. Ministry of health –Member
3. Environmental protection Authority -Member
4. Addis Ababa Water Sewerage Authority-Member
5. Ethiopian consumers protection association-Member
6. Ministry of Water Resource- Member
7. Chemical Society of Ethiopia-Member
8. Apex Bottling Company-Member
9. Burayu Spring Water PLC-Member
10. Addis Ababa University Department of Biology-Member
11. Quality and Standard Authority-Member and Secretary (www.qsae.org)

Numerous environmental and social activities have recently begun to put up a fight against the expanding bottled water industry, which they claim threatens local wells, streams, wetlands, and a ways of life (IBWA,2000). Based on such assumption, while much tap water is indeed risky in Ethiopia, we can conclude that there is no assurance that bottled water is any safer than tap water. So that controlling bottled water quality though organizing technical team from different stakeholders alone may not be guarantee for bottled water consumers. The IBWA also strengths the necessity of water bottlers with the statement, that labeling requirements ensure that the source and purity of the bottled water are identified and that if the label is false, or misleading , the supplier is subject to civil or criminal sanctions.

Chapter Three

3. Research Methodology

3.1. The Research Method

A descriptive survey method has been used for the study of Bottled Drinking Water Marketing and Consumer Buying Behavior of the bottled water in Ethiopia, as this method was assumed to be convenient and appropriate to enable the researcher investigate the research topic. As a self administered survey it is one of which the respondents complete the survey on his or her own, and this method taken as useful method for this research. The target population of this study, the major stage of this research, was all bottled water consumers who have consumed bottled water at least in the last three months in Ethiopia. Descriptive survey analysis was performed for transformation of raw data using SPSS 17.0 version program which is the latest and contemporary version of similar programs and which also enables accuracy of data interpretation.

3.2. Sample and Sampling Techniques

Though the bottled water brands are distributed and sold in every part of the country, this study focuses only in some selected cities consumers like Addis Ababa, Adama and Ambo, where two third of the bottled water market is assumed to be covered in Ethiopia. These three sales areas are assumed to represent the consumers of bottled drinking water in low land and high land part of the country. Even in Addis Ababa, Ambo and Adama towns the respondents were selected from different areas of the towns. To select the respondents, a method of non-probability sampling known as convenience sampling mixed with judgmental sampling was used. These methods are employed because these sampling methods provide very little or no control over who is included in the sample and they are the types of sampling commonly used in commercial marketing research studies. To this end, 450 individual consumers were selected employing the above method based on the theoretical assumption that most market studies are having typical range of sample size 300-500 participants (Malhotra & Birks 2000 cited in Zhou, 2006). Out of the total sample

population 250 respondents were from Addis Ababa, 100 respondents were from Ambo and the rest 100 were from Adama towns. These sampled respondent categories were formed by the researcher for the purpose of convenience and easy administration of the study.

To have reasonably reliable and representative data, the questionnaire were developed for end users (individual consumers) of bottled water of any kind , and questionnaires were distributed to consumers from different walks of life. Hence, questionnaire were distributed to these conveniently and judgmentally chosen respondents in different part of Addis Ababa, Adama and Ambo towns. Specially to minimize the number of unreturned questionnaire, the researcher distributed them in places like, Hotels, Restaurants; Café's and Work offices where respondents stay for relatively long time period. This method was used because by this method respondents were allowed to fill the questionnaire by taking time, and the collection of questionnaire was followed seriously by the researcher and almost all distributed questionnaire have been collected back successfully.

3.3. Data Gathering Instruments and Procedures

3.3.1. Data Gathering Instruments

The data were collected from 445 consumers (see Table 4.1 below in returns and usable return of data) who were bought bottled water from different retail outlets such as restaurant and café, bars, groceries and other retail shops at least in the last three months in Ethiopia mainly using closed-ended questions which were followed by a few open-ended items to provide respondents opportunity to write additional comments or feelings about their perception and attitude towards different bottled water brands. To collect the data questionnaire-based scales were preferred due to the most reliable instrument of data collection for quantitative research and hypothesis tests are questionnaire (Schiff man cited in Dajane, 2008). In addition, statistical, secondary data and current bottled water brands in Ethiopian market that would be obtained from different sources have also been used as additional sources of the data for the study. The questionnaire originally prepared in

English were translated into Amharic. Hence, the respondents easily understand what the questionnaire intend to measure.

3.3.2. Data gathering procedures

In gathering data for survey study, the following procedures have been taken into account and employed to deal with the study of bottled drinking water marketing and consumer buying behavior of bottled water in Ethiopia. First, the data required have been specified, . Second, the survey method has been identified. Third, the format of responses has been formatted. Fourth, assessing reliability and validity of questionnaire have been performed and one set of questionnaire was prepared for individual consumers of bottled water for those who consumed bottled water with in last three months in Ethiopia. Fifth, distributing and administration of questionnaire have been performed.

3.4. Selecting the Format of Responses

The three types of measurement used to measure the objective and subjective characteristics of respondents in this research were nominal, ordinal and interval. A **nominal scale** assigns a number to an object and permits the counting of the number of objects in a category with out mentioning about order and distance and has no origin (Malhotra 1996 cited in Zhoa, 2006). Accordingly, it was used to gender, employment category, places of bottled water distribution and etc. To measure the relationship between nominally scaled variables chi square of non parametric test was used.

Ordinal scales also called ranking scales, allow the calculation of the percentile and correlations have been used. Based on this assumption it is used to measure respondent characteristics such as educational level, income level. To measure cordially distributed variables the Spearman rho is used.

Intervals scales are probably the most frequently used in marketing research(Bagozzi 1996 cited in Zhoa, 2006). In this scale, numbers are assigned to indicate differences in the

degree of a characteristic or statement along a continuum. The differences from number to number across the range of the scale are equal. Accordingly, in this research age, bottled water size and etc. To measure the relationship between interval scaled variables Pearson correlation coefficient was used. Details of identification of variables into nominal, ordinal and interval measurements can be seen from appendices 3.1.

3.5. Pilot Test

Before the distribution of the questionnaire to the sample population of the study, a pilot test has been conducted in Addis Ababa Bole Sub city around Garji area on 35 individual consumers who consumed bottled water in the last three months in Ethiopia which was not included in the final study. This might help the researcher to get feedback as to whether it might be constructed properly, especially in detecting some redundant, ambiguous, and unclear items of the questionnaire. Finally, after improving the questionnaires based on the feedback from pilot test, the instruments have been administered, collected, tabulated and analyzed.

3.6. Data Presentation and Analysis Techniques:

The data which have been collected through the methodologies described above have been presented and analyzed in such a way that it could be easily understood and inferred. Therefore, to make the data possess such qualities, different tools such as descriptive, statistical tools like tables, graphs, frequency distributions, percentages, correlations and others have been employed since the finding of the study has been supposed to provide some insights towards the understanding and addressing of bottled drinking water marketing issues and consumer buying behavior in order to boost or maintain the bottled water market growth in the industry sector of the country. In addition, the data has been presented in a manner that leads itself to easy comprehension and understandability by those who want to utilize it.

3.7. Specification of Measurements of Variables

Correlation coefficient is an index number, constrained to fall between the range of -1.0 and 1.0, that communicate the strength and the direction of association between two variables. (Aaker et al 2000 cited in Zhao, 2006). Two variables can be positively correlated, negatively correlated, or uncorrelated. Several Authors have afforded guidelines for the interpretation of a correlation coefficient. (Cohen, 1988) that has afforded the guidelines for the correlation coefficient. The following table (table 3.1) depict the three conditions in correlation coefficient and the range of positive correlation, negative correlation and none correlation

Table 3.1. Sizes of Positive and Negative Correlation

Correlation	Negative	Positive
None	-0.09 – 0.00	0.0-0.09
small	-0.3 to -0.1	0.1 to 0.3
Medium	-0.5 to -0.3	0.3 to 0.5
Large	- 1.0 to -0.5	0.5 to 1.0

Source: en.wikipedia.org/.../Pearson_product-moment_correlation_coefficient –

In statistics, the Pearson product moment correlation coefficient (some times referred to as the PMCC, and typically denoted by r) is a measure of the correlation (linear dependence) between two variables and, giving a value between two variables. Statistical inference based on Pearson's correlation coefficient often focuses on one of the following two aims. One aim is to test the null hypothesis that the true correlation coefficient is ρ , based on the value of the sample correlation coefficient (r). The other aim is to construct a confidence interval around (r) that has given probability of containing ρ .

The strength of association often refers as the 'co variation', which is defined as Aaker et al 2004 cited in Zhao,2006:78);

The amount of change in one variable systematically associated with change in another Variable. The greater the absolute size of the correlation coefficient, the greater is the correlation between the two variables.

In other words, if the correlation coefficient (r) value is close to -1.0 or 1.0, it means there is a strong negative relationship or a strong positive relationship between the two variables. Table 3.6 illustrates a list of coefficient size suggested by Aaker et al 2004 cited in Zhao, 2006:79)

Table:3.2. Rules of thumb about correlation coefficient size.

Correlation range	Strength of association
+-.81 to +-1.00	Strong
+-.61 to +-.80	Moderate
+-.41 to +-.60	Weak
+-.21 to +-.40	Very Weak
+-.00 to +-.20	None

Source : Zhao (2006), Dissertation paper, Portsmouth Business School

Chapter- Four

4. Presentations and Analysis of the Data

4. 1. Data Presentation

This section presents the analysis and presentation of data to answer the five basic questions of the study. The methods used for data collection were described in chapter one in methodology part. As mentioned earlier in methods part, to collect survey data that were used in this research, the respondents were required to answer about 28 questions in that very few questions were open-ended.

In the questionnaire preparation stage, as much as possible the principles of good questionnaire design were applied to content part in content wording and structuring of each question. Care has also been given to how the questionnaires would be distributed and collected. Accordingly, from the total distributed questionnaire, except Addis Ababa in two different areas, 99 percent were returned and being used in descriptive survey research of this study. The following table (Table-4.1.) summarizes the returned and usable returns of questionnaire.

Table 4.1. Number and Percentage of the Questionnaire Returned

Area of Distribution	Distributed			Returned and usable returns				
	Addis Ababa	Adama	Ambo	Addis Ababa	Adama	Ambo	Total	percentage
Tele Workers-Garjii area consumers	20			20			20	100%
Bole Wereda 17-22 area consumers	21			21			21	100%
Bolee senior secondary school consumers	43			40			40	93%
Oromia Secreitariat office consumers	50			50			50	100%
Educational material production/MPDE consumers	50			50			50	100%
Equatorial Business group/Imperial area consumers	33			33			33	100%
Burayu Municipality Gullalle area consumers	33			31			31	94%
Ambo agricultural Research institute consumers			50			50	50	100%
Ambo Ababach and Leta Hotels consumers			50			50	50	100%
Ayu international Hotel-Adama consumers		43			43		43	100%
Awash International Hotel-Adama consumers		15			15		15	100%
Oda Cafee and Restaurant-Adama Consumers		42			42		42	100%
Total	250	100	100	245	100	100	445	99%

Source: Developed for this research

4.1.1. Identified Bottled Water Consumers

As a responsibility of the researcher, the screening question that is used to qualify respondents was employed. The questions were distributed to the consumers of bottled water who were living in cities like Addis Ababa, Ambo, and Adama after verifying that they were purchased and consumed any kind and size of bottled water at least in the last three months in Ethiopia. However, it was necessary to, further, identify them through a screening question (question No. 8) in the questionnaire. Taking this into account, the respondents were asked to give responses as to whether or not they have consumed bottled water product in Ethiopia in the last three months. The

responses of respondents to this question were summarized in the next table (table 3.2). The respondents were asked to confirm the screaming question as saying “yes” or “No”. According to the responses of the respondents summarized in the table, 100 percent of the participants were bottled water consumers and qualified to participate in the study.

4.1.2. Inter-Relationship between Questionnaire and Research Objectives

In order to enable hypothesis testing the questionnaire used for this research were divided into four interrelated parts. Part I (Q1-Q5) was formulated to obtain information about respondents regarding their general background. Part II (Q6-Q11) was designed to know the ordinary water consumption, awareness of bottled water brand and other related issues of participants. Part III (Q14) was also formulated to measure the influence of marketing mix elements that stimulate bottled water buying behavior of consumers.

In addition, part IV and V (Q15-Q27) were set to measure attitudes and perception of consumers towards bottled water that were produced in Ethiopia. In summary, the following table (Table-4.2) illustrates the inter-relationship between research objectives, methods, and survey questions.

Table 4.2. Inter-relationship between research objectives, methods and survey questionnaire

	Independent Variable	Measurement of relationship	Dependent variable	Question No.
RO1	4 Ps - Product - price - Promotion - Placing	Strength of relationship Influences	Consumer buying behavior or bottled water buying frequency (Q9,Q12,Q13) Bottled water size	Q14.a, b,c,d.
RO2	Psychographic factors: - Perception - Attitude	Direction of correlation		Q15,Q16,Q18,Q19, Q22,Q25, Q27 Q17,Q20,Q21,Q23, Q24,Q26.
RO3	Demographic factors: - Gender - Income - Education - Age	Relationship between variables		Q1, Q2, Q3, Q5
RO4	Bottled water price	- Relationship between variables		Q14.c., Q9

Source: Developed for this research

4.1. 3. Respondents' Personal Profile

The following table (Table-4.3) Shows the respondents' responses about their personal profile.

Table 4.3.. Respondents' personal profile

	Frequency	Percent	Valid percent	Cumulative percent
Gender:				
Male	247	55.5	55.5	55.5
Female	198	44.5	44.5	100.0
Total	445	100.0	100.0	
Age:				
Under 18 years	51	11.5	11.5	11.5
18 to 30 years	224	50.3	50.3	61.8
Above 30 years	170	38.2	38.2	100.0
Total	445	100.00	100.0	
Educational level:				
10/12 complete	160	36.0	36.0	36.0
Diploma	165	37.1	37.1	73.1
First degree	98	22.0	22.0	95.1
First degree and above	22	4.9	4.9	100.0
Total	445	100.0	100.00	
Occupational Status:				
Employed private company	91	20.4	20.4	20.4
Employee of government	222	49.9	49.9	70.3
Student	70	15.7	15.7	86.1
Private Trader	36	8.1	8.1	94.2
Job hunter	26	5.8	5.8	100.0
Total	445	100.0	100.0	
Monthly income:				
Dependent on other party	89	20.0	20.0	20.0
Less than one thousand	135	30.3	30.3	50.3
1000 to 2500	155	34.8	34.8	85.2
Above 2500	66	14.8	14.8	100.0
Total	445	100.0	100.0	
Daily ordinary water consumption:				
1-2 liters	301	67.6	67.6	67.6
3-4 liters	53	11.9	11.9	79.6
4-6 liters	20	4.5	4.5	84.0
Above 6 liters	69	15.5	15.5	99.6
I don't know	2	.4	.4	100.0
Total	445	100.00	100.0	
Most drinking water type:				
Natural water	18	4.0	4.0	4.0
Spring water	19	4.3	4.3	8.3
Tap water	408	91.7	91.7	100.0
Total	445	100.0	100.0	

Source: Analysis of Survey data.

As depicted in table 4.3, the sample population, respondents educational level, Age of respondents, occupational status, monthly income of respondents, daily water consumption and most frequently purchased bottled water size were described.

Accordingly, out of the total population (55.5 percent) were male and (44.5 percent) were female. On the other hand, when we look at the respondents age under 18 years old (11.5 percent), 18-30 years old (50.3 percent), and above 30 years old (38.2) were respondents who were participated in the survey research and who were consumed bottled water in last three months in Ethiopia.

When we see the participants educational level distribution, the majority of bottled water consumers were Diploma (37.1 percent) and others 36.0 percent, 22.0 percent and 4.9 percent were 10/12 complete, first degree holder and first degree and above consecutively. With regard to respondents' occupational status the majority of participants were government employee which was 49.7 percent. Additionally, 20.4 percent, 15.7 percent, 8.1 percent , and 5.8 percent were employees of private company, students, private trader and job hunters one after the other.

Regarding monthly income of participants, 34.8 percent were respondents who earned between 1000 to 2500 birr per month. And (20.0 percent) were the respondents who had no monthly income but still consumed bottled water in last three months. Respondents whose monthly income is less than one thousand (30.3 percent) and more than 2500 per month (14.8 percent) were respondents who consumed bottled water in Ethiopia within last three months.

As also shown in the table above, regarding daily ordinary water consumption, 301 (67.6 percent) of respondents were those who consumed 1-2 liters ordinary water per a day. This shows that most participants were who consumed water per a day as per what dieticians recommended; one or two liters water per a day is the recommended daily amount of water to stay healthy, depending on age and life style. Out of the total respondents 53 (11.9 percent), 20 (4.5 percent), 69 (15.5 percent) were also those who consumed water per a day 2-4 liters, 4-6 liters, and above 6 liters per a day consecutively.

And also the minor group 2 respondents (.4 percent) were un able to mention their water consumption amount per day and they answered this question as ‘I do not know.’

4.2. Data Analysis and Findings

The methodology used for data collection for this research was described in chapter three above. This sub-topic reports how the data was analyzed and the results of tests of null hypothesis according to the research objectives.

4.2.1. Results for Tests of Null Hypothesis

Hypothesis testing is a process of decision making about the results of a study. In the null hypothesis testing the researcher has to decide whether the difference between two means represents a real, significant in the treatments or simply sampling error. Based on these assumptions, in the following the following pages null hypotheses which are derived from the research objectives are tested.

Research objective 1.

How the marketing mix elements are affecting the consumer bottled water buying behavior?

To investigate how and to what extent marketing mix elements are related to consumer buying behavior, Likert scale value questions were what the participants asked to rate the evaluation. The strengths of influences from marketing mix elements on their bottled water buying behavior were ranked from 1 to 4.

1. Highly uninfluenced
2. Slightly uninfluenced
3. Slightly influenced
4. Highly influenced

Based on respondents' responses, the marketing mix elements such as product brand, product availability, price and promotion have influence on consumer buying behavior and the results were computed as follows in testing the null hypothesis of the study.

Ho1.1. Product price has inverse relationship with consumer buying behavior.

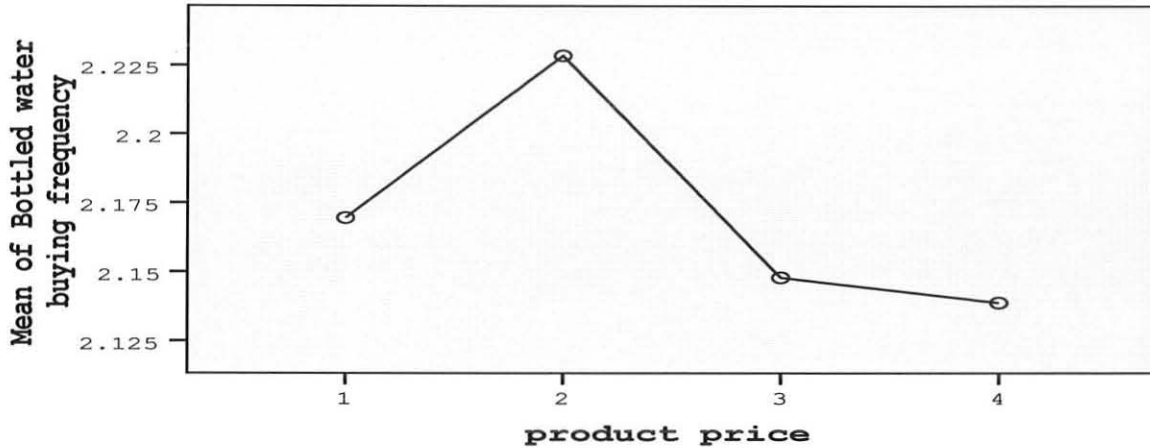
Table 4.4. Correlation between price of bottled water and consumer buying behavior

		Bottled water buying behavior	Influence of product price
Bottled water buying frequency	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Influence of product price	Pearson Correlation	-.016	1
	Sig. (2-tailed)	.744	
	N	445	445

Source: Analysis of survey data

The table-4.4 and figure 4-1 demonstrated the correlation between price and bottled water buying behavior with a correlation coefficient equal to -0.016, and significant (2- tailed) is equal to 0.744 which is greater than 0.05. Hence, the null hypothesis is safely supported. This indicates that the stated two variables, price and consumer bottled water buying behavior are negatively correlated. This means if there is some increase in bottled water price; the consumer bottled water buying rate will decrease by equivalent amount. This might happen due to the economic background of consumers.

Figure 4.1. Graphical relationship between product price and consumer buying behavior



Source: Analysis of survey data

Ho1.2. There is a significant influence of product availability factor on Consumer bottled water buying behavior.

Mean= 4.7
 Std.Dev. = 0.999
 N = 445

To investigate the interaction between factors as well as the effect of individual factor product availability on the bottled water buying frequency, the general linear model, regression analysis has been performed.

To test the null hypothesis (H01.2), the following ANOVA table (Table 4.5) shows the linear regression of the two stated variables. Accordingly, to evaluate the influence of the product placing factor on consumer buying behavior, we have to look at the F statistic and its associated significance level on Table 4.5. The F statistic of the two variables is (F=5.156, and p = 0.024) which p is less than 0.05 (0.024<0.05), hence, the null hypothesis was safely rejected. On other hand, the critical value of F at 95% probability level is lower (5.156) than the observed value of F (5.747), which means the null hypothesis is false and does not suggest that the influence of product availability factor on consumer bottled water buying behavior. In contrary to the expectation the result of tasting hypothesis (Ho1.2) is statistically not significant at 0.05 level of significance. Therefore, we reject the null

hypothesis and conclude that there is no a significant influence of product availability factor on consumer purchase rate of bottled water. The result of significance interaction also reveals that product availability has no significant influence on bottled water purchase rate. This means the two variables are significantly different.

On the other hand, the t-test table (Table 4.6) shows the influence of product placing factor on consumer bottled water buying behavior. Accordingly, since the significance (2-tailed) of the product influence is less than what would be expected ($0.000 < 0.05$), then the null hypothesis is rejected and we can conclude that there is no significant influence of product availability on consumer bottled water buying behavior.

Table 4.5.. ANOVA Table that describe influence of placing on consumer bottled water purchase rate.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.747	1	5.747	5.156	.024 ^a
	Residual	493.862	443	1.115		
	Total	499.609	444			

- a. Predictors: (Constant), Influence of placing
- b. Dependent Variable: Bottled water buying frequency

Source: Analysis of survey data

Table 4.6. T-test table for influence of product placing factor on consumer buying behavior

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Bottled water buying behavior	42.812	444	.000	2.153	2.05	2.25
Influence of placing	39.795	444	.000	1.973	1.88	2.07

Source : Analysis of survey data

Ho.1.3. There is a negative relationship between product promotion and consumer buying behavior of bottled water in Ethiopia.

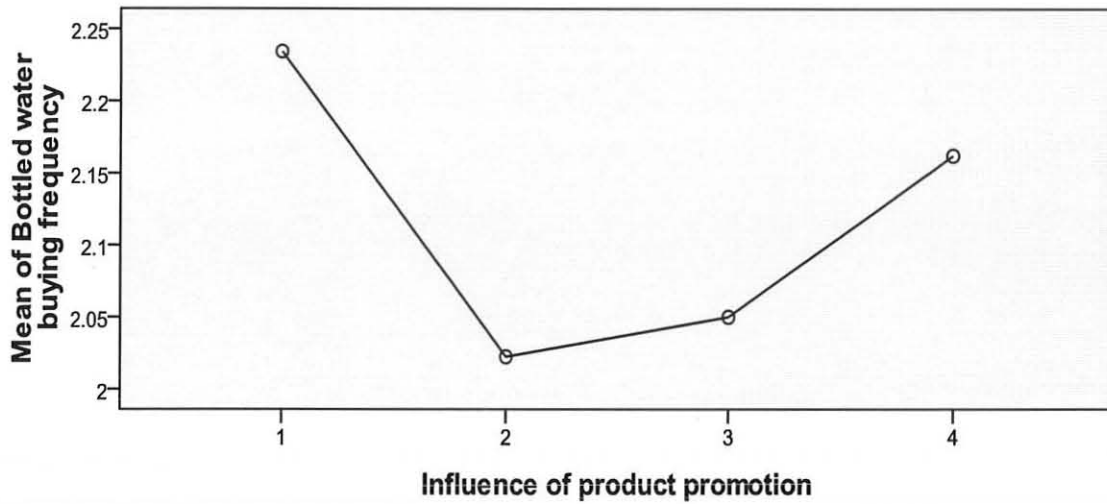
Table 4.7. shows the correlation coefficient equal to -0.057 and significant (2-tailed) is equal to 0.231. Since the test of significance is greater than alpha ($0.231 > 0.05$), the null hypothesis is safely accepted. The results of correlation coefficient between two sated variables can be said that the two variables are negatively correlated or inversely related. But the correlation coefficient is very small. So that this research result shows that consumers' bottled water purchase rate in Ethiopia increases not because of company's promotion of their product but it might be in favor of high health care concern and/or they are necessarily obtaining important information about the bottled water product they purchased from other informal sources; such as family or pear groups. According to the result of this research, in Ethiopian bottled water user's context, when promotion about bottled water product increases, users purchase rate decreases. This may be due to more than 65 percent of consumers believe in that the bottled water brands which were best selling in current market are not the bottled water brands that are aggressively promoted by concerned producers.

Table 4.7. Correlation between promotion and consumer buying behavior

		Bottled water buying behavior	Influence of product promotion
Bottled water buying behavior	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Influence of product promotion	Pearson Correlation	-.057	1
	Sig. (2-tailed)	.231	
	N	445	445

Source: Analysis of survey data

Figure 3.2. Graphical relationship between promotion and consumer bottled water buying behavior



Source: Analysis of survey data

Ho.1.4. Bottled water brand has strong relationship with consumer bottled water buying behavior .

4.8. Correlations between bottled water brand and consumer bottled water buying behavior

		Bottled water buying behavior	Influence of product type/Brand	
Spearman's rho	Bottled water buying behavior	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.	
		N	445	
	Influence of product type/Brand	Correlation Coefficient	.118*	1.000
		Sig. (2-tailed)	.013	.
		N	445	445

*. Correlation is significant at the 0.05 level (2-tailed).

Source : Analysis of survey data

Table 4.8. exhibits the correlation coefficient r equal to 0.118 and significant (2-tailed) is equal to 0.013, which is less than 0.05, which implies that the null hypothesis is safely rejected . The correlation coefficient r of the two stated variables lies between ± 0.00 and ± 0.20 and this relationship is taken as none or uncorrelated variables. Hence, Bottled water consumers buy bottled water brands that are available on the shelf at retail stores regardless of their brands. In other words, the result suggests that consumers do not bother about types of brands, but being bottled water may be more than enough for them.

Research Objective 2.

How are psychographic factors affect bottled water buying behavior?

Table 4.9. depicts the analysis of perception of respondents concerning bottled water brands in Ethiopia. Respondents were required to answer the perception related questions based on the Likert scale type of questions. The questions asked were Likert scale type of questions which could be used to measure customers' perception and attitudes towards bottled water products. According to the result exhibited on the Table 4.8, most respondents perceive bottled water taste as better than tap water with an over all score of 3.11 ranging from 2.51 to 3.31. In particular highlighted scores indicate the most consumers agree that all bottled water in Ethiopia are the same except their packages. This means no consumer could differentiate bottled waters by their other subsistence but their packages.

In addition, not few in number participants perceive bottled water to be with high quality than tap water. But this result does not confirm with that (WHO,2000). The only difference between some bottled water and tap water may be no safer, or healthier than tap water. The notion of bottled water better than tap water, however, can be seen as a result of misleading marketing effort from water bottler companies.

At the end, this survey research also found out that most consumers of bottled water were not happy with the tap water in their town. These might be the basic initiative for seeking bottled water purchasing more than other any traits.

Regarding the shape and symmetry of the distribution, perception related mean scores distribution with a significant positive skewness has a long right tail and negative skewness shows a long left tail.

Similarly, when we analyze the measure of the extent to which observation cluster around central point, we obtain negative kurtosis which indicates the observations cluster is less and has shorter left tail.

Table 4.9. Descriptive analysis results of perception

	N	Mean	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
.Bottled water taste is better than tap water	445	3.31	-.378	.116	-1.037	.231
.Bottled water quality is greater than tap water	445	2.92	.144	.116	-.947	.231
.Bottled water is out of home drink	445	3.29	-.222	.116	-1.333	.231
.Aggressively promoted bottled water is the most sale in the town	445	2.80	.227	.116	-1.106	.231
.Bottled waters in Ethiopia are the same except packages	445	3.25	-.242	.116	-1.213	.231
I am happy with tap water in my town	445	2.51	.592	.116	-.570	.231
Valid N (list wise)	445					

Source: Analysis of survey data

On the other hand, Table 4.10. below exhibits the analysis results of general attitudes mean scoring, which reviews a general positive attitude towards bottled water of consumers in Ethiopia with an over all mean of 2.61 ranging from 2.29 to 3.06. The results show that some consumers agree that currently bottled drinking water brands are available any where even if it is hardly possible to differentiate one from the other. When it is compared with tap water, according to surveyed bottled water consumers' responses, most consumers hold positive attitude towards bottled water that bottled waters are healthier and safe option to

drink. Moreover, many bottled water consumers drink bottled water because it is the sign of modern life style and high health awareness decision. In addition, not minor respondents have good attitude towards current bottled water brands for the reason that they are socially recognized and accepted drinking water. In addition, as indicated in table 4.9, -0.908 skewness shows highest long left tail and high negative value skewness. The 0.407 skewness also indicates that the longest positive right tail in the distribution.

On the other hand, when we see kurtosis of the distribution in attitude related questions (Table 4.10), a distribution with a significant positive value of kurtosis shows a long right tail and negative kurtosis shows a long left tail. Accordingly, -1.103 kurtosis shows the observation clustered less around the central point and it is longest left tail than any others. In addition, the measure of the extent to which observation clustered around a central point exhibits all negative value that indicates the observation clustered less and have shorter tails than those in the normal distribution.

Table 4.10. Descriptive Statistics analysis result of Attitude

	N	Mean	Skew ness		Kurtosis	
	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
No difference between bottled and tap water*	445	2.29	.908	.116	-.141	.231
Drinking bottled water is a sign of rise*	445	2.29	.733	.116	-.601	.231
Bottled water drinkers have high health awareness	445	2.76	.182	.116	-1.163	.231
urrent packages of bottled water are convenient	445	2.64	.407	.116	-.955	.231
Drinking bottled water is socially acceptable	445	3.06	-.128	.116	-1.024	.231
Bottled water taste is different one from the other	445	3.84	-.845	.116	-.512	.231
Valid N (list wise)	445					

*Not included for overall attitudinal scoring

Source: Analysis of survey data.

HO2.1. Perception of bottled water taste is significantly different from tap water.

P>0.05 is significant

The following table (Table-4.11) shows the statistical test of the correlation between perception and consumer buying behavior. According to the correlation table results exhibited on the correlation coefficient table, the sample correlation coefficient of two stated variables is equal to 0.047, and the significance level (two tailed) is 0.318, which is greater than 0.05 ($.318 > 0.05$), hence, the null hypothesis was accepted. This means perception of consumers about bottled water is really different from that of tap water. Positive correlation of two stated variables shows, when the perception of bottled water positively increases, the consumers' bottled water purchase rate will also increase by the same amount. This exists due to the majority or 66.5 percent of respondents have been agreed that the better taste of bottled water than tap water. The rest 34.5 percent are agreed in contrast that taste of bottled water was not better than tap water. A full result of perception related question correlation coefficients can be seen in Appendix 3.1.

Table 4.11. Correlations between bottled water perception and consumer buying behavior

		Bottled water buying behavior	perception
Bottled water buying frequency	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Perception	Pearson Correlation	.047	1
	Sig. (2-tailed)	.318	
	N	445	445

Source: Analysis of survey data

HO2.2. Attitude towards bottled water is positively related to bottled water buying behavior.

- $r > 0$,
- $p > 0.05$ is significant

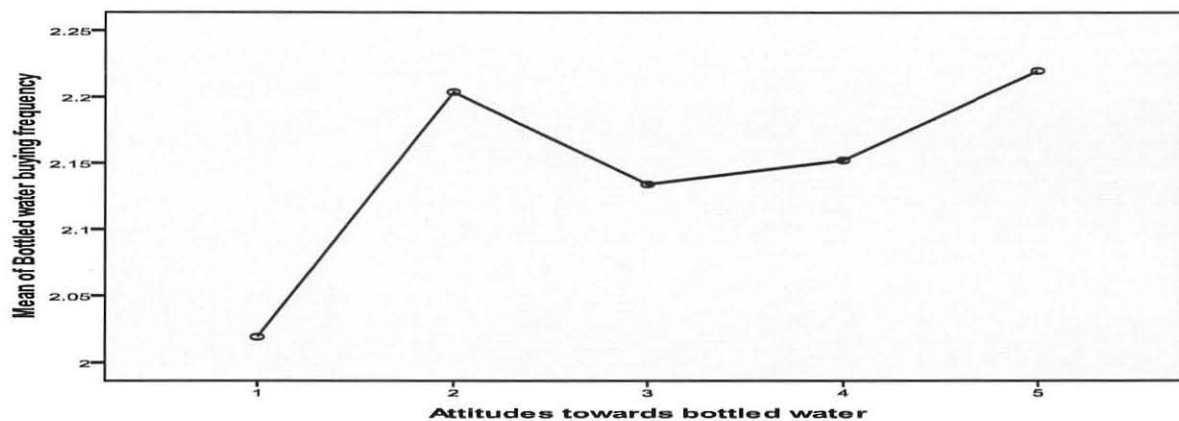
Table 4.12 shows the correlation between attitude toward bottled water and consumers' buying behavior. Attitude towards the bottled water and bottled water buying behavior have the correlation coefficient equal to .026, which indicates that the two variables are positively correlated. Significance (2-tailed) is equal to 0.580, which is greater than alpha (0.05), hence, the null hypothesis is safely accepted. This means as consumer hold positive attitude towards bottled water, there will be an increase in bottled water purchase rate. But the correlation strength was considered as less than very weak and greater than none. It was also indicated the positive correlation between attitude and bottled water buying behavior, to mean the higher rate consumer score in attitude related questions, the higher bottled water usage rate. According to (Figure 3.4), heavy users and medium users are those who were drinking bottled water more than once a day and once a week or more once up to once a day. They were these consumers who have more positive attitude towards bottled water and they believe in that drinking bottled water is socially acceptable act. In contrast to this assumption, the minor and the light users are those who have negative attitude towards bottled water and less purchase rate. Others also believe that most bottled water users' were those who had a good awareness about their health affairs. A full attitude related variables correlation result can be seen from Appendix 4.2.

Table 4.12. Correlations between Attitudes towards bottled water and bottled water buying behavior

		Bottled water buying behavior	Attitude towards bottled water
Bottled water buying behavior	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Attitudes towards of bottled water	Pearson Correlation	.026	1
	Sig. (2-tailed)	.580	
	N	445	445

Source: Analysis of survey data.

Figure: 4.3. Mean plot of attitudes towards bottled water and consumer buying behavior



Source: Analysis of survey data

Research objective 3.

How do demographic factors affect bottled water buying behavior?

HO3.1. There is no relationship between gender and bottled water buying behavior.

- $r = 0$
- $P > 0.05$
- It is significant

Table 4.13. The correlation between gender and bottled water buying behavior.

		Bottled water buying behavior	Gender of respondents
Bottled water buying behavior	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Gender of respondent	Pearson Correlation	.003	1
	Sig. (2-tailed)	.947	
	N	445	445

Source: Analysis of survey data

Table 4.13 shows the relationship between gender and bottled water buying behavior. The results of correlation coefficient (r) indicates 0.003 and significance (2-tailed) 0.947, which is greater than alpha 0.05, hence, the null hypothesis was accepted. According to rules of thumb about correlation coefficient size, 0.003 is equal to zero or none correlation coefficient. It means two stated variables are uncorrelated or none correlation coefficient. This result supports us to conclude that the two variables are really do differ one from the other. No or zero correlation exists under situations in which there is no systematic relationship between the level of one variable and the level of another variable. Thus, the correlation between gender and consumer bottled buying behavior is none, in absolute value, to accept the notion that true correlation between two variable is zero.

HO3.2. There is positive relationship between age and bottled water buying behavior

- **$r > 0$.**
- **$P > 0.05$ is significant**

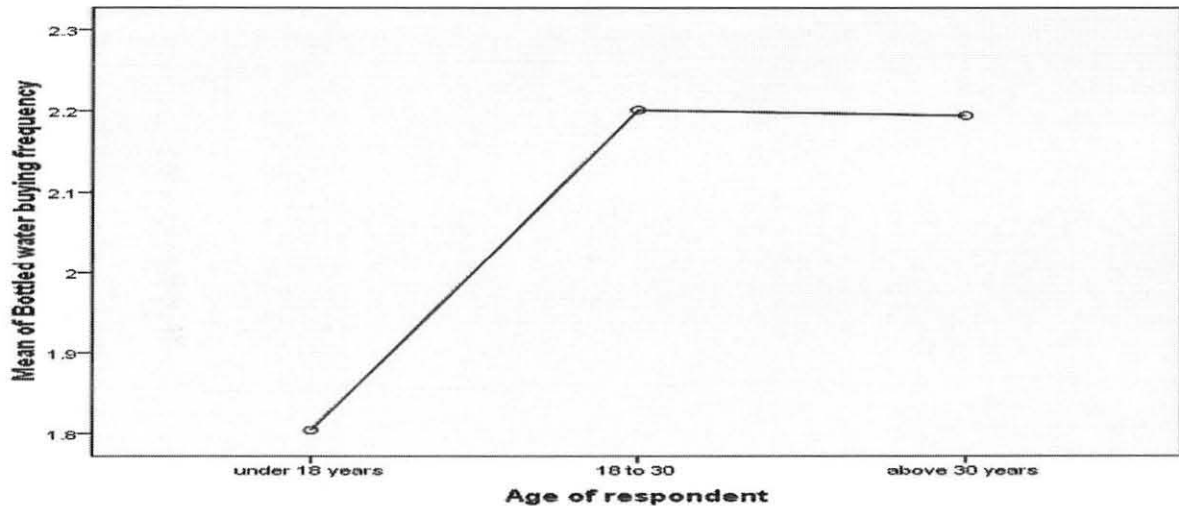
To investigate how customers Age and Bottled water buying behavior are related, the following correlation result has been analyzed. Table 4.14 illustrates the correlation coefficient of age and bottled water buying behavior. The correlation coefficient of the two variables is equal to 0.081 and significance (2-tailed) is equal to 0.089, which is greater than alpha ($0.089 > 0.05$), hence, the null hypothesis is safely accepted. It indicates that as the age of respondents increase by some digit, the respondents' bottled water purchase rate will also increase. Based on this result, it is safe to conclude that aged people drink bottled water as more they are being older and older, may be due to decreases in consumption of other drinks. In addition, it can safely be said that bottled water was not the young generation drink as some young respondents were not perceived bottled water as sign of modern life style drink. Being old age increase bottled water usage and inversely decreases other drinks because of some age related diseases such as diabetes, high pretensions and etc . Hence, we can conclude that as age being older, bottled water consumption increase and drinking of alcohol or other vegetables decreases. This implies that teenager may prefer more soft drinks, Beer and Draft to purchase than bottled water. Figure 4.4. summarizes this idea graphically.

Table 4.14. Correlations between age and consumer bottled water buying behavior

		Bottled water buying behavior	Age of respondents
Bottled water buying behavior	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Age of respondents	Pearson Correlation	.081	1
	Sig. (2-tailed)	.089	
	N	445	445

Source: Analysis of Survey data

Figure: 4.4. The positive relationship between age and consumer purchase rate of bottled water



Source: Analysis of survey data

Ho3.3. There is no a significant relationship between education level and consumers' bottled water buying behavior.

- $r=.099$
- $p<0.05$ is significant

Table 4.15 shows the correlation coefficient equal to 0.099 and significant (2-tailed) is equal to 0.036, which is less than 0.05 ($0.036 < 0.05$). Therefore, the null hypothesis was safely rejected. As indicated in the table below, Spearman correlation coefficient (ρ)

shows positive significant correlation. It means the two variables are positively correlated but the strength of correlation is very weak. Based on this result we can conclude that as education level increases, the consumers' bottled water purchase rate also increases. This may be because of the positive increase of health awareness resulted from education and many consumers perceive bottled as healthier than any drinking water. This may also be due to the result percentage with in educational level of respondents, majority or 40.6 percent of minor users are 10/12 complete educational level consumers. Consecutively, 29.7 percent, 27.6 percent and 36.4 percent were minor users of bottled water with educational level of Diploma, First degree and First degree+.

4.15. Correlations between educational level and bottled water buying behavior

		Bottled water buying behavior	Educ of respondent
Spearman's rho	Bottled water buying behavior	1.000	
	Correlation Coefficient		
	Sig. (2-tailed)	.	
	N	445	
Educ of respondents	Bottled water buying behavior	.099*	1.000
	Correlation Coefficient		
	Sig. (2-tailed)	.036	.
	N	445	445

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Analysis of survey data

Ho3.4. There is no significant purchase frequency difference among consumers having different income levels.

- $r = 0.146$
- $P < 0.05$ not significant

In contrary to the expectation, the result of tasting hypothesis (Ho3.4) is statistically insignificant at 0.001 level of significance. The correlation coefficient equals to 0.159, which indicates there is positive relationship between consumers monthly income and consumers' bottled water buying behavior. In addition, tests of significance difference between two variable results in 0.001, which is less than 0.05, hence, the null hypothesis was safely rejected. And this finding reveals that there exists difference between consumers

with different monthly income levels with respect to bottled water purchase frequency rate. It is an important outcome for water bottler companies and their managers who are curious about price determinacy in marketing bottled water product. Table 4.16 and figure 4.5 show the correlation coefficient and the comparison of the two variable means consecutively. So that consumers' bottled water purchase frequency rate is significantly different according to their income level. The 0.001 (2-tailed) significance means, probably such a difference could easily occur by chance. Therefore, we can say that there is a significant difference between bottled water users as per of their monthly income levels.

In addition, Figure 4.5 implies that as the income of respondents' increases, the bottled water purchase frequency rate also increases by some amount. But this is not true after the monthly income level of 2500birr. It may be because of some respondents whose their monthly income is above 2500 were shifted or substituted bottled water drink with other drinks such as soft drinks, beer or other alcoholic drinks.

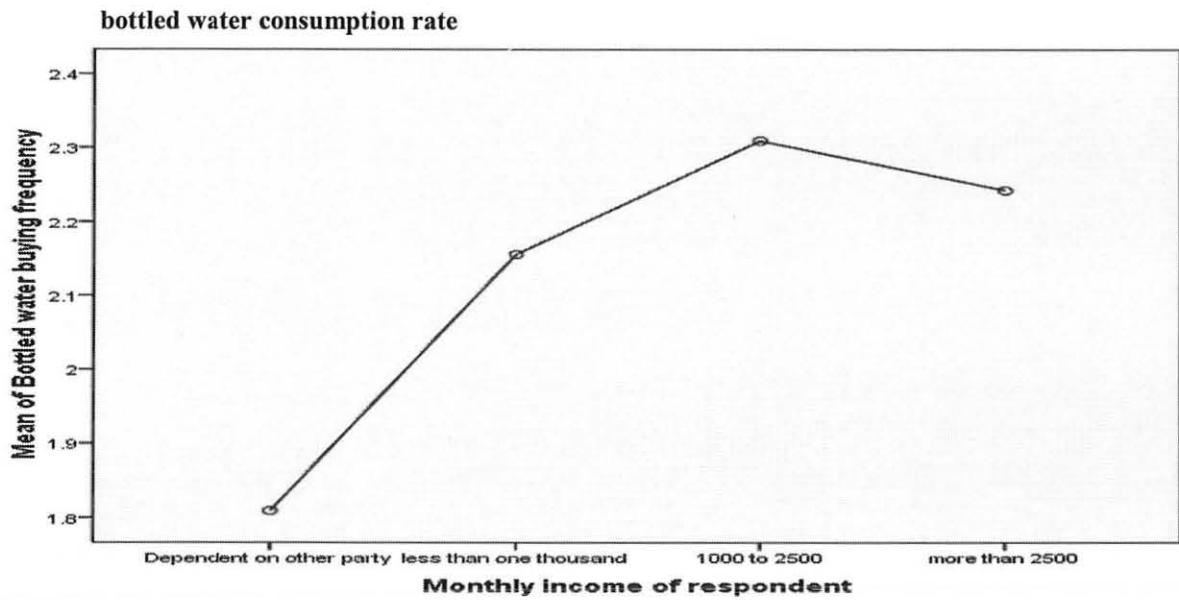
4.16. Correlations between monthly income of respondents and their bottled water buying behavior.

		Bottled water buying behavior	Monthly income of respondents	
Spearman's rho	Bottled water buying behavior	Correlation Coefficient	1.000	
		Sig. (2-tailed)	.	
		N	445	
	Monthly income of respondents	Correlation Coefficient	.159**	1.000
		Sig. (2-tailed)	.001	.
		N	445	445

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

Source: Analysis of survey data

Figure: 4.5. Statistical relationship between respondents' monthly income and



Source: Analysis of Survey data

Research Objective 4

Is there significant relationship between bottled water price and its size?

Ho4.1. There is significant relationship between bottled water size and its price.

Table 4.17 and figure 4/6 illustrate the correlation coefficient and mean comparisons between bottled water size and its price consecutively. The Pearson correlation coefficient result indicates that equal to 0.065 and significant (2-tailed) is equal to 0.170 which is more than 0.05, hence, the null hypothesis (Ho4.1) was accepted. Therefore, this result indicates that the bottled water size and bottled water prices are significantly related. This means as the size of bottled water increases, so does the bottled water price influence. Statistically, 78 percent of total respondents were responded in the questionnaire as they were influenced by bottled water price to decide which bottled water size is to be purchased, and also out of total respondents 53.9 percent were purchased small sized (0.5 liter) bottled water due to its price.

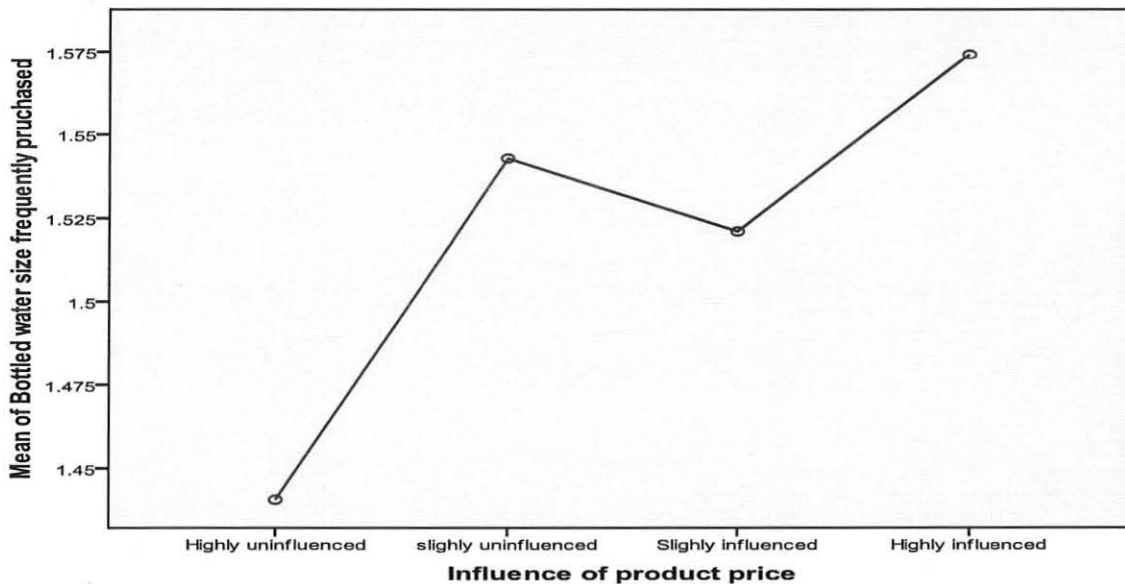
This result confirms that most consumers prefer small sized bottled water because of nothing but its price. This notion can be the research area for the next researcher to disprove or confirm the result.

Table 4.17. Correlations between bottled water price and its size.

		Bottled water size frequently purchased	Influence of bottled water price
Bottled water size frequently purchased	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Influence of Bottled water price	Pearson Correlation	.065	1
	Sig. (2-tailed)	.170	
	N	445	445

Source: Analysis of survey data

Figure 4.6. Means comparisons of bottled water price influence and its size



Source: Analysis of survey data

4.3. Results of Discriptive Analysis of the Most Industry Player Bottled Water Brands in Ethiopia

As indicated in the literature review part(2.11), the researcher has tried much to organize, develop and analyze the current bottled water brands in the market of Ethiopia. Accordingly, that all bottled water labels disclose the classes of water (such as spring or mineral), the manufacturer, and the volume. But no consumer might be sure that all are as they are labeled. For example, most bottled water factory in Ethiopia labeled their products as Mineral Water, Purified Mineral Water, Natural mineral water, Tonic water, Natural Spring Water, Pure Natural Spring Water. For instance, Ambo and 'Yes' labeled their product uniformly as both are Natural Mineral Waters.

Regarding their bottled water packages, all are packaged their product with plastic bottles except Ambo and Babile bottled water factories whose packages of product are with glasses. The water bottler companies pricing strategy also seems industry collusion which exhibits itself as all bottled water prices in Ethiopia, regardless of their production distances and technologies, set their product prices as almost equally. For instance, all bottled water prices are falling between the range from 5-8 birr which differs according to their sizes. In addition, no water bottler company is competing for low price. Particularly new industry entrants also set their prices based on others' (before existed in the market) prices.

On the other hand, all water bottlers follow copied and undifferentiated marketing strategy which imply without identifying what consumers' needs and wants offering their products to the market. In this regard, in current highly competitive markets of bottled water product, consumers have numerous options. As Michael porter pointed out a company can outperform its rivals only if it can establish a deference that it can preserve (Walker et al, 2003). Based on this notion, differentiation is why people prefer and buy.

Chapter-Five

5. Summary, Conclusion, Recommendation and Future Research Implication

5.1. Summary

As indicated earlier, this study was designed to address the research problem: Are marketing mix elements, psychographic and demographic factors directly related to bottled water buying behavior of consumers? In last four chapters: Chapter one, provided a background of this study paper, the research problem and objectives of the study have been described. In Chapter two, reviewed related literature that concerning similar areas to the research problem. The next, chapter three justified the research methodology used for this research. Chapter four also described the data presentation and the results of null hypothesis testing. According to the results of the null hypothesis testing, bottled water price and product type/brand have direct relationship with consumer buying behavior, and place and promotion factors have no systematic relationship with consumer bottled water buying behavior.

On the other side, both psychographic factors such as perception and attitude have positive relationship with consumer buying behavior and demographic factors such as gender, age, educational level and income level have systematic relationship with consumer buying behavior.

This final chapter discusses conclusions given based on research findings in chapter four of this paper and implications of the future research areas.

5.2. Conclusion

This section reports the conclusion of this research by comparing and analyzing the findings reported in chapter three (analysis of data) and chapter two (review of literatures).

As it was mentioned in chapter one, the purpose of this study is, to study consumers' attitude and buying behavior of bottled water in Ethiopia by taking some selected cities bottled water consumers as a case. The survey data were collected from 445 people who were consumed

bottled water in at least the last three months in Ethiopia (See Table 3.1.). The data were also collected from these purposely selected cities bottled water consumers of Addis Ababa, Ambo and Adama by using one set of questionnaire. From each surveyed areas 245, 100, and 100 survey data were collected from Addis Ababa, Ambo, and Adama consecutively.

The data collected were computed by using Statistical packages for social science (SPSS 17.0) version program. The statistics: frequencies, percentages, chi-square, cross tabulation, Pearson correlation and one way ANOVA and others were applied to get the following conclusions.

- All Water Bottlers in Ethiopia follow the same marketing strategy to reach their customers and all are targeted to undifferentiated /mass/ market. No bottled water company was targeted any niche market of bottled water. All bottled water producers distribution strategies were also door-to-door, pricing, and bottled water size development strategies were also almost the same except 25 liters bottle water packages newly introduced by Apex bottling company (Highland Spring) recently (see figure 2.6.).
- No clear demarcation between other bottled waters and bottled mineral water products in Ethiopia and out of 12 surveyed bottled water brands more than 60 percent labeled their products as Natural Mineral Water.
- Less quality control on bottled water than tap water in Ethiopia. Bottled water quality control team was established as technical committee by Ethiopian Quality and Standard Authority as QSAE/TC 78.
- From the study, it is found that, 55.5 percent of those surveyed consumers, were male and 44.5 percent were female. Most of them, 50.3 percent are the group in the range of 18-30 years old, and 38.2 percent are above 30 years old. The majority, 37.1 percent were in diploma educational level and 36.0 percent were in high school or preparatory level. This implies that bottled water in Ethiopia have been consumed by all walks of life, be it less and high educated people.

- Regarding the bottled water buying behavior, the main reasons for buying bottled water were seen as the need of clear or hygienic water for drinking, thirst and health concern consecutively.
- The most bottled water consumers in Ethiopia were not influenced by product promotion to purchase bottled water.
- Retail stores were the place where the consumers buy bottled water most often, than Super-market, Hotels and Restaurants as retail stores are available at any corners.
- Most consumers drink bottled water when they were out of home, for instance, see movie, or travel etc... and most of them purchase bottled waters at every 5-7 days once.
- Of the four marketing mix elements, the consumers of bottled water were more influenced by product price and its packages consecutively. As for place factors, the majority 53.8 percent were not influenced by distribution places. Concerning promotion factor of marketing mix, the study result shows that most of the consumers (73.7percent) purchased bottled water free of promotion influence. This means promotion of bottled water did not play a decisive role in bottled water marketing in Ethiopia. Hence, highly propagating the usefulness of bottled water product is wastage and simply maximizing the price of the product.
- Bottled water perception and buying behavior were positively correlated variables. The finding also confirmed that bottled water consumers had positive attitude towards bottled water mainly because of they are associating bottled water as healthy and safe drink when it is compared with other drink waters such as tap, spring and other mineral drinking waters.
- There was no relationship between gender of bottled water consumers and their buying behavior.
- Bottled water buying behavior varies due to the age of the consumers. This may be because most of old aged consumers not prefer to drink soft drinks and alcohols than bottled water. More over as the age of consumers increase, the health risk diseases like Diabetes, High pretentions, and other common age based diseases increase, and then influence consumption of soft drinks and alcohols, and inversely increases bottled water usage.

- Consumers having different income levels, have significance difference with bottled water brands buying frequency rate.
- Most bottled water consumers buy small sized bottled water due its minimum price.
- The preference of bottled water brand is different among bottled water consumers while buying and consuming bottled water.

5.3. Recommendations

One important thing to be noted here is that, there are no best solutions in addressing consumers attitudes and buying behavior towards the bottled water. Indeed, one cannot even expect such a precise list of solutions for all the factors that are responsible affect consumer buying behavior. In general, however, the following may be regarded as the possible recommendations that will contribute to improve bottled water marketing activities in the country which hopefully help both consumers and producers. Therefore, based on the analysis and conclusions of the study, the following possible points are recommended.

- Mainly Bottled Water Products in Ethiopia falls into two broad categories: non-carbonated (distilled, filtered spring) and carbonated (both naturally occurring and mechanically added). The marketing war is largely among non-carbonated brands. As a result, new Entrants and Existing Bottled Water Companies in Ethiopia should focus their attention towards in producing Carbonated Bottled Water where less bottled water marketing competition is observed.
- More than convincing consumers that Bottled Water is safe and healthier than tap water, Bottled Water Companies must do more in preserving their product quality. Because many bottled water consumers perceive some Bottled Water Brand as less quality than tap water and they believe that the difference between bottled water and tap water is only the former is packaged.

- Branding and packaging are extremely important for water. Because the only thing that consumers differentiate one bottled water brand from the next are the brand and its packages since water is water.

- In Ethiopia, when Bottled Water Companies become a brand leader, it is not only because of they had a good, strong name. It is also because they had a very efficient distribution system in place. Currently many companies are using door-to-door direct distribution system. To be efficient and consistent, Bottling Companies must also design indirect distribution system for their product.

- Bottled water products in Ethiopia are not at least as protective as those for tap water as tap water is under the serious control and distribution of government agency. Hence, Bottled water quality standards related to microbiological (limits on coliform organisms) and physical quality (color and odor) must be regulated. Then all bottled water products must comply with those National Quality standards. For instance, instead of technical committee for bottled water quality control, more authorized government body is recommended by this research.

- As far as global bottled water market expansion is concerned, currently except Ambo, no bottled water brand in Ethiopia is registered as global or regional brand. This research also suggests that the bottled water companies in the country should maintain their own membership of International Bottled Water Association/IBWA/ since it may provide quality standard model code for countries where regulatory authority over bottled water is weak or non-existent. On the way these may guarantee the consumers' attitude towards bottled water in the country.

- Water bottler companies in Ethiopia can almost be said that they are quite common to emulate one another's establishment. In the country as a tradition, if someone opens Café' and makes a fortune, a number of Café's will

mushroom in the neighborhood. That means only few people venture into a new business or tries to come up with a different product. Currently more than 13 bottled water brands have come to exist without come up with that much a different technology, idea and product. For instance, if we look at a design of plastic bottling, all bottled water producers have formulated similar small, medium and large sizes and almost all bottled water size prices are set uniformly. Hence, Bottling Companies must not only compete for maximum short -term return, but also with new idea, technology, and quality for long-term consumers' preference.

- Water bottler companies must also consider these attributes which are identified by this study as important determinants of Consumer Attitudes and Buying Behavior such as Demographic, Psychographic and marketing mix element factors of Ethiopian bottled water consumers. In addition, Water Bottling Companies should do more to identify what consumers of bottled water today are and what will be their forthcoming buying behavior.
- Differentiating once product, packaging, pricing and promotion strategies are also possible because the attributes used in this study are reasonably significant to suggest differentiations and customer targeting strategy.
- Over all, these findings suggest that water bottler companies that provide packaged water to Ethiopian market with fair and mostly minimum price, convenient packages and brand names with their niche market- based and consistent distribution, and further more with the use of smart customr-oriented strategies will be competent, successful and good market share challenger and leader.

5.4. Future Research Implication

Consumers' buying behavior can be affected by many other psychological and cultural factors. In this research the cultural and sub cultural, personality and lifestyle factors that can influence consumer buying behavior are not covered in this particular study. The researcher is skeptic whether these factors are the actual influencer of the consumers' buying behavior or attributable to under reported results. However, it would be interesting to examine the impact of such factors on Bottled Water Buying Behavior in Ethiopia.

To this end, a comprehension study with large numbers of sample and different approach for measurement of attitude and buying behavior of consumers towards bottled water can be explored to augment these out comes or disprove them in scientific way with scientific approach of enquiry. Further research also suggested by the research on the areas like;

- Bottled Water Promotions have no/week relation with the consumers buying behavior in Ethiopia. What are the reasons behind? Is promotion perceived as false convincing? These could be the interesting research area for the industry researchers.
- Consumers differentiate one bottled water from the other due to only its packages. Are all bottled water the same except their packages?
- . Consumers buy bottled water because they perceive that tap water in their town is not safe options to drink. Is tap water really less quality than bottled water?

Bibliography

- Ambo Mineral Water Factory (2009). **Ambo more than just water**. Company archive for the end of the year.
- Australia Bottled Water institute (2004). **What regulations govern bottled water?** abwi@bottledwater.org.au Retrieved June, 2010
- Aslam,Abid (2006). **Bottled water: Nectar of the frauds?** One world, 4 February 2006. Washington, D.C.
- Beverage marketing corporation (2005). <http://www.beverage.marketing.corp./news2v.html>, Retrieved 10 Feb 2010.
- Beverage Marketing Corporation (2008). **Smaller categories still saw growth as the U.S. liquid refreshment beverage market shrank by 2 %**. Press release 3/30/2009. <http://www.wikipedia.com>, Retrieved 21 April 2010.
- Blackwell,Roger D. Paul W.Miniard and James F. Engle (2002). **Consumer behavior**. 9th ed. Mike Roche publishing, U.S.A
- Boone, Louis E. and David L. Kurtz (1992) **Contemporary Marketing** . 7th ed. Library of Congress, USA.
- Cohen,J. (1998). **Statistical power analysis for the behavioral science**. Second Edition, library of congress, USA.
- Dajane Mamo (2008). **Consumers attitude towards hotel services in Addis Ababa**, Addis Ababa University.
- D. Amarchand and B.Varadharajan. (1989) **A text of book of marketing**. Konark publishers Pvt Ltd, Delhi.
- Datamonitor(1): **Bottled water in Europe, industry profile**, (2005). Retrieved January, 2010 from www.datamonitor.com.
- Datamonitor(2): **Global bottled water, industry profile**, (2005). Retrieved January, 2010 from www.datamonitor.com
- Essayas Mekuria (2007, March,20). **Babile private once again**. Addis fortune,

P.1.

Ferrier, Catherine (2001) **Bottled water – understanding and a social phenomena**, World Wild Fund (WWF).

Gleich, Peter H. (2003). **The myth and reality of bottled water**. Beverage marketing corporation.

Gupta, V.P. and Ila Sinha .(2007) **Marketing management**. Research book center. New Delhi.

Grossman,Zaltan (2004). **Bottled water industry**. University of Wisconsin Eau Claire, USA.

Howare, Brain(2003). **Despite the hype, bottled water is neither cleaner nor greener than tap water**. The Environmental magazine 9 Dec. 2003. Natural Resource Defense Council

IBWA (2000): **Frequently asked question**. International bottled association report.

Kaleyessus Bekele. (2009). Doing business in a different way. Addis Fortune, 14 March 2009.

Kotler, Philip and Grary Armstrong. (2000) **Principles of marketing**, 10th ed. Prentice Hall of India Pvt Ltd, New Delhi.

Lindquist, Jay D. and M. Joseph Sirgy (2003). **Shopper, Buyer, and Consumer Behavior**. 2nd ed. Bhikaji Cama Place, New Delhi.

McCarthy, M.,(2004 march 20). **'Pure? Coke's attempt to sell tap water backfires in cancer scare'**, The independent, p.5).

Mulu Andergachew (October, 2009). **Physicochemical and biological quality of bottled drinking water in three sites of Amhara regional state**. Ethio medical journal. Ethiopia.

Perreault, William D and Jr. E. Jerome McCarthy. (2003). **Essential of marketing**, McGraw Hill/Irwin publisher, New York.

Semenik, Richard j.(2002).**Promotion and integrated marketing communication**.(2nd ed). Thomson Asia Pte.Ltd. Singapore

Solomon, Michael R.(2002). Consumer behavior. (5th ed.). Pearson Education Ltd., Dehli.

Walker, Orville C., Harper w. Beyod, John Mullins, and J. Claude Larreche. (2003)
Marketing strategy, (4th ed.) McGraw-Hill/Irwin, New York.

World Health Organization. (2000). **Guide lines for drinking water quality**. 2nd ed.
Geneva, Switzerland. [http://www.who.int./water sanitation health](http://www.who.int./water_sanitation_health)

Yearly report 1(2009): **Ambo mineral water factory market report**, 2009, retrieved
December, 2009, from www.ambo-mineralwater.com

Zhao, Dun. (2006). **Consumer attitude and buying behavior of university
student towards bottled water in UK**. Portsmouth Business school.

<http://www.assets.panda.org>, Retrieved Feb. 10, 2010.

<http://www.norlandintl.com>, Retrieved on January 30, 2010.

<http://www.rohan.sdsu.edu/english/370/---/index.htm>, accessed at 20 April 2010.

<http://www.wikipedia.com>, Retrieved April 21, 2010.

<http://www.sigla.com>, Retrieved January 30, 2010.

<http://www.glasswater.com>, Retrieved April 21, 2010.

<http://www.worldwater.org>, Retrieved 20 April 2010.

<http://www.nazret.com>, Retrieved Feb. 10, 2010.

1. Small size(. 50 liter) 2. Medium size(one liter) 3. Large size
(1.5 &above litters)

10. If your answer in question No.8 is 'Yes", write two brands of bottled water that comes to mind first in the space provided. 1. _____

2. _____

11. If your answer in question No. 8 is No, do you know why? _____

(If your answer in question No.8 is No, Please do not continue to respond to next other question).

12. I drink bottled water, please tick one

1. more than once a day 2. Once a week or more up to once a day
3. Less than once a week 4. Once a month or less

13. I mostly purchased bottled water (Please thick one).

1. From super market 2. From retail stores
3. From hotels 4. From bar and restaurant
5. Other: Please describe _____

Part- III. Factor influences buying

14. How are the following factors influencing your purchase of bottled water? Please thick one for each subject.

	Highly influenced 4	slightly influenced 3	slightly uninfluenced 2	Highly uninfluenced 1
a. Availability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Brand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Price	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Promotion	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Packaging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part IV. Opinion Towards Bottled Water

Instruction: Please read each of the following statements and indicate the number of sentences of given choices as per of sentences in the column provided.

- Strongly agree 5
- Agree 4
- Neither agree or disagree 3
- Disagree 2
- Strongly disagree 1

S/N	Sentences	Points
15	Bottled water tasty can affect my choice to purchase.	
16	Bottled water tastes better than tap water.	
17	Bottled water drinking is a sign of a rise in the social class	
18	Bottled water quality in Ethiopia is reliable.	
19	Bottled water is safe option to drink.	
20	Bottled water in Ethiopia is available everywhere.	
21	Bottled water consumers have higher health awareness.	
22	Bottled waters in Ethiopia are the same except their labeling and packaging.	
23	I am happy with tap water in my town.	
24	Packages of the bottled water are conveniently designed.	
25	Bottled water that is selling in the town is that which promoted aggressively.	
26	Drinking bottled water is socially accepted in my town.	
27	The difference between bottled water and tap water in my town is only the package.	

Thank you again!

Appendices 2

Source: [http:// www.worldwater.org](http://www.worldwater.org).

United States FDA Product Definitions for Bottled Water

The Food and Drug Administration (FDA) Standards of Identity guide what can be put on bottled water labels in the United States. If a bottler calls water "glacial" it has to come from a glacier. "Artesian" water has to flow above the water table and "naturally sparkling" has to come from a natural carbonated spring. Sodium declarations such as "sodium free," "very low sodium," and "low sodium" have explicit meanings: "sodium-free" must be less than 5 milligrams of sodium per serving (usually 360 ml); "very low sodium" may contain 35 milligrams or less of sodium per serving; and "low sodium" may contain 140 milligrams or less per serving. These kinds of claims trigger the inclusion of the Nutrition Facts panel as required by the Nutrition Labeling and Education Act of 1990. The FDA product definitions for bottled water are:

Artesian Water/Artesian Well Water

Bottled water from a well that taps a confined aquifer (a water-bearing underground layer of rock or sand) in which the water level stands at some height above the top of the aquifer is identified as Artesian water.

Drinking Water

Drinking water is water sold for human consumption in sanitary containers. It must have no calories or sugar. Drinking water may be sodium-free or contain very low amounts of sodium. Flavors, extracts, or essences may be added to drinking water, but they must comprise less than one percent by weight of the final product or the product will be considered a soft drink. "Carbonated

water," "seltzer water," "soda water," and "tonic water," are considered soft drinks.

Infant Brands

Special labeling is required for products marketed for infants. If a product is labeled "sterile," it must be processed to meet the FDA requirement for commercial sterility. Otherwise, the labeling must indicate it is not sterile and should be used in preparation of infant formula only as directed by a physician or according to infant formula preparation instructions (Bottled Water Web Regulations 2003, at

Mineral Water

Mineral water is distinguished from other types of bottled water by "its constant level and relative proportions of mineral and trace elements" at the source. According to Title 21 (21CFR165.110) of the *Federal Register*, "mineral water" must contain at least 250 parts per million (ppm) of total dissolved solids (TDS). No minerals can be added to this product. Sources must be "tapped at one or more bore holes or springs, originating from a geologically and physically protected underground water source." If the TDS content of mineral water is below 500 ppm or greater than 1,500 ppm, the statement "low mineral content" or "high mineral content," respectively, must appear on the label.\

Municipal Water

Municipal water is used as a source for approximately 25 percent of the bottled water sold in the United States. Water bottled from municipal water supplies must be clearly labeled as such. Municipal water that has received further processing and treated to the appropriate level can be labeled as

“distilled” or “purified” water.

Natural

The word “natural” is allowed for bottled water derived from springs or wells where the natural chemical (mineral and trace elements) composition of the water has not been altered.

Purified Water

Water that has been produced by distillation, deionization, or reverse osmosis and that meets the definition of purified water in the United States Pharmacopoeia may be labeled as purified bottled water.¹ Bottled water treated by one of these processes may also be called “distilled water” if it is produced by distillation, “deionized water” if the water is produced by deionization, or “reverse osmosis water” if the process used is reverse osmosis.

Sparkling Water

Sparkling water is water that contains the same amount of carbon dioxide that it had at the source, though it can be removed and then replaced. Soda water, seltzer water, and tonic water are not considered bottled waters. They may contain sugar and calories and are regulated separately as soft drinks. In 1990, the FDA made Perrier drop the words “Naturally Sparkling” from its label when it was revealed that Perrier artificially carbonated its water after taking it out of the ground (Mowen and Minor 2001).

Spring Water

The term spring water is restricted to water collected from a spring that originates from an underground formation from which water flows naturally to the surface of the earth, or from a borehole that connects to the formation. Spring water collected from a borehole must have all the physical properties, before treatment, and be of the same composition and quality as the water that flows naturally to the surface of the earth. Controversy has arisen when bottlers drill wells near springs in order to extract water more quickly than natural flow rates. In the United States, the spring must continue to flow even when water is pumped from the same aquifer. European bottlers using boreholes do not have to maintain a flow from the spring. This issue became the focus of debate at a meeting of Codex Alimentarius in Bern, Switzerland.² On one side was the National Spring Water Association, which is lobbying in both the United States and Europe for the term "spring" to only be used in bottled water products using water that flows from a natural opening. In contrast, the International Bottled Water Association (IBWA) endorses the use of boreholes as an acceptable method of spring water extraction. In either case, bottled water products cannot use the term "spring" if the water is substantially processed or from a municipal source (vonWiesenberger 2003).

Well Water

Well water is simply bottled water from a bored, drilled, or otherwise constructed hole in the ground, which taps the water of an aquifer.

Other terms, however, have no clear definitions and can be misleading to the consumer. For example, terms like pure, purest, pristine, premium, mountain water, and clean are advertising descriptors with no official meaning. These terms do not accurately describe the source or purity of the water, nor do they certify that the water is safe (Suffet 2000). Images on bottled water can also contribute to confusion and misunderstanding about contents. Aquafina (a Pepsi product), like many other bottled waters, puts images of mountains and

snow on the label, despite the fact that Aquafina is bottled using processed municipal water. Such images are not adequately regulated. Seltzer, soda water, and tonic water are considered soft drinks and are excluded from these regulations. Food misbranding provisions require that food labeling contain certain information, such as the name of the manufacturer, and not contain certain other types of prohibited information, such as false or misleading statements. For bottled water, labels must contain a statement of identity, the name and location of the manufacturer, the net weight of the contents, and ingredients if the product contains more than one ingredient. Depending on what nutrients and minerals are present or added, some bottled waters have to bear nutrition labeling. The FDA requires that all nutrient content claims, such as sodium free, and health claims comply with specific definitions. In 1924 the Supreme Court ruled that the Food and Drugs Act must address statements that may mislead or deceive. In part, this decision was the result of unsubstantiated health claims for bottled waters. Today in the United States, health claims are allowed only when there is a proven link between the nutrient and certain health conditions, such as significant amounts of calcium and protection against osteoporosis.

Bottled water is also misbranded if its labeling contains false or misleading statements. For instance, a label that falsely states that the product is free from a certain contaminant would be misbranded under this provision. A bottle of water with more than 0.3 mg/l of iron would be misbranded unless its label stated "Contains Excessive Chemical Substances" or "Contains Excessive Iron."⁵ Despite these protections, the information provided by labels in the United States is still limited. For example, the "Nutrition Facts" panel (common to all United States food products) for water tends to show that water has no fat, carbohydrates, and proteins, but the label carries no other mineral analysis. European labels carry a more informative mineral analysis that provides consumers with information on the levels of calcium, magnesium, potassium, and other nutrients. Although certain mineral waters may be useful in providing essential micronutrients, such as calcium, the

World Health Organization *Guidelines for Drinking-Water Quality* do not make recommendations regarding minimum concentrations of essential compounds because of the lack of convincing evidence on the beneficial effects of consuming such mineral waters (WHO 2000).

Quality Standards

Bottled water products must comply with the FDA's Quality Standards in Section 165.110(b) of Title 21 of the *Code of Federal Regulations* (CFR). Bottled water manufacturers must ensure that their products meet some, though not all, of the federal 32 *The World's Water 2004–2005* standards of quality for tap water, which establish allowable levels of substances related to microbiological quality (e.g., limits on coliform organisms), physical quality (e.g., turbidity, color, and odor), organic and inorganic chemical quality, and radiological quality. The FDA has established allowable levels in the standard of quality for approximately 75 substances. Bottled water regulations set testing methodologies and time frames to determine compliance with FDA Quality Standards for both source water and product water. Source water—that is the water taken for processing and packaging—must be obtained from an approved source and conform to applicable state and local laws and regulations. Bacteriological analysis of source water must be done at least weekly. Chemical analysis of source water must be done at least annually. Radiological analysis must be performed at least once every four years. Product water—that is the bottled water itself—is also subject to regulation. Representative bacteriological analysis of product samples must be done at least once per week for each type of water produced. Chemical, physical, and radiological analysis must be done at least annually on an appropriate sample from a batch or segment of a continuous production run for each type of water produced. All records as well as government approvals of source water must be available for official review.

Appendices 2.2.

Source: <http://www.worldwatr.org>

Bottled Water Industry Associations: Standards and Rules

There are a number of international bottled water industry groups that also maintain their own memberships, standards, and rules. The International Bottled Water Association (IBWA), for example, is active in monitoring and reviewing bottled water standards and in supporting commercial bottled water activities. IBWA has established a quality assurance program comprising a set of standards called the model code. In some cases, the model code establishes tougher requirements than United States federal and state authorities and may also provide a model for countries where regulatory authority over bottled water is weak or non-existent. For example, as a condition of membership in the IBWA, bottlers are subject to an annual, unannounced plant inspection administered by an independent, internationally recognized, third-party inspection organization. This inspection audits quality and testing records, reviews all areas of plant operation from source through finished product, and checks compliance with FDA Quality Standards, Good Manufacturing Practices, and any state regulations (IBWA 2003).

The International Council of Bottled Water Associations (ICBWA) is a group of groups, including the IBWA, the Canadian Bottled Water Association, the Latin American Bottled Water Association, and several others (see www.icbwa.com). The ICBWA requires its members to meet "Codex Alimentarius Commission, national,

regional, and industry standards for bottled water.” Each member association is required to have a Model Code outlining good manufacturing practices and quality control standards. Each bottling production plant is required to undergo an annual, unannounced plant inspection to determine compliance with standards set forth in the Model Code. These inspections are conducted by International Council-approved, third-party organizations that audit quality and testing records, and review plant operation from source to finished product. Two other conditions of bottler membership within each member association are regular microbial testing using qualified personnel and an annual water analysis administered by an independent laboratory covering more than 150 possible compounds International Standards—The Codex Alimentarius

The closest thing to a universally accepted international certification scheme is the intergovernmental body for the development of internationally recognized standards: the Codex Alimentarius Commission (CAC). The WHO, one of the co-sponsors of the CAC, has advocated use of the Guidelines for Drinking-Water Quality as the basis for standards for all bottled waters. Neither the CAC nor the WHO offer certification of any bottled or mineral water products. The Codex Alimentarius, or the food code, was initiated by the WHO and the Food and Agriculture Organization (FAO) in 1961 as the principal tool for drawing attention to food safety and quality at the international level. It serves as a reference point for consumers, food producers and processors, and national food regulatory agencies. The Codex Alimentarius system presents an opportunity for countries without their own ability to generate detailed regulations to formulate and harmonize food standards and the codes and regulations governing food safety.

The significance of the Codex for consumer protection was highlighted in 1985 by United Nations Resolution 39/248, which advised that “Governments should take into account the need of all consumers for food security and should support and, as far as possible, adopt standards from the...Codex Alimentarius.” The Codex Alimentarius is relevant to the international production and trade in bottled water. The advantage of having uniform standards for the protection of consumers is evident, as long as those standards are strict enough to provide real and consistent protection. It is not surprising, therefore, that various international agreements (such as the Agreement on the Application of Sanitary and Phytosanitary Measures [SPS] and the Agreement on Technical Barriers to Trade [TBT]) encourage the international harmonization of food standards. The SPS Agreement, a product of the Uruguay Round of multinational trade negotiations, describes Codex standards, guidelines, and recommendations as the preferred international approaches for aiding international trade in food.

While the growing world interest in Codex activities indicates growing acceptance of the idea of harmonization, consumer protection, and facilitation of international trade, it is difficult in practice for many countries to accept Codex standards as law. Differing legal formats and administrative systems, varying political conditions and national attitudes, and concepts of sovereign rights slow harmonization and hinder the 36 *The World's Water 2004–2005* acceptance of Codex standards. Despite these difficulties, a number of countries are modifying national food standards, or parts of them, based on the Codex Alimentarius (FAO 1999, Codex Alimentarius 2001).

The CAC has developed the Codex Standard for Natural Mineral Waters and an associated code of practice. The Codex Standard describes the product and its labeling, composition and quality, hygiene, and packaging. The CAC health and safety recommendations are recognized by the World Trade Organization as representing the international consensus for consumer protection, but they are not mandatory.

The CAC also has a Codex Standard for Bottled/Packaged Waters to cover drinking water other than natural mineral waters. Under the existing Codex Standard and Code of Practice, natural mineral waters must conform to strict requirements concerning, for example, their collection and bottling without further treatment from a natural source, such as a spring or well. In comparison, the Codex Standard for Bottled/ Packaged Waters includes waters from sources other than springs and wells, and covers treatment to improve their safety and quality. The distinctions between these standards are especially relevant given the growing tendency to sell bottled water that is little different in quality from municipal supplies. Ultimately, however, these standards give enormous leeway to national standards and are not in themselves likely to form the basis for specific legislation and wording (Codex Alimentarius 2001)

Appendices 3.1. Correlations between perception and bottled water buying behavior

Sources: Analysis of survey data

Correlations

		.Bottled water taste is better than tap water	Bottled water buying frequency
.Bottled water taste is better than tap water	Pearson Correlation	1	.047
	Sig. (2-tailed)		.318
	N	445	445
Bottled water buying frequency	Pearson Correlation	.047	1
	Sig. (2-tailed)	.318	
	N	445	445

Correlations

		Bottled water buying frequency	.Bottled water quality is greater than tap water
Bottled water buying frequency	Pearson Correlation	1	.076
	Sig. (2-tailed)		.109
	N	445	445
.Bottled water quality is greater than tap water	Pearson Correlation	.076	1
	Sig. (2-tailed)	.109	
	N	445	445

Correlations

		Bottled water buying frequency	.Bottled water is out of home drink
Bottled water buying frequency	Pearson Correlation	1	.007
	Sig. (2-tailed)		.885
	N	445	445
.Bottled water is out of home drink	Pearson Correlation	.007	1
	Sig. (2-tailed)	.885	
	N	445	445

Correlations

		Bottled water buying frequency	.Aggressively promoted bottled water is the most sale in the town
Bottled water buying frequency	Pearson Correlation	1	.031
	Sig. (2-tailed)		.511
	N	445	445
.Aggressively promoted bottled water is the most sale in the town	Pearson Correlation	.031	1
	Sig. (2-tailed)	.511	
	N	445	445

Correlations

		Bottled water buying frequency	.Bottled waters in Ethiopia are the same except packqage
Bottled water buying frequency	Pearson Correlation	1	-.073
	Sig. (2-tailed)		.122
	N	445	445
.Bottled waters in Ethiopia are the same except packqage	Pearson Correlation	-.073	1
	Sig. (2-tailed)	.122	
	N	445	445

Correlations

		Bottled water buying frequency	.I am happy with tape water in my town
Bottled water buying frequency	Pearson Correlation	1	-.002
	Sig. (2-tailed)		.974
	N	445	445
.I am happy with tape water in my town	Pearson Correlation	-.002	1
	Sig. (2-tailed)	.974	
	N	445	445

Appendices 3.2. Correlations between Attitude and consumers' bottled water buying behavior

Sources: Analysis of survey data

Correlations

		Bottled water buying frequency	Bottled water drinkers have high health awareness
Bottled water buying frequency	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Bottled water drinkers have high health awareness	Pearson Correlation	-.051	1
	Sig. (2-tailed)	.283	
	N	445	445

Correlations

		Bottled water buying frequency	Current packages of bottled water are convenient
Bottled water buying frequency	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Current packages of bottled water are convenient	Pearson Correlation	.072	1
	Sig. (2-tailed)	.127	
	N	445	445

Correlations

		Bottled water buying frequency	Drinking bottled water is socially acceptable
Bottled water buying frequency	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Drinking bottled water is socially acceptable	Pearson Correlation	.026	1
	Sig. (2-tailed)	.580	
	N	445	445

Correlations

		Bottled water buying frequency	Bottled water is availability any where
Bottled water buying frequency	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Bottled water is availability any where	Pearson Correlation	-.089	1
	Sig. (2-tailed)	.060	
	N	445	445

Correlations

		Bottled water taste is different one from the other	Bottled water buying frequency
Bottled water taste is different one from the other	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	445	
Bottled water buying frequency	Pearson Correlation	-.037	1
	Sig. (2-tailed)	.431	
	N	445	445

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	Name	Type	Width	Decimals	Label	Values
1	Gender	Numeric	8	0	Gender of respo...	{1, male}...
2	Age	Numeric	8	0	Age of respondent	{1, under 18 ...
3	Educ	Numeric	8	0	Educ of respon...	{1, 10/12 co...
4	Occup	Numeric	8	0	Occupational st...	{1, employe...
5	Income	Numeric	8	0	Monthly income...	{0, Depend...
6	Water_per_...	Numeric	8	0	Daily normal wa...	{1, 1-2 liters}...
7	Water_type	Numeric	8	0	Most drinkable ...	{1, Natural w...
8	Do_you_drin...	Numeric	8	0	Do you drink bo...	{1, yes}...
9	Bottle_size	Numeric	8	0	Bottled water si...	{1, Small(O...
10	Brand_aware...	Numeric	8	0	Well positioned ...	{1, Babile}...
11	Bottled_wat...	Numeric	8	0	Bottled water b...	{1, minor us...
12	Bought_from	Numeric	8	0	Which outlet is ...	{1, From su...
13	Factor_avail...	Numeric	8	0	Influece of placing	{1, Highly un...
14	Factor_Brand	Numeric	8	0	Influence of pro...	{1, Highly un...
15	Factor_price	Numeric	8	0	Influence of pro...	{1, Highly un...
16	Factor_prom...	Numeric	8	0	Influence of pro...	{1, Highly un...
17	Factor_pack...	Numeric	8	0	package influen...	{1, highly un...
18	Sociocultura...	Numeric	8	0	Sociocultural inf...	{1, Family in...
19	P_better_th...	Numeric	8	0	.Bottled water t...	{1, Strongly ...
20	P_quality	Numeric	8	0	.Bottled water q...	{1, Strongly ...
21	p_dimkbottl...	Numeric	8	0	.Bottled water i...	{1, Strongly ...
22	p_Same_bot...	Numeric	8	0	.Bottled waters ...	{1, Strongly ...
23	P_promoted...	Numeric	8	0	.Aggressively pr...	{1, Strongly ...
24	A_no_differe...	Numeric	8	0	No difference be...	{1, Strongly ...
25	A_Sign_of_ri...	Numeric	8	0	Drinking bottled...	{1, Strongly ...
26	A_high_heal...	Numeric	8	0	Bottled water dr...	{1, Strongly ...
27	P_happy_wi...	Numeric	8	0	.I am happy wit...	{1, Strongly ...
28	A_bottled_s...	Numeric	8	0	Current packag...	{1, Strongly ...
29	A_bottled_s...	Numeric	8	0	Drinking bottled...	{1, Stronlgy ...
30	Brand_prefer...	Numeric	8	0	Current frequent...	{1, Babile}...
31	preference_...	Numeric	8	0	Major brand pref...	{1, Taste}...
32	A_available_...	Numeric	8	0	Bottled water is...	{1, Strongly ...
33	A_Taste_pur...	Numeric	8	0	Bottled water t...	{1, strongly ...

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	Missing	Columns	Align	Measure
1	None	8	Right	Nominal
2	None	8	Right	Scale
3	None	8	Right	Scale
4	None	8	Right	Nominal
5	None	8	Right	Scale
6	None	8	Right	Scale
7	None	8	Right	Nominal
8	None	8	Right	Nominal
9	None	8	Right	Scale
10	None	8	Right	Nominal
11	None	8	Right	Ordinal
12	None	8	Right	Nominal
13	None	8	Right	Ordinal
14	None	8	Right	Ordinal
15	None	8	Right	Ordinal
16	None	8	Right	Ordinal
17	None	8	Right	Ordinal
18	None	8	Right	Nominal
19	None	8	Right	Ordinal
20	None	8	Right	Ordinal
21	None	8	Right	Ordinal
22	None	8	Right	Ordinal
23	None	8	Right	Ordinal
24	None	8	Right	Ordinal
25	None	8	Right	Ordinal
26	None	8	Right	Ordinal
27	None	8	Right	Ordinal
28	None	8	Right	Ordinal
29	None	8	Right	Ordinal
30	None	8	Right	Nominal
31	None	8	Right	Nominal
32	None	8	Right	Ordinal
33	None	8	Right	Ordinal

Statement of Original Authorship

“Bottled Drinking Water Marketing and Consumer Buying Behavior in Selected cities of Ethiopia”

Nigusie Gedefa

This thesis is submitted in part fulfillment of the MA in Marketing Management Education.

I declare that this thesis is the result of my own independent investigation and that all sources are accordingly acknowledged in the Bibliography.

Words: 20,219

Signature of candidate: